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As filed with the Securities and Exchange Commission on October 2, 2020.

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

# FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

# BIODESIX, INC.

**(Exact Name of Registrant as Specified in its Charter)**

| **Delaware** | **8071** | **20-3986492** |
|---|---|---|
| (State or Other Jurisdiction of Incorporation or Organization) | (Primary Standard Industrial Classification Code Number) | (I.R.S. Employer Identification Number) |

**Biodesix, Inc.**
**2970 Wilderness Place, Suite 100**
**Boulder, Colorado 80301**
**(303) 417-0500**
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

**Scott Hutton**
**President and Chief Executive Officer**
**Biodesix, Inc.**
**2970 Wilderness Place, Suite 100**
**Boulder, Colorado 80301**
**(303) 417-0500**
(Name, address, including zip code, and telephone number, including area code, of agent for service)

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**Approximate date of commencement of proposed sale to the public:**
**As soon as practicable after the effective date of this registration statement.**

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box: ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

| | | | |
|---|---|---|---|
| Large accelerated filer | ☐ | Accelerated filer | ☐ |
| Non-accelerated filer | ☐ | Smaller reporting company | ☑ |
| | | Emerging growth company | ☑ |

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

**CALCULATION OF REGISTRATION FEE**

| **Title of Each Class of Securities to be Registered** | **Proposed Maximum Aggregate Offering Price(1)(2)** | **Amount of Registration Fee(1)(2)** |
|---|---|---|
| Common Stock, par value $0.001 per share | $75,000,000 | $8,182.50 |

(1) Includes additional common stock that the underwriters have an option to purchase. See "Underwriters."
(2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act of 1933, as amended, based on an estimate of the proposed maximum aggregate offering price.

**The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.**

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**The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities, and we are not soliciting offers to buy these securities, in any jurisdiction where the offer or sale is not permitted.**

*PRELIMINARY PROSPECTUS (Subject to Completion)*
*Issued October 2, 2020*

# *Shares*

*COMMON STOCK*

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***Biodesix, Inc. is offering shares of its common stock. This is our initial public offering and no public market currently exists for our shares of common stock. We anticipate that the initial public offering price will be between $ and $ per share.***

***We intend to apply for listing of our common stock on The Nasdaq Global Market under the symbol "BDSX."***

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***We are an "emerging growth company" as defined under the federal securities laws. Investing in our common stock involves risks. See "Risk Factors" beginning on page 12.***

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*PRICE $ A SHARE*

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| | *Price to Public* | *Underwriting Discounts and Commissions(1)* | *Proceeds to Biodesix* |
|---|---|---|---|
| *Per share* | *$* | *$* | *$* |
| *Total* | *$* | *$* | *$* |

(1) *We have agreed to reimburse the underwriters for certain FINRA-related expenses. See "Underwriters" for a detailed description of the compensation payable to the underwriters.*

*We have granted the underwriters an option to purchase up to an additional shares of common stock to cover over-allotments at the initial public offering price less underwriting discounts and commissions.*

*The Securities and Exchange Commission and state securities regulators have not approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.*

*The underwriters expect to deliver the shares of common stock to purchasers on , 2020.*

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*Morgan Stanley* *William Blair*

*Canaccord Genuity* *BTIG*

*, 2020*

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. Neither we, nor any of the underwriters, take responsibility for, or can provide any assurance as to the reliability of, any information that others may give you. We and the underwriters are not offering to sell, or seeking offers to buy, shares of our common stock in any jurisdiction where such offer or sale is not permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

Persons in jurisdictions outside the United States who come into possession of this prospectus and any applicable free writing prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our common stock and the distribution of this prospectus and any applicable free writing prospectus applicable to such jurisdictions.

**Until , 2020 (25 days after the date of this prospectus), all dealers that buy, sell, or trade shares of our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.**

## ABOUT THIS PROSPECTUS

As used in this prospectus, unless the context otherwise requires, the terms “Biodesix,” “company,” “our,” “us,” and “we” in this prospectus refer to Biodesix, Inc., the issuer of the shares of common stock offered hereby.

Neither we nor any of the underwriters has authorized anyone to provide you any information or to make any representations other than those contained in this prospectus or in any free writing prospectus we have prepared. Neither we, nor any of the underwriters, take responsibility for, or can provide any assurance as to the reliability of, any information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. You should assume the information contained in this prospectus and any free writing prospectus we authorize to be delivered to you is accurate only as of their respective dates or the date or dates specified in those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

For investors outside the United States: neither we nor any of the underwriters has done anything that would permit this offering or possession or distribution of this prospectus or the offer and sale of the shares of common stock in any jurisdiction where action for that purpose is required, other than the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

Unless otherwise indicated, all references in this prospectus to the number and percentages of shares of our common stock outstanding following the completion of this offering:

- reflects the initial public offering price of $ per share of common stock, which is the midpoint of the estimated offering price range set forth on the cover of this prospectus;
- assumes that our amended and restated certificate of incorporation, which we will file in connection with the closing of this offering, and our amended and restated bylaws adopted in connection with this offering, are effective;
- assumes the conversion of all outstanding shares of our preferred stock and convertible debt into an aggregate of shares of common stock immediately upon the closing of this offering;
- assumes no exercise of the outstanding options or warrants described in this prospectus; and
- assumes no exercise of the underwriters’ over-allotment option.

## INDUSTRY AND MARKET DATA

The data included in this prospectus contains estimates, projections and other information concerning our industry and our business, including estimated market size, projected growth rates and the incidence of certain medical conditions. Unless otherwise expressly stated, we obtained this industry, business, market, medical and other information from reports, research surveys, studies and similar data prepared by third parties, industry, medical and general publications, government data and similar sources. In some cases, we do not expressly refer to the sources from which this information is derived. In that regard, when we refer to one or more sources of this type of information in any paragraph, you should assume that other information of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires.

This industry, business, market, medical and other information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Third-party industry and general publications, research, surveys and studies generally state that the information contained therein has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that each of these studies and publications is reliable, we have not independently verified any of the data from third-party sources. Although we are responsible for all of the disclosure contained in this prospectus and we believe the market position, market opportunity, market size and medical information included in this prospectus is reliable, such information is inherently imprecise. Data regarding the industries in which we compete and our market position and market share within these industries are inherently imprecise and are subject to significant business, economic and competitive uncertainties beyond our control, but we believe that they generally indicate size, position and market share within these industries. We believe these estimates to be accurate as of the date of this prospectus. However, this information may prove to be inaccurate because of the method by which we obtained some of the data for the estimates or because this information cannot always be verified with complete certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. As a result, you should be aware that market, ranking and other similar industry data included in this prospectus, and estimates and beliefs based on that data, may not be reliable and are subject to change based on various factors, including those discussed under “Risk Factors” and “Special Note Regarding Forward-Looking Statements.”

## TRADEMARKS AND TRADE NAMES

“Biodesix,” the Biodesix logo and other trademarks or service marks of Biodesix appearing in this prospectus such as GeneStrat®, VeriStrat®, Nodify XL2®, Nodify CDT™, Diagnostic Cortex®, and DeepMALDI®, among others, are our property. We will assert, to the fullest extent under applicable law, our rights to these trademarks, service marks, trade names and copyrights. This prospectus contains additional trade names, trademarks, and service marks of other companies, which are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies. Although trademark and registered mark symbols are not used throughout, this does not in any way indicate that we are disclaiming ownership of the words and images with which these trademarks and registered marks are associated.

## PROSPECTUS SUMMARY

*This summary highlights information contained in greater detail elsewhere in this prospectus. This summary is not complete and does not contain all of the information you should consider before investing in our common stock. You should read the entire prospectus carefully, especially the risks of investing in our common stock discussed under the heading "Risk Factors," and our financial statements and related notes included elsewhere in this prospectus. Unless the context otherwise requires, the terms "Biodesix," "company," "our," "us," and "we" in this prospectus refer to Biodesix, Inc.*

## BIODESIX, INC.

### Business Overview

We are a leading data-driven diagnostic solutions company leveraging state of the art technologies with our proprietary artificial intelligence (AI) platform to discover, develop, and commercialize solutions for clinical unmet needs, with a primary focus in lung disease. By combining a technology agnostic approach with a holistic view of the patient's disease state, we believe our solutions provide physicians with greater insights to help personalize their patient's care and meaningfully improve disease detection, evaluation, and treatment. Our unique approach to precision medicine provides timely and actionable clinical information, which we believe improves overall patient outcomes and lowers the overall healthcare cost by reducing the use of ineffective and unnecessary treatments and procedures. In addition to our diagnostic tests, we provide biopharmaceutical companies with services that include diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics.

Our core belief is that no single technology will answer all clinical questions that we encounter. Therefore, we employ multiple technologies, including genomics, transcriptomics, proteomics, and radiomics, and leverage our proprietary AI platform, the Diagnostic Cortex®, to discover innovative diagnostic tests for clinical use. Because of this approach, we believe we are unique in the diagnostics market as this approach allows for a broader and more holistic understanding of each patient's disease state. Our data-driven and technology agnostic approach is designed to enable us to discover diagnostic tests that answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies.

We derive our revenue from two sources: (i) providing diagnostic testing in the clinical setting (Diagnostic Tests); and (ii) providing biopharmaceutical companies with services that include diagnostic research, clinical research, development and testing services generally provided outside the clinical setting and governed by individual contracts with third parties as well as development and commercialization of companion diagnostics (Services). The majority of our revenues to date have been derived from our diagnostic testing business.

We have commercialized six diagnostic tests which are currently on market and we perform over 30 assays for research use as part of our laboratory services that have been used by over 50 biopharmaceutical customers and academic partners.

We have four diagnostic blood-based tests across the lung cancer continuum of care.

- *Nodify XL2*® and *Nodify CDT*™ tests, marketed as part of our Nodify Lung™ Nodule Risk Assessment testing strategy, assess the risk of lung cancer to help identify the most appropriate treatment pathway. We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules.
- *GeneStrat*® and *VeriStrat*® tests, marketed as part of our Biodesix Lung Reflex® testing strategy, are used following diagnosis of lung cancer to measure the presence of mutations in the tumor and the state

of the patient's immune system to establish the patient's prognosis and help guide treatment decisions. The GeneStrat tumor profiling test and the VeriStrat immune profiling test have a three-day average turnaround time, providing physicians with timely results to facilitate treatment decisions.

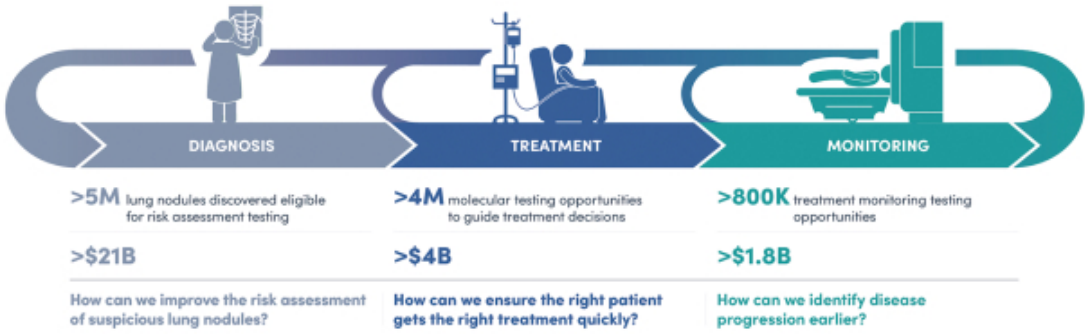
In response to the COVID-19 pandemic, through our partnership with Bio-Rad, we commercialized the Biodesix WorkSafe™ testing program. Our scientific diagnostic expertise, technologies, and existing commercial infrastructure enabled us to rapidly commercialize two United States Food and Drug Administration (FDA) Emergency Use Authorization (EUA)-authorized tests, a part of our customizable program. Bio-Rad has granted us permission to utilize the Bio-Rad ddPCR SARS-CoV-2 test for commercial diagnostic services. U.S. Department of Health and Human Services Secretary Alex Azar II declared a public health emergency for COVID-19 in February 2020 which justified the authorization of emergency use of diagnostic tests for the detection and/or diagnosis of COVID-19. The Bio-Rad SARS-CoV-2 ddPCR test and the Platelia SARS-CoV-2 Total Ab test have been granted FDA EUA pursuant to the current emergency declaration. The Bio-Rad SARS-CoV-2 ddPCR test was FDA EUA authorized on May 1, 2020, authorizing performance of the test in laboratories certified under CLIA to perform high complexity tests. The second test is the Platelia SARS-CoV-2 Total Ab test, which is an antibody assay intended for detecting a B-cell immune response to SARS-CoV-2, indicating recent or prior infection. The Platelia SARS-CoV-2 Total Ab test was FDA EUA authorized on April 29, 2020. Medical products that are granted an EUA are only permitted to commercialize their products under the terms and conditions provided in the authorization. The FDA may revoke an EUA where it is determined that the underlying health emergency no longer exists or warrants such authorization, if the conditions for the issuance of the EUA are no longer met, or if other circumstances make revocation appropriate to protect the public health or safety, and we cannot predict how long the EUAs for the SARS-CoV-2 tests will remain in place. These tests are utilized by healthcare providers, including hospitals and nursing homes, and are also offered to businesses and educational systems to assist in their back-to-work or back-to-school strategies, a crucial element of restarting economic activity. Recently we announced multiple partnerships for COVID-19 testing, and have entered into an agreement with the State of Colorado to be one of the diagnostic companies to support wide-spread COVID-19 testing for the State. Additionally, we recently announced that we will oversee and manage onsite testing and validating testing for the Big Ten Conference athletic competitions. To date, we have not derived significant revenues from these partnerships.

We are dedicated to continuously publishing and presenting new data on the clinical validation and utility of our diagnostic tests. Since our inception, we have performed over 200,000 tests and continue to generate a large and growing body of clinical evidence. We have participated in 27 clinical studies, four of which are ongoing, and have published over 275 peer-reviewed publications and presentations. We have over 140,000 samples and data in our biobank, including tumor profiles and immune profiles, which are used for both internal and external research and development (R&D) initiatives.

**Our Market Opportunity**

***Diagnostic Testing***

Despite significant advances over the last decade, lung cancer is still the deadliest type of cancer in both men and women in the United States today. While diagnostic testing has become routinely used at certain points in the lung cancer continuum of care, we believe there is a substantial need for novel, advanced testing to improve on the current standard of care. We estimate that in the United States, the lung cancer continuum of care currently represents over 10 million annual testing opportunities, and is over a $27 billion market annually for testing alone.

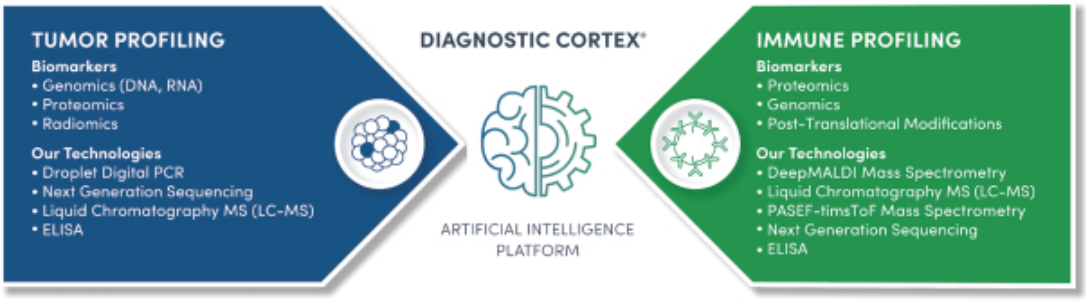



***Biomarker Discovery & Companion Diagnostics***

Over the last two decades, the use of biomarker testing in clinical trials has increased, with 55% of oncology trials involving the use of biomarker testing in 2018 versus 15% in 2000. We believe the field of biomarker discovery and companion diagnostic development for biopharmaceutical therapeutics is set to continue growing as biopharmaceutical companies seek to de-risk their pipelines and increase chances of drug development success. We estimate that the biopharmaceutical partnering and research opportunities represent over a $2 billion market annually.

**Our Platform and Technologies**

We use combinations of tumor, immune and host profiling, radiological imaging, patient clinical profiling, and our proprietary AI platform, the Diagnostic Cortex, to provide a holistic view of each patient's dynamic disease state. The Diagnostic Cortex is an extensively validated deep learning platform optimized for the discovery of clinical diagnostic tests, which we believe overcomes standard machine learning challenges faced in life sciences research. We employ multiple technologies, as illustrated below, including genomics, proteomics, transcriptomics, and radiomics, generated by different assay techniques, including Droplet Digital™ (ddPCR), next generation sequencing (NGS), liquid chromatography mass spectrometry (LC-MS), enzyme-linked immunosorbent assay (ELISA), and our proprietary DeepMALDI® mass spectrometry platform for the blood-based molecular analysis of the tumor, immune system, and host-status of each patient and/or clinical dataset.




**Our Competitive Advantages**

We believe the following are our key competitive advantages:

- Our proprietary extensively validated deep learning platform, which is tailored to discover clinical diagnostics that address clinical unmet needs;
- Our data-driven approach to precision medicine combined with our data biobank, which enables us to accelerate development of new tests;
- Our leadership in clinical proteomics, demonstrated research, development, and scientific expertise, combined with our intellectual property portfolio;
- Our demonstrated success commercializing diagnostic tests across a broad continuum of care in lung disease;
- Our depth and breadth of point of care access to physicians allows us to drive adoption of our diagnostic tests while incorporating real-life feedback to inform new product development; and
- Our commercial infrastructure, which is built on extensive knowledge and experience in sales, marketing, reimbursement, and operations.

**Our Strategy**

We strive to provide swift, comprehensive and actionable insights to improve patient outcomes across lung disease and to help answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies. To achieve this, we intend to:

- Drive increased awareness, adoption, and reimbursement coverage of our diagnostic tests;
- Deepen our relationships with current biopharmaceutical customers and establish new customer opportunities;

- Introduce new diagnostic tests in lung disease;
- Further demonstrate the clinical utility and economic benefits of our diagnostic tests;
- Enhance our proprietary AI platform and expand our technology portfolio; and
- Continue to leverage and expand our biobank.

**COVID-19 Pandemic**

The COVID-19 pandemic has disrupted, and we expect will continue to disrupt, our operations. To protect the health and well-being of our workforce, partners, vendors and customers, we provide voluntary COVID-19 testing for employees working on-site, implemented social distance and building entry policies at work, restricted travel and facility visits, and followed the States of Colorado and Kansas' public health orders and the guidance from the Centers for Disease Control and Prevention. Employees who can perform their duties remotely are asked to work from home and those on site are asked to follow our social distance guidelines. Our sales, marketing and business development efforts have also been constrained by our operational response to the COVID-19 pandemic due to travel restrictions. We expect to continue to adjust our operational norms in an effort to help slow the spread of COVID-19 in the coming months, including complying with government directives and guidelines as they are modified and supplemented.

The COVID-19 pandemic also has started to negatively affect, and we expect will continue to negatively affect, our non-COVID-19 testing-related revenue and our clinical studies. For example, cancer patients may have more limited access to hospitals, healthcare providers and medical resources as they take steps to control the spread of COVID-19. Our biopharmaceutical customers are facing challenges in recruiting patients and in conducting clinical trials to advance their pipelines, for which our tests could be utilized. As a result of the COVID-19 pandemic, beginning in the latter half of March 2020, we have been receiving fewer samples for non-COVID-19 testing on a daily average basis from our clinical and biopharmaceutical customers than before the outbreak of the COVID-19 pandemic. Further, our clinical studies, such as our ongoing INSIGHT study and our recently launched ALTITUDE study, as well as our arrangements with our biopharmaceutical customers, are expected to take longer to complete than what we expected before the outbreak of the COVID-19 pandemic.

We are also experiencing an increase in revenues related to an increase in the demand for our COVID-19 diagnostic testing products. We expect that our costs to expand capacity for COVID-19 testing will increase for the remainder of 2020 and the first quarter of 2021 and we expect that the revenue that we generate from this expansion will comprise a significant portion of our revenue for these periods. However, there is no assurance that our COVID-19 diagnostic and antibody tests will continue to be accepted by the market or that other diagnostic tests, will become more accepted, produce quicker results or are more accurate. Further, the longevity and extent of the COVID-19 pandemic is uncertain. If the pandemic were to dissipate, whether due to a significant decrease in new infections, due to the availability of vaccines, or otherwise, the need for a COVID-19 diagnostic test could decrease significantly and this could have an adverse effect on our results of operations and profitability. As a result, the increase in revenue due to any increase in demand for these diagnostic tests may not be indicative of our future revenue. See "Risk Factors" for a description of how the COVID-19 pandemic may adversely affect our business, financial condition and results of operations.

**Summary of Risk Factors**

Our business is subject to numerous risks and uncertainties, including those highlighted in the section titled "Risk Factors" immediately following this prospectus summary. These risks include, without limitation, the following:

- We have a history of net losses, and we expect to continue to incur losses for the foreseeable future. If we achieve profitability, we may not be able to sustain it.

- The commercial success of our current and future diagnostic tests and services depends upon attaining significant market acceptance among payers, providers, clinics, patients, and biopharmaceutical companies.
- We may encounter difficulties in managing our growth, which could disrupt our operations.
- If we fail to retain sales and marketing personnel and, as we grow, fail to increase our sales and marketing capabilities or develop broad awareness of our diagnostic tests in a cost-effective manner, we may not be able to generate revenue growth.
- If we cannot maintain our current relationships, or enter into new relationships, with biopharmaceutical companies, our revenue prospects could be reduced.
- Our commercial success and revenue growth are highly dependent on the demand for, and increased adoption of, our diagnostic tests, including our COVID-19 tests, which are subject to a number of risks and uncertainty.
- We need to ensure strong product performance and reliability to maintain and grow our business.
- We depend upon third-party suppliers, including contract manufacturers and single source suppliers, making us vulnerable to supply problems and price fluctuations.
- Natural or man-made disasters, pandemics, outbreaks, or other similar events, including a sustained outbreak or second wave of the novel strain of coronavirus disease, COVID-19, could significantly disrupt our business, and negatively impact our business, financial condition and results of operations.
- Our industry is highly competitive and subject to rapid change, which could make our diagnostic tests and services obsolete. If we are unable to continue to innovate and expand and enhance our diagnostic tests and service offerings, we could lose customers or market share.
- Any failure to offer high-quality support for our diagnostic tests and services may adversely affect our relationships with providers and negatively impact our reputation among patients and providers, which may adversely affect our business, financial condition and results of operations.
- We may face additional costs, loss of revenue, significant liabilities, harm to our brand, decreased use of our, products or services and business disruption if there are disruptions in our information technology systems, including any security or data privacy breaches or other unauthorized or improper access.

**Corporate Information**

We were incorporated in Delaware in 2005 as Elston Technologies, Inc. Our principal executive offices are located at 2970 Wilderness Place, Suite 100, Boulder, Colorado 80301, and our telephone number is (303) 417-0500. On June 20, 2006, we changed our name to Biodesix, Inc.

Our website address is www.biodesix.com. Information contained on, or accessible from, or hyperlinked to, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

**Implications of Being an Emerging Growth Company and Smaller Reporting Company**

We are an “emerging growth company” within the meaning of the Jumpstart Our Business Startups Act (JOBS Act). As an emerging growth company, we may take advantage of certain exemptions from various public company reporting requirements, including the requirement that our internal control over financial reporting be audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, certain requirements related to the disclosure of executive compensation in this prospectus and in our periodic reports and proxy statements, the requirement that we hold a nonbinding advisory vote on executive compensation and any golden parachute payments, and we have taken advantage of the ability to provide reduced

disclosure of financial information in this prospectus, such as being permitted to include only two years of audited financial information and two years of selected financial information in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure. We may take advantage of these exemptions until we are no longer an emerging growth company. Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended (the Securities Act), for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We have elected to take advantage of the extended transition period to comply with new or revised accounting standards and to adopt certain of the reduced disclosure requirements available to emerging growth companies. As a result of the accounting standards election, we will not be subject to the same implementation timing for new or revised accounting standards as other public companies that are not emerging growth companies, which may make comparison of our financials to those of other public companies more difficult. Additionally, because we have taken advantage of certain reduced reporting requirements, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

We will remain an emerging growth company until the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (iii) the date on which we have issued, in any three-year period, more than $1.0 billion in non-convertible debt securities; and (iv) the last day of the fiscal year ending after the fifth anniversary of the completion of our initial public offering.

Additionally, we are a "smaller reporting company" as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (i) the market value of our common stock held by non-affiliates exceeds $250 million as of the end of that year's second fiscal quarter, or (ii) our annual revenues exceeded $100 million during such completed fiscal year and the market value of our common stock held by non-affiliates exceeds $700 million as of the end of that year's second fiscal quarter. To the extent we take advantage of such reduced disclosure obligations, it may also make comparison of our financial statements with other public companies difficult or impossible.

For certain risks related to our status as an emerging growth company, see "Risk Factors—Risks Related to our Common Stock and this Offering—We are an "emerging growth company" and a "smaller reporting company," and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors."

**THE OFFERING**

| | |
|---|---|
| Common stock offered by us | shares |
| Over-allotment option | shares |
| Common stock to be outstanding after this offering | shares |
| Use of proceeds | We estimate that the net proceeds from the sale of shares of our common stock that we are selling in this offering will be approximately $ million (or approximately $ million if the underwriters' over-allotment option is exercised in full), based upon an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.<br><br>We currently expect to use the net proceeds from this offering: (1) to support our commercial expansion of sales, marketing, reimbursement, customer support and business development; (2) to support our product pipeline and research and development; (3) for our Integrated Diagnostics acquisition milestone payment; and (4) for working capital and general corporate purposes. See the section titled "Use of Proceeds" for additional information. |
| Directed share program | At our request, the underwriters have reserved up to 5% of the shares of common stock offered by this prospectus, for sale at the initial public offering price through a directed share program to certain individuals, including our directors, employees and certain of our existing stockholders. The sales will be made at our direction by Morgan Stanley & Co. LLC and its affiliates through a directed share program. The number of shares of our common stock available for sale to the general public in this offering will be reduced to the extent that these individuals purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares of common stock offered by this prospectus. Any individuals that participate in this directed share program will be subject to lockup restrictions with the underwriters with respect to any shares purchased through the directed share program.<br><br>For additional information, see the section titled "Underwriters—Directed Share Program." |

| | |
|---|---|
| Risk factors | See “Risk Factors” and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in our common stock. |
| Nasdaq Global Market trading symbol | “BDSX” |

The number of shares of common stock that will be outstanding after this offering is based on shares of our common stock (reflecting the conversion of all of our shares of preferred stock and convertible debt into shares of our common stock on an as-converted basis) outstanding as of , 2020, and excludes:

- shares of common stock issuable upon the exercise of outstanding stock options as of , 2020, with a weighted-average exercise price of $ per share, plus shares of common stock issuable upon the exercise of stock options granted subsequent to , 2020, with a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding warrants to purchase shares of Series G Preferred Stock as of , 2020, with a weighted-average exercise price of $ per share; and
- additional shares of common stock reserved for future issuance under our 2016 Equity Incentive Plan (the 2016 Incentive Plan) as of , 2020, plus an additional shares of common stock reserved for future issuance under this plan subsequent to , 2020.

In addition, unless we specifically state otherwise, all information in this prospectus assumes:

- that our amended and restated certificate of incorporation, which we will file in connection with the closing of this offering, and our amended and restated bylaws adopted in connection with this offering, are effective;
- the conversion of all outstanding shares of our preferred stock and convertible debt into an aggregate of shares of common stock immediately upon the closing of this offering;
- no exercise of the outstanding options or warrants described above; and
- no exercise of the underwriters’ over-allotment option.

## SUMMARY HISTORICAL FINANCIAL AND OPERATING DATA

The following table sets forth Biodesix, Inc.'s summary historical financial and operating data as of the dates and for the periods indicated. The summary historical financial and operating data as of June 30, 2020 and 2019 and for the six months ended June 30, 2020 and 2019 have been derived from our unaudited condensed financial statements included elsewhere in this prospectus. The summary historical financial and operating data as of December 31, 2019 and 2018 and for the years ended December 31, 2019 and 2018 have been derived from our audited financial statements included elsewhere in this prospectus.

The summary historical financial information is not necessarily indicative of the results that may be expected in any future period, and our results of operations for any interim period are not necessarily indicative of the results to be expected for the full year. The following summary historical financial and operating data should be read in conjunction with "Capitalization," "Selected Historical Financial and Operating Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes appearing elsewhere in this prospectus.

**Statements of Operations:**
**(in thousands, except per share data)**

| | For the Six Months Ended June 30, | | For the Years Ended December 31, | |
|---|---|---|---|---|
| | 2020 | 2019 | 2019 | 2018 |
| | (unaudited) | | (audited) | |
| Revenues | $ 9,335 | $ 12,339 | $ 24,552 | $ 20,432 |
| Operating expenses | | | | |
| Direct costs and expenses | 3,455 | 2,741 | 6,074 | 4,406 |
| Research and development | 5,007 | 5,607 | 10,468 | 8,188 |
| Sales, marketing, general and administrative | 14,914 | 15,868 | 30,637 | 25,899 |
| Accretion of contingent consideration | 1,944 | 1,628 | 3,451 | 1,537 |
| Change in fair value of contingent consideration | (1,944) | 663 | 663 | 3,863 |
| Total operating expenses | 23,376 | 26,507 | 51,293 | 43,893 |
| Loss from operations | (14,041) | (14,168) | (26,741) | (23,461) |
| Other income (expense) | | | | |
| Interest expense | (4,241) | (1,299) | (3,008) | (2,916) |
| Change in fair value of put option liability | — | — | (2,000) | — |
| Other, net | 311 | 868 | 1,023 | 211 |
| Total other expense | (3,930) | (431) | (3,985) | (2,705) |
| Net loss | $ (17,971) | $ (14,599) | $ (30,726) | $ (26,166) |
| Net loss per share, basic and diluted | $ (11.59) | $ (10.94) | $ (21.31) | $ (22.07) |
| Weighted-average shares outstanding, basic and diluted | 1,551 | 1,334 | 1,442 | 1,186 |
| Pro forma net loss per share, basic and diluted (unaudited) | (0.06) | — | $ (0.20) | — |
| Pro forma weighted-average shares outstanding, basic and diluted (unaudited) | 271,344 | — | 155,126 | — |

**Balance Sheet Data:**
**(in thousands)**

| | June 30, 2020 | | |
|---|---|---|---|
| | Actual | Pro Forma(1)(3) | Pro Forma As Adjusted(2) |
| Cash and cash equivalents | $ 11,674 | | |
| Total assets | 45,478 | | |
| Current portion of long-term debt payable | 4,064 | | |
| Long-term debt payable | 20,163 | | |
| Convertible debt | 24,676 | | |
| Contingent consideration | 29,114 | | |
| Convertible preferred stock | 193,959 | | |
| Accumulated deficit | (248,835) | | |
| Total stockholders' deficit | (246,444) | | |

(1) The pro forma statement of operations and comprehensive loss data and pro forma balance sheet data give effect to the automatic conversion of all outstanding shares of our preferred stock and convertible debt into an aggregate of shares of common stock upon the completion of this offering.

(2) The pro forma as adjusted information discussed above gives effect to the adjustment described in footnote (1) and the receipt of $ million in net proceeds from our sale of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated offering price range set forth on the cover of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

(3) The number of common shares that convertible debt was assumed to convert to was based on our estimated common stock price as of June 30, 2020, as determined by our board of directors with assistance from a valuation firm. The ultimate conversion price will be based on the fair value of our common stock at the completion of this public offering.

## RISK FACTORS

*Investing in our common stock involves a high degree of risk. You should consider and read carefully all of the risks and uncertainties described below, as well as other information included in this prospectus, including our financial statements and related notes appearing at the end of this prospectus, before making an investment decision. The risks described below are not the only ones facing us. The occurrence of any of the following risks or additional risks and uncertainties not presently known to us or that we currently believe to be immaterial could materially and adversely affect our business, financial condition and results of operations. In such case, the trading price of our common stock could decline, and you may lose all or part of your investment. This prospectus also contains forward-looking statements and estimates that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of specific factors, including the risks and uncertainties described below.*

### Risks Related to our Business and Industry

***We have a history of net losses, and we expect to continue to incur losses for the foreseeable future. If we achieve profitability, we may not be able to sustain it.***

We have incurred losses since our inception, and expect to continue to incur losses for the foreseeable future. We have reported net losses of $18.0 million, $30.7 million and $26.2 million for the six months ended June 30, 2020 and for the years ended December 31, 2019 and 2018, respectively. As a result of these losses, as of June 30, 2020, we had $11.7 million in cash and cash equivalents, and an accumulated deficit of approximately $248.8 million. Based on our current planned operations, we expect our cash and cash equivalents, together with amounts raised in 2020, including the proceeds from this offering, will enable us to fund our operating expenses for at least the next twelve months. We have based this estimate on assumptions that in the future may prove to be wrong, and we could use our capital resources sooner than we currently expect. We expect to continue to incur significant net losses for the foreseeable future.

Following this offering, we expect that our sales and marketing, research and development, regulatory and other expenses will continue to increase as we expand our marketing efforts for our diagnostic tests and services, expand existing relationships with our customers, obtain regulatory clearances or approvals for future enhancements to our existing diagnostic tests and services and conduct further clinical trials. In addition, we expect our general and administrative expenses to increase following this offering due to the additional costs associated with scaling our business operations and testing capacity, particularly with respect to our COVID-19 diagnostic testing capacity, as well as being a public company, including due to legal, accounting, insurance, exchange listing and compliance, investor relations and other expenses. As a result, we expect to continue to incur operating losses and may never achieve profitability. We will need to generate significant additional revenue in order to achieve and sustain profitability. Even if we achieve profitability, we cannot be sure that we will remain profitable for any substantial period of time. If we do not achieve or sustain profitability, it will be more difficult for us to finance our business and accomplish our strategic objectives, either of which would have a material adverse effect on our business, financial condition and results of operations.

***The commercial success of our current and future diagnostic tests and services and our revenue growth depends upon attaining significant market acceptance among payers, providers, clinics, patients, and biopharmaceutical companies.***

Our commercial success depends, in part, on the acceptance of our diagnostic tests and services as being safe and relatively simple for medical personnel to learn and use, clinically flexible, operationally versatile and, with respect to providers and payers, cost effective. We cannot predict how quickly, if at all, payers, providers, clinics and patients will accept future diagnostic tests and services or, if accepted, how frequently they will be used. These constituents must believe that our diagnostic tests offer benefits over other available alternatives.

The degree of market acceptance of our current and future diagnostic tests and services depends on a number of factors, including:

- whether there is adequate utilization of our tests by clinicians, biopharmaceutical companies and other target groups based on the potential and perceived advantages of our diagnostic tests over those of our competitors;
- the convenience and ease of use of our diagnostic tests relative to those currently on the market;
- the effectiveness of our sales and marketing efforts;
- our ability to provide incremental data that show the clinical benefits and cost effectiveness, and operational benefits, of our diagnostic tests;
- the coverage and reimbursement acceptance of our products and services;
- pricing pressure, including from group purchasing organizations (GPOs), seeking to obtain discounts on our diagnostic tests based on the collective bargaining power of the GPO members;
- negative publicity regarding our or our competitors' diagnostic tests resulting from defects or errors;
- the accuracy of our tests relative to those of our competitors;
- product labeling or product insert requirements by the FDA or other regulatory authorities; and
- limitations or warnings contained in the labeling cleared or approved by the FDA or other authorities.

Additionally, even if our diagnostic tests achieve widespread market acceptance, they may not maintain that market acceptance over time if competing diagnostic tests or technologies, which are more cost effective or are received more favorably, are introduced. Failure to achieve or maintain market acceptance and/or market share would limit our ability to generate revenue and would have a material adverse effect on our business, financial condition and results of operations.

We expect increased revenues from our COVID-19 diagnostic and antibody tests over the course of 2020 and the first quarter of 2021, and we expect that such revenue will comprise a significant portion of our revenue over the same period. However, there is no assurance that our COVID-19 diagnostic and antibody tests will continue to be accepted by the market or that other diagnostic tests will become more accepted, produce quicker results or are more accurate. Further, the longevity and extent of the COVID-19 pandemic is uncertain. If the pandemic were to dissipate, whether due to a significant decrease in new infections, due to the availability of vaccines, or otherwise, the need for a COVID-19 diagnostic test could decrease significantly and this could have an adverse effect on our results of operation and profitability.

***We may encounter difficulties in managing our growth, which could disrupt our operations.***

As of June 30, 2020, we had 154 employees. Over the next several years, we expect to increase significantly the number of our employees and the scope of our operations, particularly in the areas of sales, marketing and reimbursement, product development, regulatory affairs and other functional areas, including finance, accounting, quality and legal. Additionally, we expect to expand our testing capacity as we commercialize additional diagnostic tests. To manage our anticipated future growth, we must continue to implement and improve our managerial, operational quality and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources, we may not be able to manage the expansion of our operations or recruit and train additional qualified personnel in an effective manner. Any inability to manage growth could delay the execution of our business plans or disrupt our operations and have a material and adverse effect on our prospects.

Since our inception, we have experienced multiple cycles of growth and anticipate further growth in our business operations. This future growth could create strain on our organizational, administrative and operational

infrastructure, including laboratory operations, quality control, customer service and sales organization management. We expect to continue to increase headcount and to hire more specialized personnel in the future as we grow our business. We will need to continue to hire, train and manage additional qualified scientists, laboratory personnel, client and account services personnel, and sales and marketing staff and improve and maintain our technology to properly manage our growth. If our new hires perform poorly, if we are unsuccessful in hiring, training, managing and integrating these new employees or if we are not successful in retaining our existing employees, our business may be harmed.

We may not be able to maintain the quality or expected turnaround times of our diagnostic tests, or satisfy customer demand as it grows. We may not be able to expand our COVID-19 testing capacity rapidly enough to meet the current and anticipated demand. Our ability to manage our growth properly will require us to continue to improve our operational, financial and management controls, as well as our reporting systems and procedures. The time and resources required to implement these new systems and procedures is uncertain, and failure to complete this in a timely and efficient manner could materially adversely affect our operations.

***If we fail to retain sales and marketing personnel and, as we grow, fail to increase our sales and marketing capabilities or develop broad awareness of our diagnostic tests in a cost-effective manner, we may not be able to generate revenue growth.***

We have limited experience marketing and selling our diagnostic tests. We currently rely on our direct sales force to sell our diagnostic tests in the United States, and any failure to maintain and grow our direct sales force will negatively affect our business, financial condition and results of operations. The members of our direct sales force are highly trained and possess substantial technical expertise, which we believe is critical in increasing adoption of our diagnostic tests. The members of our United States sales force are at-will employees. The loss of these personnel to competitors, or otherwise, will negatively affect our business, financial condition and results of operations. If we are unable to retain our direct sales force personnel or replace them with individuals of equivalent technical expertise and qualifications, or if we are unable to successfully instill such technical expertise in replacement personnel, it may negatively affect our business, financial condition and results of operations.

In order to generate future growth, we plan to continue to expand and leverage our sales and marketing infrastructure. Identifying and recruiting qualified sales and marketing personnel and training them on how to promote our diagnostic tests, on applicable federal and state laws and regulations and on our internal policies and procedures requires significant time, expense and attention. It often takes several months or more before a sales representative is fully trained and productive. Our sales force may subject us to higher fixed costs than those of companies with competing techniques or diagnostic tests that utilize independent third parties, which could place us at a competitive disadvantage. It will negatively affect our business, financial condition and results of operations if our efforts to expand and train our sales force do not generate a corresponding increase in revenue, and our higher fixed costs may slow our ability to reduce costs in the face of a sudden decline in demand for our diagnostic tests. Any failure to hire, develop and retain talented sales personnel, to achieve desired productivity levels in a reasonable period of time, or timely reduce fixed costs, could negatively affect our business, financial condition and results of operations. Our ability to increase our customer base and achieve broader market acceptance of our diagnostic tests will depend to a significant extent on our ability to expand our marketing efforts. We plan to dedicate significant resources to our marketing programs. It will negatively affect our business, financial condition and results of operations if our marketing efforts and expenditures do not generate a corresponding increase in revenue. In addition, we believe that developing and maintaining broad awareness of our diagnostic tests in a cost-effective manner is critical to achieving broad acceptance of our diagnostic tests. Promotion activities may not generate patient or physician awareness or increase revenue, and even if they do, any increase in revenue may not offset the costs and expenses we incur in building our brand. If we fail to successfully promote, maintain and protect our brand, we may fail to attract or retain the physician acceptance necessary to realize a sufficient return on our brand building efforts, or to achieve the level of brand awareness that is critical for broad use of our diagnostic tests, which in turn could have a material adverse effect on our business, financial condition and results of operations.

***If we cannot maintain our current relationships, or enter into new relationships, with biopharmaceutical companies, our revenue prospects could be reduced.***

We collaborate with biopharmaceutical companies to analyze patient samples for multiple applications primarily to support clinical trials, including patient identification, companion or complementary diagnostics and retrospective testing. In the six months ended June 30, 2020 and 2019, revenue from our top biopharmaceutical customer accounted for 6% and 25% of our total revenue, respectively. In the years ended December 31, 2019 and 2018, revenue from our top biopharmaceutical customer accounted for 21% and 7% of our total revenue, respectively. The revenue attributable to our biopharmaceutical customers may also fluctuate in the future, which could have a material adverse effect on our financial condition and results of operations. In addition, the termination of these relationships could result in a temporary or permanent loss of revenue.

Our future success depends in part on our ability to maintain these relationships and to establish new relationships. Many factors have the potential to impact such collaborations, including the type of biomarker support required and our ability to deliver it and our biopharmaceutical customers' satisfaction with our tests or services and other factors that may be beyond our control. Furthermore, our biopharmaceutical customers may decide to decrease or discontinue their use of our tests due to changes in research and product development plans, failures in their clinical trials, financial constraints, or utilization of internal testing resources or tests performed by other parties, or other circumstances outside of our control. In addition to reducing our revenue, the loss of one or more of these relationships may reduce our exposure to research and clinical trials that facilitate the collection and incorporation of new information into our biobank and proprietary AI platform.

We engage in conversations with biopharmaceutical companies regarding potential commercial opportunities on an ongoing basis. There is no assurance that any of these conversations will result in a commercial agreement, or if an agreement is reached, that the resulting relationship will be successful or that clinical or research studies conducted as part of the engagement will produce successful outcomes. Speculation in the industry about our existing or potential relationships with biopharmaceutical companies can also be a catalyst for adverse speculation about us, our tests and our technology, which can adversely affect our reputation and our business.

***Our operating results may fluctuate significantly, which makes our future operating results difficult to predict and could cause our operating results to fall below expectations or any guidance we may provide.***

Our quarterly and annual revenue and operating results may fluctuate significantly, which makes it difficult for us to predict our future operating results. Our quarterly and annual operating results may fluctuate as a result of a variety of factors, many of which are outside our control and, as a result, may not fully reflect the underlying performance of our business. These fluctuations may occur due to a variety of factors, including, but not limited to:

- the level of demand for our diagnostic tests, which may vary significantly;
- the timing and cost of manufacturing our diagnostic tests, which may vary depending on the quantity of production and the terms of our agreements with third-party suppliers and manufacturers;
- expenditures that we may incur to acquire, develop or commercialize additional tests and technologies;
- unanticipated pricing pressures;
- the rate at which we grow our sales force and the speed at which newly hired salespeople become effective, and the cost and level of investment therein;
- the degree of competition in our industry and any change in the competitive landscape of our industry, including consolidation among our competitors or future partners;
- coverage and reimbursement policies with respect to lung cancer treatment equipment, and potential future diagnostic tests that compete with our diagnostic tests;

- the timing and success or failure of clinical trials for our diagnostic tests or any enhancements to such tests we develop or competing diagnostic tests;
- positive or negative coverage, or public perception, of our diagnostic tests or those of our competitors or broader industry trends;
- the impact, if any, of the spread of COVID-19, and the resulting effects on the number of patients treated or the demand for our non-COVID-19 diagnostic tests;
- the timing and cost of, and level of investment in, research, development, licenses, regulatory approval, commercialization activities, acquisitions and other strategic transactions, or other significant events relating to our diagnostic tests, which may change from time to time;
- the timing and cost of obtaining regulatory approvals or clearances for planned or future improvements or enhancements to our diagnostic tests;
- changes in governmental regulations or in the status of regulatory approvals or applications;
- pricing, discounts and incentives for our diagnostic tests;
- future accounting pronouncements or changes in our accounting policies; and
- general market conditions.

In addition, we expect increased revenue from our COVID-19 diagnostic and antibody tests over the course of 2020 and the first quarter of 2021, and we expect that such revenue will comprise a significant portion of our revenue over the same period. We can provide no assurances that the demand for our COVID-19 diagnostic and antibody tests will be sustained, and even if it is, the period of time for which it would be sustained. As a result, the increase in revenue due to any increase in demand for our COVID-19 diagnostic and antibody tests is not indicative of results expected for any future period.

The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual financial results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Further, our historical results are not necessarily indicative of results expected for any future period, and quarterly results are not necessarily indicative of the results to be expected for the full year or any other period, and accordingly should not be relied upon as indicative of future performance.

This variability and unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our revenue or operating results fall below the expectations of analysts or investors or below any guidance we may provide, or if the guidance we provide is below the expectations of analysts or investors, the price of our common stock could decline substantially. Such a stock price decline could occur even when we have met any publicly stated guidance we may provide, and could in turn negatively impact our business, financial condition and results of operations.

***We need to ensure strong product performance and reliability to maintain and grow our business.***

We need to maintain and continuously improve the performance and reliability of our diagnostic tests, including our COVID-19 diagnostic and antibody tests, the Nodify XL2 and Nodify CDT tests, and the GeneStrat and VeriStrat tests, to achieve our profitability objectives. Poor product performance and reliability could lead to customer dissatisfaction, adversely affect our reputation and revenues, and increase our service and distribution costs and working capital requirements. Our diagnostic tests may contain errors or defects, and while we have made efforts to test them extensively, we cannot assure that our current diagnostic tests, or those developed in the future, will not have performance problems. Performance issues with our diagnostic tests will increase our costs in the near-term and accordingly adversely affect our business, financial condition and results of operations.

***We depend upon third-party suppliers, including contract manufacturers and single source suppliers, making us vulnerable to supply problems and price fluctuations.***

We rely on third-party suppliers, including in some instances single source suppliers, to provide us with certain components of our diagnostic tests. The number of suppliers feeding into the production of our diagnostic tests is in excess of 65 worldwide. We consider a select few of these suppliers, located in the United States, Europe and China, as critical single source providers of components. Bio-Rad Laboratories, as described below, is the sole source supplier for our GeneStrat and COVID-19 diagnostic and antibody tests. Oncimmune is also the sole source supplier for our Nodify CDT tests. While we have initiated the second source qualification process for the majority of these critical components, we may not be successful in securing second sourcing for all of them at all or on a timely basis.

In addition, we may purchase supplies through purchase orders and may not have long-term supply agreements with, or guaranteed commitments from, many of our suppliers, including single source suppliers. Additionally, at present, we rely on contract manufacturers for the production of supplies for our diagnostic test. Many of our suppliers and contract manufacturers are not obligated to perform services or supply diagnostic testing materials for any specific period, in any specific quantity or at any specific price, except as may be provided in a particular purchase order. We depend on our suppliers and contract manufacturers to provide us and our customers with materials in a timely manner that meet our and their quality, quantity and cost requirements. These suppliers and contract manufacturers may encounter problems during manufacturing for a variety of reasons, any of which could delay or impede their ability to meet our demand. These suppliers and contract manufacturers may cease producing the components we purchase from them or otherwise decide to cease doing business with us. Further, we maintain limited volumes of inventory from most of our suppliers and contract manufacturers. If we inaccurately forecast demand for finished goods, we may be unable to meet customer demand which could harm our competitive position and reputation. In addition, if we fail to effectively manage our relationships with our suppliers and contract manufacturers, we may be required to change suppliers or contract manufacturers. While we believe replacement suppliers exist for all materials, components and services necessary to manufacture our diagnostic tests, establishing additional or replacement suppliers for any of these materials, components or services, if required, could be time-consuming and expensive, may result in interruptions in our operations and product delivery, may affect the performance of our diagnostic tests or could require that we modify their processes. Even if we are able to find replacement suppliers, we will be required to verify that the new supplier maintains facilities, procedures and operations that comply with our quality expectations and applicable regulatory requirements. Any of these events could require that we obtain a new regulatory authority approval before we implement the change, which we may not obtain on a timely basis or at all.

If our third-party suppliers fail to deliver the required commercial quantities of materials on a timely basis and at commercially reasonable prices, and we are unable to find one or more replacement suppliers capable of production at a substantially equivalent cost in substantially equivalent volumes and quality on a timely basis, the continued commercialization of our diagnostic tests, the supply of our diagnostic tests to customers and the development of any future diagnostic tests will be delayed, limited or prevented, which could have material adverse effect on our business, financial condition and results of operations.

We entered into a nonexclusive license and supply agreement with Bio-Rad in August 2019. We rely on Bio-Rad to supply equipment and reagents used to perform ddPCR testing, a service offered by us under a variety of fee for service agreements and the core technology powering the GeneStrat test. Under the terms of this arrangement, we were granted non-exclusive rights to utilize the intellectual property, machinery, materials, reagents, supplies and know-how necessary for the performance of ddPCR in cancer detection testing for third parties in the United States. We agreed to purchase all of the necessary supplies and reagents for such testing exclusively from Bio-Rad. As further consideration for the non-exclusive license, we agreed to pay a royalty of two and one half percent (2.5%) on net service fees (such fees are defined in the Non-Exclusive License Agreement with Bio-Rad) collected from contracted third parties who receive ddPCR services from us. For more information regarding this license and supply agreement, please see “Business—Non-Exclusive License Agreement.”

This relationship may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. We cannot be certain that, following the realization of this relationship, we will achieve the revenue or specific net income that justifies our entry into it. Any termination of this relationship, or delays in entering into new strategic partnership agreements with Bio-Rad, could delay our sales and marketing efforts, which would harm our business prospects, financial condition and results of operations.

***We may not be able to sufficiently reduce costs in the performance, manufacturing and production of our diagnostic tests to achieve sustainable gross margins.***

We partner with contract manufacturers in the development and production of supplies for our diagnostic tests. While we are undertaking a number of initiatives designed to reduce the cost of performing our diagnostic tests, including reducing the costs of supplies, there is no guarantee that we will be able to achieve planned cost reductions from our various cost savings initiatives. There may also be unforeseen occurrences that increase our costs, such as increased prices of the components of our diagnostic tests, changes to labor costs or less favorable terms with third-party suppliers or contract manufacturing partners. If we are unable to reduce our costs, or if cost reductions are less significant or less timely than projected, we will not be able to achieve sustainable gross margins, which would adversely affect our ability to invest in and grow our business and adversely impact our business, financial condition and results of operations.

***A pandemic, epidemic or outbreak of an infectious disease in the United States or worldwide, including the outbreak of the novel strain of coronavirus disease, COVID-19, could adversely affect our business.***

If a pandemic, epidemic or outbreak of an infectious disease occurs in the United States or worldwide, our business may be adversely affected. COVID-19 has spread to most countries and throughout the United States. Numerous state and local jurisdictions have imposed, and others in the future may impose, “shelter-in-place” orders, quarantines, executive orders and similar government orders and restrictions for their residents to control the spread of COVID-19. In March 2020, the Governor of Colorado, where our headquarters are located, issued “stay at home” orders limiting non-essential activities, travel and business operations. Such orders or restrictions have resulted in reduced operations at our headquarters, work stoppages, slowdowns and delays, travel restrictions and cancellation of events. Other disruptions or potential disruptions include the inability of our suppliers to manufacture components and parts and to deliver these to us on a timely basis, or at all; disruptions in our production schedule and ability to assemble diagnostic tests; inventory shortages or obsolescence; delays in actions of regulatory bodies; diversion of or limitations on employee resources that would otherwise be focused on the operations of our business; delays in growing or reductions in our sales organization, including through delays in hiring, lay-offs, furloughs or other losses of sales representatives; business adjustments or disruptions of certain third parties, including suppliers, medical institutions and clinical investigators with whom we conduct business; and additional government requirements or other incremental mitigation efforts that may further impact our or our suppliers’ capacity to manufacture our diagnostic tests.

The COVID-19 pandemic also has started to negatively affect, and we expect will continue to negatively affect, our non-COVID-19 testing-related revenue and our clinical studies. For example, cancer patients may have more limited access to hospitals, healthcare providers and medical resources as they take steps to control the spread of COVID-19. Our biopharmaceutical customers are facing challenges in recruiting patients and in conducting clinical trials to advance their pipelines, for which our tests could be utilized. As a result of the COVID-19 pandemic, beginning in the latter half of March 2020, we have been receiving fewer samples for non-COVID-19 testing on a daily average basis from our clinical and biopharmaceutical customers than before the outbreak of the COVID-19 pandemic. Further, our clinical studies, such as our ongoing INSIGHT study and our recently launched ALTITUDE study, as well as our arrangements with our biopharmaceutical customers, are expected to take longer to complete than what we expected before the outbreak of the COVID-19 pandemic.

The COVID-19 pandemic has also created an opportunity for our diagnostic tests and we have developed two diagnostic tests to test for the presence of COVID-19 and antibodies. We are expecting to increase our

testing capacity for our COVID-19 diagnostic and antibody tests in the near term to meet the rising demand for rapid and accurate testing. We expect that the revenue we generate from this expansion will comprise a significant portion of our revenue for the remainder of 2020 and the first quarter of 2021. However, there is no assurance that our COVID-19 diagnostic and antibody tests will continue to be accepted by the market or that other diagnostic tests will become more accepted, produce quicker results or be accurate. Further, the longevity and extent of the COVID-19 pandemic is uncertain. If the pandemic were to dissipate, whether due to a significant decrease in new infections, due to the availability of vaccines, or otherwise, the need for a COVID-19 diagnostic test could decrease significantly and this could have an adverse effect on our results of operations and profitability. As a result, the increase in revenue due to any increase in demand for these diagnostic tests may not be indicative of our future revenue.

The extent to which the COVID-19 pandemic impacts our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity and spread of COVID-19 and the actions to contain COVID-19 or treat its impact, among others. Furthermore there is no assurance that our diagnostic tests will continue to be effective against the virus in the future.

While the potential economic impact brought by, and the duration of, any pandemic, epidemic or outbreak of an infectious disease, including COVID-19, may be difficult to assess or predict, the widespread COVID-19 pandemic has resulted in, and may continue to result in, significant disruption of global financial markets and a reduction in our ability to access capital, which could adversely affect our liquidity. In addition, a recession or market correction resulting from the spread of an infectious disease, including COVID-19, could materially affect our business. Such economic recession could have a material adverse effect on our long-term business. To the extent the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described in this “Risk Factors” section.

***Natural or man-made disasters and other similar events, including the COVID-19 pandemic, may significantly disrupt our business, and negatively impact our business, financial condition and results of operations.***

A significant portion of our employee base, operating facilities and infrastructure are centralized in Boulder, Colorado and we operate a laboratory facility in De Soto, Kansas. Any of our facilities may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, wildfires, floods, nuclear disasters, riots, acts of terrorism or other criminal activities, infectious disease outbreaks or pandemic events, including the COVID-19 pandemic, power outages and other infrastructure failures, which may render it difficult or impossible for us to operate our business for some period of time. Our facilities would likely be costly to repair or replace, and any such efforts would likely require substantial time. Any disruptions in our operations could adversely affect our business, financial condition and results of operations and harm our reputation. Moreover, although we have disaster recovery plans, they may prove inadequate. We may not carry sufficient business insurance to compensate for losses that may occur. Any such losses or damages could have a material adverse effect on our business, financial condition and results of operations. In addition, the facilities of our suppliers and manufacturers may be harmed or rendered inoperable by such natural or man-made disasters, which may cause disruptions, difficulties or otherwise materially and adversely affect our business.

***Any failure to offer high-quality support for our diagnostic tests and services may adversely affect our relationships with providers and negatively impact our reputation among patients and providers, which may adversely affect our business, financial condition and results of operations.***

In implementing and using our diagnostic tests and services, providers depend on our support to resolve issues in a timely manner. We may be unable to respond quickly enough to accommodate short-term increases in demand for customer support. Increased customer demand for support could increase costs and adversely affect our business, financial condition and results of operations. Our sales are highly dependent on our reputation and on positive recommendations from our existing patients, care partners, providers and clinics. Any failure to maintain high-quality customer support, or a market perception that we do not maintain high-quality customer support, could adversely affect our reputation, our ability to sell our diagnostic tests and services, and in turn our business, financial condition and results of operations.

***The sizes of the markets for our diagnostic tests and services and any future diagnostic tests and services may be smaller than we estimate and may decline.***

Our estimates of the annual total addressable market for our diagnostic tests and services are based on a number of internal and third-party estimates and assumptions, including, without limitation, the assumed prices at which we can sell our diagnostic tests and services in the market. While we believe our assumptions and the data underlying our estimates are reasonable, these assumptions and estimates may not be correct and the conditions supporting our assumptions or estimates may change at any time, thereby reducing the predictive accuracy of these underlying factors.

As a result, our estimates of the annual total addressable market for our diagnostic tests and services in different market segments may prove to be incorrect. If the actual number of patients who would benefit from our diagnostic tests, the price at which we can sell them or the annual total addressable market for them is smaller than we have estimated, it may impair our sales growth and negatively affect our business, financial condition and results of operations.

***Our industry is subject to rapid change, which could make our solutions and the diagnostic tests we develop and services we offer, obsolete. If we are unable to continue to innovate and improve our diagnostic tests and services we offer, we could lose customers or market share.***

Our industry is characterized by rapid changes, including technological and scientific breakthroughs, frequent new product introductions and enhancements and evolving industry standards, all of which could make our current diagnostic tests and others we are developing obsolete. Our future success will depend on our ability to keep pace with the evolving needs of our customers on a timely and cost-effective basis and to pursue new market opportunities that develop as a result of scientific and technological advances. In recent years, there have been numerous advances in technologies relating to the diagnosis and treatment of cancer. There have also been advances in methods used to analyze very large amounts of molecular information. We must continuously enhance our offerings and develop new and improved diagnostic tests to keep pace with evolving standards of care. If we do not leverage or scale our sample and data biobank to discover new diagnostic tests or applications or update our diagnostic tests to reflect new scientific knowledge, including about lung cancer biology, information about new cancer therapies or relevant clinical trials, our diagnostic tests could become obsolete and sales of our current diagnostic tests and any new tests we develop could decline or fail to grow as expected. This failure to make continuous improvements to our diagnostic tests to keep ahead of those of our competitors could result in the loss of customers or market share that would adversely affect our business, financial condition and results of operations.

***We may face additional costs, loss of revenue, significant liabilities, harm to our brand, decreased use of our, products or services and business disruption if there are any security or data privacy breaches or other unauthorized or improper access.***

In connection with various facets of our business, we collect and use a variety of personal data, such as names, mailing addresses, email addresses, mobile phone numbers, location information, prescription information and other medical information. Any failure to prevent or mitigate security breaches or improper access to, use, disclosure or other misappropriation of our data or consumers' personal data could result in significant liability under state (e.g., state breach notification and privacy laws such as the California Consumer Privacy Act (CCPA)), federal (e.g., the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH Act)) and international laws (e.g., the General Data Protection Regulation (GDPR)). Such an incident may also cause a material loss of revenue from the potential adverse impact to our reputation and brand, affect our ability to retain or attract new users of our diagnostic tests and services and potentially disrupt our business.

Unauthorized disclosure of sensitive or confidential patient or employee data, including personally identifiable information, whether through a breach of computer systems, systems failure, employee negligence,

fraud or misappropriation, or otherwise, or unauthorized access to or through our information systems and networks, whether by our employees or third parties, could result in negative publicity, legal liability and damage to our reputation. Unauthorized disclosure of personally identifiable information could also expose us to sanctions for violations of data privacy laws and regulations around the world. To the extent that any disruption or security breach resulted in a loss of or damage to our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development of our product candidates could be delayed. For example, the loss of or damage to clinical trial data, such as from completed or ongoing clinical trials, for any of our product candidates would likely result in delays in our marketing approval efforts and significantly increased costs in an effort to recover or reproduce the data.

As we become more dependent on information technologies to conduct our operations, cyber incidents, including deliberate attacks and attempts to gain unauthorized access to computer systems and networks, may increase in frequency and sophistication. These threats pose a risk to the security of our systems and networks, the confidentiality and the availability and integrity of our data and these risks apply both to us, and to third parties on whose systems we rely for the conduct of our business. Because the techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently and often are not recognized until launched against a target, we and our partners may be unable to anticipate these techniques or to implement adequate preventative measures. We have in the past experienced, and may in the future experience security incidents. While no security incidents in the past have had a material adverse effect on our business, financial condition and results of operations, we cannot predict the impact of any such future events. Further, we do not have any control over the operations of the facilities or technology of our cloud and service providers, including any third party vendors that collect, process and store personal data on our behalf. Our systems, servers and platforms and those of our service providers may be vulnerable to computer viruses or physical or electronic break-ins that our or their security measures may not detect. Individuals able to circumvent such security measures may misappropriate our confidential or proprietary information, disrupt our operations, damage our computers or otherwise impair our reputation and business. We may need to expend significant resources and make significant capital investments to protect against security breaches or to mitigate the impact of any such breaches. In addition, to the extent that our cloud and other service providers, experience security breaches that result in the unauthorized or improper use of confidential data, employee data or personal data, we may not be indemnified for any losses resulting from such breaches. There can be no assurance that we or our third party providers will be successful in preventing cyber-attacks or successfully mitigating their effects. If we are unable to prevent or mitigate the impact of such security breaches, our ability to attract and retain new customers, patients and other partners could be harmed as they may be reluctant to entrust their data to us, and we could be exposed to litigation and governmental investigations, which could lead to a potential disruption to our business or other adverse consequences.

***We have significant payer concentration, with a limited number of customers accounting for a substantial portion of our revenues.***

For the six months ended June 30, 2020, Medicare reimbursed to us 60% of our diagnostic test revenue and one healthcare provider accounted for 13% of our total diagnostic test revenue. For the year ended December 31, 2019, Medicare reimbursed to us 60% of our diagnostic test revenue and one biopharmaceutical customer accounted for 21% of our total revenue and 71% of our service revenue. There are risks whenever a large percentage of total revenues are concentrated with a limited number of payers and customers. It is not possible for us to predict the level of demand for our diagnostic tests and services that will be generated by any of these customers in the future. In addition, revenues from these larger customers may fluctuate from time to time based on these customers' business needs, the timing of which may be affected by market conditions or other factors outside of our control. These payers and customers could also potentially pressure us to reduce the prices we charge for our diagnostic tests and services, which could have an adverse effect on our margins and financial position and could negatively affect our revenues and results of operations. If any of our largest payers terminates its relationship with us or our tests are no longer reimbursable by such payer, such termination could negatively affect our revenues and results of operations.

***Our results of operations will be materially harmed if we are unable to accurately forecast customer demand for, and utilization of, our diagnostic tests and manage our inventory.***

To ensure adequate inventory supply, we must forecast inventory needs and manufacture our diagnostic tests based on our estimates of future demand for our diagnostic tests. Our ability to accurately forecast demand for them could be negatively affected by many factors, including our failure to accurately manage our expansion strategy, product introductions by competitors, an increase or decrease in customer demand for our diagnostic tests or for those of our competitors, our failure to accurately forecast customer acceptance of new diagnostic tests, unanticipated changes in general market conditions or regulatory matters and weakening of economic conditions or consumer confidence in future economic conditions. Inventory levels in excess of customer demand may result in inventory write-downs or write-offs, which would cause our gross margin to be adversely affected and could impair the strength of our brand. Conversely, if we underestimate customer demand for our diagnostic tests, our supply chain, manufacturing partners and/or internal manufacturing team may not be able to deliver components and diagnostic tests to meet our requirements, and this could result in damage to our reputation, sales growth and customer relationships. In addition, if we experience a significant increase in demand, such as we are currently experiencing with respect to our COVID-19 diagnostic and antibody tests, additional supplies of raw materials or additional manufacturing capacity may not be available when required on terms that are acceptable to us, or at all, or suppliers may not be able to allocate sufficient capacity in order to meet our increased requirements, which will adversely affect our business, financial condition and results of operations.

***If we experience significant disruptions in our information technology systems, our business may be adversely affected.***

We depend on our information technology systems for the efficient functioning of our business, including the performance, distribution and maintenance of our diagnostic tests and services, as well as for accounting, data storage, compliance, purchasing and inventory management. We do not have redundant information technology in all aspects of our systems at this time. Our information technology systems may be subject to computer viruses, ransomware or other malware, attacks by computer hackers, failures during the process of upgrading or replacing software, databases or components thereof, power outages, damage or interruption from fires or other natural disasters, hardware failures, telecommunication failures and user errors, among other malfunctions. We could be subject to an unintentional event that involves a third party gaining unauthorized access to our systems, which could disrupt our operations, corrupt our data or result in release of our confidential information. Technological interruptions would disrupt our operations, including our ability to timely ship and track diagnostic test orders and results, project inventory requirements, manage our supply chain and otherwise adequately service our customers or disrupt our customers' ability to use our diagnostic tests. In the event we experience significant disruptions, we may be unable to repair our systems in an efficient and timely manner. Accordingly, such events may disrupt or reduce the efficiency of our entire operation and have a material adverse effect on our business, financial condition and results of operations.

Currently, we carry business interruption coverage to mitigate certain potential losses but this insurance is limited in amount, and we cannot be certain that such potential losses will not exceed our policy limits. The successful assertion of one or more large claims against us that exceed or are not covered by our insurance coverage or changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, financial condition and results of operations. We are increasingly dependent on complex information technology to manage our infrastructure. Our information systems require an ongoing commitment of significant resources to maintain, protect and enhance our existing systems. Failure to maintain or protect our information systems and data integrity effectively could have a material adverse effect on our business, financial condition and results of operations.

***If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit or halt the marketing and sale of our diagnostic tests and services. The expense and potential unavailability of insurance coverage for liabilities resulting from issues with our diagnostic tests and services could harm us and negatively impact sales.***

We face an inherent risk of product liability as a result of the marketing and sale of our diagnostic tests and services. For example, we may be sued if our diagnostic tests or services cause or are perceived to cause injury or are found to be otherwise unsuitable during manufacturing, marketing or sale. Any such product liability claim may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict liability or a breach of warranties. In addition, we may be subject to claims against us even if the apparent injury is due to the actions of others or the pre-existing health of the patient. For example, medical personnel, care partners and patients collect samples for our diagnostic tests. If these medical personnel, care partners or patients are not properly trained, are negligent or use our diagnostic tests incorrectly, the capabilities of such tests may be diminished or the patient may suffer critical injury. We may also be subject to claims that are caused by the activities of our suppliers, such as those who provide us with components and sub-assemblies for our diagnostic tests.

If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit or halt the marketing and sale of our diagnostic tests and services. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our diagnostic tests and services;
- harm to our reputation;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management’s time and our resources;
- substantial monetary awards to trial participants or patients;
- product recalls, withdrawals or labeling, marketing or promotional restrictions;
- loss of revenue;
- adverse impact on the market price of our common stock; and
- exhaustion of any available insurance and our capital resources.

We believe we have adequate product liability insurance, but it may not prove to be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to maintain or obtain insurance at a reasonable cost or in an amount adequate to satisfy any liability that may arise. Our insurance policy contains various exclusions, and we may be subject to a product liability claim for which we have no coverage. The potential inability to obtain sufficient product liability insurance at an acceptable cost to protect against product liability claims could prevent or inhibit the marketing and sale of our diagnostic tests and services. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts, which would have a material adverse effect on our business, financial condition and results of operations. In addition, any product liability claims brought against us, with or without merit, could increase our product liability insurance rates or prevent us from securing continuing coverage, harm our reputation in the industry, significantly increase our expenses and reduce product sales.

***We face competition from many sources, including larger companies, and we may be unable to compete successfully.***

There are a number of lung cancer diagnostic solutions companies in the United States, Europe and Asia. Notable competitors in the United States include Veracyte, Inc., Guardant Health, Inc., and Foundation Medicine, Inc. These competitors all provide cancer-focused diagnostic tests to hospitals, researchers, clinicians, laboratories and other medical facilities. Many of these organizations are significantly larger with greater financial and personnel resources than us, and enjoy significantly greater market share and have greater resources than we do. As a consequence, they may be able to spend more on product development, marketing, sales and other product initiatives than we can. Some of our competitors have:

- substantially greater name recognition;
- broader, deeper or longer-term relations with healthcare professionals, customers and third-party payers;
- more established distribution networks;
- additional lines of diagnostic tests and the ability to offer rebates or bundle them to offer greater discounts or other incentives to gain a competitive advantage;
- greater experience in conducting research and development, manufacturing, clinical trials, marketing and obtaining regulatory clearance or approval for diagnostic tests; and
- greater financial and human resources for product development, sales and marketing and patent litigation.

Our continued success depends on our ability to:

- further penetrate the lung disease diagnostic solutions market and increase utilization of our diagnostic tests;
- maintain and widen our technology lead over competitors by continuing to innovate and deliver new product enhancements on a continuous basis; and
- cost-effectively manufacture our diagnostic tests and their component parts as well as drive down the cost of service.

In addition, competitors with greater financial resources than ours could acquire other companies to gain enhanced name recognition and market share, as well as new technologies or diagnostic tests that could effectively compete with our existing diagnostic tests, which may cause our revenue to decline and would harm our business.

Our competitors also compete with us in recruiting and retaining qualified scientific, management and commercial personnel, as well as in acquiring technologies complementary to, or necessary for, development of our diagnostic tests. Because of the complex and technical nature of diagnostic testing and the dynamic market in which we compete, any failure to attract and retain a sufficient number of qualified employees could materially harm our ability to develop and commercialize our diagnostic tests, which would have a material adverse effect on our business, financial condition and results of operations.

As we attain greater commercial success, our competitors are likely to develop diagnostic tests that offer features and functionality similar to our diagnostic tests that are currently on the market. Improvements in existing competitive diagnostic tests or the introduction of new competitive diagnostic tests may make it more difficult for us to compete for sales, particularly if those competitive diagnostic tests demonstrate better reliability, convenience or effectiveness or are offered at lower prices.

***Performance issues, service interruptions or price increases by our shipping carriers and warehousing providers could adversely affect our business and harm our reputation and ability to provide our services on a timely basis.***

Expedited, reliable shipping and delivery services and secure warehousing are essential to our operations. We rely heavily on providers of transport services for reliable and secure point-to-point transport of our diagnostic tests to our customers and for tracking of these shipments, and from time to time require warehousing for our diagnostic tests, sample collection kits and supplies. Should a carrier encounter delivery performance issues such as loss, damage or destruction of any systems, it would be costly to replace such systems in a timely manner and such occurrences may damage our reputation and lead to decreased demand for our diagnostic tests and increased cost and expense to our business. In addition, any significant increase in shipping or warehousing rates could adversely affect our operating margins and results of operations. Similarly, strikes, severe weather, natural disasters, civil unrest and disturbances or other service interruptions affecting delivery or warehousing services we use would adversely affect our ability to process orders for our diagnostic tests on a timely basis.

We rely on commercial courier delivery services to transport samples to our laboratory facility in a timely and cost-efficient manner and if these delivery services are disrupted, our business will be harmed. Our business depends on our ability to quickly and reliably deliver test results to our customers. Blood samples are typically received within days from the United States and outside the United States for analysis at our Boulder, Colorado and De Soto, Kansas facilities. Disruptions in delivery service, whether due to labor disruptions, bad weather, natural disaster, civil unrest or disturbances, terrorist acts or threats or for other reasons could adversely affect specimen integrity and our ability to process samples in a timely manner and to service our customers, and ultimately our reputation and our business. In addition, if we are unable to continue to obtain expedited delivery services on commercially reasonable terms, our operating results may be adversely affected.

***Cost-containment efforts of our customers, purchasing groups and governmental purchasing organizations could have a material adverse effect on our sales and profitability.***

In an effort to reduce costs, many hospitals in the United States have become members of GPOs and Integrated Delivery Networks (IDNs). GPOs and IDNs negotiate pricing arrangements with medical device companies and distributors and then offer these negotiated prices to affiliated hospitals and other members. GPOs and IDNs typically award contracts on a category-by-category basis through a competitive bidding process. Bids are generally solicited from multiple providers with the intention of driving down pricing or reducing the number of vendors. Due to the highly competitive nature of the GPO and IDN contracting processes, we may not be able to obtain new, or maintain existing, contract positions with major GPOs and IDNs. Furthermore, the increasing leverage of organized buying groups may reduce market prices for our diagnostic tests, thereby reducing our revenue and margins.

While having a contract with a GPO or IDN for a given product category can facilitate sales to members of that GPO or IDN, such contract positions can offer no assurance that any level of sales will be achieved, as sales are typically made pursuant to individual purchase orders. Even when a provider is the sole contracted supplier of a GPO or IDN for a certain product category, members of the GPO or IDN are generally free to purchase from other suppliers. Furthermore, GPO and IDN contracts typically are terminable without cause by the GPO or IDN upon 60 to 90 days’ notice. Accordingly, the members of such groups may choose to purchase alternative diagnostic tests due to the price or quality offered by other companies, which could result in a decline in our revenue.

***Litigation and other legal proceedings may adversely affect our business.***

From time to time we may become involved in legal proceedings relating to patent and other intellectual property matters, product liability claims, employee claims, tort or contract claims, federal regulatory investigations, securities class action and other legal proceedings or investigations, which could have an adverse

impact on our reputation, business and financial condition and divert the attention of our management from the operation of our business. Litigation is inherently unpredictable and can result in excessive or unanticipated verdicts and/or injunctive relief that affect how we operate our business. We could incur judgments or enter into settlements of claims for monetary damages or for agreements to change the way we operate our business, or both. There may be an increase in the scope of these matters or there may be additional lawsuits, claims, proceedings or investigations in the future, which could have a material adverse effect on our business, financial condition and results of operations. Adverse publicity about regulatory or legal action against us could damage our reputation and brand image, undermine our customers' confidence and reduce long-term demand for our diagnostic tests and services, even if the regulatory or legal action is unfounded or not material to our operations.

We maintain product and professional liability insurance, but this insurance may not fully protect us from the financial impact of defending against product liability or professional liability claims. Any product liability or professional liability claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future.

***General economic and financial market conditions may exacerbate our business risks.***

Global macroeconomic conditions and the world's financial markets remain susceptible to significant stresses, resulting in reductions in available credit and government spending, economic downturn or stagnation, foreign currency fluctuations and volatility in the valuations of securities generally. As a result of uncertainties with respect to financial institutions and the global credit markets and other macroeconomic challenges currently or potentially affecting the economy of the United States and other parts of the world, customers and distributors may experience serious cash flow problems and other financial difficulties, decreasing demand for our products. Our customers and distributors may respond to such economic pressures by reducing or deferring their capital spending or reducing staff.

In addition, events in the United States or foreign markets, such as the United Kingdom's exit from the European Union, the worldwide effects from the spread of COVID-19 and political and social unrest in various countries around the world, can impact the global economy and capital markets. Additionally, if our customers and distributors are not successful in generating sufficient revenue or are precluded from securing financing, their businesses will suffer, which may materially and adversely affect our business, financial condition and results of operations.

***We may not realize the benefits or costs of our Co-Development and Collaboration Agreement with AVEO Oncology.***

In 2014, we entered into a Co-Development and Collaboration Agreement with AVEO Oncology (formerly known as AVEO Pharmaceuticals, Inc.) (AVEO) whereby the two parties agreed to various terms and conditions necessary for the co-development of AVEO's compound ficlatuzumab (the Collaboration Agreement).

We were granted a limited legal interest in ficlatuzumab and may not have the right to control the development and exploitation of ficlatuzumab. As consideration for the grant, we agreed to cover the first $15.0 million of ficlatuzumab's clinical development costs, with both parties then sharing all costs equally after the cap was reached.

In October of 2016, the Collaboration Agreement was amended to eliminate the requirement that we cover all of the initial costs. Under the amended terms, we agreed to allow AVEO to recapture its cost that it otherwise would not have been responsible for said recapture to occur out of any royalties or revenues eventually derived from the Collaboration Agreement. As part of the Collaboration Agreement, unless we or AVEO exercise our right to opt-out of co-development, we equally share in any income received from licensing rights to ficlatuzumab to any third parties. In September 2020, we exercised our opt-out right for the payment of half of the development and regulatory costs for ficlatuzumab. This opt-out is effective as of December 2, 2020 with remaining obligations estimated to be $0.3 million. Following the effective date, we will be entitled to a 10% royalty of net sales of ficlatuzumab and 25% of license income generated from the licensing of ficlatuzumab. Ficlatuzumab is currently being evaluated in squamous cell carcinoma of the head and neck (SCCHN), metastatic

pancreatic ductal cancer (PDAC), and acute myeloid leukemia (AML). For more information regarding this Collaboration Agreement, please see “Business—Drug Co-Development.”

Our relationship with AVEO may require us to incur non-recurring and other charges, increase our near and long-term expenditures, or disrupt our management and business. We cannot be certain that, following the realization of this relationship, we will achieve the revenue or specific net income that justifies our entry into it. Any termination of this relationship, or delays in entering into new strategic partnership agreements with AVEO, could delay our sales and marketing efforts, which would harm our business prospects, financial condition and results of operations.

***We are exposed to significant future payments and other obligations associated with our acquisitions of Integrated Diagnostics and Oncimmune, U.S.A., and may not realize the advantages we expect from these acquisitions.***

We purchased select assets and liabilities from Integrated Diagnostics, Inc. and IND Funding, LLC (collectively, the Seller) which included the Clinical Laboratory Improvement Amendments (CLIA) lab in Seattle, Washington, and all rights to the Nodify XL2 test and intellectual property rights related to that test. The purchase was made for total consideration of $27.6 million, consisting of $8.0 million (10,649,604 shares) of our Series G Preferred Stock and contingent consideration with an initial fair market value of $19.6 million.

The acquisition of Integrated Diagnostics included a contingent consideration arrangement that requires additional consideration to be paid by us to the Seller based on the milestone of the attainment of a three consecutive month gross margin target of $2 million within a seven-year period. The amount can be payable in stock or cash at our or the Seller’s option. The total amount of undiscounted contingent consideration which we may be required to pay under the arrangement is $37.0 million. For the 6 months following the achievement of the milestone, the Seller has the option to require us to pay the contingent consideration in cash over 8 equal installments due each calendar quarter. If the Seller elects not to exercise this option, we have 12 months to either settle the contingent consideration in two equal quarterly cash installments or in 14,959,114 of Series G Preferred Stock. As of June 30, 2020, we have not made any payments in connection with the contingent consideration.

In addition, on October 31, 2019 we completed an acquisition of United Kingdom-based Oncimmune, Ltd.’s (Oncimmune) United States operations including its CLIA lab in De Soto Kansas and its incidental pulmonary nodule (IPN) malignancy test, then marketed in the United States as the EarlyCDT®-Lung. We renamed the test and relaunched the test on February 28, 2020 as the Nodify CDT test and the De Soto, Kansas lab will be the sole United States provider of the Nodify CDT test.

As part of the acquisition, we and Oncimmune entered into several agreements to govern the relationship between the parties and to allow us to provide the Nodify CDT test. The overarching umbrella Purchase and Commercialization Agreement (PCA) defines the general relationship between the parties. Included under the PCA was (a) an APA whereby we acquired all of the United States assets associated with the De Soto, Kansas clinical laboratory, as well as the trademarks and patent application associated with the test; (b) an intellectual property license granting us the rights necessary under Oncimmune’s background intellectual property rights to perform the Nodify CDT test; (c) a supply agreement for supplying us with the necessary materials and reagents needed to run the Nodify CDT test; and (d) a development agreement where Oncimmune agrees to assist us in further developing the Nodify CDT test. We were also granted an option through December 31, 2020 to acquire the rights to expand the field of use of the Nodify CDT test to include lung cancer screening.

As consideration for the rights granted to us, we agreed to payments of $1.2 million and further agreed to an option fee for the screening option of $9.0 million due within 30 days of exercising the option. As of June 30, 2020, we have paid $1.0 million of the agreed upon payments. In July 2020, we paid the remaining $0.2 million. We also agreed to a revenue share payment of 8% of recognized revenue for non-screening tests up to an annual minimum volume and 5% thereafter, with an escalating minimum through the first four years of sales. Royalty payments of $0.1 million were paid for the six months ended June 30, 2020. In September 2020, we notified Oncimmune that we would not exercise this option for expansion of the field of use.

Our acquisitions may require us to incur non-recurring and other charges, increase our near and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. We cannot be certain that, following the realization of these acquisitions, we will achieve the revenue or specific net income that justifies our entry into them. This could delay our sales and marketing efforts, which would harm our business prospects, financial condition and results of operations.

***We are highly dependent on our senior management team and key personnel, and our business could be harmed if we are unable to attract and retain personnel necessary for our success.***

We are highly dependent on our senior management and other key personnel. Our success will depend on our ability to retain senior management and to attract and retain qualified personnel in the future, including sales and marketing professionals, scientists, clinical specialists, and other highly skilled personnel and to integrate current and additional personnel in all departments. The loss of members of our senior management, sales and marketing professionals, scientists, clinical and regulatory specialists could result in delays in product development and harm our business. If we are not successful in attracting and retaining highly qualified personnel, it would have a material adverse effect on our business, financial condition and results of operations.

Our research and development programs and laboratory operations depend on our ability to attract and retain highly skilled scientists and technicians. We may not be able to attract or retain qualified scientists and technicians in the future due to the competition for qualified personnel among life science businesses, particularly near our headquarters in Boulder, Colorado and our laboratory facility in De Soto, Kansas. We also face competition from universities and public and private research institutions in recruiting and retaining highly qualified scientific personnel. We may have difficulties locating, recruiting or retaining qualified sales people. Recruiting and retention difficulties can limit our ability to support our research and development and sales programs. To induce valuable employees to remain at our company, in addition to salary and cash incentives, we have issued and may continue to issue equity awards that vest over time. The value to employees of equity awards that vest over time may be significantly affected by movements in our stock price that are beyond our control, and may at any time be insufficient to counteract more lucrative offers from other companies. Despite our efforts to retain valuable employees, members of our management, scientific and development teams may terminate their employment with us on short notice. Our employment arrangements with our employees provide for at-will employment, which means that any of our employees could leave our employment at any time, with or without notice. We also do not maintain “key man” insurance policies on the lives of these individuals or the lives of any of our other employees.

***Our corporate culture has contributed to our success, and if we cannot maintain this culture as we grow, we could lose the innovation, creativity and teamwork fostered by our culture and our business may be harmed.***

We believe that our culture has been and will continue to be a critical contributor to our success. We expect to continue to hire aggressively as we expand, and we believe our corporate culture has been crucial in our success and our ability to attract highly skilled personnel. If we do not continue to develop our corporate culture or maintain and preserve our core values as we grow and evolve, we may be unable to foster the innovation, curiosity, creativity, focus on execution, teamwork and the facilitation of critical knowledge transfer and knowledge sharing we believe we need to support our growth. Moreover, liquidity available to our employee securityholders following this offering could lead to disparities of wealth among our employees, which could adversely impact relations among employees and our culture in general. Our anticipated headcount growth and our transition from a private company to a public company may result in a change to our corporate culture, which could harm our business.

***Our ability to utilize our net operating loss carryforwards and research and development credit may be limited.***

In general, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the Code) a corporation that undergoes an ownership change, generally defined as a greater than 50% change by value in its equity ownership by certain shareholders over a three-year period, is subject to limitations on its ability to utilize its pre-change net operating losses (NOLs) and its research and development credit carryforwards to offset future

taxable income. The applicable rules generally operate by focusing on changes in ownership among stockholders considered by the rules as owning, directly or indirectly, 5% or more of the stock of a company, as well as changes in ownership arising from new issuances of stock by the company. We believe that our NOLs are currently not subject to limitation under these rules. However, if we undergo an ownership change now or in the future (including in connection with this offering), our ability to utilize NOLs and research and development credit carryforwards could be limited by Sections 382 and 383 of the Code. Future changes in stock ownership may be beyond our control. In addition, our ability to deduct net interest expense may be limited if we have insufficient taxable income for the year during which the interest is incurred, and any carryovers of such disallowed interest would be subject to the limitation rules similar to those applicable to NOLs and other attributes. For these reasons, in the event we experience a change of control, we may not be able to utilize a material portion of the NOLs, research and development credit carryforwards or disallowed interest expense carryovers, even if we attain profitability.

***The terms of our secured credit agreement require us to meet certain operating and financial covenants and place restrictions on our operating and financial flexibility. If we raise additional capital through debt financing, the terms of any new debt could further restrict our ability to operate our business.***

In February 2018, we entered into an agreement with Innovatus Life Sciences Lending Fund to refinance long-term debt carried over from earlier loan agreements (the 2018 Notes). The initial amount borrowed under the 2018 Notes was $23 million and the maturity date is February 2023. We are required to make quarterly interest payments that began in June 2018 and outstanding principal is due in 24 equal installments commencing in March 2021. The agreement has been amended multiple times to adjust terms to account for our acquisitions and growth. Further, we granted the lender a security interest in all of our assets through a pledge and security agreement, patent security agreement and trademark security agreement, each between us and the lender.

The loan may be prepaid by us at any time, subject to a prepayment penalty of up to 3% of the principal amount, depending on the date of prepayment. Upon payment of the 2018 Notes at maturity or prepayment on any earlier date, unless waived, a 2% back-end facility fee will apply to the amounts paid or prepaid. The 2% fee is being recorded as additional interest expense over the term of the 2018 Notes.

The 2018 Notes contain customary affirmative and negative covenants for a loan, requires us to comply with a minimum daily liquidity covenant, and has a rolling monthly revenue requirement. Failure to comply with the covenants and loan requirements may result in early amortization of the loan in a 24- or 36-month payment schedule.

The 2018 Notes also contain certain covenants that prevent us from making acquisitions, incurring additional indebtedness, or making or terminating any agreement valued above a certain dollar threshold without the prior written consent of the lender. These covenants may restrict our ability to pursue new business opportunities and access additional capital.

In the event of a default, including, among other things, our failure to make any payment when due or our failure to comply with any covenant under the 2018 Notes, the lender could elect to declare all amounts outstanding to be immediately due and payable, and could proceed against the collateral granted to them to secure such indebtedness, including all of our intellectual property, which could have a material adverse effect on our business, financial condition, and results of operations.

***We will need to raise additional capital to fund our existing operations, develop our platform, commercialize new diagnostic tests or expand our operations.***

We will need to raise additional capital in the future to expand our business, to pursue strategic investments, to take advantage of financing opportunities or for other reasons, including to:

- increase our sales and marketing efforts to drive market adoption of and address competitive developments;

- fund development and marketing efforts of our diagnostic tests or any other future diagnostic tests;
- expand our technologies into other types of cancer management and lung disease detection diagnostic tests;
- acquire, license or invest in technologies;
- acquire or invest in complementary businesses or assets; and
- finance capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- our ability to achieve revenue growth;
- our rate of progress in establishing payer coverage and reimbursement arrangements with domestic and international commercial third-party payers and government payers;
- the cost of expanding our laboratory operations and offerings, including our sales and marketing efforts;
- our rate of progress in, and cost of the sales and marketing activities associated with, establishing adoption of and reimbursement for our diagnostic tests;
- our rate of progress in, and cost of research and development activities associated with, diagnostic tests in research and early development;
- the effect of competing technological and market developments;
- costs related to international expansion; and
- the potential cost of and delays in product development as a result of any regulatory oversight applicable to our diagnostic tests.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, our stockholders could experience dilution. Any preferred equity securities issued also could provide for rights, preferences or privileges senior to those of holders of our common stock. If we raise funds by issuing debt securities, those debt securities would have rights, preferences and privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. If we raise funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our platform technologies or diagnostic tests, pay a portion of our royalties, or grant licenses on terms that are not favorable to us.

***We may acquire other businesses, which could require significant management attention, disrupt our business, dilute stockholder value and adversely affect our results of operations.***

As part of our business strategy, we may in the future make additional acquisitions or investments in complementary companies, diagnostic tests or technologies that we believe fit within our business model and can address the needs of our customers and potential customers. In the future, we may not be able to acquire and integrate other companies, diagnostic tests or technologies in a successful manner. We may not be able to find suitable acquisition candidates, and we may not be able to complete such acquisitions on favorable terms, if at all. In addition, the pursuit of potential acquisitions may divert the attention of management and cause us to incur additional expenses in identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated. If we do complete acquisitions, we may not ultimately strengthen our competitive position or achieve our goals, including increases in revenue, and any acquisitions we complete could be viewed negatively by our customers, investors and industry analysts.

Future acquisitions may reduce our cash available for operations and other uses and could result in amortization expense related to identifiable assets acquired. We may have to pay cash, incur debt or issue equity

securities to pay for any such acquisition, each of which could adversely affect our financial condition or the value of our common stock. The sale or issuance of equity to finance any such acquisitions would result in dilution to our stockholders. The incurrence of indebtedness to finance any such acquisition would result in fixed obligations and could also include covenants or other restrictions that could impede our ability to manage our operations. In addition, our future results of operations may be adversely affected by the dilutive effect of an acquisition, performance earn-outs or contingent bonuses associated with an acquisition. Furthermore, acquisitions may require large, onetime charges and can result in increased debt or contingent liabilities, adverse tax consequences, additional stock-based compensation expenses and the recording and subsequent amortization of amounts related to certain purchased intangible assets, any of which items could negatively affect our future results of operations. We may also incur goodwill impairment charges in the future if we do not realize the expected value of any such acquisitions.

Also, the anticipated benefit of any strategic alliance, joint venture or acquisition may not materialize, or such strategic alliance, joint venture or acquisition may be prohibited. For example, our 2018 Notes restrict our ability to pursue certain mergers, acquisitions, amalgamations or consolidations that we may believe to be in our best interest. Additionally, future acquisitions or dispositions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

**Risks Related to our Governmental Regulation**

***The insurance coverage and reimbursement status of newly approved diagnostic tests, particularly in a new category of diagnostics and therapeutics, is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for current or future diagnostic tests could limit our ability, and that of our collaborators, to fully commercialize our diagnostic tests and decrease our ability to generate revenue.***

The availability and extent of reimbursement by governmental and private payers is essential for most patients to be able to afford the clinical diagnostic tests and cellular therapeutics that we and our collaborators currently or in the future plan to develop and sell. In addition, because our clinical diagnostics and diagnostic tests represent new approaches to the research, diagnosis, detection and treatment of diseases, we cannot accurately estimate how our diagnostic tests, and those jointly created with our collaborators, would be priced, whether reimbursement could be obtained or any potential revenue generated. Sales of our diagnostic tests will depend substantially, both domestically and internationally, on the extent to which the costs of our diagnostic tests are paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payers. If reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize some of our diagnostic tests or services. Even if coverage is provided, the available reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize an adequate return on our investment in any of our diagnostic tests or services. Changes in the reimbursement landscape may occur, which are outside of our control, and may impact the commercial viability of our diagnostic tests.

There is significant uncertainty related to the insurance coverage and reimbursement of newly launched, cleared, authorized or approved diagnostic tests. In the United States, many significant decisions about reimbursement for new diagnostics and medicines are typically made by the Centers for Medicare and Medicaid Services (CMS), an agency within the Department of Health and Human Services (HHS). CMS decides whether and to what extent a new diagnostic or medicine will be covered and reimbursed under Medicare, although it frequently delegates this authority to local Medicare Administrative Contractors (MACs). Private payers tend to follow Medicare to a substantial degree. It is difficult to predict what CMS will decide with respect to reimbursement for novel diagnostic tests such as ours. Additionally, reimbursement agencies in Europe may be more conservative than CMS. For example, a number of cancer drugs have been approved for reimbursement in

the United States and have not been approved for reimbursement, or have been approved under restricted conditions, in certain European countries.

Outside the United States, the reimbursement process and timelines vary significantly. Certain countries, including a number of member states of the EU, set prices and make reimbursement decisions for diagnostics and pharmaceutical products, or medicinal products, as they are commonly referred to in the EU, with limited participation from the marketing authorization or Conformité Européenne (CE) mark holders, or may take decisions that are unfavorable to the authorization or CE mark holder where they have participated in the process. We cannot be sure that such prices and reimbursement decisions will be acceptable to us or our collaborators. If the regulatory authorities in these foreign jurisdictions set prices or make reimbursement criteria that are not commercially attractive for us or our collaborators, our revenues and the potential profitability of our products in those countries would be negatively affected. An increasing number of countries are taking initiatives to attempt to control the healthcare budget by focusing cost-cutting efforts on medicinal products, and to a lesser extent, medical devices, provided under their state-run healthcare systems. These international price control efforts have impacted all regions of the world, but have been most prominent in the EU. Additionally, some countries require approval of the sale price of a product before it can be marketed or mandatory discounts or profit caps may be applied. Further, after the sale price is approved, it remains subject to review during the product lifecycle. In many countries, the pricing review period begins after marketing or product licensing approval is granted or the CE mark is obtained. As a result, we or our collaborators might obtain marketing approval for a product or service in a particular country, but then may experience delays in the reimbursement approval or be subject to price regulations that would delay the commercial launch of our product or service, possibly for lengthy time periods, which could negatively impact the revenues we are able to generate from the sale of that product or service in that particular country.

Moreover, increasing efforts by governmental and third-party payers, in the United States and abroad, to cap or reduce healthcare costs may cause such organizations to limit both coverage and level of reimbursement for newly cleared, authorized or approved devices and medicines and, as a result, they may not cover or provide adequate payment for our clinical diagnostics to be sold by us or our collaborators. For example, in May 2018 the United States government released a “blueprint,” or plan, to reduce the cost of drugs. This blueprint contains certain measures that HHS has been working to implement. At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, which are, in some cases, designed to encourage importation from other countries and bulk purchasing.

We expect to experience pricing pressures on our clinical diagnostics sold by us and our collaborators due to the trend toward value-based pricing and coverage, the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new diagnostic tests.

***Measures to reduce healthcare costs may hurt our business.***

The majority of our customers are healthcare providers who depend upon reimbursement by government and commercial insurance payers for lung cancer diagnostic solutions services. With a vast majority of United States patients with lung cancer covered by Medicare, the Medicare reimbursement rate is an important factor in a customer’s decision to use our diagnostic tests and limits the prices we may charge for them. Commercial insurance payers may also exert downward pressure on payment rates for lung cancer treatment services. A reduction in reimbursement rates for lung cancer treatments may adversely affect our customers’ businesses and cause them to enact cost reduction measures that may include reducing the scope of their programs, thereby potentially reducing demand for our diagnostic tests.

***Healthcare reform measures could hinder or prevent the commercial success of our diagnostic tests.***

In the United States, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system in ways that may harm our future revenues and profitability and the demand for our diagnostic tests. Federal and state lawmakers regularly propose and, at times, enact legislation that would result in significant changes to the healthcare system, some of which are intended to contain or reduce the costs of medical products and services. Current and future legislative proposals to further reform healthcare or reduce healthcare costs may limit coverage of or lower reimbursement for the procedures associated with the use of our diagnostic tests. The effect of any healthcare reform initiative implemented in the future could impact our revenue from the sale of our diagnostic tests. For example, the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the ACA), contains a number of provisions, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse measures, all of which will impact existing government healthcare programs and will result in the development of new programs.

There have been judicial challenges to certain aspects of the ACA, as well as efforts by the Trump administration and Congress to repeal, replace or alter the implementation of certain aspects of the ACA. For example, Congress eliminated the tax penalty, starting January 1, 2019, for not complying with the ACA's individual mandate to carry health insurance. The Further Consolidated Appropriations Act of 2020, Pub. L. No. 116-94, signed into law December 20, 2019, fully repealed the ACA's "Cadillac Tax" on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share (repeal effective in 2021), and the medical device excise tax on non-exempt medical devices. On December 14, 2018, a Texas District Court Judge invalidated the ACA in its entirety because he concluded that the individual mandate, which was repealed by Congress as part of the Tax Cuts and Jobs Act of 2017 (TCJA), is unconstitutional and cannot be severed from the remainder of the ACA. The Fifth Circuit Court of Appeals affirmed the district court's ruling that the individual mandate was unconstitutional, but it remanded the case back to the district court for further analysis of whether the mandate could be severed from the ACA; that is,, whether the entire ACA was therefore also invalid). The Supreme Court of the United States granted certiorari on March 2, 2020, and the case is expected to be decided by mid-2021. It is unclear how this decision, subsequent appeals, and other efforts to challenge, repeal, or replace, or alter the implementation of the ACA will affect our business, financial condition and results of operations.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. For example, the Budget Control Act of 2011, among other things, included reductions to CMS payments to providers of 2% per fiscal year, which went into effect on April 1, 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2030 unless additional Congressional action is taken, with the exception of a temporary suspension of the 2% cut in Medicare payments from May 1, 2020 through December 31, 2020. Additionally, the American Taxpayer Relief Act of 2012, among other things, reduced CMS payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover Medicare overpayments to providers from three to five years.

The Trump administration and Congress may continue to pursue significant changes to the current healthcare laws. We face uncertainties that might result from modifications or repeal of any of the provisions of the ACA, including as a result of current and future executive orders and legislative actions. The impact of those changes on us and potential effect on the medical device industry as a whole is currently unknown. Any changes to the ACA are likely to have an impact on our results of operations, and may negatively affect our business, financial condition and results of operations. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States on our business, financial condition and results of operations.

The continuing efforts of the government, insurance companies, managed care organizations and other payers of healthcare services to contain or reduce costs of healthcare may harm:

- our ability to set a price that we believe is fair for our diagnostic tests;

- our ability to generate revenue and achieve or maintain profitability; and
- the availability of capital.

The ACA substantially changed the way healthcare is financed by both governmental and private insurers, and significantly impacts our industry. Future changes in healthcare policy could increase our costs and subject us to additional regulatory requirements that may interrupt commercialization of our current and future solutions. Future changes in healthcare policy could also decrease our revenue and impact sales of and reimbursement for our current and future diagnostic tests.

***We must comply with anti-corruption, anti-bribery, anti-money laundering and similar laws.***

We are subject to the Foreign Corrupt Practices Act of 1977 (FCPA), which generally prohibits companies in the United States from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business and requires companies to maintain accurate books and records and internal controls. We are also subject to requirements under the United States Treasury Department's Office of Foreign Assets Control, United States domestic bribery laws and other anti-corruption, anti-bribery and anti-money laundering laws. While we have policies and procedures in place designed to promote compliance with such laws, our employees or other agents may nonetheless engage in prohibited conduct under these laws for which we or our executives might be held responsible. If our employees or other agents are found to have engaged in such practices, we could suffer severe penalties and other consequences that may have an adverse effect on our business, financial condition and results of operations.

Furthermore, international customers may currently order our diagnostic tests, either directly from us or through a potential joint venture, and we are subject to the FCPA, which prohibits companies and their intermediaries from making payments in violation of law to non-United States government officials for the purpose of obtaining or retaining business or securing any other improper advantage. Our reliance on independent distributors to sell our diagnostic tests internationally demands a high degree of vigilance in maintaining our policy against participation in corrupt activity, because these distributors could be deemed to be our agents and we could be held responsible for their actions. Other United States companies in the medical device and biopharmaceutical field have faced criminal penalties under the FCPA for allowing their agents to deviate from appropriate practices in doing business with these individuals. We are also subject to similar anti-bribery laws in the jurisdictions in which we operate, including laws promulgated by OECD countries in which we operate, such as Israel. These laws are complex and far-reaching in nature, and, as a result, we cannot assure you that we would not be required in the future to alter one or more of our practices to be in compliance with these laws or any changes in these laws or the interpretation thereof. Any violations of these laws, or allegations of such violations, could disrupt our operations, involve significant management distraction, involve significant costs and expenses, including legal fees and could result in a material adverse effect on our business, prospects, financial condition and results of operations. We could also suffer severe penalties, including criminal and civil penalties, disgorgement and other remedial measures.

***We must comply with healthcare fraud and abuse laws.***

Various federal and state laws, as well as the laws of foreign countries, prohibit payments to induce the referral, purchase, order or use of healthcare products or services and require medical device companies to limit prevent, and/or monitor, and report certain payments to third-party payers, health care professionals, and other individuals. These healthcare fraud and abuse anti-kickback, public reporting and aggregate spend laws affect our sales, marketing and other promotional activities by limiting the kinds of financial arrangements, including sales programs, we may have with lung cancer treatment providers, hospitals, physicians or other potential purchasers or users, including patients, of medical devices and services. They also impose additional administrative and compliance burdens on us. In particular, these laws influence, among other things, how we structure our sales offerings, including discount practices, customer support, education and training programs and physician

consulting and other service arrangements. These laws prohibit certain marketing initiatives that are commonplace in other industries. If we were to offer or pay inappropriate inducements for the purchase, order or use of our diagnostic tests or our services, or our arrangements are perceived as inappropriate inducements, we could be subject to claims under various healthcare fraud and abuse laws.

Restrictions under applicable United States federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute, a criminal law, prohibits, among other things, persons and entities from knowingly and willfully offering, paying, soliciting or receiving any remuneration, directly or indirectly, in cash or in kind, to induce or reward purchasing, leasing, ordering, or arranging for, referring, or recommending the purchase, lease, order of any good or service for which payment may be made, in whole or in part, under federal healthcare programs such as Medicare and Medicaid;
- the Eliminating Kickbacks in Recovery Act, which prohibits knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in return for the referral of a patient to, or in exchange for an individual using the services of certain entities, including laboratories, if the services are covered by a health care benefit program;
- the Beneficiary Inducement Statute, which prohibits any person, organization, or entity from giving anything of value to a federal health care program beneficiary that is likely to induce or influence the beneficiary's choice of provider, practitioner, or supplier for covered services;
- the federal civil False Claims Act, which may be enforced through civil whistleblower or *qui tam* actions and is often used to enforce the federal Anti-Kickback Statute and other healthcare laws and regulations, imposes civil penalties and potential exclusion from federal healthcare programs, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or for making a false record or statement material to an obligation to pay the federal government or for knowingly and improperly avoiding, decreasing or concealing an obligation to pay money to the federal government;
- federal criminal statutes created by HIPAA impose criminal liability for, among other things, knowingly and willfully executing or attempting to execute a scheme to defraud any healthcare benefit program, including private insurance plans, or, in any matter involving a healthcare benefit program, for knowingly and willfully making materially false, fictitious, or fraudulent statements in connection with the delivery of or payment for health care benefits; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payers, including private insurers.

Other federal and state laws, as well as the laws of foreign countries, generally prohibit individuals or entities from knowingly presenting, or causing to be presented, claims for payments to government or commercial payers that are false or fraudulent, or for items or services that were not provided as claimed. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of product candidates and medical devices from government-funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, reputational harm, diminished profits and future earnings, and the curtailment or restructuring of our operations. Moreover, any investigation into our practices could cause adverse publicity and require a costly and time-consuming response. If any physicians or other healthcare providers or entities with whom we expect to do business are found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government-funded healthcare programs.

Manufacturers can also be held liable under these laws if they are deemed to "cause" the submission of false or fraudulent claims by providing inaccurate billing or coding information to customers, by providing improper financial inducements, or through certain other activities. We attempt to ensure that any billing and coding information we provide for our diagnostic tests emphasizes the need for physicians and other providers to make independent judgments, use accurate and appropriate billing and coding that complies with all applicable payer policies, and document the medical need for their patients as appropriate. Nevertheless, the government may not regard any billing errors that may be made by our customers as inadvertent and may examine our role in providing information to our customers, physicians and patients concerning the benefits and potential coverage of more frequent therapy.

***FDA regulation of our industry generally or our tests specifically could be disruptive to our business.***

Our operations are subject to extensive federal, state, local and foreign laws and regulations, including FDA laws and regulations, all of which are subject to change. These laws and regulations are complex and are subject to interpretation by the courts and by government agencies. We believe that we are in material compliance with all statutory and regulatory requirements applicable to us, but there is a risk that one or more government agencies could take a contrary position, or that a private party could file suit under the qui tam provisions of the federal False Claims Act or a similar state law. Such occurrences, regardless of their outcome, could damage our reputation and adversely affect important business relationships with third parties, including managed care organizations, and other private third-party payers.

The FDA has recently increased its attention to marketing of pharmacogenetic tests. For example, in late 2018, the FDA issued a safety communication regarding genetic laboratory tests with claims to predict a patient's response to specific medications that have not been reviewed by the FDA and may not be supported by clinical evidence. Among other tests, the FDA notice cited genetic tests that claim results can be used to help physicians identify which antidepressant medication would have increased effectiveness or side effects compared to other antidepressant medications. As explained by the FDA in its update to this safety communication, the FDA sent notices to several firms marketing such pharmacogenetic tests where the FDA believes the relationship between genetic variations and the medication's effects has not been established, including a warning letter sent to a laboratory, in part, for failing to obtain premarket review of its test. HHS recently issued an announcement stating that the FDA cannot require premarket review of any LDT without engaging in formal notice-and-comment rulemaking, as opposed to through guidance documents, compliance manuals, website statements, or other informal issuances.

The HHS announcement was made on the Department's website and we can provide no assurances that the HHS statement will not be rescinded or revised or that it would preclude the FDA from renewing its attention on diagnostic tests, including those that we provide. If this were to happen, it may impact our marketing practices relating to the relevant tests, which in turn may have an adverse impact on our business, financial condition and results of operations.

The SARS-CoV-2 tests we perform are currently the subject of EUAs, which permit the use of unapproved medical products or unapproved uses of medical products to be used in an emergency to diagnose, treat, or prevent serious or life-threatening diseases or conditions when there are no adequate, approved, and available alternatives, as provided under section 564 for the Federal Food, Drug, and Cosmetic Act (FDCA). EUAs are temporary authorizations that are revoked at the end of the public health emergency, when there is an adequate, approved, or available alternative, or when there are performance or safety concerns. These EUAs also set out conditions for laboratories who are authorized to perform the particular test. The HHS statement mentioned above did not affect EUAs for COVID-19 laboratory-developed tests that were already in effect at the time the statement was released. The HHS statement did not affect EUAs issued for commercially-developed COVID-19 IVD tests, which apply to test developers and authorized laboratories.

The EUA for Bio-Rad's SARS-CoV-2 Droplet Digital PCR test provides several conditions for authorized laboratories, including that the test result reports will include Fact Sheets that are authorized as part of the EUA,

deviations from the authorized procedures, including specimen types, are not permitted, notification of public health authorities of intent to run the test prior to initiating testing, collection and reporting of performance data to the FDA, including false positives, false negatives, and significant deviations from the established performance characteristics, and appropriate training and protective equipment for laboratory staff. This EUA also states that authorized laboratories must maintain records associated with the EUA and be made available to the FDA for inspection upon request. Printed materials, advertising, and promotion related to use of the test must be consistent with the authorized labeling and Fact Sheets, as well as other terms set forth in the EUA and any applicable requirements under the FDCA and its implementing regulations, and conspicuously bear the following statements:

- This test has not been FDA cleared or approved;
- This test has been authorized by the FDA under an EUA for use by authorized laboratories;
- This test has been authorized only for the detection of nucleic acid from SARS- CoV-2, not for any other viruses or pathogens; and
- This test is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the authorization is terminated or revoked sooner.

Other statements that appear in advertising and promotional materials must not represent or suggest that this test is safe or effective for the detection of SARS-CoV-2.

The EUA for Bio-Rad's serological test for the antibodies associated with SARS-CoV-2, also sets out several conditions for authorized laboratories that mirror the conditions for the PCR test described above, except that the printed materials, advertising, and promotion of the test must conspicuously bear the following statements:

- This test has not been FDA cleared or approved;
- This test has been authorized by the FDA under an EUA for use by authorized laboratories;
- This test has been authorized only for the detection of total antibodies, including IgM/IgG/IgA, against SARS-CoV-2, not for any other viruses or pathogens; and
- This test is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the authorization is terminated or revoked sooner.

***Failure to comply with federal, state and foreign laboratory licensing requirements and the applicable requirements of the FDA or any other regulatory authority, could cause us to lose the ability to perform our tests, experience disruptions to our business, or become subject to administrative or judicial sanctions.***

The diagnostic testing industry is subject to extensive laws and regulations, many of which have not been interpreted by the courts, including the application of the FDA's EUA authority. As noted above, the EUAs for our COVID-19 tests set out certain conditions for authorized laboratories using the tests, which have not received premarket clearance, approval, or a de novo from the FDA. If we fail to meet these conditions, the FDA may take enforcement action, such as issuing a warning letter, seeking an injunction, seizure, fines, or criminal penalties. Pursuant to the August 19, 2020 statement by HHS, the FDA cannot require any LDT to undergo premarket approval until it has engaged in notice-and-comment rulemaking. Laboratory tests that have already received an EUA to detect the COVID-19 virus were "unaffected" by the announcement. Tests without FDA clearance, approval, or authorization would not be considered covered countermeasures under the Public Readiness and Emergency Preparedness Act (PREP Act). The HHS statement also did not affect EUAs issued for commercially-developed COVID-19 IVD tests, which apply to test developers and authorized laboratories.

We are also subject to CLIA, a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease. CLIA requires virtually all laboratories to be certified by the federal government and mandates compliance with various operational, personnel, facilities administration, quality and proficiency testing requirements intended to ensure that testing services are accurate, reliable and timely. CLIA certification is also a prerequisite to be eligible to bill state and federal health care programs, as well as many private third-party payers, for laboratory testing services. As a condition of CLIA certification, each of our laboratories is subject to survey and inspection every other year, in addition to being subject to additional random inspections. The biennial survey is conducted by CMS, a CMS agent (typically a state agency), or, if the laboratory holds a CLIA certificate of accreditation, a CMS-approved accreditation organization. Sanctions for failure to comply with CLIA requirements, including proficiency testing violations, may include suspension, revocation, or limitation of a laboratory's CLIA certificate, which is necessary to conduct our business, as well as the imposition of significant fines or criminal penalties.

Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing licensure, or our failure to renew a CLIA certificate, a state or foreign license, or accreditation, could have a material adverse effect on our business. If the CLIA certificate of any one of our laboratories is revoked, CMS could seek revocation of the CLIA certificates of our other laboratories based on their common ownership or operation, even though they are separately certified.

In addition, we are subject to state laws and regulations governing laboratory licensure. Some states have enacted state licensure laws that are more stringent than CLIA. Although we have obtained licenses from states where we believe we are required to be licensed, we may become aware of other states that require out-of-state laboratories to obtain licensure in order to accept specimens from the state, and it is possible that other states currently have such requirements or will have such requirements in the future.

We may also be subject to regulation in foreign jurisdictions as we seek to expand international utilization of our tests or such jurisdictions adopt new licensure requirements, which may require review of our tests in order to offer them or may have other limitations that may limit our ability to make our tests available outside of the United States. Complying with licensure requirements in new jurisdictions may be expensive, time-consuming and subject us to significant and unanticipated delays. Changes in state or foreign licensure laws that affect our ability to offer and provide diagnostic services across state or foreign country lines could materially and adversely affect our business. In addition, state and foreign requirements for laboratory certification may be costly or difficult to meet and could affect our ability to receive specimens from certain states or foreign countries.

Failure to comply with applicable clinical laboratory licensure requirements may result in a range of enforcement actions, including suspension, limitation or revocation of our CLIA certificate and/or state licenses, imposition of a directed plan of action, onsite monitoring, civil monetary penalties, criminal sanctions and revocation of the laboratory's approval to receive Medicare and Medicaid payment for its services, as well as significant adverse publicity. Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing clinical laboratory licensure or our failure to renew our CLIA certificate, a state or foreign license or accreditation, could have a material adverse effect on our business, financial condition and results of operations. Even if we were able to bring our laboratory back into compliance, we could incur significant expenses and potentially lose revenue in doing so.

Our Boulder, Colorado and De Soto, Kansas laboratories are College of American Pathologists (CAP)-accredited (Boulder) or COLA (De Soto) clinical laboratories regulated by CMS pursuant to CLIA. We also have a current CLIA certificate for each facility. To maintain these certificates, we are subject to survey and inspection every two years. Moreover, CLIA inspectors may make random inspections of our laboratory from time to time. Furthermore, our diagnostic tests are categorized as Laboratory Developed Tests (LDTs) and are not currently subject to FDA regulation, although certain components provided by third parties and used to create and/or

administer the test may be. LDTs are a subset of in vitro diagnostics (IVDs) that are intended for clinical use and developed, validated, and offered within a single laboratory for use only in that laboratory. The FDA's authority to regulate LDTs has been frequently contested, and HHS recently issued a public statement purporting to rescind the FDA's policies regarding the premarket review of LDTs. According to the HHS statement, the FDA will not require premarket review of LDTs unless it engages in notice-and-comment rulemaking. There is no guarantee, however, that the HHS statement will not be revised or rescinded, that legislation reforming the federal government's regulation of LDTs will not be passed, or that LDTs will otherwise continue to be able to operate without first receiving FDA premarket review. Failure to adhere to any new FDA regulation would result in fines, product suspensions, warning letters, recalls, injunctions and other civil and criminal penalties.

***Changes in the way that the FDA regulates tests performed by laboratories like ours could result in delay or additional expense in offering our tests and tests that we may develop in the future.***

Historically, the FDA has exercised enforcement discretion with respect to most LDTs and has not required laboratories that furnish LDTs to comply with the agency's requirements for medical devices (e.g., establishment registration, device listing, quality systems regulations, premarket clearance or premarket approval, and post-market controls). In recent years, however, the FDA publicly announced its intention to regulate certain LDTs and issued two draft guidance documents that set forth a proposed phased-in risk-based regulatory framework that would apply varying levels of FDA oversight to LDTs. However, these guidance documents were withdrawn at the end of the Obama administration and replaced by an informal discussion paper reflecting some of the feedback that the FDA had received on LDT regulation. The FDA acknowledged that the discussion paper in January 2017 does not represent the formal position of the FDA and is not enforceable. Nevertheless, the FDA wanted to share its synthesis of the feedback that it had received in the hope that it might advance public discussion on future LDT oversight. HHS has since issued a statement purporting to rescind FDA's policies regarding the premarket review of LDTs, stating that FDA must engage in notice and comment rulemaking (as opposed to through guidance documents, compliance manuals, website statements, or other informal issuances) prior to requiring premarket review of LDTs. HHS issued this statement on its website and it may be subject to change. Also, it is possible that Congress will pass legislation to reform the federal government's regulation of LDTs or that FDA will engage in notice-and-comment rulemaking to require premarket review of LDTs, which could result in delay or additional expense in offering our tests and tests that we may develop in the future.

***Our current line of diagnostic tests are covered under CLIA and CMS, although our COVID tests and select partnerships we may enter may cause us to be subject to additional FDA requirements.***

The laws and regulations governing the marketing of diagnostic products are evolving, extremely complex and in many instances, there are no significant regulatory or judicial interpretations of these laws and regulations. Pursuant to its authority under the FDCA, the FDA has jurisdiction over medical devices, including in vitro diagnostics and, therefore, potentially our clinical laboratory tests.

Pursuant to the FDCA and its implementing regulations, the FDA regulates the research, testing, manufacturing, safety, labeling, storage, recordkeeping, premarket clearance or approval, marketing and promotion, and sales and distribution of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. Although the FDA has asserted that it has authority to regulate the development and use of LDTs, such as our and many other laboratories' tests, as medical devices, it has generally exercised enforcement discretion and is not otherwise regulating most tests developed and performed within a single high complexity CLIA-certified laboratory. On August 19, 2020, HHS issued a statement purporting to rescind the FDA's policies regarding the premarket review of LDTs, absent notice-and-comment rulemaking. the FDA's policies to date have been articulated through guidance documents, compliance manuals, website statements, and other informal issuances. The FDA could, at any time, engage in notice-and-comment rulemaking, or Congress could take action to amend the law to change the current regulatory framework for in vitro diagnostics and LDTs. Further, the HHS statement was issued on its website and may be subject to change, particularly given the reasoning that additional flexibility is needed due to the COVID-19 pandemic.

We believe that our tests, as utilized in our clinical laboratory, are and would be considered LDTs and that as a result, the FDA does not require that we obtain regulatory clearances or approvals for our LDTs or their components pursuant to the FDA's current policies and guidance. Although we believe that our tests and test components are either exempt from FDA medical device regulations or are subject to an enforcement discretion policy, it is possible that the FDA would not agree with our determinations or that the FDA will change its regulations and policies such that our products become regulated as medical devices.

In contrast with our LDTs, the FDA has regulatory jurisdiction over the two FDA EUA-authorized COVID-19 tests that were developed by Bio-Rad, which we offer as part of our Biodesix WorkSafe testing programs.

Our operations, therefore, are or may become subject to extensive regulation by the FDA in the United States. Government regulations specific to medical devices are wide ranging and govern, among other things:

- test design, development, manufacture, and release;
- laboratory and clinical testing, labeling, packaging, storage and distribution;
- product safety and efficacy;
- premarketing clearance or approval;
- service operations;
- record keeping;
- product marketing, promotion and advertising, sales and distribution;
- post-marketing surveillance, including reporting of deaths or serious injuries and recalls and correction and removals;
- post-market approval studies; and
- product import and export.

The FDA classifies medical devices into one of three classes on the basis of the intended use of the device, the risk associated with the use of the device for that indication, as determined by the FDA, and on the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices, which have the lowest level of risk associated with them, are subject to general controls. Class II devices are subject to general controls and special controls, including performance standards. Class III devices, which have the highest level of risk associated with them, are subject to general controls and premarket approval.

Before a new medical device or service, or a new intended use for an existing product or service, can be marketed in the United States, a company must first submit and receive either 510(k) clearance, de-novo authorization, or premarket approval (PMA) from the FDA, unless an exemption applies. Most Class I devices and some Class II devices are exempt from these requirements. In the 510(k) clearance process, before a device may be marketed, the FDA must determine that a proposed device is substantially equivalent to a legally-marketed predicate device, which includes a device that has been previously cleared through the 510(k) process, a device that was legally marketed prior to May 28, 1976 (preamendments device), a device that was originally on the United States market pursuant to an approved PMA and later down-classified, or a 510(k)-exempt device. To be substantially equivalent, the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data are sometimes required to support substantial equivalence.

In the process of obtaining PMA approval the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, clinical trial, manufacturing and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices.

The FDA also allows the submission of a direct de-novo petition. This procedure allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA application. Prior to the enactment of the Food and Drug Administration Safety and Innovation Act of 2012 (FDASIA), a medical device could only be eligible for de novo classification if the manufacturer first submitted a 510(k) premarket notification and received a determination from the FDA that the device was not substantially equivalent. FDASIA streamlined the de novo classification pathway by permitting manufacturers to request de novo classification directly without first submitting a 510(k) premarket notification to the FDA and receiving a not substantially equivalent determination.

The 510(k), de-novo or PMA process can be expensive, lengthy and unpredictable. The FDA can delay, limit, or deny clearance or approval of a device for many reasons, including:

- our inability to demonstrate to the satisfaction of the FDA or the applicable regulatory entity or notified body that the diagnostic tests are safe or effective for their proposed intended uses;
- the disagreement of the FDA with the design or implementation of our clinical trials or the interpretation of data from clinical trials;
- serious and unexpected adverse device effects experienced by participants in our clinical trials;
- the data from our clinical trials may be insufficient to support clearance or approval, where required;
- our inability to demonstrate that the clinical and other benefits of the device outweigh the risks;
- the manufacturing process or facilities we use may not meet applicable requirements; and
- the potential for approval policies or regulations of the FDA or applicable foreign regulatory bodies to change significantly in a manner rendering our clinical data or regulatory filings insufficient for clearance or approval.

The FDA and state authorities have broad enforcement powers. Our failure to comply with applicable regulatory requirements could result in enforcement action by any such agency, which may include any of the following sanctions:

- adverse publicity, warning letters, untitled letters, it has come to our attention letters, fines, injunctions, consent decrees and civil penalties;
- repair, replacement, refunds, recall or seizure of our diagnostic tests;
- operating restrictions, partial suspension or total shutdown of production;
- denial of our requests for regulatory clearance or premarket approval of new diagnostic tests or services, new intended uses or modifications to existing diagnostic tests or services;
- withdrawal of regulatory clearance or premarket approvals that have already been granted; or
- criminal prosecution.

As discussed above, we believe that our current line of diagnostic tests and their components are LDTs, subject to state licensing requirements and federal regulation by CMS under CLIA, although our COVID tests and select partnerships we may enter may cause us to be subject to additional FDA regulations discussed above.

While we believe that we are currently in material compliance with applicable laws and regulations, it is possible that the FDA, or other regulatory agencies, would not agree with our determinations. If our products became become subject to 510(k) or other similar FDA regulations, we would need to comply with the applicable regulations or face significant civil and criminal penalties. In addition, IVDs and CDx tests are widely considered

to be Class III devices, and it is possible that in the future, we may develop tests that fall into this category. CDx tests in particular may require further administrative procedures in the PMA process. Exposure to these additional regulatory requirements would also affect our business, financial condition and results of operations.

***Our future success depends on our ability to develop, receive regulatory clearance or approval for, and introduce new diagnostic tests or enhancements to existing diagnostic tests that will be accepted by the market in a timely manner. There is no guarantee that the FDA will grant 510(k) clearance or PMA approval of our future diagnostic tests and failure to obtain necessary clearances or approvals for our future diagnostic tests would adversely affect our ability to grow our business.***

It is important to our business that we build a pipeline of diagnostic test offerings that address limitations of current lung disease diagnostic tests. As such, our success will depend in part on our ability to develop and introduce new diagnostic tests. However, we may not be able to successfully develop and obtain regulatory clearance or approval for enhancements to our existing diagnostic tests, or new diagnostic tests for any number of reasons, including due to the cost associated with certain regulatory approval requirements, or these diagnostic tests may not be accepted by physicians or users.

The success of any new diagnostic test or enhancement to an existing diagnostic test will depend on a number of factors, including our ability to, among others:

- identify and anticipate physician and patient needs properly;
- develop and introduce new diagnostic tests or enhancements to our existing diagnostic tests in a timely manner;
- avoid infringing upon, misappropriating or violating the intellectual property rights of third parties;
- demonstrate, if required, the safety and efficacy of new diagnostic tests with data from clinical studies;
- obtain the necessary regulatory clearances or approvals for new diagnostic tests or enhancements to existing diagnostic tests;
- comply fully with FDA and foreign regulations on marketing of new diagnostic tests or modified diagnostic tests; and
- provide adequate training to potential users of our diagnostic tests.

If we do not develop new diagnostic tests or enhancements to our existing diagnostic tests in time to meet market demand or if there is insufficient demand for these diagnostic tests or enhancements, or if our competitors introduce new diagnostic tests with functionalities that are superior to ours, our results of operations will suffer.

Some of our future diagnostic tests may require FDA clearance of a 510(k) submission. Other diagnostic tests may require the approval of a PMA. In addition some of our future diagnostic tests may require clinical trials to support regulatory approval and we may not successfully complete these clinical trials. The FDA may not approve or clear these diagnostic tests for the indications that are necessary or desirable for successful commercialization. Indeed, the FDA may refuse our requests for 510(k) clearance or premarket approval of new diagnostic tests. Failure to receive clearance or approval for our new diagnostic tests would have an adverse effect on our ability to expand our business.

***Modifications to our marketed tests may require new 510(k) clearances or PMA approvals, or may require us to cease marketing or recall the modified tests until clearances or approvals are obtained.***

Modifications to our diagnostic tests may require new regulatory approvals or clearances, including 510(k) clearances or premarket approvals, or require us to recall or cease marketing the modified systems until these clearances or approvals are obtained. The FDA requires device manufacturers to initially make and document a

determination of whether or not a modification requires a new approval, supplement or clearance. A manufacturer may determine that a modification could not significantly affect safety or efficacy and does not represent a major change in its intended use, so that no new 510(k) clearance is necessary. However, the FDA can review a manufacturer's decision and may disagree. The FDA may also on its own initiative determine that a new clearance or approval is required. We have made modifications to our diagnostic tests in the past and may make additional modifications in the future that we believe do not or will not require additional clearances or approvals. If the FDA disagrees and requires new clearances or approvals for the modifications, we may be required to recall and to stop marketing our diagnostic tests as modified, which could require us to redesign our diagnostic tests and harm our operating results. In these circumstances, we may be subject to significant enforcement actions.

If a manufacturer determines that a modification to an FDA-cleared device could significantly affect its safety or efficacy, or would constitute a major change in its intended use, then the manufacturer must file for a new 510(k) clearance or possibly a premarket approval application. Where we determine that modifications to our diagnostic tests require a new 510(k) clearance or premarket approval application, we may not be able to obtain those additional clearances or approvals for the modifications or additional indications in a timely manner, or at all. Obtaining clearances and approvals can be a time consuming process, and delays in obtaining required future clearances or approvals would adversely affect our ability to introduce new or enhanced diagnostic tests in a timely manner, which in turn would harm our future growth.

***If we or our suppliers fail to comply with ongoing FDA or other domestic and foreign regulatory authority requirements, or if we experience unanticipated problems with our diagnostic tests, they could be subject to restrictions or withdrawal from the market.***

Any medical device that we manufacture, including those for which we obtain regulatory clearance or approval, and the manufacturing processes, reporting requirements, post-approval clinical data and promotional activities for such diagnostic test, will be subject to continued regulatory review, oversight, and periodic inspections by the FDA and other domestic and foreign regulatory bodies. In particular, we and our suppliers may be required to comply with FDA's Quality System Regulations (QSR codified at 21 C.F.R. § 820) for medical devices and International Standards Organization (ISO) regulations for the manufacture of our diagnostic tests and other regulations which cover the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, storage and shipping of any diagnostic test for which we obtain clearance or approval. Regulatory bodies, such as the FDA, enforce the QSR and other regulations through periodic inspections. The failure by us or one of our suppliers to comply with applicable statutes and regulations administered by the FDA and other regulatory bodies, or the failure to timely and adequately respond to any adverse inspectional observations or product safety issues, could result in, among other things, one or more of the following enforcement actions:

- untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties;
- unanticipated expenditures to address or defend such actions;
- customer notifications for repair, replacement, or refunds;
- recall, detention or seizure of our diagnostic tests;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for 510(k) clearance or premarket approval of new diagnostic tests or modified versions of current diagnostic tests;
- operating restrictions;
- withdrawing 510(k) clearances on PMA approvals that have already been granted;
- refusal to grant export approval for our diagnostic tests; and
- criminal prosecution.

If any of these actions were to occur it would harm our reputation and cause our diagnostic test sales and profitability to suffer and may prevent us from generating revenue. Furthermore, our key component suppliers may not currently be or may not continue to be in compliance with all applicable regulatory requirements which could result in our failure to produce our diagnostic tests on a timely basis and in the required quantities, if at all.

In addition, we are required to conduct surveillance to monitor the safety or effectiveness of our diagnostic tests, and we must comply with medical device reporting requirements, including the reporting of adverse events and malfunctions related to our diagnostic tests. Later discovery of previously unknown problems with our diagnostic tests, including unanticipated adverse events or adverse events of unanticipated severity or frequency, manufacturing problems, or failure to comply with regulatory requirements such as QSR, may result in changes to labeling, restrictions on such diagnostic tests or manufacturing processes, withdrawal of the diagnostic tests from the market, voluntary or mandatory recalls, a requirement to repair, replace or refund the cost of any medical device we manufacture or distribute, fines, suspension of regulatory approvals, product seizures, injunctions or the imposition of civil or criminal penalties which would adversely affect our business, operating results and prospects.

***Our diagnostic tests and services may in the future be subject to product recalls that could harm our reputation, business and financial results.***

Medical devices can experience performance problems in the field that require review and possible corrective action. The occurrence of component failures, manufacturing errors, software errors, design defects or labeling inadequacies affecting a medical device could lead to a government-mandated or voluntary recall by the device manufacturer, in particular when such deficiencies may endanger health. The FDA requires that certain classifications of recalls be reported to the FDA within 10 working days after the recall is initiated. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. We may initiate voluntary recalls involving our diagnostic tests and services in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, they could require us to report those actions as recalls. Product recalls may divert management attention and financial resources, expose us to product liability or other claims, harm our reputation with customers and adversely impact our business, financial condition and results of operations.

***Legislative or regulatory reforms may make it more difficult and costly for us to obtain regulatory clearance or approval of any future diagnostic tests and to manufacture, market and distribute our diagnostic tests after clearance or approval is obtained.***

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the regulatory approval, manufacture and marketing of regulated products or the reimbursement thereof. For example, the Verifying Accurate, Leading-edge IVCT Development (VALID) Act recently introduced in Congress would codify into law the term “in vitro clinical test” in order to create a new medical product category separate from medical devices that would include products currently regulated as in vitro diagnostics as well as LDTs.

In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our diagnostic tests. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of planned or future diagnostic tests. It is impossible to predict whether legislative changes will be enacted or FDA regulations, guidance or interpretations changed, and what the impact of such changes, if any, may be.

Any change in the laws or regulations that govern the clearance and approval processes relating to our current, planned and future diagnostic tests could make it more difficult and costly to obtain clearance or approval for new diagnostic tests or to produce, market and distribute existing diagnostic tests. Significant delays in receiving clearance or approval or the failure to receive clearance or approval for any new diagnostic tests would have an adverse effect on our ability to expand our business.

***Clinical trials may be necessary to support future product submissions to FDA. These clinical trials are expensive and will require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Delays or failures in our clinical trials will prevent us from commercializing any modified or new diagnostic tests and will adversely affect our business, operating results and prospects.***

Initiating and completing clinical trials necessary to support any future PMA applications, and additional safety and efficacy data beyond that typically required for a 510(k) clearance, for our possible future product candidates, will be time consuming and expensive and the outcome uncertain. Moreover, the results of early clinical trials are not necessarily predictive of future results, and any product we advance into clinical trials may not have favorable results in later clinical trials.

Conducting successful clinical studies will require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the size of the patient population, the nature of the trial protocol, the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects, the availability of appropriate clinical trial investigators, support staff, and proximity of patients to clinical sites and ability to comply with the eligibility and exclusion criteria for participation in the clinical trial and patient compliance. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our diagnostic tests or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts.

Development of sufficient and appropriate clinical protocols to demonstrate safety and efficacy are required and we may not adequately develop such protocols to support clearance and approval. Further, the FDA may require us to submit data on a greater number of patients than we originally anticipated and/or for a longer follow-up period or change the data collection requirements or data analysis applicable to our clinical trials. Delays in patient enrollment or failure of patients to continue to participate in a clinical trial may cause an increase in costs and delays in the approval and attempted commercialization of our diagnostic tests or result in the failure of the clinical trial. In addition, despite considerable time and expense invested in our clinical trials, the FDA may not consider our data adequate to demonstrate safety and efficacy. Such increased costs and delays or failures could adversely affect our business, operating results and prospects.

***If the third parties on which we rely to conduct our clinical trials and to assist us with pre-clinical development do not perform as contractually required or expected, we may not be able to obtain regulatory clearance or approval for or commercialize our diagnostic tests and services.***

We may not have the ability to independently conduct our pre-clinical and clinical trials for our future diagnostic tests and services and we must rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories to conduct such trials. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if these third parties need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, our diagnostic tests and services on a timely basis, if at all, and our business, operating results and prospects may be adversely affected. Furthermore, our third-party clinical trial investigators may be delayed in conducting our clinical trials for reasons outside of their control.

***Our use, disclosure, and other processing of personally identifiable information, including health information, is subject to HIPAA and other federal, state, and foreign privacy and security regulations, and our failure to comply with those regulations or to adequately secure the information we hold could result in significant liability or reputational harm and, in turn, a material adverse effect on our business, operating results and prospects.***

We maintain and process, and our third-party vendors, collaborators, contractors and consultants maintain and process on our behalf, a large quantity of sensitive information, including confidential business, personal and patient health information in connection with our clinical studies and our employees, and are subject to data privacy and protection laws and regulations that apply to the collection, transmission, storage and use of personally identifying information, which among other things, impose certain requirements relating to the privacy, security and transmission of personal information. Failure by us or our third-party vendors, collaborators, contractors and consultants to comply with any of these laws and regulations could result in notification obligations or enforcement actions against us, which could result in fines, imprisonment of company officials and public censure, claims for damages by affected individuals, damage to our reputation and loss of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations or prospects. These laws, rules and regulations evolve frequently and their scope may continually change, through new legislation, amendments to existing legislation and changes in enforcement, and may be inconsistent from one jurisdiction to another. The interpretation and application of consumer, health-related and data protection laws, especially with respect to genetic samples and data, in the United States, the European Union (EU) and elsewhere, are often uncertain, contradictory and in flux. As a result, implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future.

In the United States, numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws and federal and state consumer protection laws (e.g., Section 5 of the Federal Trade Commission Act), that govern the collection, use, disclosure and protection of health-related and other personal information could apply to our operations or the operations of our collaborators.

Domestic laws in this area are complex and developing rapidly. Many state legislatures have adopted legislation relating to privacy, data security and data breaches. Laws in all 50 states require businesses to provide notice to customers whose personally identifiable information has been disclosed as a result of a data breach. The laws are not consistent, and compliance in the event of a widespread data breach is costly. States are also frequently amending existing laws, requiring attention to frequently changing regulatory requirements. For example, California recently enacted the CCPA, which became effective on January 1, 2020. The CCPA, among other things, requires new disclosures to California consumers and affords such consumers new abilities to access and delete their personal information, opt-out of certain sales of personal information and receive detailed information about how their personal information is used. The CCPA provides for fines of up to $7,500 per violation, as well as a private right of action for data breaches that is expected to increase the frequency of data breach litigation. While the CCPA has already been amended multiple times, it is unclear how this legislation will be further modified or how it will be interpreted. Interpretations of the CCPA may continue to evolve with regulatory guidance. Additionally, a new California ballot initiative, the California Privacy Rights Act, has qualified to be included on the November 2020 ballot, and if voted into law by California voters, would impose additional data protection obligations on companies doing business in California, including additional consumer rights, including regarding certain uses of sensitive data. It would also create a new California data protection agency specifically tasked to enforce the law, which would likely result in increased regulatory scrutiny of California businesses in the areas of data protection and security. The effects of this legislation potentially are far-reaching, however, and may require us to modify our data processing practices and policies and incur substantial compliance-related costs and expenses. The CCPA and other changes in laws or regulations relating to privacy, data protection and information security, particularly any new or modified laws or regulations that require enhanced protection of certain types of data or new obligations with regard to data retention, transfer or disclosure, could increase the cost of providing our offerings, require significant changes to our operations or

even prevent us from providing certain offerings in jurisdictions in which we currently operate and in which we may operate in the future.

Because of the breadth of these data protection laws and the narrowness of their exceptions and safe harbors, it is possible that our business or data protection policies could be subject to challenge under one or more of such laws. The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of heightened regulatory focus on data privacy and security issues. Although we endeavor to comply with our published policies and documentation and ensure their compliance with current laws, rules and regulations, we may at times fail to do so or be alleged to have failed to do so. The publication of our privacy policy and other documentation that provide promises and assurances about privacy and security can subject us to potential state and federal action in the United States if they are found to be deceptive, unfair, or misrepresentative of our actual practices. Any failure by us or other parties with whom we do business to comply with this documentation or with federal, state, local or international regulations could result in proceedings against us by governmental entities, private parties or others. In many jurisdictions, enforcement actions and consequences for noncompliance are rising.

If our operations are found to be in violation of any of the data protection laws described above or any other laws that apply to us, we may be subject to penalties, including, but not limited to, criminal, civil and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in government healthcare programs, injunctions, private qui tam actions brought by individual whistleblowers in the name of the government, class action litigation and the curtailment or restructuring of our operations, as well as additional reporting obligations and oversight if we become subject to a corrective action plan or other agreement to resolve allegations of non-compliance with these laws, any of which could adversely affect our ability to operate our business and our results of operations.

In addition, numerous state and federal laws and regulations govern the collection, dissemination, use, privacy, confidentiality, security, availability, integrity, and other processing of PHI and PII. These laws and regulations include HIPAA. HIPAA establishes a set of national privacy and security standards for the protection of protected health information (as defined in HIPAA, PHI) by health plans, healthcare clearinghouses and certain healthcare providers, referred to as covered entities, and the business associates with whom such covered entities contract for services. We are a covered entity under HIPAA when we are conducting our clinical trials. We are a covered entity with regard to our observational studies and clinical trials, and also a business associate under HIPAA for certain other business activities, and we execute business associate agreements with our clients.

HIPAA requires covered entities and business associates, such as us, to develop and maintain policies with respect to the protection of, use and disclosure of electronic PHI, including the adoption of administrative, physical and technical safeguards to protect such information, and certain notification requirements in the event of a data breach.

HIPAA imposes mandatory penalties for certain violations. Penalties for violations of HIPAA and its implementing regulations start at $119 per violation and are subject to a cap of $1,785,651 for violations of the same standard in a single calendar year. However, a single breach incident can result in violations of multiple standards. HIPAA also authorizes state attorneys general to file suit on behalf of their residents. Courts may award damages, costs and attorneys' fees related to violations of HIPAA in such cases. While HIPAA does not create a private right of action allowing individuals to sue us in civil court for violations of HIPAA, its standards have been used as the basis for duty of care in state civil suits such as those for negligence or recklessness in the misuse or breach of PHI.

In addition, HIPAA mandates that the Secretary of HHS conduct periodic compliance audits of HIPAA covered entities and business associates. With regard to business associates, those audits assess the business associate's compliance with the HIPAA Privacy and Security Standards. Such audits are conducted randomly and after an entity experiences a breach affecting more than 500 individuals' data. Undergoing an audit can be costly, can result in fines or onerous obligations, and can damage a business associate's reputation.

In addition to HIPAA, numerous other federal, state, and foreign laws and regulations protect the confidentiality, privacy, availability, integrity and security of PHI and other types of PII. Some of these laws and regulations may be preempted by HIPAA with respect to PHI, or may exclude PHI from their scope but impose obligations with regard to PII that is not PHI, and in some cases, can impose additional obligations with regard to PHI. These laws and regulations are often uncertain, contradictory, and subject to changing or differing interpretations, and we expect new laws, rules and regulations regarding privacy, data protection, and information security to be proposed and enacted in the future. This complex, dynamic legal landscape regarding privacy, data protection, and information security creates significant compliance issues for us and our clients and potentially exposes us to additional expense, adverse publicity and liability. While we have implemented data privacy and security measures in an effort to comply with applicable laws and regulations relating to privacy and data protection, some PHI and other PII or confidential information is transmitted to us by third parties, who may not implement adequate security and privacy measures, but it is possible that laws, rules and regulations relating to privacy, data protection, or information security may be interpreted and applied in a manner that is inconsistent with our practices or those of third parties who transmit PHI and other PII or confidential information to us. If we or these third parties are found to have violated such laws, rules or regulations, it could result in government-imposed fines, orders requiring that we or these third parties change our or their practices, or criminal charges, which could adversely affect our business. Complying with these various laws and regulations could cause us to incur substantial costs or require us to change our business practices, systems and compliance procedures in a manner adverse to our business.

We may eventually operate in a number of countries outside of the United States whose laws may in some cases be more stringent than the requirements in the United States. For example, the EU has specific requirements relating to cross-border transfers of personal data to certain jurisdictions, including to the United States. In addition, some countries have stricter consumer notice or consent requirements relating to personal data collection, use or sharing, have more stringent requirements relating to organizations' privacy programs and provide stronger individual rights. Moreover, international privacy and data security regulations may become more complex and result in greater penalties. For instance, since May 25, 2018, the GDPR regulates the collection and use of personal data of data subjects in the EU and the European Economic Area (EEA). The GDPR applies extra-territorially under certain circumstances and imposes stringent requirements on controllers and processors of personal data, including, for example, requirements to obtain consent or other legal bases from individuals to process their personal data, provide robust disclosures to individuals, accommodate a set of individual data rights, provide data security breach notifications within 72 hours after discovering the breach, limit retention of personal information and apply enhanced protections to health data and other special categories of personal data. The GDPR also applies to pseudonymized data, which is defined as "the processing of personal data in such a way that the data can no longer be attributed to a specific data subject without the use of additional information," and imposes additional obligations when we contract with third-party processors in connection with the processing of any personal data. The GDPR provides that EU member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data, which could limit our ability to use and share personal data, could cause our costs to increase and could harm our financial condition. Failure to comply with the requirements of the GDPR and the applicable national data protection laws of the EU member states may result in fines of up to €20 million or up to 4% of the total worldwide annual turnover of our preceding fiscal year, whichever is higher, and other administrative penalties. Further, as the GDPR has only recently become enforceable, enforcement priorities and official interpretations of certain provisions are still unclear. To comply with the new data protection rules imposed by the GDPR, we may be required to put in place additional mechanisms ensuring compliance, which may result in other substantial expenditures. This may be onerous and adversely affect our business, financial condition, results of operations and the profitability of our platform of diagnostic tests. Failure to comply with the GDPR and other countries' privacy or data security-related laws, rules or regulations could result in material penalties imposed by regulators, affect our compliance with contracts entered into with our collaborators and other third-party payers, and have an adverse effect on our business and financial condition. Currently, the GDPR is only applicable to us as a processor, but as we continue to expand into the European market, the GDPR will have direct applicability to us as a controller.

The GDPR also imposes strict rules on the transfer of personal data out of the EU to the United States. These obligations may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another and may conflict with other requirements or our practices. In addition, these rules are consistently under scrutiny. For example, following a decision of the Court of Justice of the EU (the ECJ) in October 2015, the transfer of personal data to United States companies that had certified as members of the United States Safe Harbor Scheme (Safe Harbor Scheme) was declared invalid. In July 2016, the European Commission adopted the EU-United States Privacy Shield Framework (Privacy Shield Framework) which replaced the Safe Harbor Scheme. The Privacy Shield Framework is reviewed by European authorities annually, and the ECJ recently ruled that the Privacy Shield Framework is no longer a lawful mechanism for EU-United States data transfers under the GDPR. There is currently litigation challenging other EU mechanisms for adequate data transfers. It is uncertain whether and for how long national regulators will permit companies that have relied on the Privacy Shield Framework to come into compliance with the recent ruling and whether alternative methods for EU-United States data transfers or the standard contractual clauses might similarly be invalidated by European courts. The ECJ's ruling may lead to increased transaction, compliance, and technological costs to support international data transfers.

Organizations operating in Canada and covered by the Personal Information Protection and Electronic Documents Act (PIPEDA), or equivalent Canadian provincial laws, must obtain an individual's consent when they collect, use or disclose that individual's personal information. Individuals have the right to access and challenge the accuracy of their personal information held by an organization, and personal information may only be used for the purposes for which it was collected. If an organization intends to use personal information for another purpose, it must again obtain that individual's consent.

We regularly monitor, defend against and respond to attacks to our networks and other information security incidents. Despite our information security efforts, our facilities, systems, and data, as well as those of our third-party service providers, may be vulnerable to privacy and information security incidents such as data breaches, viruses or other malicious code, coordinated attacks, data loss, phishing attacks, ransomware, denial of service attacks, or other security or IT incidents caused by threat actors, technological vulnerabilities or human error. If we, or any of our vendors that support our IT or have access to our data, including any third party vendors that collect, process and store personal data on our behalf, fail to comply with laws requiring the protection of personal information, or fail to safeguard and defend personal information or other critical data assets or IT systems, we may be subject to regulatory enforcement and fines as well as private civil actions. We may be required to expend significant resources in the response, containment, mitigation of cybersecurity incidents as well as in defense against claims that our information security was unreasonable or otherwise violated applicable laws or contractual obligations.

***Our employees, collaborators, independent contractors and consultants may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.***

We are exposed to the risk that our employees, collaborators, independent contractors and consultants may engage in fraudulent or other illegal activity with respect to our business. Misconduct by these employees could include intentional, reckless and/or negligent conduct or unauthorized activity that violates:

- FDA regulations, including those laws requiring the reporting of true, complete and accurate information to the FDA authorities;
- federal and state healthcare fraud and abuse laws and regulations; or
- laws that require the true, complete and accurate reporting of financial information or data.

In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Misconduct by these parties could

also involve individually identifiable information, including, without limitation, the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. Any incidents or any other conduct that leads to an employee, contractor, or other agent, or our company, receiving an FDA debarment or exclusion by the HHS Office of Inspector General (OIG) could result in penalties, a loss of business from third parties, and severe reputational harm.

In connection with this offering, we will adopt a Code of Business Conduct and Ethics and compliance policies to govern and deter such behaviors, but it is not always possible to identify and deter misconduct by our employees and other agents, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, treble damages, monetary fines, disgorgement, imprisonment, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, additional reporting requirements and oversight if we become subject to a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws, and curtailment of our operations.

***Clinical development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results.***

Our ongoing research and development and clinical trial activities are subject to extensive regulation and review by numerous governmental authorities both in the United States and abroad. We are currently conducting pre-and post-market clinical studies of some of our tests. In the future we may conduct clinical trials to support approval of new diagnostic tests and services. Clinical studies may need to be conducted in compliance with FDA regulations or the FDA may take enforcement action. The data collected from these clinical studies may ultimately be used to support marketing authorization for these diagnostic tests and services. Even if our clinical trials are completed as planned, we cannot be certain that their results will support our product candidate claims or that the FDA or foreign authorities and Notified Bodies will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our tests are safe and effective for the proposed indicated uses, which could cause us to abandon development of our tests and may delay development of others. Any delay or termination of our clinical trials will delay the filing of our product submissions and, ultimately, may impact our ability to commercialize our tests and generate revenues.

Many of the factors that may cause or lead to a delay in the commencement or completion of clinical trials may also ultimately lead to delay or denial of regulatory clearance or approval. The commencement of clinical trials may be delayed due to insufficient patient enrollment, which is a function of many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites and the eligibility criteria for the clinical trial.

We may find it necessary to engage contract research organizations to perform data collection and analysis and other aspects of our clinical trials, which might increase the cost and complexity of our trials. We may also depend on clinical investigators, medical institutions and contract research organizations to perform the trials, and would control only certain aspects of their activities. Nevertheless, we would be responsible for ensuring that each of our trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on these third parties would not relieve us of our regulatory responsibilities. We and our third-party contractors are required to comply with good clinical practices (GCPs) which are regulations and guidelines enforced by the FDA, and comparable regulations enforced by foreign regulatory authorities for products in clinical development. Regulatory authorities enforce these GCPs through periodic inspections of trial

sponsors, principal investigators and trial sites. If we or any third-party contractor fails to comply with applicable GCPs, the clinical data generated in clinical trials may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to perform additional clinical trials before clearing or approving our marketing applications. A failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory clearance or approval process. In addition, if these parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, or if the quality, completeness or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or for other reasons, our clinical trials may have to be extended, delayed or terminated.

Many of these factors could be beyond our control. We may not be able to undertake additional trials, repeat trials or enter into new arrangements with third parties without undue delays or considerable expenditures. If there are delays in testing or clearances or approvals as a result of the failure to perform by third parties, our research and development costs would increase and we may not be able to obtain regulatory clearance or approval for our tests. In addition, we may not be able to establish or maintain relationships with these parties on favorable terms, if at all. Each of these outcomes would harm our ability to market our tests, or to achieve sustained profitability.

***The results of our clinical trials may not support our product candidate claims or may result in the discovery of adverse side effects.***

We cannot be certain that the results of our future clinical trials will support our future product claims or that the FDA will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our product candidates are safe and effective for the proposed indicated uses, which could cause us to abandon a product candidate and may delay development of others. Any delay or termination of our clinical trials will delay the filing of our product submissions and, ultimately, our ability to commercialize our product candidates and generate revenues. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of the future product's profile.

***Our billing, collections and claims processing activities are complex and time-consuming, and any delay in transmitting and collecting claims or failure to comply with applicable billing requirements, could have an adverse effect on our future revenue.***

Billing for our tests is complex, time-consuming and expensive. Depending on the billing arrangement and applicable law, we bill various payers, such as government payers, insurance companies and patients, all of which may have different billing requirements. We may face increased risk in our collection efforts, including long collection cycles and the risk that we may never collect at all, either of which could adversely affect our business, financial condition and results of operations. Several factors make the billing process complex, including:

- differences between the list price for our tests and the reimbursement rates of payers;
- compliance with complex federal and state regulations related to billing government healthcare programs, including Medicare and Medicaid, to the extent our tests are covered by such programs;
- differences in coverage among payers and the effect of patient co-payments or co-insurance;
- differences in information and billing requirements among payers;
- changes to codes and coding instructions governing our tests;
- incorrect or missing billing information; and
- the resources required to manage the billing and claims appeals process.

These billing complexities and the related uncertainty in obtaining payment for our tests could negatively affect our revenue and cash flow, our ability to achieve profitability and the consistency and comparability of our results of operations. In addition, if claims for our tests are not submitted to payers on a timely basis, or if we fail to comply with applicable billing requirements, it could have an adverse effect on our revenue and our business.

Third-party payers require us to identify the test for which we are seeking reimbursement using a Current Procedural Terminology (CPT) code. The CPT code set is maintained by the American Medical Association (AMA). In cases where there is not a specific CPT code to describe a test, such as with Nodify CDT and GeneStrat, the test may be billed under an unlisted molecular pathology procedure code or through the use of a combination of single gene CPT codes, depending on the payer. The PAMA authorized the adoption of new, temporary billing codes and unique test identifiers for FDA-cleared or approved tests as well as advanced diagnostic laboratory tests. The AMA has created a new section of CPT codes, Proprietary Laboratory Analyses codes to facilitate implementation of this section of PAMA. In addition, CMS may assign unique level II Healthcare Common Procedure Coding System codes to tests that are not already described by a unique CPT code. VeriStrat and Nodify XL2 both have test specific CPT codes, but GeneStrat and Nodify CDT do not at this time.

In the instance where a code used does not describe a specific test, the insurance claim must be examined to determine what test was provided, whether the test was appropriate and medically necessary, and whether payment should be rendered, which may require a letter of medical necessity from the ordering physician. This process can result in a delay in processing the claim, a lower reimbursement amount or denial of the claim. As a result, obtaining approvals from third-party payers to cover our tests and establishing adequate reimbursement levels is an unpredictable, challenging, time-consuming and costly process and we may never be successful.

***We and our third-party manufacturers and suppliers must comply with environmental, health and safety laws and regulations, which can be expensive and restrict how we do, or interrupt our, business.***

Our research and development activities and our third-party manufacturers' and suppliers' activities involve the generation, use, storage and disposal of hazardous materials. We work with materials, including chemicals, biological agents and compounds and samples that could be hazardous to human health and safety or the environment. Our operations also produce hazardous and biological waste products. Accordingly, we and our third-party manufacturers and suppliers are subject to federal, state, local and foreign environmental, health and safety laws and regulations, and permitting and licensing requirements, including those governing the generation, use, manufacture, storage, handling, transportation, release and disposal of, and exposure to, these materials, and worker health and safety.

We cannot eliminate the risk of contamination or injury resulting from such hazardous materials. We also cannot guarantee that the procedures utilized by our third-party manufacturers for handling and disposing of hazardous materials and wastes comply with all applicable environmental, health and safety laws and regulations. As a result, we may be held liable for any resulting damages, costs or liabilities, including cleanup costs and liabilities, which could be significant, or our commercialization, research and development efforts and business operations may be restricted or interrupted.

Environmental, health and safety laws and regulations are complex, change frequently and have tended to become more stringent. Compliance with such laws and regulations is expensive, and current or future environmental, health and safety laws and regulations may restrict our operations. If we do not comply with applicable environmental health and safety laws and regulations, and permitting and licensing requirements, we may be subject to fines, penalties, a suspension of our business or other sanctions.

**Risks Related to our Intellectual Property**

***Our success may be impaired if we are unable to obtain, maintain and protect our intellectual property rights.***

Our commercial success will depend in part on our ability to obtain and maintain patent and other intellectual property protection in the United States and other countries with respect to our diagnostic tests, products and services and technology. We rely on patent protection, as well as a combination of copyright, trade secret and trademark laws, to protect our proprietary technology and prevent others from duplicating our suite of diagnostic tests and products. However, these means may afford only limited protection and may not:

- prevent our competitors from duplicating our diagnostic tests and products, including our COVID-19, Nodify XL2, Nodify CDT, GeneStrat and VeriStrat tests;
- prevent our competitors from gaining access to our proprietary information and technology, including the Diagnostic Cortex platform, tech platforms such as the DeepMALDI analysis and intellectual property covering technologies that allow us to develop “test algorithms”; or
- allow us to gain or maintain a competitive advantage.

Any of our patents, including those we may license, may be challenged, invalidated, rendered unenforceable or circumvented. Consequently, we do not know whether any of our diagnostic tests, products and services will be protectable or remain protected by valid and enforceable patents. We may not prevail if our patents are challenged by competitors or other third parties. The United States federal courts or equivalent national courts or patent offices elsewhere may invalidate our patents, find them unenforceable, or narrow their scope. Furthermore, competitors may be able to design around our patents by developing similar or alternative technologies or products in a non-infringing manner, or obtain patent protection for more effective technologies, designs or methods, including for treating lung cancer. If these developments were to occur, our diagnostic tests and products may become less competitive and sales may decline.

We have filed numerous patent applications seeking protection of diagnostic tests and other inventions originating from our research and development. Our patent applications may not result in issued patents, and any patents that are issued may not provide meaningful protection against competitors or competitive technologies. Further, the examination process may require us to narrow the claims for our pending patent applications, which may limit the scope of patent protection that may be obtained if these applications issue. The scope of a patent may also be reinterpreted and significantly reduced after issuance. Even if patent applications we license or own currently or in the future issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors or other third parties from competing with us, or otherwise provide us with the protection or competitive advantages we are seeking.

Moreover, some of our owned and in-licensed patents and patent applications are, and may in the future be, co-owned with third parties. If we are unable to obtain or maintain an exclusive license to any such third party co-owners’ interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing products and technology. In addition, we may need the cooperation of any such co-owners of our patents in order to enforce such patents against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

The patent position of biotechnology companies generally is highly uncertain, involves complex legal and factual questions, and has been the subject of much litigation in recent years. No consistent policy regarding the breadth of claims allowed in biotechnology and pharmaceutical patents has emerged to date in the United States or in many foreign jurisdictions. In addition, the determination of patent rights with respect to pharmaceutical compounds and technologies commonly involves complex legal and factual questions, which has in recent years been the subject of much litigation. Various courts, including the United States Supreme Court have rendered

decisions that affect the scope of patentability of certain inventions or discoveries relating to biotechnology. These decisions state, among other things, that a patent claim that recites an abstract idea, natural phenomenon or law of nature (for example, the relationship between particular genetic variants and cancer) are not themselves patentable. Precisely what constitutes a law of nature or abstract idea is uncertain, and it is possible that certain aspects of our technology could be considered unpatentable under applicable law. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. Depending on decisions by the United States Congress, the federal courts and the United States Patent and Trademark Office (USPTO), the laws and regulations governing patents could change in unpredictable ways that would weaken our and our licensors' ability to obtain new patents or to enforce our existing owned or in-licensed patents and patents that we might obtain or in-license in the future. Additionally, our pending and future patent applications may not result in patents being issued which protect our technology or products or which effectively prevent others from commercializing competitive technologies and products. The scope of patent protection outside of the United States is also uncertain. Changes in either the patent laws or their interpretation in the United States and other countries may diminish our ability to protect our inventions, obtain, maintain, and enforce our intellectual property rights and, more generally, could affect the value of our intellectual property rights or narrow the scope of our owned and licensed patents.

If we are unable to obtain and maintain patent protection for our technology, or if the scope of the patent protection obtained is not sufficient, our competitors could develop and commercialize diagnostic tests, products and services similar or superior to ours, and our competitive position may be adversely affected. It is also possible that we will fail to identify patentable aspects of inventions made in the course of our development and commercialization activities before it is too late to obtain patent protection on them. Therefore, we may miss potential opportunities to strengthen our patent position. In addition, the patent prosecution process is expensive, time-consuming and complex, and we may not be able to file, prosecute, maintain, enforce or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection.

Additionally, while software and other of our proprietary works may be protected under copyright law, we have chosen not to register any copyrights in these works, and instead, primarily rely on protecting our software as a trade secret. In order to bring a copyright infringement lawsuit in the United States, the copyright must be registered. Accordingly, the remedies and damages available to us for unauthorized use of our copyrights may be limited.

***If we are unable to protect the confidentiality of our trade secrets, our business and competitive position may be harmed.***

In addition to seeking patent protection for the patents underlying our diagnostic tests, products and services, we also rely upon unpatented trade secrets, know-how and continuing technological innovation to develop and maintain a competitive position. Trade secrets and know-how can be difficult to protect. We seek to protect such proprietary information, in part, through confidentiality agreements with our employees, collaborators, contractors, advisors, consultants and other third parties and invention assignment agreements with our employees. We also have agreements with some of our consultants that require them to assign to us any inventions created as a result of their working with us. The confidentiality agreements are designed to protect our proprietary information and, in the case of agreements or clauses containing invention assignment, to grant us ownership of technologies that are developed through a relationship with employees or third parties.

We cannot guarantee that we have entered into such agreements with each party that has or may have had access to our trade secrets or proprietary information. Additionally, despite these efforts, any of these parties may

breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to, or independently developed by, a competitor or other third party, our competitive position would be materially and adversely harmed. Furthermore, we expect these trade secrets, know-how and proprietary information to over time be disseminated within the industry through independent development, the publication of journal articles describing the methodology and the movement of personnel from academic to industry scientific positions. Consequently, we may be unable to prevent our proprietary technology from being exploited in the United States and abroad, which could affect our ability to expand in domestic and international markets or require costly efforts to protect our technology.

We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known, or be independently discovered by, competitors. To the extent that our employees, consultants, contractors or collaborators use intellectual property rights owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions, which could have a material adverse effect on our business, financial condition and results of operations.

***We may be subject to claims that we or our employees have misappropriated the intellectual property rights of a third party, including trade secrets or know-how, or are in breach of non-competition or non-solicitation agreements with our competitors, and third parties may claim an ownership interest in intellectual property we regard as our own.***

Many of our employees and consultants were previously employed at or engaged by universities or other medical device, diagnostic, biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees, consultants and contractors, may have executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees, consultants and independent contractors do not use the intellectual property rights, proprietary information, know-how or trade secrets of others in their work for us, we may be subject to claims that we or these individuals have, inadvertently or otherwise, used, infringed, misappropriated or otherwise violated the intellectual property rights or disclosed the alleged trade secrets or other proprietary information, of these former employers, competitors or other third parties, or to claims that we have improperly used or obtained such trade secrets. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely impact our business. Any litigation or the threat of litigation may adversely affect our ability to hire employees or contract with independent sales representatives. A loss of key personnel or their work product could hamper or prevent our ability to commercialize potential diagnostic tests, products and services, which could harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management and other employees.

Additionally, we may be subject to claims from third parties challenging our ownership interest in intellectual property rights we regard as our own, based on claims that our employees or consultants have breached an obligation to assign inventions to another employer, to a former employer, or to another person or entity. Litigation may be necessary to defend against any other claims, and it may be necessary or we may desire to enter into a license to settle any such claim; however, there can be no assurance that we would be able to obtain a license on commercially reasonable terms, if at all. If our defense to those claims fails, in addition to paying monetary damages, a court could prohibit us from using technologies or features that are essential to our

diagnostic tests or products, if such technologies or features are found to incorporate or be derived from the trade secrets or other proprietary information of the former employers.

An inability to incorporate technologies or features that are important or essential to our diagnostic tests or products could have a material adverse effect on our business, financial condition and results of operations, and may prevent us from selling our COVID-19 test, either of the Nodify XL2 and Nodify CDT tests, or the VeriStrat and GeneStrat tests.

In addition, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property rights to execute agreements assigning such intellectual property rights to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property rights that we regard as our own. The assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property rights. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***Changes in patent law could diminish the value of patents in general, thereby impairing our ability to protect our existing and future diagnostic tests, products and services.***

Recent patent reform legislation could increase the uncertainties and costs surrounding the prosecution of patent applications and the enforcement or defense of issued patents. In 2011, the Leahy-Smith America Invents Act (Leahy-Smith Act) was signed into law. The Leahy-Smith Act includes a number of significant changes to United States patent law. These include provisions that affect the way patent applications are prosecuted and also may affect patent litigation. These also include provisions that switched the United States from a first-to-invent system to a first-inventor-to-file system, allow third-party submission of prior art to the USPTO during patent prosecution and set forth additional procedures to attack the validity of a patent by the USPTO administered post grant proceedings, including post-grant review, *inter partes* review and derivation proceedings. Under a first-inventor-to-file system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to the patent on an invention regardless of whether another inventor was the first to invent the claimed invention. The USPTO recently developed new regulations and procedures to govern administration of the Leahy-Smith Act, and many of the substantive changes to patent law associated with the Leahy-Smith Act, and in particular, the first to file provisions, only became effective in 2013. Accordingly, it is not clear what, if any, impact the Leahy-Smith Act will have on the operation of our business. The Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition and results of operations.

In addition, patent reform legislation may pass in the future that could lead to additional uncertainties and increased costs surrounding the prosecution, enforcement and defense of our patents and applications. Furthermore, the United States Supreme Court and the United States Court of Appeals for the Federal Circuit have made, and will likely continue to make, changes in how the patent laws of the United States are interpreted. Recent United States Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents, once obtained. Similarly, foreign courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. We cannot predict future changes in the interpretation of patent laws or changes to patent laws that might be enacted into law by United States and foreign legislative bodies. Those changes may materially affect our patents or patent applications and our ability to obtain additional patent protection in the future.

***If our trademarks and tradenames are not adequately protected, then we may not be able to build name recognition in our markets and our business may be adversely affected.***

Our trademarks or trade names may be challenged, infringed, circumvented, declared generic or determined to be violating or infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these trademarks or trade names, which we need to build name recognition among potential partners and customers in our markets of interest. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement or dilution claims brought by owners of other trademarks. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected.

We have not yet registered certain of our trademarks in all of our potential markets, although we have registered several connected to our diagnostic tests, products and services in the United States. If we apply to register these and trademarks in the United States and other countries, our applications may not be allowed for registration in a timely fashion or at all, and our registered trademarks may not be maintained or enforced. During trademark registration proceedings, we may receive rejections. Although we would be given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in the USPTO and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademark applications and registrations, and our trademarks may not survive such proceedings. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would.

Our efforts to enforce or protect our rights related to trademarks, trade secrets, domain names or other intellectual property rights may be ineffective, could result in substantial costs and diversion of resources and could adversely affect our business, financial condition and results of operations.

***We may become involved in lawsuits to protect or enforce our patents, the patents of our licensors or other intellectual property rights, which could be expensive, time consuming and unsuccessful.***

Competitors or other third parties may infringe, misappropriate or otherwise violate our patents, the patents of our licensors or other intellectual property rights, or we may be required to defend against claims of infringement, misappropriation or other violations. In addition, our patents also may become involved in inventorship, priority or validity disputes. To counter or defend against such claims can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke those parties to assert counterclaims against us alleging that we infringe their patents or other intellectual property. In any such proceeding, a court or other administrative body may decide that a patent or other intellectual property right owned by us is invalid or unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover such technology. Grounds for a validity challenge could include an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, written description, non-enablement or failure to claim patent-eligible subject matter. Grounds for an unenforceability assertion could include an allegation that someone connected with prosecution of the patent withheld information material to patentability from the USPTO, or made a misleading statement, during prosecution. Third parties also may raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include reexamination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings and equivalent proceedings in foreign jurisdictions, including opposition proceedings. Such proceedings could result in the revocation or cancellation of or amendment to our patents in such a way that they no longer cover our diagnostic tests, products and services or prevent third parties from competing with our diagnostic tests, products and services. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no

invalidating prior art, of which the patent examiner and we or our licensing partners were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we could lose at least part, and perhaps all, of the patent protection on our diagnostic tests, products and services. An adverse result in any litigation or other proceeding could put one or more of our patents at risk of being invalidated or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation.

Moreover, some of our owned and in-licensed patents and patent applications are, and may in the future be, co-owned with third parties. If we are unable to obtain an exclusive license to any such third party co-owners' interest in such patents or patent applications, such co-owners may be able to license their rights to other third parties, including our competitors, and our competitors could market competing diagnostic tests, products, services or technology. In addition, we may need the cooperation of any such co-owners of our patents in order to enforce such patents against third parties, and such cooperation may not be provided to us. Any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

Even if resolved in our favor, litigation or other proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our management and other personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments, and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on our common stock price. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Any of the foregoing could have a material adverse effect on our business, financial condition or results of operations.

***Third parties may initiate legal proceedings alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.***

The intellectual property landscape in the field of precision oncology is in flux, and it may remain uncertain for the coming years. There may be significant intellectual property related litigation and proceedings relating to our owned and in-licensed, and other third party, intellectual property and proprietary rights in the future. As we move into new markets and applications for our diagnostic tests, products or services, incumbent participants in such markets may assert their patents and other intellectual property rights against us as a means of slowing our entry into such markets or as a means to extract substantial license and royalty payments from us. Our competitors and others may now and, in the future, have significantly larger and more mature patent portfolios than we currently have. In addition, future litigation may involve patent holding companies or other adverse patent owners who have no relevant product or service revenue and against whom our own patents may provide little or no deterrence or protection. Therefore, our commercial success depends in part on our non-infringement of the patents or other intellectual property rights of third parties.

However, we may in the future be subject to claims that we, or other parties we have agreed to indemnify, infringe, misappropriate or otherwise violate patents or other intellectual property rights owned or controlled by third parties. Because patent applications are published sometime after filing, and because applications can take several years to issue, there may be additional currently pending third-party patent applications that are unknown to us, which may later result in issued patents. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. We may not have sufficient resources to bring these actions to a successful conclusion.

There is a substantial amount of litigation and other patent challenges, both within and outside the United States, involving patent and other intellectual property rights in the biotechnology industry, including patent infringement lawsuits, interferences, oppositions and *inter partes* review proceedings before the USPTO, and corresponding foreign patent offices. Numerous United States and foreign issued patents and pending patent applications, which are owned by third parties, including our competitors, exist in the fields in which we are developing diagnostic tests and in which we may develop future diagnostic tests, products and services. As the precision oncology industry expands and more patents are issued, the risk increases that our diagnostic tests may be subject to claims of infringement of the patent rights of third parties. Numerous significant intellectual property issues have been litigated, are being litigated and will likely continue to be litigated, between existing and new participants in our existing and targeted markets, and competitors have and may assert that our diagnostic tests or services infringe their intellectual property rights as part of a business strategy to impede our successful entry into or growth in those markets.

We could incur substantial costs and divert the attention of our management and technical personnel in defending against any of these claims. Parties making claims against us may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources.

Because of the inevitable uncertainty in intellectual property litigation, we could lose a patent infringement or other action asserted against us regardless of our perception of the merits of the case. There is no assurance that a court would find in our favor on questions of infringement, validity, enforceability, or priority. A court of competent jurisdiction could hold that these third party patents are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any product candidates we may develop and any other product candidates or technologies covered by the asserted third party patents. In order to successfully challenge the validity of any such United States patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such United States patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such United States patent.

Parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell diagnostic tests, products or services, and could result in the award of substantial damages against us, including treble damages, attorney's fees, costs, and expenses if we are found to have willfully infringed. In the event of a successful claim of infringement against us, we may be required to pay damages and ongoing royalties, which could be significant, and obtain one or more licenses from third parties, or be prohibited from selling certain diagnostic tests, products or services. We may not be able to obtain these licenses on acceptable or commercially reasonable terms, if at all, or these licenses may be non-exclusive, which could result in our competitors gaining access to the same intellectual property. In addition, we could encounter delays in diagnostic test introductions while we attempt to develop alternative diagnostic tests, products or services to avoid infringing third-party patents or intellectual property rights. Defense of any lawsuit or failure to obtain any of these licenses could prevent us from commercializing diagnostic tests, products or services, and the prohibition of sale of any of our diagnostic tests, products or services could materially affect our business and our ability to gain market acceptance for our diagnostic tests, products and services.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

In addition, our agreements with some of our customers, suppliers or other entities with whom we do business require us to defend or indemnify these parties to the extent they become involved in infringement claims, including the types of claims described above. We could also voluntarily agree to defend or indemnify

third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results or financial condition.

***We may be subject to claims challenging the priority or inventorship of our patents and other intellectual property rights.***

We or our licensors may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets or other intellectual property rights as an inventor or co-inventor. For example, we or our licensors may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing our product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our or our licensors' ownership of our owned or in-licensed patents, trade secrets or other intellectual property rights. If we or our licensors fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property rights that are important to our product candidates.

If we or our licensors are unsuccessful in any interference proceeding or other priority or inventorship dispute, we may be required to obtain and maintain licenses from third parties, including parties involved in any such interference proceedings or other priority or inventorship disputes. Such licenses may not be available on commercially reasonable terms or at all, or may be non-exclusive. If we are unable to obtain and maintain such licenses, we may need to cease the development, manufacture, and commercialization of one or more of our diagnostic tests, products or services. The loss of exclusivity or the narrowing of our owned and licensed patent claims could limit our ability to stop others from using or commercializing similar or identical technology and products. Any of the foregoing could result in a material adverse effect on our business, financial condition, results of operations, or prospects. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

***Obtaining and maintaining our patent protection depends on compliance with various required procedures, document submissions, fee payments and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.***

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States at several stages over the lifetime of the patents and/or applications. We have systems in place to remind us to pay these fees, and we employ an outside firm and rely on our outside counsel to pay these fees due to non-United States patent agencies. We are also dependent on our licensors to take the necessary action to comply with these requirements with respect to our licensed intellectual property rights. The USPTO and various non-US governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in some cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors may be able to enter the market without infringing our patents and this circumstance would have a material adverse effect on our business.

***Issued patents covering our diagnostic tests and any other or future diagnostic tests, products or services could be found invalid or unenforceable if challenged.***

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability and some of our patents or patent applications, including licensed patents, may be challenged, in courts or patent offices in

the United States and abroad, in opposition, derivation, reexamination, *inter partes* review, post-grant review or interference. Additionally, if we and our licensing partners initiate or become involved in legal proceedings against a third party to enforce a patent covering one of our diagnostic tests, products, services or technologies, the defendant could counterclaim that the patent covering our diagnostic tests, products or services is invalid or unenforceable. In patent litigation in the United States, counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including patent eligible subject matter, lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement during prosecution. In addition, the United States now awards patent priority to the first party to file a patent application, and others may submit patent claims covering our inventions prior to us. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity or unenforceability, we would lose at least part, and perhaps all, of the patent protection on our diagnostic tests or any diagnostic tests, products and services that we may develop.

A successful third-party challenge to our patents could result in the unenforceability or invalidity of such patents, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights, which could have a material adverse impact on our business. Furthermore, if the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future diagnostic tests, products or services.

We may not be aware of all third-party intellectual property rights potentially relating to our current or future diagnostic tests, products or services. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until approximately 18 months after filing or, in some cases, not until such patent applications issue as patents. We, or our current or future license partners or collaborators, might not have been the first to make the inventions covered by each of our pending patent applications and we might not have been the first to file patent applications for these inventions. To determine the priority of these inventions, we may have to participate in interference proceedings, derivation proceedings or other post-grant proceedings declared by the USPTO. The outcome of such proceedings is uncertain, and other patent applications may have priority over our patent applications. Such proceedings could also result in substantial costs to us and divert our management's attention and resources.

***We rely on licenses from third parties in relation to certain diagnostic tests, products and services and if we lose these licenses then we may be subjected to future litigation.***

We are a party to license agreements that grant us rights to use certain intellectual property rights, including patents and patent applications, typically in certain specified fields of use, in connection with our diagnostic tests, products and services. Some of those licensed rights could provide us with freedom to operate for aspects of our diagnostic tests, products and services. We may need to obtain additional licenses from others to advance our research, development and commercialization activities.

The in-licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more established companies are also pursuing strategies to in-license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, cash resources and greater clinical development and commercialization capabilities. Furthermore, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. In addition, we expect that competition for the in-licensing or acquisition of third-

party intellectual property rights for product candidates that are attractive to us may increase in the future, which may mean fewer suitable opportunities for us as well as higher acquisition or licensing costs. We may be unable to in-license or acquire the third-party intellectual property rights for product candidates on terms that would allow us to make an appropriate return on our investment. If we are unable to successfully obtain rights to suitable product candidates, our business, financial condition, results of operations and prospects for growth could suffer.

Our existing license agreements impose, and we expect that our future license agreements will impose, various diligence, royalty payment, milestone payment, insurance and other obligations on us. If we fail to comply with these obligations or other obligations in our license agreements, our licensors may have the right to terminate these agreements, in which event we may not be able to develop and market any product or use any technology that is covered by these agreements. If our license agreements terminate, or we experience a reduction or elimination of licensed rights under these agreements, we may have to negotiate new or reinstated licenses with less favorable terms or we may not have sufficient intellectual property rights to operate our business. The occurrence of such events could materially harm our business.

Our success may depend in part on the ability of our licensors to obtain, maintain and enforce patent protection for our licensed intellectual property rights. Our licensors may not successfully prosecute the patent applications we license. Even if patents issue in respect of these patent applications, our licensors may fail to maintain these patents, may determine not to pursue litigation against other companies that are infringing these patents or may pursue such litigation less aggressively than we would. Without protection for the intellectual property rights we license, other companies might be able to offer substantially identical diagnostic tests for sale, which could adversely affect our competitive business position and harm our business prospects.

Any of the foregoing could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.

Moreover, disputes may also arise between us and our current or future licensors regarding intellectual property rights subject to a license agreement, including those relating to:

- the scope of rights granted under the license agreement and other interpretation-related issues;
- whether, and the extent to which, our diagnostic tests, products, services, technology and processes infringe on intellectual property rights of the licensor that is not subject to the licensing agreement;
- whether our licensor or its licensor had the right to grant the license agreement;
- whether third parties are entitled to compensation or equitable relief, such as an injunction, for our use of the intellectual property rights without their authorization;
- our involvement in the prosecution of licensed patents and our licensors' overall patent enforcement strategy;
- the amounts of royalties, milestones or other payments due under the license agreement;
- our right to sublicense patent and other rights to third parties under collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property rights by our licensors and us and our collaborators; and
- the priority of invention of patented technology.

If we do not prevail in such disputes, we may lose any or all of our rights under such license agreements.

In addition, the agreements under which we currently license intellectual property rights or technology from third parties are complex and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property rights or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property rights that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, or are insufficient to provide us the necessary rights to use the intellectual property rights, we may be unable to successfully develop and commercialize any affected diagnostic tests, products or services, which could have a material adverse effect on our business, financial conditions, results of operations and prospects.

Absent the license agreements, we may infringe patents subject to those agreements, and if the license agreements are terminated, we may be subject to litigation by the licensor. Litigation could result in substantial costs to us and distract our management. If we do not prevail, we may be required to pay damages, including treble damages, attorneys' fees, costs and expenses and royalties or be enjoined from selling our diagnostic tests, products or services, which could adversely affect our ability to offer diagnostic tests, products or services, our ability to continue operations and our financial condition.

***Some intellectual property that we in-license may have been developed through government funded programs and thus may be subject to federal regulations such as "march-in" rights, certain reporting requirements and a preference for companies based in the United States. Compliance with such regulations may limit our exclusive rights, and limit our ability to contract with manufacturers that are not based in the United States.***

Certain of the intellectual property that we license may have been developed through the use of United States government funding and therefore may be subject to certain federal regulations. As a result, the United States government may have certain rights to intellectual property embodied in our diagnostic tests, products and services pursuant to the Bayh-Dole Act of 1980 (Bayh-Dole Act). These United States government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the United States government has the right to require us to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party if it determines that: (i) adequate steps have not been taken to commercialize the invention; (ii) government action is necessary to meet public health or safety needs; or (iii) government action is necessary to meet requirements for public use under federal regulations (also referred to as "march-in rights"). The United States government also has the right to take title to these inventions if we, or the applicable licensor, fail to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us or the applicable licensor to expend substantial resources. In addition, the United States government requires that any products of the subject invention or produced through the use of the subject invention be manufactured substantially in the United States. The manufacturing preference requirement can be waived if the owner of the intellectual property can show that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible. This preference for United States manufacturers may limit our ability to contract with product manufacturers outside of the United States for products covered by such intellectual property. To the extent any of our current or future owned or licensed intellectual property is generated through the use of United States government funding, the provisions of the Bayh-Dole Act may similarly apply. Any failure by us to comply with federal regulations regarding intellectual property rights that were developed through the use of United States government funding could have a material adverse effect on our business, financial condition, results of operations, and prospects.

***Patent terms may be inadequate to protect our competitive position on our diagnostic tests, products and services for an adequate amount of time.***

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest United States non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited.

Even if patents covering our diagnostic tests, products and services are obtained, once the patent life has expired, we may be open to competition from competitive diagnostic tests, products and services. Given the amount of time required for the development, testing and regulatory review of potential new diagnostic tests, patents protecting such candidates might expire before or shortly after such candidates are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing diagnostic tests, products or services similar or identical to ours.

***We may not be able to protect our intellectual property rights throughout the world.***

Third parties may attempt to commercialize competitive diagnostic tests, products or services in foreign countries where we do not have any patents or patent applications and/or where legal recourse may be limited. This may have a significant commercial impact on our foreign business operations.

Filing, prosecuting and defending patents on our diagnostic tests, products and services in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing diagnostic tests or products made using our inventions in and into the United States or other jurisdictions. Competitors may use our diagnostic tests, products, services and technologies in jurisdictions where we have not obtained patent protection to develop their own diagnostic tests and, further, may export otherwise infringing diagnostic tests or products to territories where we have patent protection but enforcement is not as strong as that in the United States. These diagnostic tests and products may compete with our diagnostic tests, products or services and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents or marketing of competing diagnostic tests, products and services in violation of our intellectual property rights generally. Proceedings to enforce our intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries, including India, China, and certain countries in Europe, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our current or future licensors are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition and results of operations may be adversely affected.

***Intellectual property rights do not necessarily address all potential threats.***

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make diagnostic tests or products that are similar to our COVID-19, Nodify XL2, Nodify CDT, GeneStrat or VeriStrat tests or utilize similar technology that is not covered by the claims of our patents or that incorporates certain technology in our COVID-19, Nodify XL2, Nodify CDT, GeneStrat or VeriStrat tests that is in the public domain;
- we, or our current or future licensors or collaborators, might not have been the first to make the inventions covered by the applicable issued patent or pending patent application that we own or license now or may own or license in the future;
- we, or our current or future licensors or collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our current or future pending patent applications will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors or other third parties;
- our competitors or other third parties might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive diagnostic tests, products and services for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property rights.

Any of the foregoing could have a material adverse effect on our business, financial condition and results of operations.

**Risks Related to our Common Stock and this Offering**

***There has been no prior public market for our common stock and an active trading market may not develop.***

Prior to this offering, there has been no public market for our common stock. An active trading market may not develop following completion of this offering or, if developed, may not be sustained. The lack of an active trading market may impair the value of your shares and your ability to sell your shares at the time you wish to sell them. An inactive trading market may also impair our ability to both raise capital by selling shares of common stock and acquire other complementary diagnostic tests, technologies or businesses by using our shares of common stock as consideration.

Upon closing of this offering, we expect that our common stock will be listed on the Nasdaq Global Market. If we fail to satisfy the continued listing standards of the Nasdaq Global Market, however, we could be de-listed, which would negatively impact the price of our common stock.

***We expect that the price of our common stock will fluctuate substantially and you may not be able to sell the shares you purchase in this offering at or above the offering price.***

The initial public offering price for the shares of our common stock sold in this offering is determined by negotiation between the representatives of the underwriters and us. This price may not reflect the market price of

our common stock following this offering. In addition, the market price of our common stock is likely to be highly volatile and may fluctuate substantially due to many factors, including:

- volume and customer mix for our COVID-19, Nodify XL2, Nodify CDT, GeneStrat and VeriStrat testing;
- the introduction of new diagnostic tests or enhancements to such tests by us or others in our industry;
- disputes or other developments with respect to our or others' intellectual property rights;
- our ability to develop, obtain regulatory clearance or approval for, and market new and enhanced diagnostic tests on a timely basis;
- product liability claims or other litigation;
- quarterly variations in our results of operations or those of others in our industry;
- media exposure of our diagnostic tests or of those of others in our industry;
- changes in governmental regulations or in the status of our regulatory approvals or applications;
- changes in earnings estimates or recommendations by securities analysts; and
- general market conditions and other factors, including factors unrelated to our operating performance or the operating performance of our competitors.

In recent years, the stock markets generally have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may significantly affect the market price of our common stock, regardless of our actual operating performance. These fluctuations may be even more pronounced in the trading market for our common stock shortly following this offering. If the market price of shares of our common stock after this offering does not ever exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment.

In addition, in the past, class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price. Securities litigation brought against us following volatility in our stock price, regardless of the merit or ultimate results of such litigation, could result in substantial costs, which would hurt our financial condition and operating results and divert management's attention and resources from our business.

***Securities analysts may not publish favorable research or reports about our business or may publish no information at all, which could cause our stock price or trading volume to decline.***

If a trading market for our common stock develops, the trading market will be influenced to some extent by the research and reports that industry or financial analysts publish about us and our business. We do not control these analysts. As a newly public company, we may be slow to attract research coverage and the analysts who publish information about our common stock will have had relatively little experience with us, which could affect their ability to accurately forecast our results and could make it more likely that we fail to meet their estimates. In the event we obtain securities or industry analyst coverage, if any of the analysts who cover us provide inaccurate or unfavorable research or issue an adverse opinion regarding our stock price, our stock price could decline. If one or more of these analysts cease coverage of us or fail to publish reports covering us regularly, we could lose visibility in the market, which in turn could cause our stock price or trading volume to decline.

***We are an "emerging growth company" and a "smaller reporting company," and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.***

We are an "emerging growth company," as defined in the JOBS Act. We may take advantage of certain exemptions and relief from various public reporting requirements, including the requirement that our internal control over financial reporting be audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002 (the Sarbanes-Oxley Act). We will be exempt from any rules that could be adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements; we will be subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and we will not be required to hold nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved.

Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We have elected to take advantage of the extended transition period to comply with new or revised accounting standards and to adopt certain of the reduced disclosure requirements available to emerging growth companies. As a result of the accounting standards election, we will not be subject to the same implementation timing for new or revised accounting standards as other public companies that are not emerging growth companies, which may make comparison of our financials to those of other public companies more difficult. Additionally, because we have taken advantage of certain reduced reporting requirements, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

We will remain an "emerging growth company" until the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (iii) the date on which we have issued, in any three-year period, more than $1.0 billion in non-convertible debt securities; and (iv) the last day of the fiscal year ending after the fifth anniversary of the completion of our initial public offering.

We are also a "smaller reporting company" as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (1) the market value of our common shares held by non-affiliates exceeds $250 million as of the end of that year's second fiscal quarter, or (2) our annual revenues exceeded $100 million during such completed fiscal year and the market value of our common shares held by nonaffiliates exceeds $700 million as of the end of that year's second fiscal quarter. To the extent we take advantage of such reduced disclosure obligations, it may also make comparison of our financial statements with other public companies difficult or impossible.

Investors may find our common stock less attractive to the extent we rely on the exemptions and relief granted by the JOBS Act. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or become more volatile.

***If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our operating results could fall below the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.***

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in our financial statements and accompanying notes. We base

our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. It is possible that interpretation, industry practice and guidance may evolve over time. If our assumptions change or if actual circumstances differ from our assumptions, our operating results may be adversely affected and could fall below the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

***If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.***

Investors purchasing common stock in this offering will pay a price per share that substantially exceeds the pro forma as adjusted net tangible book value per share. As a result, investors purchasing common stock in this offering will incur immediate dilution of $ per share, based on an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, and our pro forma as adjusted net tangible book value per share as of . For more information on the dilution you may suffer as a result of investing in this offering, see the section of this prospectus entitled “Dilution.”

This dilution is due to the substantially lower price paid by our investors who purchased shares prior to this offering as compared to the price offered to the public in this offering. It is also due to the conversion of our preferred stock and convertible debt into shares of our common stock upon the completion of this offering and the exercise of stock options granted to our employees as the conversion and exercise prices of such securities and options are substantially below the price offered to the public in this offering.

***A significant portion of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future. This could cause the market price of our common stock to drop significantly, even if our business is doing well.***

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares intend to sell their shares, could result in a decrease in the market price of our common stock. Immediately after this offering, we will have outstanding shares of common stock based on the number of shares outstanding as of June 30, 2020. This includes the shares that we are selling in this offering, which may be resold in the public market immediately without restriction, unless purchased by our affiliates. Of the remaining shares, shares are currently restricted as a result of securities laws or 180-day lock-up agreements but will be able to be sold after the offering as described in the section of this prospectus entitled “Shares Eligible For Future Sale.” Moreover, after this offering, holders of an aggregate of up to shares of our common stock, including shares of our common stock issuable upon the conversion of the shares of our convertible preferred stock that will be outstanding immediately prior to the consummation of this offering, will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders as described in the section of this prospectus entitled “Shares Eligible For Future Sale—Registration Rights.” We also intend to register all shares of common stock that we may issue under our equity compensation plans. Once we register these shares, they can be freely sold in the public market, subject to volume limitations applicable to affiliates and the lock-up agreements described in the section of this prospectus entitled “Underwriters.”

***Our directors, officers and principal stockholders have significant voting power and may take actions that may not be in the best interests of our other stockholders.***

After this offering, our officers, directors and principal stockholders each holding more than 5% of our common stock will collectively control approximately % of our outstanding common stock. As a result, these

stockholders, if they act together, will be able to control the management and affairs of our company and most matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. This concentration of ownership may have the effect of delaying or preventing a change of control and might adversely affect the market price of our common stock. This concentration of ownership may not be in the best interests of our other stockholders.

***We may allocate the net proceeds from this offering in ways that you and other stockholders may not approve.***

Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in the section titled "Use of Proceeds." Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment, and the failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States government. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected results, which could cause our stock price to decline.

***We expect to incur significant additional costs as a result of being a public company, which may adversely affect our business, financial condition and results of operations.***

Upon completion of this offering, we expect to incur costs associated with corporate governance requirements that will become applicable to us as a public company, including rules and regulations of the SEC, under the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, and the Securities Exchange Act of 1934, as amended (the Exchange Act), as well as the rules of Nasdaq. These rules and regulations are expected to significantly increase our accounting, legal and financial compliance costs and make some activities more time-consuming. We also expect these rules and regulations to make it more expensive for us to maintain directors' and officers' liability insurance. As a result, it may be more difficult for us to attract and retain qualified persons to serve on our Board of Directors or as executive officers. Accordingly, increases in costs incurred as a result of becoming a publicly traded company may adversely affect our business, financial condition and results of operations.

***If we experience material weaknesses in the future or otherwise fail to maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations, which may adversely affect investor confidence in us and, as a result, the value of our common stock.***

As a result of becoming a public company, we will be required, under Section 404 of the Sarbanes-Oxley Act to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting beginning with our Annual Report on Form 10-K for the year ended December 31, 2021. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A material weakness is a deficiency or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual and interim financial statements will not be detected or prevented on a timely basis.

We are further enhancing internal controls, processes and related documentation necessary to perform the evaluation needed to comply with Section 404. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective. The effectiveness of our controls and procedures may be limited by a variety of factors, including:

- faulty human judgment and simple errors, omissions or mistakes;

- fraudulent action of an individual or collusion of two or more people;
- inappropriate management override of procedures; and
- the possibility that any enhancements to controls and procedures may still not be adequate to assure timely and accurate financial control.

When we cease to be an "emerging growth company" under the federal securities laws, our auditors will be required to express an opinion on the effectiveness of our internal controls. If we are unable to confirm that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline.

***Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.***

Upon the closing of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We designed our disclosure controls and procedures to provide reasonable assurance that information we must disclose in reports we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

***Provisions in our corporate charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our current management.***

Provisions in our amended and restated certificate of incorporation and our amended and restated bylaws that will become effective upon the closing of this offering may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. Because our Board of Directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

***Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.***

Our amended and restated certificate of incorporation that will become effective upon the closing of this offering specifies that, unless we consent in writing to the selection of an alternative forum, the Court of

Chancery of the State of Delaware will be the sole and exclusive forum for most legal actions involving actions brought against us by stockholders. Notwithstanding the foregoing, the exclusive forum provision will not apply to any claim to enforce any liability or duty created by the Exchange Act or the Securities Act and for which the federal courts have exclusive jurisdiction. We believe this exclusive forum provision benefits us by providing increased consistency in the application of Delaware law by chancellors particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, the provision may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

***Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.***

Our amended and restated articles of incorporation that will be in effect at the closing of this offering provide that we will indemnify our directors and officers to the fullest extent permitted by Section 145 of the Delaware General Corporate Law.

In addition, as permitted by the Delaware General Corporate Law, our amended and restated articles of incorporation and our indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by applicable law. Such law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;
- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;
- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- the rights conferred in our amended and restated articles of incorporation are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend our amended and restated articles of incorporation provisions to reduce our indemnification obligations to directors, officers, employees and agents.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future financial condition, results of operations, business strategy and plans, and objectives of management for future operations, as well as statements regarding industry trends, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potentially,” “predict,” “should,” “will” or the negative of these terms or other similar expressions.

We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties, factors, and assumptions described under the section titled “Risk Factors” and elsewhere in this prospectus, regarding, among other things:

- our inability to achieve or sustain profitability;
- our ability to attain significant market acceptance among payers, providers, clinics, patients, and biopharmaceutical companies for our diagnostic tests;
- difficulties managing our growth, which could disrupt our operations;
- failure to retain sales and marketing personnel, and failure to increase our sales and marketing capabilities or develop broad awareness of our diagnostic tests to generate revenue growth;
- failure to maintain our current relationships, or enter into new relationships, with biopharmaceutical companies;
- significant fluctuation in our operating results, causing our operating results to fall below expectations or any guidance we provide;
- the demand for our COVID-19 diagnostic and antibody tests and our ability to meet such demand;
- product performance and reliability to maintain and grow our business;
- third party suppliers, including contract manufacturers and single source suppliers; making us vulnerable to supply problems and price fluctuations;
- the impact of a pandemic, epidemic or outbreak of an infectious disease in the United States or worldwide, including the COVID-19 pandemic on our business;
- natural or man-made disasters and other similar events, including the COVID-19 pandemic, negatively impacting our business, financial condition and results of operations;
- failure to offer high-quality support for our diagnostic tests, which may adversely affect our relationships with providers and negatively impact our reputation among patients and providers;
- our inability to continue to innovate and improve our diagnostic tests and services we offer;
- security or data privacy breaches or other unauthorized or improper access;
- significant disruptions in our information technology systems;
- the incurrence of substantial liabilities and limiting or halting the marketing and sale of our diagnostic tests due to product liability lawsuits;
- our inability to compete successfully with competition from many sources, including larger companies;
- performance issues, service interruptions or price increases by our shipping carriers and warehousing providers;

- cost-containment efforts of our customers, purchasing groups and integrated delivery networks having a material adverse effect on our sales and profitability;
- potential effects of litigation and other proceedings;
- general economic and financial market conditions;
- our ability to attract and retain key personnel;
- current and future debt financing placing restrictions on our operating and financial flexibility;
- our need to raise additional capital to fund our existing operations, develop our platform, commercialize new diagnostic tests or expand our operations;
- the acquisition of other businesses, which could require significant management attention;
- the uncertainty of the insurance coverage and reimbursement status of newly approved diagnostic tests;
- future healthcare reform measures that could hinder or prevent the commercial success of our diagnostic tests;
- compliance with anti-corruption, anti-bribery, anti-money laundering and similar laws;
- compliance with healthcare fraud and abuse laws;
- our ability to develop, receive regulatory clearance or approval for, and introduce new diagnostic tests or enhancements to existing diagnostic tests that will be accepted by the market in a timely manner;
- failure to comply with ongoing FDA or other domestic and foreign regulatory authority requirements, or unanticipated problems with our diagnostic tests, causing them to be subject to restrictions or withdrawal from the market;
- future product recalls;
- legal proceedings initiated by third parties alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights, the outcome of which would be uncertain;
- the volatility of the trading price of our common stock;
- inaccurate estimates or judgments relating to our critical accounting policies, which could cause our operating results to fall below the expectations of securities analysts and investors; and
- other risks, uncertainties and factors set forth in this prospectus, including those set forth under “Risk Factors.”

These risks are not exhaustive. Other sections of this prospectus may include additional factors that could harm our business and financial performance. New risk factors may emerge from time to time and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus or to conform these statements to actual results or to changes in our expectations.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be

limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and achievements may be different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

## USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of shares of common stock in this offering will be approximately $ million at an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option in full, we estimate that the net proceeds to us will be approximately $ million, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease, respectively, our net proceeds by $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase or decrease of 1,000,000 in the number of shares we are offering would increase or decrease, respectively, the net proceeds from this offering, after deducting underwriting discounts and commissions by $ million, assuming the assumed initial public offering price stays the same.

We currently expect to use the net proceeds from this offering: (1) to support our commercial expansion of sales, marketing, reimbursement, customer support and business development; (2) to support our product pipeline and research and development; (3) for our Integrated Diagnostics acquisition milestone payment; and (4) for working capital and general corporate purposes.

We may also use a portion of our net proceeds to co-develop, acquire or invest in products, technologies or businesses that are complementary to our business. However, we currently have no agreements or commitments to complete any such transaction.

Although we currently anticipate that we will use the net proceeds from this offering as described above, there may be circumstances where a reallocation of funds is necessary. Due to the uncertainties inherent in the product development process, it is difficult to estimate with certainty the exact amounts of the net proceeds from this offering that may be used for the above purposes. The amounts and timing of our actual expenditures will depend upon numerous factors, including our sales and marketing and commercialization efforts, demand for our technology, our operating costs and the other factors described under “Risk Factors” in this prospectus. Accordingly, we will have broad discretion over the uses of the net proceeds from this offering. Pending the use of the proceeds from this offering, we may invest the proceeds in from this offering in short- and intermediate-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or direct or guaranteed obligations of the United States government.

## DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings, if any, to support operations and to finance the growth and development of our business. We do not intend to declare or pay cash dividends on common stock in the foreseeable future following the consummation of this offering. Any determination to declare dividends will be made at the discretion of our Board of Directors and will depend on, among other factors, our business, financial condition, results of operations and prospects that our Board of Directors may deem relevant. The terms of our outstanding credit facility also restrict our ability to pay dividends, and we may also enter into credit agreements or other borrowing arrangements in the future that will restrict our ability to declare or pay cash dividends on our capital stock. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Contractual Obligations and Commitments.”

## CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of June 30, 2020, 2019, on:

- an actual basis;
- a pro forma basis to reflect (i) the conversion of all the outstanding shares of preferred stock and convertible debt into an aggregate of shares of common stock immediately upon the closing of this offering and (ii) the filing and effectiveness of our amended and restated certificate of incorporation that will be in effect upon the closing of this offering; and
- a pro forma as adjusted basis to further reflect the sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this information together with the sections of this prospectus titled “Prospectus Summary—Summary Historical Financial and Operating Data,” “Selected Historical Financial and Operating Data,” “Description of Capital Stock” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and related notes included elsewhere in this prospectus.

| | As of June 30, 2020 | | |
|---|---|---|---|
| | Actual | Pro Forma | Pro Forma As Adjusted(1) |
| | (Unaudited) (in thousands, except share and per share data) | | |
| Cash and cash equivalents | $ 11,674 | $ | $ |
| Debt: | | | |
| Convertible debt payable | 24,676 | $ | $ |
| Long-term debt payable | 24,227 | | |
| Total debt | 48,903 | | |
| Convertible preferred stock; $0.001 par value; 185,432,719 shares authorized, 118,766,273 issued and outstanding, actual; shares authorized and shares issued and outstanding, pro forma as adjusted | 193,959 | | |
| Stockholders’ deficit | | | |
| Common stock, $0.001 par value; 220,000,000 shares authorized, 1,629,696 issued and outstanding, actual; shares authorized and shares issued and outstanding, pro forma as adjusted | 2 | | |
| Additional paid-in capital | 2,389 | | |
| Accumulated deficit | (248,835) | | |
| Total stockholders’ deficit | (246,444) | | |
| Total capitalization | $ (3,582) | $ | $ |

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, respectively, the amount of cash and cash equivalents, additional paid-in-capital, total stockholders’ equity and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase or decrease of 1,000,000

in the number of shares we are offering would increase or decrease, respectively, the amount of cash and cash equivalents, additional paid-in-capital, total stockholders' equity and total capitalization by approximately $ million, assuming the assumed initial public offering price per share, as set forth above, remains the same and after deducting underwriting discounts and commissions. The pro forma as adjusted information is illustrative only, and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing.

The outstanding share information in the table above excludes, as of , 2020, the following shares:

- shares of common stock issuable upon the exercise of stock options outstanding as of , 2020, with a weighted-average exercise price of $ per share, plus shares of common stock issuable upon the exercise of stock options granted subsequent to , 2020, with a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding warrants to purchase shares of Series G Preferred Stock as of , 2020, with a weighted-average exercise price of $ per share; and
- additional shares of common stock reserved for future issuance under our 2016 Incentive Plan as of , 2020, plus an additional shares of common stock reserved for future issuance under this plan subsequent to , 2020.

## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after the closing of this offering.

Our historical net tangible book value as of June 30, 2020 was $ million, or $ per share of our common stock. Our historical net tangible book value is the amount of our total tangible assets less our total liabilities and convertible preferred stock, which is not included within our stockholders' deficit. Historical net tangible book value per share represents historical net tangible book value divided by the number of shares of our common stock outstanding as of June 30, 2020.

Our pro forma net tangible book value as of June 30, 2020 was $ million, or $ per share of our common stock. Pro forma net tangible book value per share represents our total tangible assets less our total liabilities, divided by the number of outstanding shares of common stock, after giving effect to the conversion of all outstanding shares of preferred stock and convertible debt into shares of common stock immediately upon the closing of this offering.

After giving effect to the conversion of our outstanding preferred stock and convertible debt into shares of common stock immediately upon the closing of this offering and the receipt of the net proceeds from our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of June 30, 2020, would have been $ million, or $ per share. This represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and immediate dilution of $ per share to investors purchasing common stock in this offering.

The following table illustrates this dilution on a per share basis to new investors:

| | |
|---|---|
| Assumed initial public offering price per share of our common stock | $ |
| Historical net tangible book value per share as of June 30, 2020 | |
| Pro forma increase in net tangible book value per share as of June 30, 2020 | |
| Pro forma net tangible book value per share as of June 30, 2020 | $ |
| Increase in pro forma net tangible book value per share attributable to new investors in this offering | $ |
| Pro forma as adjusted net tangible book value per share after this offering | $ |
| Dilution of net tangible book value per share to new investors | $ |

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share would increase or decrease, respectively, our pro forma as adjusted net tangible book value per share after this offering by $ per share and the dilution to new investors by $ per share, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Each increase of 1,000,000 shares in the number of shares of common stock offered by us would increase the pro forma as adjusted net tangible book value by $ per share and the dilution to new investors would decrease by $ per share, assuming the assumed initial public offering price remains the same and after deducting underwriting discounts and commissions. Each decrease of 1,000,000 shares in the number of shares of common stock offered by us would decrease the pro forma as adjusted net tangible book value by $ per share and the dilution to new investors would increase by $ per share, assuming the assumed initial public offering price remains the same and after deducting underwriting discounts and commissions.

If the underwriters exercise their over-allotment option in full, the pro forma as adjusted net tangible book value per share after giving effect to this offering would be $ per share, and the dilution in pro forma as adjusted net tangible book value per share to new investors in this offering would be $ per share.

The following table summarizes, as of June 30, 2020:

- the total number of shares of common stock purchased from us by our existing stockholders and by new investors purchasing shares in this offering;
- the total consideration paid to us by our existing stockholders and by new investors purchasing shares in this offering, assuming an initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, before deducting the underwriting discounts and commissions and estimated offering expenses payable by us in connection with this offering; and
- the average price per share paid by existing stockholders and by new investors purchasing shares in this offering.

| | Shares Purchased | | Total Consideration | | Average Price Per Share |
|---|---|---|---|---|---|
| | Number | Percent | Amount | Percent | |
| Existing stockholders | | % | $ | % | $ |
| New investors | | | | | |
| Total | | % | $ | % | $ |

Except as otherwise indicated, the above discussion and tables assume no exercise of the underwriters' over-allotment option. If the underwriters exercise their over-allotment option in full, our existing stockholders would own % and our new investors would own % of the total number of shares of common stock outstanding upon the closing of this offering.

The number of shares of our common stock that will be outstanding after this offering is based on shares of common stock outstanding as of June 30, 2020, and excludes:

- shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2020, with a weighted-average exercise price of $ per share, plus shares of common stock issuable upon the exercise of stock options granted subsequent to , 2020, with a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding warrants to purchase shares of Series G Preferred Stock as of , 2020, with a weighted-average exercise price of $ per share; and
- additional shares of common stock reserved for future issuance under our 2016 Incentive Plan as of , 2020, plus an additional shares of common stock reserved for future issuance under this plan subsequent to , 2020.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, the midpoint of the estimated offering price range set forth on the cover page of this prospectus, would increase or decrease, respectively, the total consideration paid by new investors by $ million and increase or decrease, respectively, the total consideration paid by new investors by %, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and before deducting underwriting discounts and commissions.

In addition, to the extent any outstanding options are exercised, new investors would experience further dilution.

## SELECTED HISTORICAL FINANCIAL AND OPERATING DATA

The following table sets forth Biodesix, Inc.'s selected historical financial and operating data as of the dates and for the financial reporting periods indicated. The selected historical financial and operating data as of June 30, 2020 and 2019 and for the six months ended June 30, 2020 and 2019 have been derived from our unaudited condensed financial statements included elsewhere in this prospectus. The selected historical financial and operating data as of December 31, 2019 and 2018 and for the years ended December 31, 2019 and 2018 have been derived from our audited financial statements included elsewhere in this prospectus.

The selected historical financial information is not necessarily indicative of the results that may be expected in any future financial reporting period, and our results of operations for any interim financial reporting period are not necessarily indicative of the results to be expected for the full year. The following selected historical financial and operating data should be read in conjunction with "Capitalization," "Prospectus Summary—Summary Historical Financial and Operating Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes appearing elsewhere in this prospectus.

**Statements of Operations:**
**(in thousands, except per share data)**

| | Six months ended June 30, | | For the Years Ended December 31, | |
|---|---|---|---|---|
| | 2020 | 2019 | 2019 | 2018 |
| | (unaudited) | | (audited) | |
| Revenues | $ 9,335 | $ 12,339 | $ 24,552 | $ 20,432 |
| Operating expenses | | | | |
| Direct costs and expenses | 3,455 | 2,741 | 6,074 | 4,406 |
| Research and development | 5,007 | 5,607 | 10,468 | 8,188 |
| Sales, marketing, general and administrative | 14,914 | 15,868 | 30,637 | 25,899 |
| Accretion of contingent consideration | 1,944 | 1,628 | 3,451 | 1,537 |
| Change in fair value of contingent consideration | (1,944) | 663 | 663 | 3,863 |
| Total operating expenses | 23,376 | 26,507 | 51,293 | 43,893 |
| Loss from operations | (14,041) | (14,168) | (26,741) | (23,461) |
| Other income (expense) | | | | |
| Interest expense | (4,241) | (1,299) | (3,008) | (2,916) |
| Change in fair value of put option liability | — | — | (2,000) | — |
| Other, net | 311 | 868 | 1,023 | 211 |
| Total other expense | (3,930) | (431) | (3,985) | (2,705) |
| Net loss | $ (17,971) | $ (14,599) | $ (30,726) | $ (26,166) |
| Net loss per share, basic and diluted | $ (11.59) | $ (10.94) | $ (21.31) | $ (22.07) |
| Weighted-average shares outstanding, basic and diluted | 1,551 | 1,334 | 1,442 | 1,186 |
| Pro forma net loss per share, basic and diluted (unaudited) | $ (0.06) | — | $ (0.20) | — |
| Pro forma weighted-average shares outstanding, basic and diluted (unaudited) | 271,344 | — | 155,126 | — |

**Balance Sheet Data:**
**(in thousands)**

| | June 30, 2020 Actual | December 31, 2019 Actual |
|---|---|---|
| Cash and cash equivalents | $ 11,674 | $ 5,286 |
| Total assets | 45,478 | 41,633 |
| Current portion of long-term debt payable | 4,064 | — |
| Long-term debt payable | 20,163 | 23,812 |
| Convertible debt | 24,676 | 12,159 |
| Contingent consideration | 29,114 | 29,114 |
| Convertible preferred stock | 193,959 | 193,959 |
| Accumulated deficit | (248,835) | (230,864) |
| Total stockholders' deficit | (246,444) | (228,539) |

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

*You should read the following discussion and analysis of our financial condition and results of operations together with the sections of this prospectus titled "Prospectus Summary—Summary Historical Financial and Operating Data," "Selected Historical Financial and Operating Data" and our financial statements and the related notes to those statements included elsewhere in this prospectus. This discussion and analysis and other parts of this prospectus contain forward-looking statements based upon current beliefs, plans and expectations related to future events and our future financial performance that involve risks, uncertainties and assumptions, such as statements regarding our intentions, plans, objectives, expectations, forecasts and projections. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under the section titled "Risk Factors" and elsewhere in this prospectus. You should carefully read the "Risk Factors" to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements.*

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A), is provided to supplement the financial statements and the related notes included elsewhere in this prospectus. We intend for this discussion to provide you with information that will assist you in understanding our financial statements, the changes in key items in those financial statements from year to year and the primary factors that accounted for those changes. The MD&A is organized as follows:

- ***Overview***. This section provides a general description of our business as well as trends and other factors affecting our business that we believe are necessary to understand our financial condition and results of operations.
- ***Factors Affecting Our Performance***. This section provides a description of the key factors that have historically, and that we expect to continue to, affect our business.
- ***Components of Operating Results***. This section provides a description of our revenues and operating expenses for the six months ended June 30, 2020 and 2019 and the years ended December 31, 2019 and 2018.
- ***Results of Operations***. This section provides a discussion of the results of operations on a historical basis for the six months ended June 30, 2020 and 2019 and the years ended December 31, 2019 and 2018.
- ***Liquidity and Capital Resources***. This section provides an analysis of our ability to generate cash and to meet existing known or reasonably likely future cash requirements.
- ***Critical Accounting Policies and Significant Judgments and Estimates***. This section discusses the accounting policies and estimates that we consider important to our financial condition and results of operations and that require significant judgment and estimates on the part of management in their application.
- ***Quantitative and Qualitative Disclosures about Market Risk***. This section discusses our exposure to interest rate risk.

Data for the six months ended June 30, 2020 and 2019 and the years ended December 31, 2019 and 2018 has been derived from our unaudited condensed financial statements for the six months ended June 30, 2020 and 2019 and our audited financial statements for the year ended December 31, 2019 and 2018 included elsewhere in this prospectus.

### Overview

We are a leading data-driven diagnostic solutions company leveraging state of the art technologies with our proprietary AI platform to discover, develop, and commercialize solutions for clinical unmet needs, with a primary focus in lung disease. By combining a technology agnostic approach with a holistic view of the patient's disease state, we believe our solutions provide physicians with greater insights to help personalize their patient's care and meaningfully improve disease detection, evaluation, and treatment. Our unique approach to precision

medicine provides timely and actionable clinical information, which we believe helps improve overall patient outcomes and lowers the overall healthcare cost by reducing the use of ineffective and unnecessary treatments and procedures. In addition to our diagnostic tests, we provide biopharmaceutical companies with services that include diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics.

Our core belief is that no single technology will answer all clinical questions that we encounter. Therefore, we employ multiple technologies, including genomics, transcriptomics, proteomics, and radiomics, and leverage our proprietary AI platform, the Diagnostic Cortex, to discover innovative diagnostic tests for clinical use. The Diagnostic Cortex is an extensively validated deep learning platform optimized for the discovery of diagnostic tests, which we believe overcomes standard machine learning challenges faced in life sciences research. Our data-driven and technology agnostic approach is designed to enable us to discover diagnostic tests that answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies.

We continuously incorporate new market insights and patient data to enhance our platform through a data-driven learning loop. We regularly engage with our customers, key opinion leaders, and scientific experts to stay ahead of the rapidly evolving diagnostic and therapeutic landscape to identify additional clinical unmet needs where a diagnostic test could help improve patient care. Additionally, we incorporate clinical and molecular profiling data from our commercial clinical testing, research studies, clinical trials, and biopharmaceutical customers or academic partnerships, to continue to advance our platform. We have over 140,000 samples and data in our biobank, including tumor profiles and immune profiles, which are used for both internal and external R&D initiatives.

We have commercialized six diagnostic tests which are currently available for use by physicians. Our Nodify XL2 and Nodify CDT tests, marketed as part of our Nodify Lung Nodule Risk Assessment testing strategy, assess the risk of lung cancer to help identify the most appropriate treatment pathway. We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules. Our GeneStrat and VeriStrat tests, marketed as part of our Biodesix Lung Reflex testing strategy, are used following diagnosis of lung cancer to measure the presence of mutations in the tumor and the state of the patient's immune system to establish the patient's prognosis and help guide treatment decisions. The GeneStrat tumor profiling test and the VeriStrat immune profiling test have a three-day average turnaround time, providing physicians with timely results to facilitate treatment decisions. In response to the COVID-19 pandemic, through our partnership with Bio-Rad, we commercialized the Biodesix WorkSafe™ testing program. Our scientific diagnostic expertise, technologies, and existing commercial infrastructure enabled us to rapidly commercialize two FDA EUA-authorized tests, a part of our customizable program. Bio-Rad has granted us permission to utilize the Bio-Rad ddPCR SARS-CoV-2 test for commercial diagnostic services. HHS Secretary Azar declared a public health emergency for COVID-19 in February 2020 which justified the authorization of emergency use of diagnostic tests for the detection and/or diagnosis of COVID-19. The Bio-Rad SARS-CoV-2 ddPCR test and the Platelia SARS-CoV-2 Total Ab test have been granted FDA EUA pursuant to the current emergency declaration. The Bio-Rad SARS-CoV-2 ddPCR test was FDA EUA authorized on May 1, 2020, authorizing performance of the test in laboratories certified under CLIA to perform high complexity tests. The second test is the Platelia SARS-CoV-2 Total Ab test, which is an antibody assay intended for detecting a B-cell immune response to SARS-CoV-2, indicating recent or prior infection. The Platelia SARS-CoV-2 Total Ab test was FDA EUA authorized on April 29, 2020. Medical products that are granted an EUA are only permitted to commercialize their products under the terms and conditions provided in the authorization. The FDA may revoke an EUA where it is determined that the underlying health emergency no longer exists or warrants such authorization, if the conditions for the issuance of the EUA are no longer met, or if other circumstances make revocation appropriate to protect the public health or safety, and we cannot predict how long the EUAs for the SARS-CoV-2 tests will remain in place. These tests are utilized by healthcare providers, including hospitals and nursing homes, and are also offered to businesses and educational systems to assist in their back-to-work or back-to-school strategies. Recently we announced multiple partnerships for COVID-19 testing, and have entered into

an agreement with the State of Colorado to be one of the diagnostic companies to support widespread COVID-19 testing for the State. Additionally, we recently announced that we will oversee and manage onsite testing and validating testing for the Big Ten Conference athletic competitions. To date, we have not derived significant revenues from these partnerships.

In addition to the six diagnostic tests currently on the market, we perform over 30 assays for research use as part of our laboratory services that have been used by over 50 biopharmaceutical customers and academic partners. All of our diagnostic testing is performed at one of our two certified, high-complexity clinical laboratories in Boulder, Colorado and De Soto, Kansas.

Since our inception, we have performed over 200,000 tests and continue to generate a large and growing body of clinical evidence consisting of over 275 clinical and scientific peer-reviewed publications and presentations. Through ongoing study of each of our tests, we continue to grow our depth of understanding of disease biology and the broad utility of each of our tests. We believe we are poised for rapid growth by leveraging our scientific development and laboratory operations expertise along with our commercial infrastructure which includes sales, marketing, reimbursement, and regulatory affairs.

In the United States, we market our tests to clinical customers through our targeted sales organization, which includes sales representatives that are engaged in sales efforts and promotional activities primarily to pulmonologists, oncologists, cancer centers and nodule clinics. We market our tests and services to biopharmaceutical customers globally through our targeted business development team, which promotes the broad utility of our tests and testing capabilities throughout drug development and commercialization which is of value to pharmaceutical companies and their drug-development process.

We generated total revenue of $9.3 million and $12.3 million for the six months ended June 30, 2020 and 2019, respectively, and generated total revenue of $24.6 million and $20.4 million for the years ended December 31, 2019 and 2018, respectively. We incurred net losses of $18.0 million and $14.6 million for the six months ended June 30, 2020 and 2019, respectively, and net losses of $30.7 million and $26.2 million for the years ended December 31, 2019 and 2018, respectively. We have funded our operations to date principally from net proceeds from the sale of convertible preferred stock, revenue from diagnostic testing and services, and the incurrence of indebtedness. Most recently in two tranches, in March 2020, and June 2020 we raised $10 million through the issuance of convertible debt. We had cash and cash equivalents of $11.7 million as of June 30, 2020 and $5.3 million as of December 31, 2019.

**Factors Affecting Our Performance**

We believe there are several important factors that have impacted our operating performance and results of operations, including:

- **Testing volume and customer mix.** Our revenues and costs are affected by the volume of testing and mix of customers from period to period. We evaluate both the volume of our commercial tests, or the number of tests that we perform for patients on behalf of clinicians, as well as tests for biopharmaceutical companies. Our performance depends on our ability to retain and broaden adoption with existing customers, as well as attract new customers. We believe that the test volume we receive from clinicians and biopharmaceutical companies are indicators of growth in each of these customer verticals. Customer mix for our tests has the potential to significantly impact our results of operations, as the average selling price for biopharmaceutical sample testing is currently significantly greater than our average selling price for clinical tests since we are not a contracted provider for, or our tests are not covered by all clinical patients' insurance. We evaluate our average selling price for tests that are covered by Medicare, Medicare Advantage and commercial payers to understand the trends in reimbursement and apply those trends to our revenue recognition policies. We expect our costs to significantly increase in 2020 and the beginning of 2021 due to a significant increase in demand for COVID-19 diagnostic testing and we expect our related revenues from such tests to also increase.
- **Reimbursement for clinical diagnostic testing.** Our revenue depends on achieving broad coverage and reimbursement for our tests from third-party payers, including both commercial and government

payers. Payment from third-party payers differs depending on whether we have entered into a contract with the payers as a "participating provider" or do not have a contract and are considered a "non-participating provider." Payers will often reimburse non-participating providers, if at all, at a lower rate than participating providers.

Historically, we have experienced situations where commercial payers proactively reduced the amounts they were willing to reimburse for our tests, and in other situations, commercial payers have determined that the amounts they previously paid were too high and have sought to recover those perceived excess payments by deducting such amounts from payments otherwise being made. When we contract to serve as a participating provider, reimbursements are made pursuant to a negotiated fee schedule and are limited to only covered indications. Becoming a participating provider generally results in higher reimbursement for covered indications and lack of reimbursement for non-covered indications. As a result, the impact of becoming a participating provider with a specific payer will vary. If we are not able to obtain or maintain coverage and adequate reimbursement from third-party payers, we may not be able to effectively increase our testing volume and revenue as expected. Additionally, retrospective reimbursement adjustments can negatively impact our revenue and cause our financial results to fluctuate.

- **Investment in clinical studies and product innovation to support growth.** A significant aspect of our business is our investment in research and development, including the development of new products and our investments in clinical utility studies. We have invested heavily in clinical studies for our on market and pipeline products. Our studies focus primarily on the clinical utility of our tests including the ongoing INSIGHT study which seeks to enroll up to 5,000 patients to continue our clinical understanding of the predictive and prognostic value of the VeriStrat test. Our recently launched ALTITUDE study seeks to further demonstrate the efficacy of the Nodify XL2 and Nodify CDT test. A secondary focus of our studies is understanding the economic impact of our tests in guiding treatment choices and the potential impact of our tests in reducing overall healthcare costs.

  Our clinical research has resulted in over 80 peer-reviewed publications for our tests. In addition to clinical studies, we are collaborating with investigators from multiple academic cancer centers. We believe these studies are critical to gaining physician adoption and driving favorable coverage decisions by payers and expect our investments in research and development to increase. Further we also expect to increase our research and development expenses to fund further innovation and develop new clinically relevant tests.

- **Ability to attract new biopharmaceutical customers and maintain and expand relationships with existing customers.** Our business development team promotes the broad utility of our products for biopharmaceutical companies in the United States and internationally. Our revenue, business opportunities and growth depend in part on our ability to attract new biopharmaceutical customers and to maintain and expand relationships with existing biopharmaceutical customers. We expect to increase our sales and marketing expenses in furtherance of this goal. As we continue to develop these relationships, we expect to support a growing number of investigations and clinical trials. If our relationships expand, we believe we may have opportunities to offer our platform for companion diagnostic development, novel target discovery and validation efforts, and to grow into other commercial opportunities. For example, we believe our multi-omic data including genomic and proteomic data, in combination with clinical outcomes or claims data, has revenue-generating potential, including for novel target identification and companion diagnostic discovery and development.

- **Motivating and expanding our field sales force and customer support team.** Our field sales force is the primary point of contact in the clinical setting. These representatives of the company must cover expansive geographic regions which limits their time for interaction and education of our products in the clinical setting. We plan to invest heavily in the field sales force to increase the total number of sales representatives and thereby reduce the geographic footprint each representative must cover. This investment will allow the larger sales force to maximize their education and selling efforts and achieve

greater returns. Additionally, we plan to invest in the Boulder-based marketing and customer support teams to continue to provide the field team with the resources to be successful in the field. Furthermore, as we increase testing volume for our COVID-19 diagnostic tests, we plan to hire additional project support members to assist us in expanding testing capacity.

While each of these areas present significant opportunities for us, they also pose significant risks and challenges that we must address. See “Risk Factors” for more information.

**COVID-19 Pandemic**

The COVID-19 pandemic has disrupted, and we expect will continue to disrupt, our operations. To protect the health and well-being of our workforce, partners, vendors and customers, we provide voluntary COVID-19 testing for employees working on-site, implemented social distance and building entry policies at work, restricted travel and facility visits, and followed the States of Colorado and Kansas’ public health orders and the guidance from the Centers for Disease Control and Prevention. Employees who can perform their duties remotely are asked to work from home and those on site are asked to follow our social distance guidelines. Our sales, marketing and business development efforts have also been constrained by our operational response to the COVID-19 pandemic due to travel restrictions. We expect to continue to adjust our operational norms in an effort to help slow the spread of COVID-19 in the coming months, including complying with government directives and guidelines as they are modified and supplemented.

The COVID-19 pandemic also has started to negatively affect, and we expect will continue to negatively affect, our non-COVID-19 testing-related revenue and our clinical studies. For example, cancer patients may have more limited access to hospitals, healthcare providers and medical resources as they take steps to control the spread of COVID-19. Our biopharmaceutical customers are facing challenges in recruiting patients and in conducting clinical trials to advance their pipelines, for which our tests could be utilized. As a result of the COVID-19 pandemic, beginning in the latter half of March 2020, we have been receiving fewer samples for non-COVID-19 testing on a daily average basis from our clinical and biopharmaceutical customers than before the outbreak of the COVID-19 pandemic. Further, our clinical studies, such as our ongoing INSIGHT study and our recently launched ALTITUDE study, as well as our arrangements with our biopharmaceutical customers, are expected to take longer to complete than what we expected before the outbreak of the COVID-19 pandemic.

We are also experiencing an increase in revenues related to an increase in the demand for our COVID-19 diagnostic testing products. We expect that our costs to expand capacity for COVID-19 testing will increase for the remainder of 2020 and the first quarter of 2021 and we expect that the revenue that we generate from this expansion will comprise a significant portion of our revenue for these periods. However, there is no assurance that our COVID-19 diagnostic and antibody tests will continue to be accepted by the market or that other diagnostic tests will become more accepted, produce quicker results or are more accurate. Further, the longevity and extent of the COVID-19 pandemic is uncertain. If the pandemic were to dissipate, whether due to a significant decrease in new infections, due to the availability of vaccines, or otherwise, the need for a COVID-19 diagnostic test could decrease significantly and this could have an adverse effect on our results of operations and profitability. As a result, the increase in revenue due to any increase in demand for these diagnostic tests may not be indicative of our future revenue.

See “Risk Factors” for a description of how the COVID-19 pandemic may adversely affect our business, financial condition and results of operations.

**Components of Operating Results**

***Revenues***

We derive our revenue from two sources: (i) providing diagnostic testing in the clinical setting (Diagnostic Tests); and (ii) providing biopharmaceutical companies with services that include diagnostic research, clinical

research, development and testing services generally provided outside the clinical setting and governed by individual contracts with third parties as well as development and commercialization of companion diagnostics (Services).

*Diagnostic Tests*

Diagnostic test revenue is generated from delivery of results from our diagnostic tests. In the United States, we performed tests as both an in-network and out-of-network service provider depending on the test performed and the contracted status of the insurer.

We consider diagnostic testing to be completed upon the delivery of test results to the prescribing physician, which is considered the performance obligation. The fees for such services are billed either to a third party such as Medicare, medical facilities, commercial insurance payers, or to the patient. We determine the transaction price related to our contracts by considering the nature of the payer, the historical amount of time until payment by a payer and historical price concessions granted to groups of customers.

*Services*

Services revenue is generated from the delivery of our on-market tests, pipeline tests, custom diagnostic testing, and other scientific services for a purpose as defined by any individual customer. Often times we collaborate with large biopharmaceutical companies in an attempt to discover biomarkers that would be helpful in their drug development or marketing. The performance obligations and related revenue for these sales is defined by a written agreement between us and our customer. These services are generally completed upon the delivery of testing results, or other contractually-defined milestone(s), to the customer, which is considered the performance obligation. Customers for these services are typically large pharmaceutical companies where collectability is reasonably assured and therefore revenue is accrued upon completion of the performance obligations. Revenue derived from services is often unpredictable and can cause dramatic swings in our overall net revenue line from quarter to quarter.

For the six months ended June 30, 2020 and 2019, diagnostic test revenue comprised 78% and 73% of our total revenues and services revenue comprised 22% and 27% of total revenues, respectively. Diagnostic test revenue comprised 71% and 93% of our total revenues and services revenue comprised 29% and 7% of total revenues in 2019 and 2018, respectively.

***Operating Expenses***

*Direct costs and expenses*

Cost of diagnostic testing generally consists of cost of materials, direct labor, including bonus, benefit and stock-based compensation, equipment and infrastructure expenses associated with acquiring and processing test samples, including sample accessioning, test performance, quality control analyses, charges to collect and transport samples; curation of test results for physicians; and in some cases, license or royalty fees due to third parties. Costs associated with performing our tests are recorded as the tests are processed regardless of whether revenue was recognized with respect to the tests. Infrastructure expenses include depreciation of laboratory equipment, rent costs, amortization of leasehold improvements and information technology costs. Royalties for licensed technology are calculated as a percentage of revenues generated using the associated technology and recorded as expense at the time the related revenue is recognized. One-time royalty payments related to signing of license agreements or other milestones, such as issuance of new patents, are amortized to expense over the expected useful life of the patents. While we do not believe the technologies underlying these licenses are necessary to permit us to provide our tests, we do believe these technologies are potentially valuable and of possible strategic importance to us or our competitors. Under these license agreements, we are obligated to pay aggregate royalties ranging from 1% to 8% of sales in which the patents or know-how are used in the product or

service sold, sometimes subject to minimum annual royalties or fees in certain agreements. For a description of our material license agreements, please see "Business—Intellectual Property" and "—Material Agreements."

We expect the aggregate cost of diagnostic testing to increase in line with the increase in the number of tests we perform, but the cost per test to decrease modestly over time due to the efficiencies we may gain as test volume increases, and from automation and other cost reductions.

Cost of services includes costs incurred for the performance of development services requested by our customers. Cost of development services will vary depending on the nature, timing and scope of customer projects.

*Research and development*

Research and development expenses consist of costs incurred to develop technology and include salaries and benefits, reagents and supplies used in research and development laboratory work, infrastructure expenses, including allocated facility occupancy and information technology costs, contract services, clinical studies, other outside costs and costs to develop our technology capabilities. Research and development costs are expensed as incurred. Payments made prior to the receipt of goods or services to be used in research and development are deferred and recognized as expense in the period in which the related goods are received or services are rendered. Costs to develop our technology capabilities are recorded as research and development.

We expect our research and development expenses to increase in absolute dollars as we continue to innovate and develop additional products and expand our data management resources. As our services revenue grows, an increasing portion of research and development dollars are expected to be allocated to cost of goods for biopharma service contracts. This expense, though expected to increase in absolute dollars, is expected to decrease as a percentage of revenue in the long term, though it may fluctuate as a percentage of our revenues from period to period due to the timing and extent of these expenses.

*Sales, marketing, general and administrative*

Our sales and marketing expenses are expensed as incurred and include costs associated with our sales organization, including our direct sales force and sales management, client services, marketing and reimbursement, as well as business development personnel who are focused on our biopharmaceutical customers. These expenses consist primarily of salaries, commissions, bonuses, employee benefits, travel and stock-based compensation, as well as marketing and educational activities and allocated overhead expenses. We expect our sales and marketing expenses to increase in absolute dollars as we expand our sales force, increase our presence within the United States, and increase our marketing activities to drive further awareness and adoption of our tests and our future products. These expenses, though expected to increase in absolute dollars, are expected to decrease as a percentage of revenue in the long term, though they may fluctuate as a percentage of our revenues from period to period due to the timing and extent of these expenses.

Our general and administrative expenses include costs for our executive, accounting, finance, legal and human resources functions. These expenses consist principally of salaries, bonuses, employee benefits, travel and stock-based compensation, as well as professional services fees such as consulting, audit, tax and legal fees, and general corporate costs and allocated overhead expenses. We expect that our general and administrative expenses will continue to increase in absolute dollars after this offering, primarily due to increased headcount and costs associated with operating as a public company, including expenses related to legal, accounting, regulatory, maintaining compliance with exchange listing and requirements of the SEC, director and officer insurance premiums and investor relations. These expenses, though expected to increase in absolute dollars, are expected to decrease as a percentage of revenue in the long term, though they may fluctuate as a percentage from period to period due to the timing and extent of these expenses.

*Accretion and Change in Fair Value of Contingent Consideration*

In connection with the purchase transaction of Integrated Diagnostics, Inc., we recorded contingent consideration pertaining to the amounts potentially payable to Integrated Diagnostics' shareholder pursuant to the terms of the asset purchase agreement. The fair value of contingent consideration is assessed at each balance sheet date and changes, if any, to the fair value are recognized as operating expenses within the statement of operations. The estimated fair value of the contingent consideration is based upon significant assumptions including probability of successful achievement of that related milestone event (Milestone), the estimated timing in which the Milestone is achieved, and discount rates. The estimated fair value could materially differ from actual values or fair values determined using different assumptions.

***Other income (expense)***

*Interest expense and interest income*

Interest expense consists of interest from our term loan and convertible debt, and interest income consists of income earned on our cash and cash equivalents. For the first six months of 2020, our interest expense increased as compared to 2019, as our term loan does not begin principal payments until March 2021. Our interest income has not been significant to date but we expect our interest income to increase primarily as we invest the net proceeds from this offering.

*Change in fair value of put option liability*

During 2019, we issued $13.0 million in convertible debt that is now scheduled to mature on June 30, 2021. The terms of the convertible debt provided discounts upon conversion to the note holders in certain situations, including upon the completion of this offering. The discounts included in the convertible debt created a put option liability that was separated from the convertible debt and reflected as a liability in our balance sheet. Subsequent to the creation of the put options, changes in the fair value of the put options will be reflected as other income or expense in the statement of operations. During 2019, we recorded a $2 million increase in the fair value of the put options as other expense due to the increase in the conversion discount rate provided to note holders resulting from an amendment to terms of the convertible debt issued in August and September 2019. We will estimate the fair value of the put options until they are exercised or expire.

**Results of Operations**

The following table sets forth the significant components of our results of operations for the periods presented.

| | For the Six Months Ended June 30, | | Change | | For the Years Ended December 31, | | Change | |
|---|---|---|---|---|---|---|---|---|
| | 2020 | 2019 | $ | % | 2019 | 2018 | $ | % |
| | (unaudited) | | | | (audited) | | | |
| Revenues | $ 9,335 | $ 12,339 | (3,004) | (24) | $ 24,552 | $ 20,432 | 4,120 | 20 |
| Operating expenses | | | | | | | | |
| Direct costs and expenses | 3,455 | 2,741 | 714 | 26 | 6,074 | 4,406 | 1,668 | 38 |
| Research and development | 5,007 | 5,607 | (600) | (11) | 10,468 | 8,188 | 2,280 | 28 |
| Sales, marketing, general and administrative | 14,914 | 15,868 | (954) | (6) | 30,637 | 25,899 | 4,738 | 18 |
| Accretion of contingent consideration | 1,944 | 1,628 | 316 | 19 | 3,451 | 1,537 | 1,914 | 125 |
| Change in fair value of contingent consideration | (1,944) | 663 | (2,607) | (393) | 663 | 3,863 | (3,200) | (83) |
| Total operating expenses | 23,376 | 26,507 | (3,131) | (12) | 51,293 | 43,893 | 7,400 | 17 |
| Loss from operations | (14,041) | (14,168) | 127 | 1 | (26,741) | (23,461) | (3,280) | 14 |
| Other income (expense) | | | | | | | | |
| Interest expense | (4,241) | (1,299) | (2,942) | (227) | (3,008) | (2,916) | (92) | 3 |
| Change in fair value of put option liability | — | — | — | — | (2,000) | — | (2,000) | — |
| Other, net | 311 | 868 | (557) | (64) | 1,023 | 211 | 812 | 385 |
| Total other expense | (3,930) | (431) | (3,499) | (812) | (3,985) | (2,705) | (1,280) | 47 |
| Net loss | $(17,971) | $(14,599) | $(3,372) | 23 | $(30,726) | $(26,166) | (4,560) | 17 |

***Revenue***

We generate revenue from our diagnostic tests and services that we provide.

| | Six Months Ended June 30, | | Change | | Year Ended December 31, | | Change | |
|---|---|---|---|---|---|---|---|---|
| | 2020 | 2019 | $ | % | 2019 | 2018 | $ | % |
| | (unaudited) | | | | (audited) | | | |
| Diagnostic revenue | $7,246 | $ 8,947 | (1,701) | (19)% | $17,315 | $18,965 | (1,650) | (9)% |
| Services revenue | 2,089 | 3,392 | (1,303) | (38)% | 7,237 | 1,467 | 5,770 | 393% |
| Total revenue | $9,335 | $12,339 | (3,004) | (24)% | $24,552 | $20,432 | 4,120 | 20% |

Total revenue was $9.3 million for the six months ended June 30, 2020 compared to $12.3 million for the six months ended June 30, 2019, a decrease of $3.0 million, or 24%.

Diagnostic test revenue decreased to $7.2 million for the six months ended June 30, 2020 compared to $8.9 million for the six months ended June 30, 2019, a decrease of $1.7 million or 19%. This decrease was primarily due to impacts from the COVID-19 pandemic which caused our primary pulmonology call point to be diverted to pandemic-related care and our sales force being quarantined, and in many cases being locked out of call points due to the pandemic. These impacts were partially offset by the release of two COVID-19 diagnostic tests.

Services revenue decreased to $2.1 million for the six months ended June 30, 2020 compared to $3.4 million for the six months ended June 30, 2019, a decrease of $1.3 million or 38%. The decrease was partially attributed to the completion of a contract in the first half of 2019. Additionally, the impacts of COVID-19 caused planned biomarker studies to be delayed and limited the customer access of our sales force. Additionally, services revenue decreased due to the completion of a contract in the first half of 2019.

Total revenue was $24.6 million for the year ended December 31, 2019 compared to $20.4 million for the year ended December 31, 2018, an increase of 20%.

Diagnostic test revenue decreased to $17.3 million for the year ended December 31, 2019 compared to $19.0 million for the year ended December 31, 2018, a decrease of $1.7 million or 9%. This decrease was the result of a decrease in tests delivered which was a result of significant restructuring of our field sales force to increase the emphasis on tests in nodule management that came on market following the completion of our recent acquisitions in that space. We recognized $1.0 million in additional diagnostic test revenue in 2019 for claims from a prior period due to a change in coverage for GeneStrat which captured previously unreimbursed revenue.

Services revenue increased to $7.2 million for the year ended December 31, 2019 compared to $1.5 million for the year ended December 31, 2018. The increase in services revenue was due to generally higher demand for biomarker development services and the acceleration of pharmaceutical partners' development efforts at the end of 2019, which resulted in a significant services revenue in December 2019 and is not expected to be recurring.

***Costs and Operating Expenses***

*Direct Cost and Expenses*

Cost of revenue was $3.5 million for the six months ended June 30, 2020 compared to $2.7 million for the six months ended June 30, 2019, an increase of $0.7 million, or 26%. The increase in costs were primarily driven by the release of our CDT test and our COVID-19 test in 2020.

Cost of revenue was $6.1 million for the year ended December 31, 2019 compared to $4.4 million for the year ended December 31, 2018, an increase of $1.7 million, or 38%. This increase in cost of revenue was primarily due to the introduction of the Nodify XL2 test in November 2018, and which contributed $1.4 million in additional costs without material revenue during the 2019 period.

*Research and Development*

Research and development expenses were $5.0 million for the six months ended June 30, 2020 compared to $5.6 million for the six months ended June 30, 2019, a decrease of $0.6 million, or 11%. This decrease was primarily related to a reduction in costs related to our clinical trial programs partially driven by slowdowns related to the COVID-19 pandemic.

Research and development expenses were $10.5 million for the year ended December 31, 2019 compared to $8.2 million for the year ended December 31, 2018, an increase of $2.3 million, or 28%. This increase in research and development expense was primarily due to an increase of $1.5 million in costs related to our clinical trials and related costs as we continue to create robust data to support our tests in the clinical setting.

Research and development expenses account for a significant portion of our operating expenses and consist primarily of external and internal costs incurred in connection with the discovery and development of our product candidates.

External expenses include:

- payments to third parties in connection with the clinical development of our product candidates, including contract research organizations and consultants;

- the cost of manufacturing products for use in our preclinical studies and clinical trials, including payments to contract manufacturing organizations (CMOs) and consultants;
- payments to third parties in connection with the preclinical development of our product candidates, including outsourced professional scientific development services, consulting research fees and for sponsored research arrangements with third parties;
- laboratory supplies; and
- allocated facilities, depreciation and other expenses, which include direct or allocated expenses for IT, rent and maintenance of facilities.

Internal expenses include employee-related costs, including salaries, related benefits and stock-based compensation expense for employees engaged in research and development functions.

We expense research and development costs in the periods in which they are incurred. External expenses are recognized based on an evaluation of the progress to completion of specific tasks using information provided to us by our service providers or our estimate of the level of service that has been performed at each reporting date. We track external costs by the stage of program, clinical or preclinical. We do not track internal costs by product candidate because these costs are deployed across multiple programs and, as such, are not separately classified.

*Sales, Marketing, General and Administrative*

Sales, marketing, general and administrative expenses were $14.9 million for the six months ended June 30, 2020 compared to $15.9 million for the six months ended June 30, 2019, a decrease of $1.0 million, or 6%. This reduction was driven by reductions in the travel and related expenses as the COVID-19 pandemic reduced or eliminated the travel and related expenses.

Sales, marketing, general and administrative expenses were $30.6 million for the year ended December 31, 2019 compared to $25.9 million for the year ended December 31, 2018, an increase of $4.7 million, or 18%. This increase was primarily due to an increase of $2.7 million in personnel-related costs for expansion of our sales organization and $1.0 million for increased marketing activity to support sales.

*Accretion of and Change in Fair Value of Contingent Consideration*

Accretion of and change in fair value of contingent consideration netted to $0 for the six months ended June 30, 2020 compared to $2.3 million for the six months ended June 30, 2019, a decrease of $2.3 million, or 100%. The amounts recorded for accretion and change in fair value reflect the passage of time as well as estimates in when the milestones that trigger the payment of contingent consideration will be achieved.

Accretion of and change in fair value of contingent consideration were $4.1 million for the year ended December 31, 2019 compared to $5.4 million for the year ended December 31, 2018, a decrease of $1.3 million, or 24%. The amounts recorded for accretion and change in fair value reflect the passage of time as well as estimates in when the milestones that trigger the payment of contingent consideration will be achieved.

*Interest Expense*

Interest expense was $4.2 million for the six months ended June 30, 2020 compared to $1.3 million for the six months ended June 30, 2019, an increase of $2.9 million. This increase was due to the addition of interest expense related to convertible notes issued to certain shareholders from August 2019 through March 2020.

Interest expense was $3.0 million for the year ended December 31, 2019 compared to $2.9 million for the year ended December 31, 2018, an increase of $0.1 million, or 3%. This increase was primarily due to payment in kind interest accruing to principal on our existing term loan.

*Change in Fair Value of Put Option Liability*

During 2019, we recorded a charge of $2.0 million related to the increase in our put option liability related to our convertible debt. This increase was primarily due to the amendment to the conversion discounts included in our convertible debt that were issued in August and September 2019.

*Other Income and Expense*

Other income and expense was $0.3 million for the six months ended June 30, 2020 compared to $0.9 million for the six months ended June 30, 2019, a decrease of $0.6 million or 64%. This decrease was driven by a non-recurring legal settlement in 2019, which was not present in 2020.

Other income and expense was $1.0 million for the year ended December 31, 2019 compared to $0.2 million for the year ended December 31, 2018, an increase of $0.8 million, which was primarily proceeds related to a non-recurring legal settlement in our favor.

**Liquidity and Capital Resources**

We have funded our activities primarily through private equity placement offerings, convertible debt and long-term debt. Based on cash and cash equivalents on hand as of June 30, 2020 and the proceeds from this offering, we believe that our existing cash, cash equivalents, and cash generated from sales of our products, will be sufficient to meet our anticipated needs for at least the next 12 months from the date of our most recent unaudited interim condensed financial statements.

We expect to continue to incur significant expenses for the foreseeable future and to incur operating losses in the near term while we make investments to support our anticipated growth. We may raise additional capital through the issuance of additional equity financing, debt financings or other sources. If this financing is not available to us at adequate levels, we may need to reevaluate our operating plans. If we do raise additional capital through public or private equity offerings, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our existing stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

***Cash Flows***

The following is a summary of our cash flows for six months ended June 30, 2020 and 2019 and the years ended December 31, 2019 and 2018:

| (Amounts in thousands) | Six months ended June 30 | | Year ended December 31 | |
|---|---|---|---|---|
| | 2020 | 2019 | 2019 | 2018 |
| | (unaudited) | | (audited) | |
| Net cash flows (used in) provided by: | | | | |
| Operating activities | (8,840) | (9,781) | $ (21,726) | $ (17,677) |
| Investing activities | (818) | (851) | (1,872) | (617) |
| Financing activities | 16,046 | 9,979 | 22,972 | 19,032 |
| Net increase (decrease) in cash and cash equivalents and restricted cash | 6,388 | (653) | $ (626) | $ 738 |

Our cash flows resulted in a net increase in cash of $6.4 million during the six months ended June 30, 2020 and a net decrease in cash of $0.7 million during the six months ended June 30, 2019. Net cash used in operating activities during the year ended June 30, 2020 totaled $8.8 million, a decrease of $0.9 million, or 10%, compared to the same period in 2019. The net cash used in operating activities decreased primarily due to a $3.4 million increase in net losses, offset by an increase in non-cash charges of $0.7 million and an increase in cash provided by working capital items of $3.6 million.

Net cash used in investing activities during the six months ended June 30, 2020 totaled $0.8 million, a decrease of $33,000, or 4%, compared to the same period in 2019. A decrease in net cash used in investing activities was primarily due to a decrease of $0.5 million in the purchase of research equipment and a $0.5 million payment for Oncimmune assets.

Net cash provided by financing activities during the six months ended June 30, 2020 totaled $16.0 million, an increase of $6.1 million, or 61%, compared to the same period in 2019. The net cash provided by financing activities increased primarily due to issuances of $13.0 million in convertible debt offset by $10.0 million in proceeds from the issuance of Series H preferred stock during 2019.

Our cash flows resulted in a net decrease in cash of $0.6 million during the year ended December 31, 2019 and a net increase in cash of $0.7 million during the year ended December 31, 2018. Net cash used in operating activities during the year ended December 31, 2019 totaled $21.7 million, an increase of $4.0 million, or 23%, compared to the same period in 2018. The net cash used in operating activities increased primarily due to a $4.6 million increase in net losses, and an increase in use of working capital items of $1.9 million, offset by an increase in non-cash charges of $2.4 million.

Net cash used in investing activities during the year ended December 31, 2019 totaled $1.9 million, an increase of $1.3 million, or 203%, compared to the same period in 2018. The increase in net cash used in investing activities was primarily due to an increase of $0.8 million in the purchase of research equipment and a $0.5 million payment for Oncimmune assets.

Net cash provided by financing activities during the year ended December 31, 2019 totaled $23.0 million, an increase of $3.9 million, or 21%, compared to the same period in 2018. The net cash provided by financing activities increased primarily due to increased proceeds from issuances of $2.8 million in convertible debt and $1.5 million in preferred stock offset by $0.4 million in financing costs.

***Contractual Obligations and Commitments***

The following table summarizes our contractual obligations and commitments as of June 30, 2020 (in thousands):

| | Payments due by period[5] | | | | |
|---|---|---|---|---|---|
| | Total | Less than 1 year | 1 to 3 years | 4 to 5 years | More than 5 years |
| Operating lease obligations[4] | $ 1,885 | $ 1,237 | $ 648 | $ — | $ — |
| Term loan[1][3] | 24,605 | 4,064 | 20,541 | — | — |
| Convertible debt[1][2] | 26,404 | 26,404 | — | — | — |
| | $52,894 | $31,705 | $21,189 | $ — | $ — |

(1) Reflected in accompanying balance sheets.
(2) Convertible debt may be prepaid at our option prior to maturity. If not prepaid or otherwise converted, the debt will convert to Series H preferred stock at maturity.
(3) The term loan is subject to a 3% prepayment penalty. In addition, upon maturity, a 2% back-end facility fee of $460,000 is due to the lender.
(4) We are obligated under non-cancellable operating leases for all of our facilities. Lease terms for our facilities in effect as of June 30, 2020, ranged from less than one to three years and generally require us to pay the real estate taxes, certain insurance and operating costs.
(5) Royalty payments that we may owe are not included as the timing of such payments is uncertain.

In February 2018, we entered into an agreement with Innovatus Life Sciences Lending Fund to refinance long-term debt carried over from earlier loan agreements (the 2018 Notes). The initial amount borrowed under the 2018 Notes was $23 million and the maturity date is February 2023. We are required to make quarterly

interest payments that began in June 2018 and outstanding principal is due in 24 equal installments commencing in March 2021. The agreement has been amended multiple times to adjust terms to account for our acquisitions and growth. Further, we granted the lender a security interest in all of our assets through a pledge and security agreement, patent security agreement and trademark security agreement, each between us and the lender. The loan may be prepaid by us at any time, subject to a prepayment penalty of up to 3% of the principal amount, depending on the date of prepayment. Upon payment of the 2018 Notes at maturity or prepayment on any earlier date, unless waived, a 2% back-end facility fee will apply to the amounts paid or prepaid. The 2% fee is being recorded as additional interest expense over the term of the 2018 Notes.

The 2018 Notes contain customary affirmative and negative covenants for a loan, requires us to comply with a minimum daily liquidity covenant, and has a rolling monthly revenue requirement. Failure to comply with the covenants and loan requirements may result in early amortization of the loan in a 24- or 36-month payment schedule. The 2018 Notes also contain certain covenants that prevent us from making acquisitions, incurring additional indebtedness, or making or terminating any agreement valued above a certain dollar threshold without the prior written consent of the lender. These covenants may restrict our ability to pursue new business opportunities and access additional capital.

In connection with the purchase transaction of Integrated Diagnostics, Inc., we recorded contingent consideration pertaining to the amounts potentially payable to Integrated Diagnostics' shareholder pursuant to the terms of the asset purchase agreement. The fair value of contingent consideration is assessed at each balance sheet date and changes, if any, to the fair value are recognized as operating expenses within the statement of operations. The estimated fair value of the contingent consideration is based upon significant assumptions including probability of successful achievement of the Milestone, the estimated timing in which the Milestone is achieved, and discount rates. The estimated fair value could materially differ from actual values or fair values determined using different assumptions. At June 30, 2020, the amount that would be due in cash at the option of the seller at the time the Milestone is met would be approximately $37 million.

For a description of our other indebtedness, please see "Certain Relationships and Related Person Transactions—Convertible Debt Financings" and "Description of Capital Stock—Convertible Debt."

***Off-Balance Sheet Arrangements***

As of June 30, 2020, we have not entered into any off-balance sheet arrangements.

**Critical Accounting Policies and Significant Judgments and Estimates**

In accordance with accounting principles generally accepted in the United States, we are required to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Certain of these estimates significantly influence the portrayal of our financial condition and results of operations and require us to make difficult, subjective or complex judgments. Our critical accounting policies primarily relate to our fair value estimates, and are described in greater detail in Note 1 to our financial statements included elsewhere in this prospectus.

*Revenue Recognition*

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU 2014-09, "Revenue from Contracts with Customers", and has subsequently issued several supplemental and/or clarifying ASUs (collectively, ASC 606). ASC 606 prescribes a single common revenue standard that replaces most existing U.S. GAAP revenue recognition guidance. ASC 606 is intended to provide a more consistent interpretation and application of the principles outlined in the standard across filers in multiple industries and within the same industries compared to current practices, which should improve comparability. We adopted the new standard using the modified retrospective method on January 1, 2018 for contracts that are not completed as of the adoption date.

Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. ASC 606 also impacts certain other areas, such as the accounting for costs to obtain or fulfill a contract. The standard also requires disclosure of the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

We examined our revenue recognition policies specific to revenue streams for the provisioning of services and providing research and development services to third parties and came to conclusions on the impact of the new standard using the 5-step process prescribed by ASC 606. As noted above, we used the modified retrospective method to adopt the new standard which means we did not restate previously issued financial statements but recorded a one-time adjustment to accumulated deficit and accounts receivable of $0.4 million. This adjustment reflected our ability to establish a transaction price for our non-Medicare pay arrangements as of January 1, 2018 as a result of having sufficient history to determine the transaction price under these contracts. ASC 606 did not have an aggregate impact our net cash provided by operating activities but resulted in offsetting changes in certain assets and liabilities presented within net cash used in operating activities in the accompanying statement of cash flows, as noted above.

Diagnostic service revenues are generally completed upon the delivery of test results to the prescribing physicians, which is considered the performance obligation. Testing services are generally completed upon the delivery of testing results for assay development and testing services, which is considered the performance obligation.

*Change in fair value of contingent consideration*

In connection with the purchase transaction with Integrated Diagnostics, Inc., we recorded contingent consideration pertaining to the amounts potentially payable to Integrated Diagnostics' shareholder pursuant to the terms of the asset purchase agreement. The fair value of contingent consideration is assessed at each balance sheet date and changes, if any, to the fair value are recognized as operating expenses within the statements of operations.

The estimated fair value of the contingent consideration is based upon significant assumptions including probabilities of successful achievement of the related Milestone, the estimated timing in which the Milestone is achieved, and discount rates. The estimated fair value could materially differ from actual values or fair values determined using different assumptions.

*Accounting for convertible debt*

During 2020 and 2019, we issued $26.0 million in convertible debt that are now scheduled to mature on June 30, 2021. The terms of the convertible debt provided discounts upon conversion to the note holders in certain situations, including upon the completion of this offering. The discounts included in the convertible debt created a put option liability that was separated from the convertible debt and reflected as a liability in our balance sheet. Subsequent to the creation of the put options, changes in the fair value of the put options will be reflected as other income or expense in the statement of operations. During 2019, we recorded a $2 million increase in the fair value of the put options as other expense due to the increase in the conversion discount rate provided to note holders resulting from an amendment to terms of the convertible debt issued in August and September 2019. We will estimate the fair value of the put options until they are exercised or expire. The fair value of put options are based on the value of the discounts embedded in the convertible debt and the probability of various settlement scenarios.

*Stock-based compensation and common stock valuation*

Stock-based compensation related to stock options granted to our employees, directors and nonemployees is measured at the grant date based on the fair value of the award. The fair value is recognized as expense over the requisite service period, which is generally the vesting period of the respective awards. Compensation expense for stock options with performance metrics is calculated based upon expected achievement of the metrics specified in the grant.

Starting January 1, 2019, upon adoption of Accounting Standards Update (ASU) 2018-07, Compensation—Stock Compensation (Topic 718), *Improvements to Nonemployee Share-Based Payment Accounting*, the fair value of stock options issued to nonemployee consultants is determined as of the grant date, and compensation expense is being recognized over the period that the related services are rendered.

We use the Black-Scholes option-pricing model to estimate the fair value of our stock options and stock purchase rights under our 2016 Incentive Plan. The Black-Scholes option-pricing model requires assumptions to be made related to expected term of an award, expected volatility, risk-free rate and expected dividend yield. Starting January 1, 2017, forfeitures were accounted for as they occur.

We account for restricted stock units issued to employees based on the grant date fair value which is determined based on the closing market price of the common stock on the date of grant. The expense is recognized in our statement of operations on a straight-line basis over the requisite vesting period.

In the absence of an active market for our common stock, the fair value of our common stock was determined by our Board of Directors in accordance with the methodologies outlined in the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation (the Practice Aid). In doing so, our Board of Directors determined the best estimate of fair value of our common stock, exercising reasonable judgment and considering numerous objective and subjective factors, including:

- valuations of our common stock performed by independent third-party valuation specialists;
- our stage of development and business strategy, including the status of research and development efforts, of our products and product candidates, and the material risks related to our business and industry;
- our results of operations and financial position, including our levels of available capital resources;
- the valuation of publicly traded companies in the life sciences and diagnostic testing sectors, as well as recently completed mergers and acquisitions of peer companies;
- the lack of marketability of our common stock as a private company;
- the prices of our convertible preferred stock sold to investors in arm’s length transactions and the rights, preferences, and privileges of our convertible preferred stock relative to those of our common stock;
- the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering or a sale of our company, given prevailing market conditions;
- trends and developments in our industry; and
- external market conditions affecting the life sciences and medical device industry sectors.

Our Board of Directors determined the fair value of our common stock by first determining the enterprise value of our business, and then allocating the value among the various classes of our equity securities to derive a per share value of our common stock. The Practice Aid identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date.

In allocating enterprise value among the various classes of stock prior to July 2020, we utilized the Option Pricing Method (OPM) given our early stage of development and the absence of a near term liquidity event. Under the OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The values of the preferred and common stock are inferred by analyzing these options. From July 2020 onwards, we have utilized a hybrid OPM and Probability-Weighted Expected Return Method (PWERM). The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering a number of discrete possible outcomes of the business, as well as the economic and control rights of each share class. Under this hybrid method, we considered expected initial public offering liquidity scenarios as well as other market-based non-initial public offering scenarios in the event a near-term initial public offering does not occur. Additionally, in determining the estimated fair value of our common stock, our Board of Directors also considered the fact that our stockholders could not freely trade our common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of our common stock based on the weighted-average expected time to liquidity.

Following the completion of this offering, our Board of Directors will determine the fair value of our common stock based on our closing price as reported on the date of grant on the primary stock exchange on which our common stock is traded.

*Recently Issued Accounting Pronouncements*

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 1 to our financial statements appearing at the end of this prospectus.

**Quantitative and Qualitative Disclosures About Market Risk**

We are exposed to market risk in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates.

***Interest rate risk***

We are exposed to market risk for changes in interest rates related primarily to our cash and cash equivalents, marketable securities and our indebtedness. We consider all highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. We continually monitor our positions with, and the credit quality of, the financial institutions with which we invest. Periodically throughout the year, we have maintained balances in various operating accounts in excess of federally insured limits. Included in cash and cash equivalents are money market funds recorded at $10.6 million and $4.8 million at June 30, 2020 and 2019, respectively. As of June 30, 2020, a hypothetical 100 basis point increase in interest rates would not have a material impact on our investment portfolio, financial position or results of operations. This estimate is based on a sensitivity model that measures market value changes when changes in interest rates occur.

Our December 2019 Notes, August 2019 Notes and our long-term debt payable all accrue interest at fixed rates.

**Implications of Being an Emerging Growth Company and Smaller Reporting Company**

We are an “emerging growth company” within the meaning of the JOBS Act. As an emerging growth company, we may take advantage of certain exemptions from various public company reporting requirements, including the requirement that our internal control over financial reporting be audited by our independent registered public accounting firm pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, certain requirements related to the disclosure of executive compensation in this prospectus and in our periodic reports and proxy statements, the requirement that we hold a nonbinding advisory vote on executive compensation and

any golden parachute payments, and we have taken advantage of the ability to provide reduced disclosure of financial information in this prospectus, such as being permitted to include only two years of audited financial information and two years of selected financial information in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure. We may take advantage of these exemptions until we are no longer an emerging growth company. Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We have elected to take advantage of the extended transition period to comply with new or revised accounting standards and to adopt certain of the reduced disclosure requirements available to emerging growth companies. As a result of the accounting standards election, we will not be subject to the same implementation timing for new or revised accounting standards as other public companies that are not emerging growth companies, which may make comparison of our financials to those of other public companies more difficult. Additionally, because we have taken advantage of certain reduced reporting requirements, the information contained herein may be different from the information you receive from other public companies in which you hold stock.

We will remain an emerging growth company until the earliest to occur of (i) the last day of the fiscal year in which we have more than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (iii) the date on which we have issued, in any three-year period, more than $1.0 billion in non-convertible debt securities; and (iv) until December 31, 2025 (the year ended December 31st following the fifth anniversary of this offering).

Additionally, we are a "smaller reporting company" as defined in Item 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (i) the market value of our common shares held by non-affiliates exceeds $250 million as of the end of that year's second fiscal quarter, or (ii) our annual revenues exceeded $100 million during such completed fiscal year and the market value of our common shares held by non-affiliates exceeds $700 million as of the end of that year's second fiscal quarter.

# BUSINESS

Our **mission** is to improve every patient's lung disease care by empowering physicians with swift, comprehensive, and actionable insights.

Our **vision** is to be a trusted partner that the world relies on for data-driven diagnostic solutions in lung disease and beyond.

## Overview

We are a leading data-driven diagnostic solutions company leveraging state of the art technologies with our proprietary AI platform to discover, develop, and commercialize solutions for clinical unmet needs, with a primary focus in lung disease. By combining a technology agnostic approach with a holistic view of the patient's disease state, we believe our solutions provide physicians with greater insights to help personalize their patient's care and meaningfully improve disease detection, evaluation, and treatment. Our unique approach to precision medicine provides timely and actionable clinical information, which we believe helps improve overall patient outcomes and lowers the overall healthcare cost by reducing the use of ineffective and unnecessary treatments and procedures. In addition to our diagnostic tests, we provide biopharmaceutical companies with services that include diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics.

Our core belief is that no single technology will answer all clinical questions that we encounter. Therefore, we employ multiple technologies, including genomics, transcriptomics, proteomics, and radiomics, and leverage our proprietary AI platform, the Diagnostic Cortex, to discover innovative diagnostic tests for clinical use. The Diagnostic Cortex is an extensively validated deep learning platform optimized for the discovery of diagnostic tests, which we believe overcomes standard machine learning challenges faced in life sciences research. Our data-driven and technology agnostic approach is designed to enable us to discover diagnostic tests that answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies.

We continuously incorporate new market insights and patient data to enhance our platform through a data-driven learning loop. We regularly engage with our customers, key opinion leaders, and scientific experts to stay ahead of the rapidly evolving diagnostic and therapeutic landscape to identify additional clinical unmet needs where a diagnostic test could help improve patient care. Additionally, we incorporate clinical and molecular profiling data from our commercial clinical testing, research studies, clinical trials, and biopharmaceutical customers or academic partnerships, to continue to advance our platform. We have over 140,000 samples and data in our biobank, including tumor profiles and immune profiles, which are used for both internal and external R&D initiatives.

We derive our revenue from two sources: (i) providing diagnostic testing in the clinical setting (Diagnostic Tests); and (ii) providing biopharmaceutical companies with services that include diagnostic research, clinical research, development and testing services generally provided outside the clinical setting and governed by individual contracts with third parties as well as development and commercialization of companion diagnostics (Services). The majority of our revenues to date have been derived from our diagnostic testing business.

We have commercialized six diagnostic tests which are currently on market and we perform over 30 assays for research use as part of our laboratory services that have been used by over 50 biopharmaceutical customers and academic partners. Our Nodify XL2 and Nodify CDT, marketed as part of our Nodify Lung Nodule Risk Assessment testing strategy, assess the risk of lung cancer to help identify the most appropriate treatment pathway. We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules. Our GeneStrat and VeriStrat tests, marketed as part of our Biodesix Lung Reflex testing strategy, are used following diagnosis of lung cancer to measure the presence of mutations in the tumor and the state of the patient's immune system to establish the patient's prognosis and help guide treatment decisions. The GeneStrat tumor profiling test and the VeriStrat immune profiling test have a three-day average turnaround time, providing physicians with timely results to facilitate treatment decisions. In

response to the COVID-19 pandemic, through our partnership with Bio-Rad, we commercialized the Biodesix WorkSafe™ testing program. Our scientific diagnostic expertise, technologies, and existing commercial infrastructure enabled us to rapidly commercialize two FDA EUA-authorized tests, a part of our customizable program. Bio-Rad has granted us permission to utilize the Bio-Rad ddPCR SARS-CoV-2 test for commercial diagnostic services. HHS Secretary Azar declared a public health emergency for COVID-19 in February 2020 which justified the authorization of emergency use of diagnostic tests for the detection and/or diagnosis of COVID-19. The Bio-Rad SARS-CoV-2 ddPCR test and the Platelia SARS-CoV-2 Total Ab test have been granted FDA EUA pursuant to the current emergency declaration. The Bio-Rad SARS-CoV-2 ddPCR test was FDA EUA authorized on May 1, 2020, authorizing performance of the test in laboratories certified under CLIA to perform high complexity tests. The second test is the Platelia SARS-CoV-2 Total Ab test, which is an antibody assay intended for detecting a B-cell immune response to SARS-CoV-2, indicating recent or prior infection. The Platelia SARS-CoV-2 Total Ab test was FDA EUA authorized on April 29, 2020. Medical products that are granted an EUA are only permitted to commercialize their products under the terms and conditions provided in the authorization. The FDA may revoke an EUA where it is determined that the underlying health emergency no longer exists or warrants such authorization, if the conditions for the issuance of the EUA are no longer met, or if other circumstances make revocation appropriate to protect the public health or safety, and we cannot predict how long the EUAs for the SARS-CoV-2 tests will remain in place. These tests are utilized by healthcare providers, including hospitals and nursing homes, and are also offered to businesses and educational systems to assist in their back-to-work or back-to-school strategies, a crucial element of restarting economic activity. Recently we announced multiple partnerships for COVID-19 testing, and have entered into an agreement with the State of Colorado to be one of the diagnostic companies to support wide-spread COVID-19 testing for the State. Additionally, we recently announced that we will oversee and manage onsite testing and validating testing for the Big Ten Conference athletic competitions. To date, we have not derived significant revenues from these partnerships.

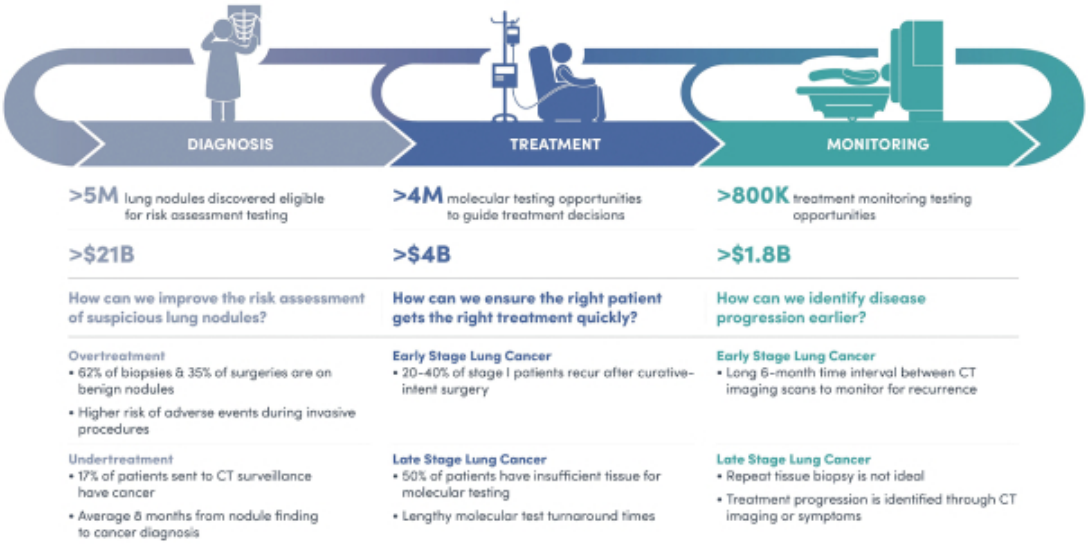
In addition to the six diagnostic tests currently on the market, we perform over 30 assays for research use as part of our laboratory services that have been used by over 50 biopharmaceutical customers and academic partners. All of our diagnostic testing is performed at one of our two certified, high-complexity clinical laboratories in Boulder, Colorado and De Soto, Kansas.

Since our inception, we have performed over 200,000 tests and continue to generate a large and growing body of clinical evidence consisting of over 275 clinical and scientific peer-reviewed publications and presentations. Through ongoing study of each of our tests, we continue to grow our depth of understanding of disease biology and the broad utility of each of our tests. We believe we are poised for rapid growth by leveraging our scientific development and laboratory operations expertise along with our commercial infrastructure which includes sales, marketing, reimbursement, and regulatory affairs.

## Market Opportunity

### *Diagnostic Testing Market Size and Opportunity*

Despite significant advances over the last decade, lung cancer is still the deadliest type of cancer in both men and women in the United States today. While diagnostic testing has become routinely used at certain points in the continuum of care, we believe there is a substantial need for novel, advanced testing to improve on the current standard of care. We estimate that the lung cancer continuum of care currently represents over 10 million testing opportunities and over a $27 billion market annually for testing alone in the United States.




Over the last two decades, the use of biomarker testing in clinical trials has increased, with 55% of oncology trials involving the use of biomarker testing in 2018 versus 15% in 2000. We believe the field of biomarker discovery and companion diagnostic development for biopharmaceutical therapeutics is set to continue growing as biopharmaceutical companies seek to de-risk their pipelines and increase their chances of drug development success. We estimate that the biopharmaceutical partnering and research opportunities represent over a $2 billion market annually.

### *Lung Cancer Continuum of Care – Clinical Unmet Needs*

Standards of care in lung cancer have evolved rapidly over the past decade, along with our understanding of the disease. With the introduction of numerous treatment options, physicians need an ever-increasing amount of information in order to select the best treatment plan for each individual patient. We believe that the lung cancer continuum of care has a variety of clinical unmet needs ranging from initial diagnosis of lung cancer after discovery of a lung nodule to treatment guidance for early and advanced stage disease, and monitoring for disease progression.

- **Diagnosis**: We estimate approximately 1.6 million new incidental lung nodules and potentially 4 million lung nodules from the adoption of screening could be identified annually in the United States. Following initial discovery of a nodule, patients are typically evaluated by a pulmonologist for risk of lung cancer before an invasive procedure is carried out to obtain a tissue sample to confirm diagnosis. This risk assessment is based on clinical factors such as the patient's smoking history and age, and radiological features such as the size and location of the nodule, obtained from a computed tomography (CT) scan. On initial assessment, we estimate that approximately 80% of patients are identified as low to moderate risk (5-65%) where guideline recommendations for their care plan are unclear, often

resulting in either *overtreatment* of patients with benign nodules or *undertreatment* in patients with cancer. An estimated 17% of patients with malignant nodules are initially sent to watchful waiting, where a follow-up CT scan is scheduled in three to six months, potentially delaying their diagnosis. Conversely, we estimate that 62% of biopsies and 35% of surgeries performed on lung nodules find benign disease, representing a significant overtreatment that incurs both risk and cost to the patient and their providers. We therefore believe that there is a clear clinical need for blood-based diagnostic testing to help improve the initial risk assessment of pulmonary nodules, helping direct patients to the relevant treatment pathway, and ultimately improving patient outcomes and saving costs to the system.

- **Treatment Guidance – Early Stage**: We estimate that there are over 700,000 testing opportunities annually in the United States in early stage lung cancer to assess a patient's risk of recurrence following curative-intent surgery, and to detect potential target mutations for therapeutics. Depending on a patient's risk of recurrence, they may also receive chemotherapy, radiotherapy or chemoradiation post-surgery. The assessment of risk of recurrence is primarily based on the stage of cancer at diagnosis, with stage I patients typically receiving no additional treatment beyond surgery. However, 20 to 40% of patients with stage I disease do still recur within five years following surgery, representing a sub-group of patients who may have benefitted from more intensive treatment protocol. We believe there is a clear clinical need for blood-based diagnostic testing prior to surgery to identify stage I patients who may benefit from a more intensive treatment protocol and we also believe there is the need for identifying stage II and IIIA patients where low risk patients may benefit from a less intensive treatment protocol. There have also been recent advances in the use of targeted therapies in early stage lung disease. These therapies typically target specific genomic mutations or alterations found in some tumors. We believe there is therefore an emerging need for testing designed specifically for mutation detection in early stage disease.
- **Treatment Guidance – Advanced Stage:** We estimate that there are over 3 million diagnostic testing opportunities annually in the United States to guide advanced stage lung cancer treatment decisions. With nearly 50 FDA-approved systemic treatment regimens listed in national treatment guidelines for non-small cell lung cancer (NSCLC), there is an elevated need for personalized biomarkers to help physicians identify the right patient for the right treatment. Multiple tissue-based diagnostic tests have been approved to identify patients eligible for targeted therapies and immunotherapy; however, about 50% of patients do not have sufficient tissue collected following diagnosis to facilitate testing. To compound the issue, different molecular tests take varying amounts of time (days versus weeks) to report results back to the ordering physician, which often leads to treatment decisions being made on incomplete information. We believe there is an imminent need for a blood-based testing solution that measures tumor mutations and the patient's immune profile, to provide physicians with more comprehensive and timely information to assess the overall prognosis of the patient and personalize treatment.
- **Monitoring**: We estimate that there are over 800,000 testing opportunities in the United States for blood-based tumor and immune profiling to monitor for disease recurrence and progression in NSCLC patients. Unfortunately, advanced stage lung cancer is often terminal, so repeat tissue biopsy to assess the evolution of resistance mutations or to detect disease progression is not feasible from either a cost or risk perspective to the patient, which we believe demonstrates an important need for blood-based testing to help routinely monitor these patients. As a patient progresses through therapies, changes in their immune system occur and blood-based immune profiling could help physicians identify these changes prior to subsequent therapy selection.

***Current Limitations in Biomarker Discovery and Companion Diagnostics***

We estimate the biopharmaceutical biomarker testing and companion diagnostic market opportunity is $2 billion annually. Over the last two decades, the use of biomarker testing in clinical trials has increased, with 55% of oncology trials involving the use of biomarker testing in 2018 versus 15% in 2000. From 2005 to 2015, a

study identified that incorporating biomarkers into clinical development programs increased their probability of therapeutic success rate from phase 1 to FDA-approval by 570%, representing an increase from 1.6% without biomarkers to 10.7% with biomarkers. We believe the field of biomarker discovery and companion diagnostic development for biopharmaceutical therapeutics is set to continue growing as biopharmaceutical companies seek to de-risk their product development efforts and increase chances of drug development success. However, we believe as the market continues to advance, inherent limitations of both biomarker discovery and companion diagnostic development have become more apparent.

- **Biomarker Discovery***:* There are many limitations with biomarker discovery in biopharmaceutical drug development, including:
  - Biomarkers with clinical utility are difficult to discover and validate in independent datasets.
  - Classical statistical approaches to biomarker discovery are limited. Single-omic tests fail to see the whole biological picture.
  - Tissue biopsies are limited by the amount of a sample that can be collected: longitudinal testing is difficult and the biology is only from the profile of the tumor (host response is not accounted for).
  - Clinical trials are expensive and take a long period of time. It is often difficult to meet enrollment goals for clinical trials with slow diagnostic testing turnaround times.
- **Companion Diagnostics (CDx):** While developing companion diagnostics is critical to precision medicine, the promise of companion diagnostics has not been fully realized and there are multiple limitations that still need resolution. The path to co-develop a successful companion diagnostic with a corresponding drug has several challenges, including:
  - Traditional companion diagnostic agreements may fail to realize the full value of a testing opportunity, leading to difficulty in funding appropriate commercialization.
  - Drug development is a lengthy, complex and costly process. There can be a financial impact to a pharmaceutical company to have a drug selected by a test.
  - Current diagnostic reimbursement policies may not always support the coverage and payment of new companion diagnostics.
  - Regulatory agencies continue to work on defining the co-development process, but the environment is continually changing.

**Our Proprietary AI Platform**

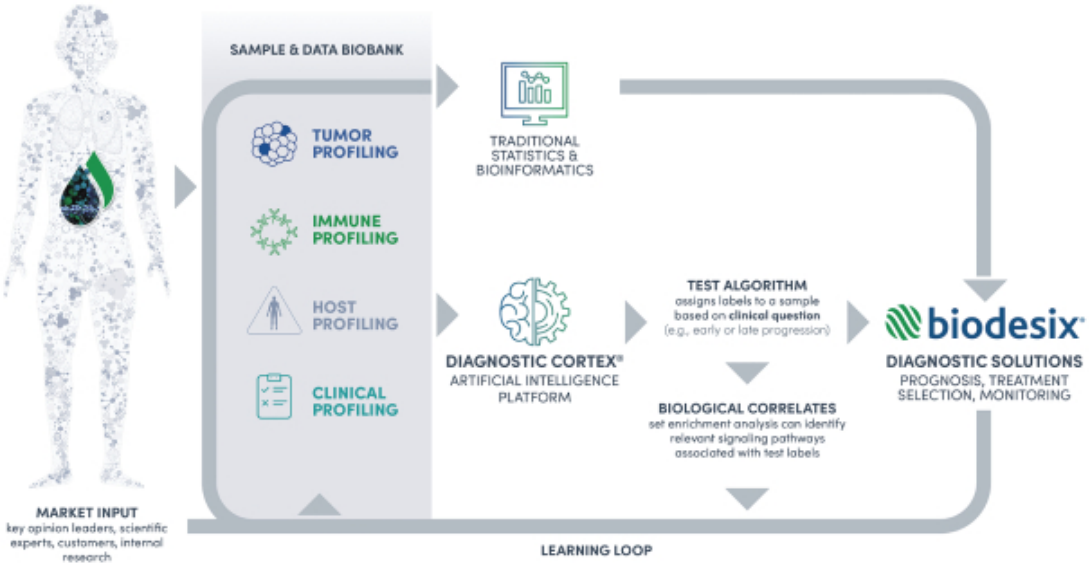
Our core belief is that no single technology will answer all clinical questions that we encounter. Therefore, we employ multiple technologies, including genomics, transcriptomics, proteomics, and radiomics, and leverage our proprietary AI platform, the Diagnostic Cortex, to discover innovative diagnostic tests for clinical use.

The Diagnostic Cortex is an extensively validated deep learning platform optimized for the discovery of diagnostic tests, which we believe overcomes standard machine learning challenges faced in life sciences research. Researchers commonly encounter issues with machine learning-based biological discoveries that cannot be repeated or validated when assessed in additional specimen cohorts. This challenge occurs when the machine identifies a perfect pattern in an initial training dataset but isn't able to identify the same pattern in a new dataset. For over 15 years, we have focused on developing our platform to overcome this challenge to ensure each test that is discovered can be further developed to perform consistently in the clinical testing environment.

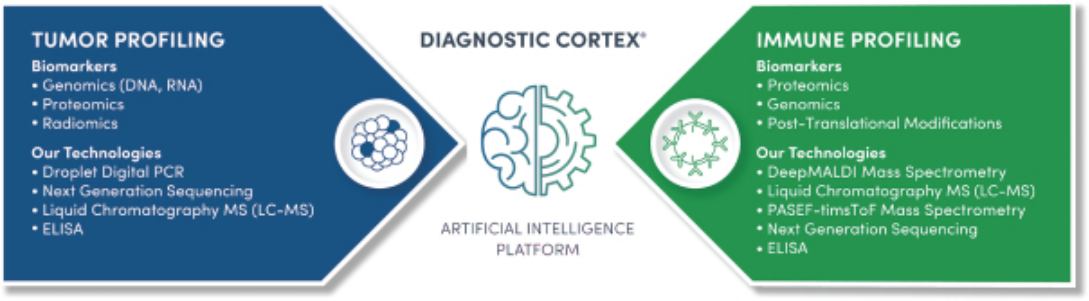
We are able to combine blood-based biological information related to the tumor, immune system, and host-status with clinical and radiomic data through our proprietary AI platform, which enables us to interpret the holistic disease state of each patient or clinical dataset we encounter.

We continuously incorporate new market insights and patient data to enhance our platform through a data-driven learning loop. We regularly engage with our customers, key opinion leaders, and scientific experts to stay ahead of the rapidly evolving diagnostic and therapeutic landscape and learn about biological discoveries that are clinically meaningful. Additionally, we incorporate clinical and molecular profiling data aggregated through our commercial clinical testing, research studies, clinical trials, and biopharmaceutical customers or academic partnerships, into our platform. We have over 140,000 samples and data in our biobank, including tumor profiles and immune profiles, which are used for both internal and external development initiatives. With our data-driven and technology agnostic approach as data inputs into the Diagnostic Cortex, we are able to discover diagnostic tests that answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies.

The following is a diagram outlining our innovative diagnostic test discovery, development and commercialization infrastructure as outlined in the text above.




We employ multiple technologies, as illustrated below, including genomics, proteomics, transcriptomics, and radiomics, generated by different assay techniques, including ddPCR, NGS, LC-MS, ELISA, and our proprietary DeepMALDI mass spectrometry platform for the blood-based molecular analysis of the tumor, immune system, and host-status of each patient and/or clinical dataset. Through our learning loop, we continuously revisit our technology strategy and roadmap to integrate new technologies into our evolving platform, which ultimately support the addition of new service and product revenue offerings. We focus on developing technologies that are capable of single and multi-omic research and development.



Most diagnostic companies focus their strategy on using a single technology to discover biomarkers for a broad range of clinical questions. We believe that no single technology can interrogate the complexity of the human disease state to help solve all clinical questions. For that reason, we employ a technology agnostic approach to solving diagnostic challenges leveraging our proprietary AI platform. Because of this approach, we believe we are unique in the diagnostics market, allowing for a broader and more holistic understanding of each patient's disease state.

We are experts in many technologies, but we are a true market leader with over 15 years of experience in the field of clinical proteomics. For over 10 years, we have been discovering and developing proteomic-based diagnostic tests and have a deep understanding of how to incorporate technologies that can be applied to blood samples in order to extract important protein-based biological information in the form of diagnostic tests, which can aid clinicians and scientists in understanding the dynamic biology of their system of interest, such as a patient with cancer.

**Our Solutions and Products**

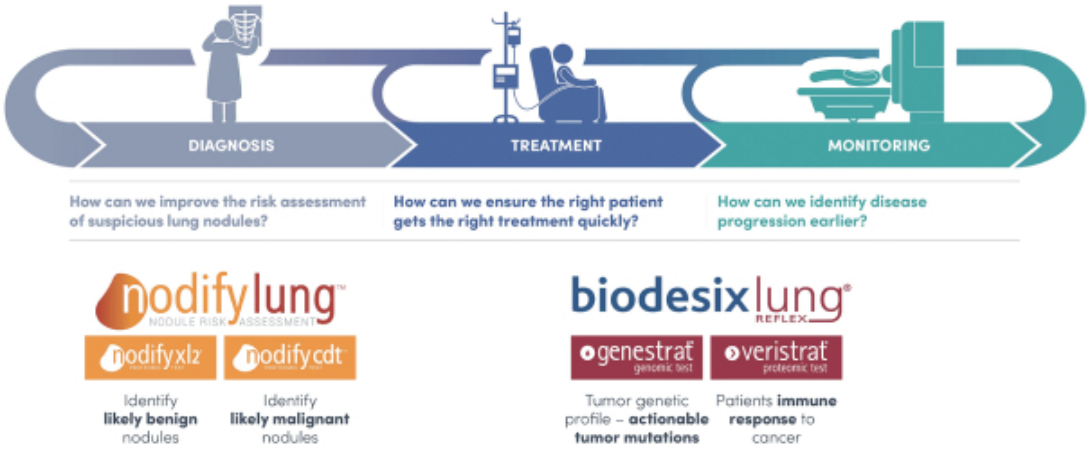
To help address the current limitations with standard of care in lung cancer diagnosis, treatment, and monitoring, we use combinations of tumor, immune and host profiling, radiological imaging, patient clinical profiling, and our proprietary AI platform to provide a holistic view of each patient's dynamic disease state.

We have four blood-based diagnostic tests across the lung cancer continuum of care to help address clinical unmet needs by physicians.

- **Diagnosis**: We believe there is a clinical need to help physicians reclassify risk of malignancy in patients presenting with suspicious lung nodules. We offer the blood-based Nodify Lung Nodule Risk Assessment testing strategy to aid physicians in stratifying patients into distinct nodule management treatment pathways: diagnostic procedure or imaging surveillance. Nodify Lung consists of two blood-based proteomic tests: the Nodify CDT test helps identify patients with lung nodules that are likely malignant and the Nodify XL2 test conversely helps identify those that are likely benign.

- **Treatment Guidance**: We believe there is an imminent need for a blood-based testing solution that measures tumor-specific mutations *and* the patient's immune profile to provide physicians with more comprehensive information to assess the overall prognosis of the patient and personalize treatment plans. We offer the blood-based Biodesix Lung Reflex testing strategy, which consists of the GeneStrat tumor profiling test and the VeriStrat immune profiling test for patients diagnosed with NSCLC. With a three-day turnaround time, we are able to quickly provide critical diagnostic information to physicians to facilitate personalized treatment decisions for their patients.

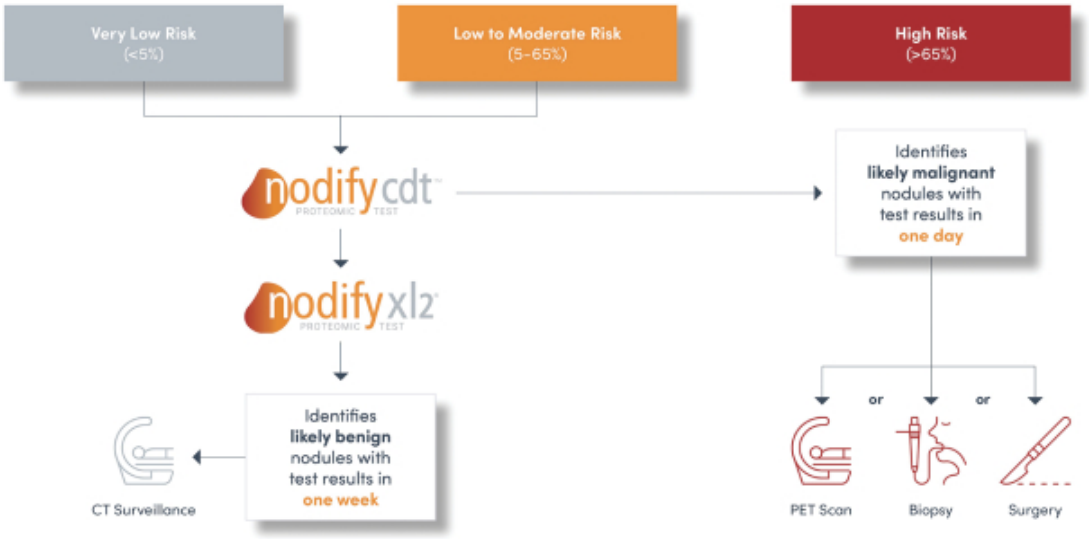
- **Monitoring**: We believe longitudinally monitoring advanced NSCLC patients for the dynamic evolution of their tumor and immune profile while on treatment can provide an earlier indication of treatment resistance and/or disease progression. We offer the Biodesix Lung Reflex testing strategy as a blood-based monitoring tool for physicians to track their patients' disease evolution.




***Diagnosis – Nodule Management***

We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules. Our blood-based nodule management offering, Nodify Lung Nodule Risk Assessment assists physicians in reclassifying a patient's risk of lung cancer by incorporating their protein biomarker results with radiographic imaging and clinical characteristics. Nodify Lung consists of the Nodify CDT and Nodify XL2 proteomic tests, which can be ordered separately or together from a single blood draw to help reclassify risk of cancer to aid physicians in stratifying patients into distinct nodule management pathways: intervention or surveillance.

The Nodify CDT test is used to help identify lung nodules that are likely malignant and the Nodify XL2 test helps identify lung nodules that are likely benign. Nodify Lung is available for patients 40 years or older, with nodules between 8 and 30mm, and less than 65% pre-test risk of lung cancer. The testing strategy starts with the Nodify CDT test to determine if a nodule is likely malignant or at a higher risk of lung cancer. The Nodify CDT test helps physicians identify cancer more quickly by prioritizing patients with a higher risk of malignancy for a diagnostic procedure, such as biopsy or surgery. If the nodule is not identified as having a high risk of malignancy by Nodify CDT, then the Nodify XL2 test is performed to help determine if the patient's nodule is likely benign or has a reduced risk of lung cancer and may be a candidate for CT imaging surveillance. The Nodify Lung testing strategy is represented graphically in the image below starting with the patient's pre-test risk of malignancy and ending with the guideline-recommended diagnostic procedure for each risk category.




We believe we are the only company to offer two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules. We launched the Nodify Lung combined offering of Nodify CDT and Nodify XL2 in March 2020. However, the Nodify XL2 test has been available to all physicians since September 2019 and has been available to a select group of physicians since October 2018. We acquired the Nodify XL2 test from Integrated Diagnostics in July 2018, and acquired the Nodify CDT from Oncimmune USA in October 2019.

*Nodify CDT*

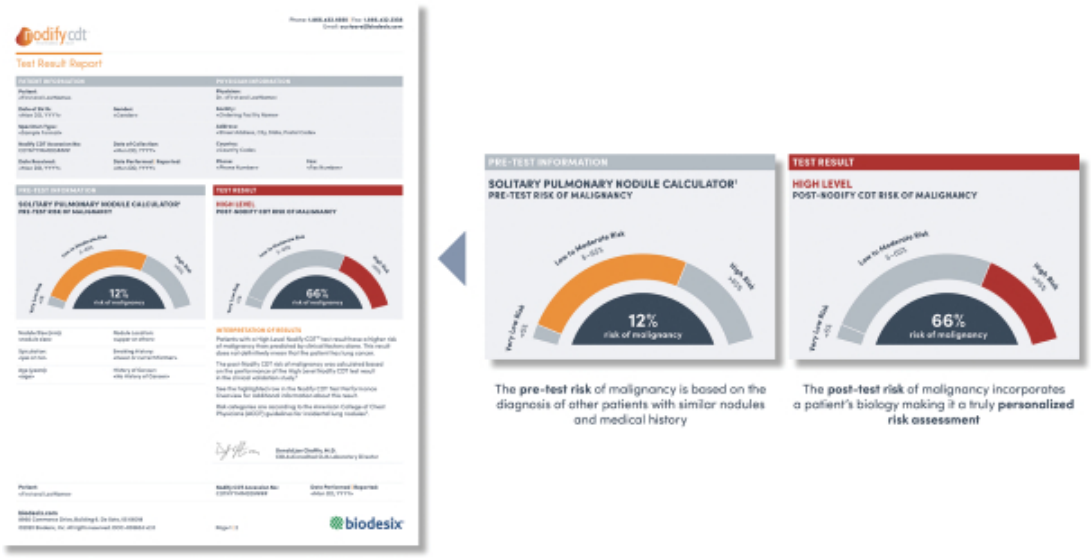
Nodify CDT is a blood-based proteomic test that helps identify patients who have a suspicious lung nodule that is likely malignant or at a higher risk of being cancerous. Results allow physicians to identify patients who may be better candidates for timely invasive diagnostic procedures such as bronchoscopy, transthoracic needle biopsy, or surgical resection, with the hope of catching cancer earlier. Nodify CDT enhances lung nodule risk assessment to facilitate compliance with clinical treatment guidelines such as those of the American College of Chest Physicians (ACCP). Nodify CDT is intended for use in patients who are 40 years or older, have nodules between 8 and 30mm, and pre-test risk of lung cancer of less than 65%.

The test measures the levels of seven circulating autoantibodies (P53, NY-ESO-1, CAGE, GBU4-5, SOX2, HuD, and MAGE A4) associated with lung cancer, combined by an algorithm to report out three potential results: High Level, Moderate Level, or No Significant Levels of Antibodies Detected (NSLAD). The seven autoantibodies have shown to be elevated for all types of lung cancer, and from the earliest stage of the disease.

Unlike the tumor antigens themselves, the autoantibody levels can be measured accurately through a blood sample, based upon the signal amplification generated by the immune response to cancer. This mechanism of action likely reflects very early events in a tumor's evolution; as the immune system initiates a response to the cancer, it can also trigger an expansion of self-reactive antibodies that can be measured in circulation.

In addition to the test result of High Level, Moderate Level, or NSLAD, each test report includes the patient's pre-test risk of malignancy as calculated by the Solitary Pulmonary Nodule Risk Assessment calculator, and their post-test risk of cancer incorporating the result of the test. The Solitary Pulmonary Nodule Risk Assessment calculator was developed by Stephen Swensen, M.D., of the Mayo Clinic and is designed to provide a risk of malignancy for a patient with a newly discovered incidental nodule. The model incorporates six clinical and radiologic factors into the equation: age, nodule size, smoking status, nodule location, spiculation (nodule edge characteristic), and previous history of lung cancer. Incorporating the autoantibody levels with the risk model provides physicians with a more accurate assessment of risk. The test has been studied in 14 peer reviewed published studies and presentations.

The following is an example of a de-identified Nodify CDT Test Result Report describing a patient's pre-test clinical risk of malignancy and the adjusted post-test risk following a High Level test result. The physician in this scenario may consider recommending the patient for an invasive diagnostic procedure as their post-Nodify CDT risk of malignancy is considered High Risk.




*Nodify XL2*

Nodify XL2 is a blood-based proteomic test that helps identify patients who have a suspicious lung nodule that is likely benign or at a reduced risk of being cancerous. Results allow physicians to identify patients who may be better candidates for routine CT surveillance to monitor for growth or shrinkage of the nodule over time instead of an invasive diagnostic procedure. Nodify XL2 is used for patients who are 40 years or older, have nodules between 8 and 30mm, and have a pre-test risk of lung cancer of less than or equal to 50%.

Nodify XL2 integrates peptides measured by LC-MS with clinical and radiological characteristics that are combined by an algorithm to report out three potential results: Likely Benign, Reduced Risk, or Indeterminate. Specifically, the Nodify XL2 test measures the relative abundance of two peptides (LG3BP and C163A) in

circulation in the patient's blood. The native proteins from which the peptides are derived, have been associated with an inflammatory response to cancer. The clinical factors are patient age and smoking status, and radiological factors are nodule size, location, and edge characteristics.

In addition to the test result of Likely Benign, Reduced Risk, or Indeterminate, each test report includes the patient's pre-test risk of lung cancer as calculated by the Solitary Pulmonary Nodule Risk Assessment calculator, and their post-Nodify XL2 risk of malignancy incorporating the result of the test. Incorporating the peptide levels with the risk model provides physicians with a revised assessment of risk incorporating the patient's biology.

The following is an example of a de-identified Nodify XL2 Test Result Report describing a patient's pre-test clinical risk of malignancy and the adjusted post-test risk following a Likely Benign test result. The physician in this scenario may consider recommending the patient for three or six-month CT surveillance as their post-Nodify XL2 risk of malignancy is considered Very Low Risk.


In summary, the inclusion of the Nodify Lung testing strategy into clinical practice helps physicians reclassify risk of malignancy of low to moderate risk lung nodules by incorporating the patient's own biology into the assessment. The Nodify CDT test helps physicians identify patients with a high-risk lung nodule who may benefit from timely intervention, which can ultimately help identify lung cancer earlier. The Nodify XL2 test helps physicians identify patients with a very low risk lung nodule who may benefit from CT surveillance and could avoid unnecessary invasive procedures.

Blood samples for Nodify XL2 and Nodify CDT can be collected in the physician's office, laboratory, or at home through use of mobile phlebotomy. Mobile phlebotomy options facilitate testing for patients even if they are not seen in person by the physician and instead are seen through telehealth visits. This benefits the patient as scheduling can be conveniently fit to their needs and can keep them away from a physician's office or hospital for safety concerns, especially with the evolving coronavirus pandemic. Additionally, mobile phlebotomy benefits the physician as the logistics around a blood draw or tissue sampling are out of their hands. We have a national network of contracted Nurses and Phlebotomists to support at-home or mobile blood collection.

Both tests require a single blood sample shipped at ambient temperature to our certified, high-complexity clinical laboratory in De Soto, Kansas. Nodify CDT requires whole blood and Nodify XL2 requires whole blood spotted onto our proprietary Blood Collection Device (BCD). The introduction of the BCD as a qualified specimen

collection method for use with the Nodify XL2 test alleviated the need for serum separation processing steps by phlebotomists at blood draw sites such as centrifugation, and cold chain (dry ice) shipments, which has increased the market access to our proteomic-based tests. Results for Nodify CDT alone are typically available within one day. If both tests are ordered for the patient and Nodify CDT returns a result of NSLAD, then both test results are typically available within 4 to 5 days. All results are available through a portal, fax, hard copy, or mobile device.

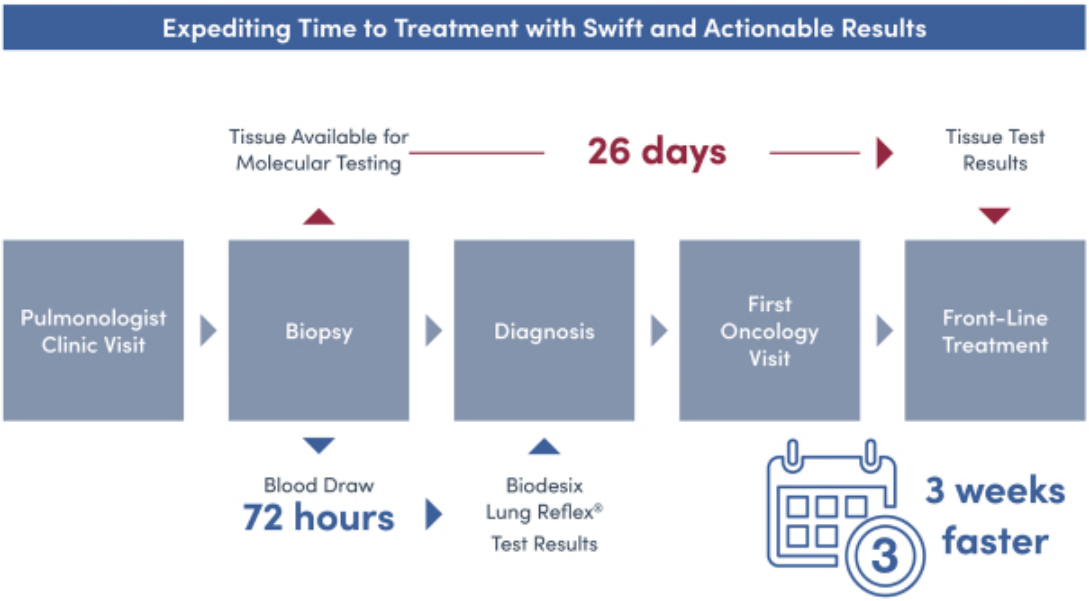
***Treatment Guidance and Monitoring***

Profiling the tumor through blood-based testing can help identify mutations in genes that may be driving growth of the tumor and may be targets for therapeutics. However, tumors also suppress intrinsic mechanisms that prevent the patient's immune system from identifying and eliminating the cancer cells. Profiling the immune system can show if the patient's immune system may have been subverted and therefore, is less likely to be responsive to immunotherapies. Our blood-based Biodesix Lung Reflex testing strategy consists of the GeneStrat tumor profiling test and the VeriStrat immune profiling test, which can be ordered together or separately for patients with NSCLC. Together, the tests typically have a 3-day turnaround time, providing physicians with timely results to facilitate treatment decisions.

*GeneStrat*

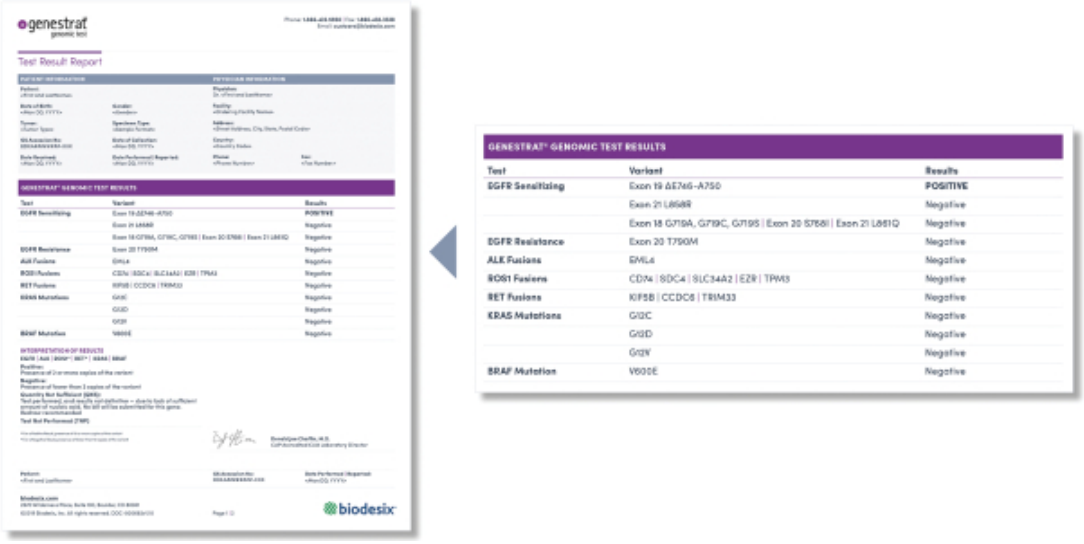
GeneStrat is a blood-based tumor profiling test that detects the guideline recommended, actionable mutations in lung cancer: *EGFR*, *KRAS*, *BRAF*, *EML4-ALK*, *ROS-1*, and *RET*. Physicians can order one or any combination of the genes, whichever they deem medically necessary for the individual patient. The presence of a mutation in one of the genes could indicate the patient is a candidate for the associated guideline-recommended targeted therapy. The GeneStrat test performance and potential clinical utility have been published in 3 peer reviewed studies.

GeneStrat test results are typically available within 72 hours from our receipt of the sample in our Boulder, Colorado clinical laboratory. In a study at Eastern Carolina University, it was observed that blood-based testing was up to three weeks faster than tissue-based testing, with tissue-based testing taking a median of 26 days from sample collection. With GeneStrat testing, results are typically available in time for the patients first oncology visit, allowing the patient to start front-line treatment as quickly as possible. In the same study, it was observed that only 4% of patients had tissue-based molecular test results prior to start of front-line treatment. Meanwhile, after integrating Biodesix Lung Reflex testing at the institution, 72% of patients had molecular test results available. Testing with the GeneStrat test can help physicians identify driver mutations quickly to help speed up time to treatment.



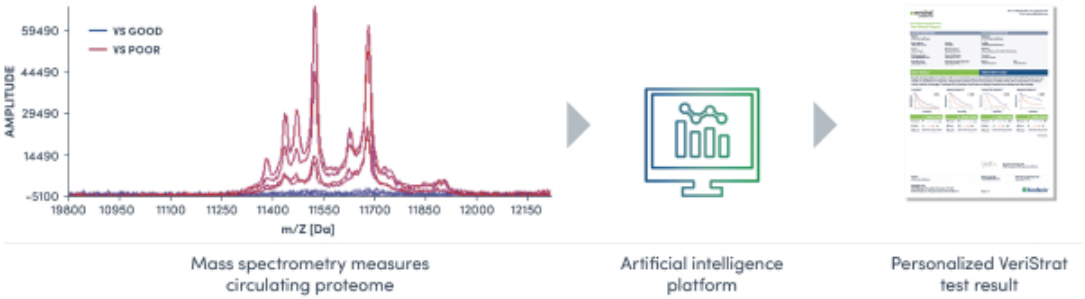

We believe that rapid, blood-based tumor profiling with the GeneStrat test is complementary to both targeted tissue-based testing (including PD-L1) and broad genomic sequencing. Testing with GeneStrat at diagnosis can help quickly identify patients who are eligible for targeted therapies. Additionally, blood-based testing upfront can help save valuable tissue for diagnostic evaluation, PD-L1 testing and broad genomic profiling for rare mutations to enroll in clinical trials.

The following is an example of a de-identified GeneStrat Test Result Report. The patient in this scenario is positive for the EGFR Sensitizing mutation Exon 19 DE746-A750 variant.




*VeriStrat*

VeriStrat is a blood-based proteomic test that provides a personalized view of each patient's immune response to their lung cancer. Results help inform physicians whether their patient has a more aggressive cancer and can help with treatment planning. VeriStrat profiles the patient's immune system by measuring eight protein features measured by mass spectrometry and interpreted by a proprietary machine learning-based algorithm to produce either a VeriStrat Good or VeriStrat Poor test result. The VeriStrat testing workflow is represented by the figure below.




The presence of a VeriStrat Poor result indicates the presence of chronic inflammation and a chronic acute phase immune response. A chronic acute phase immune response can trigger the immune system to provide growth factors to the tumor to increase blood flow and tumor growth. The test has been studied in over 85 peer-reviewed and published clinical studies across many different types of therapies such as chemotherapy, targeted therapies, immune therapies, and combinations. The results consistently show the test to be predictive of outcomes, independent of other prognostic factors including PD-L1 expression and performance status. Patients who test as VeriStrat Poor, on average, have an overall survival that is less than half of those who test as VeriStrat Good, independent of treatment type, demonstrating that the test is strongly prognostic. Conversely, patients with a VeriStrat Good test result typically respond better to standard of care treatments than those

patients that test as VeriStrat Poor. By using the VeriStrat test for immune profiling, physicians can help identify the patients with an immune status associated with generally poor prognosis who should be treated with alternate therapies or in clinical trials.

The following is an example of a de-identified VeriStrat Test Result Report. The patient's test result is a VeriStrat Good result, indicating the patient has an overall good prognosis and will likely benefit from standard of care therapies.


GeneStrat requires whole blood and VeriStrat requires a whole blood sample spotted onto our proprietary BCD. Both samples are shipped at ambient temperature and testing is performed in our certified, high-complexity clinical laboratory in Boulder, Colorado. GeneStrat is performed using the ddPCR technology, and the protein features in VeriStrat are measured using matrix-assisted laser desorption/ionization time of flight (MALDI-ToF) mass spectrometry. Results are typically available within 72 hours through a portal, fax, hard copy, or mobile device.

***COVID-19***

*Biodesix WorkSafe COVID-19 Testing Program*

In response to the COVID-19 pandemic, through our partnership with Bio-Rad, we commercialized the Biodesix WorkSafe testing program. Our scientific diagnostic expertise, technologies, and existing commercial infrastructure enabled us to rapidly commercialize two diagnostic tests for the SARS-CoV-2 virus that causes COVID-19. The first test is the Bio-Rad SARS-CoV-2 ddPCR test, which is a molecular assay indicated for detecting active SARS-CoV-2 infection. The test was FDA EUA authorized on May 1, 2020, authorizing performance of the test in laboratories certified under CLIA to perform high complexity tests. The second test is the Platelia SARS-CoV-2 Total Ab test, which is an antibody assay intended for detecting a B-cell immune response to SARS-CoV-2, indicating recent or prior infection. The test was FDA EUA authorized on April 29, 2020.

Within a month of initiating our development collaboration with Bio-Rad, we were able to launch two tests for commercial use. We were able to bring these tests to market as fast as possible due to our scientific diagnostic expertise, technologies and existing commercial infrastructure. In addition to our launch agility, we have been able to rapidly scale our laboratory operations for high-volume testing. We remain committed to delivering rapid test results in 24 to 48 hours on average.

Our tests are utilized by healthcare providers, including hospitals and nursing homes and are also offered to businesses and educational systems to assist in their back-to-work or back to school strategies. Recently, we announced multiple partnerships for COVID-19 testing, and Colorado Governor Jared Polis announced at a press conference on July 23, 2020 that we will now be supporting wide-spread COVID-19 testing for the State of Colorado. Additionally, we announced a partnership as the official COVID-19 testing partner for the Major Lacrosse League as they competed in their 2020 tournament. We also recently announced that we will oversee and manage onsite testing and validating testing for the Big Ten Conference athletic competitions. To date, we have not derived significant revenues from these partnerships.

*Bio-Rad SARS-CoV-2 ddPCR test*

The Bio-Rad SARS-CoV-2 ddPCR test, also known as a molecular or viral test, is indicated for the qualitative detection of nucleic acid from SARS-CoV-2, the virus that causes COVID-19. The test targets detection of the nucleic acid from SARS-CoV-2 (not from any other viruses or pathogens) in respiratory specimens to identify and isolate infected individuals. Recent studies have shown that ddPCR-based testing is more sensitive than qPCR for detecting SARS-CoV-2, specifically in the reduction of false negative results. In one study, the ddPCR test demonstrated 95% accuracy vs. 47% for other "bulk" RT-PCR technologies used in other molecular tests Specimens are shipped at ambient temperature or dry ice depending on the viral transport media (VTM) used, and testing is performed using ddPCR in our certified, high-complexity clinical laboratory in Boulder, Colorado. Results are typically available through fax, hard copy, or encrypted email within 24 to 48 hours on average from receipt of the sample.

*Platelia SARS-CoV-2 Total Ab Test*

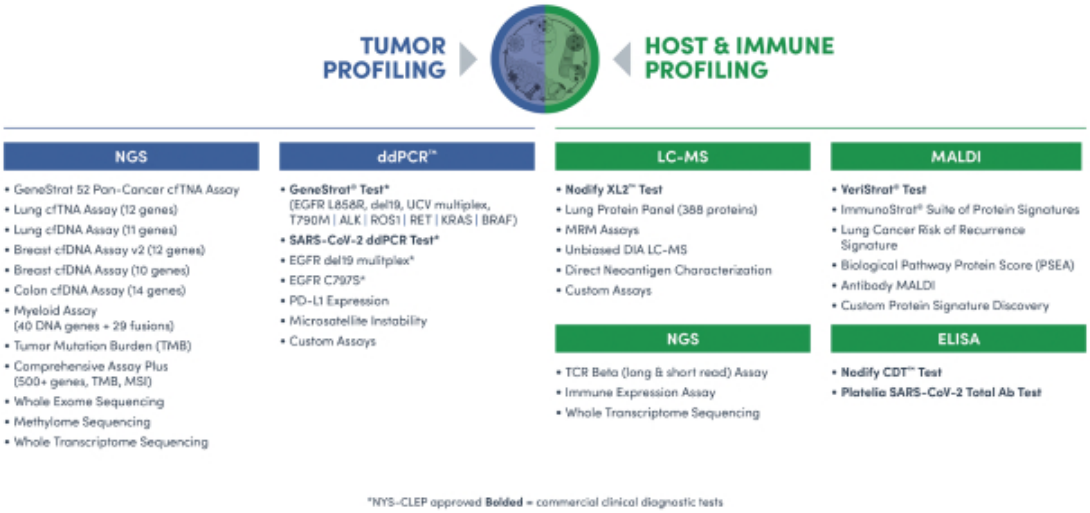
The Platelia SARS-CoV-2 Total Ab assay (also known as a serology or antibody test) is intended for use as an aid in identifying individuals who have developed an adaptive immune response to the SARS-CoV-2 virus, indicating recent or prior infection. The assay uses whole blood to detect circulating antibodies against the virus. The sensitivity is 98% and specificity is 99% eight days after the onset of symptoms. At this time, it is not known how long antibodies persist following infection and if the presence of antibodies confers protective immunity. The test is intended for the qualitative detection of total anti-SARS-CoV-2 nucleocapsid antibodies (IgG, IgM and IgA) in human serum or plasma specimens. The test requires a 3 mL blood draw, and samples are shipped at ambient temperature. Testing is conducted using semi-automated ELISA technology in our certified, high-complexity clinical laboratory in De Soto, Kansas. Results are typically available within 24 to 48 hours from receipt of the sample through fax, hard copy, or encrypted email.

**Biopharmaceutical Diagnostic Discovery, Development and Testing Services Business**

We believe our leadership in clinical proteomics and our technology agnostic approach to probe the cancer disease state provides our customers with a clear and distinct advantage over other diagnostic service providers who solely focus on either genomics or proteomics. Similar to our commercial clinical testing business, our biopharmaceutical diagnostic discovery, development and testing services business leverages the Diagnostic Cortex to provide an extensively validated and deep learning approach to discovering new biomarkers, which in turn helps drive the clinical development of therapeutics. We recognize each clinical development program is complex, which is why we offer end-to-end diagnostic solutions, ranging from initial biomarker discovery and feasibility projects to commercialization of companion diagnostics.

To address the increasing complexity of disease biology and new drug mechanisms of action, we employ a technology agnostic approach to uncover insights about the tumor biology and patient's immune response to cancer for therapeutics in clinical development. With our broad technology and service offering, including the performance of over 30 assays for research use as part of our laboratory services (see diagram below), we are able to provide the depth and breadth of biomarker tools for our partners for multi-omic analyses across their product development efforts. Although we recognize the importance of a multi-omic, technology agnostic approach in translational research, we are experts in discovering and developing proteomic-based diagnostic tests

to help interrogate the immune profile and host disease state of patients on particular therapeutics. Traditionally, oncology biomarkers have been discovered from tumor tissue, but with the increased trend in the number of programs featuring immuno-oncology agents in therapeutic development, we believe there is a clinical unmet need for blood-based tumor markers and host/immune biomarkers to complement information obtained from tissue.




We believe we provide benefit to our biopharmaceutical customers as they integrate strategies for increasing the probability of success for pivotal clinical trials. Specifically, our diagnostic testing services may help enable quicker enrollment rates for patients in prospective clinical trials, ranging from phase 1 to phase 3, and could help identify patient populations who may experience the greatest benefit from new therapeutics. Ultimately, our goal is to help biopharmaceutical customers realize greater efficiency in their clinical development programs. Additionally, we have the ability to access and leverage our large sample and data biobank for our partners' data mining needs, including new test discovery.

While our biopharmaceutical discovery, diagnostic development and testing revenue continues to grow, it is important to note that we benefit greatly from these partnerships in many ways that expand beyond revenue. We are continuously expanding our knowledge and biological understanding of multiple diseases and the rapidly evolving treatment landscape, while our Diagnostic Cortex continues to be powered through these biomarker analyses. Additionally, our sample and data biobank continue to grow and can be further leveraged for internal test development and external partnering. Importantly, we look to supplement our product development efforts with companion diagnostics as they are developed.

To date, we have over 50 biopharmaceutical customers and academic partners who have utilized our diagnostic tests and services.

The following are a few case studies of early stage biomarker discovery and development with our biopharmaceutical customers.

- **AstraZeneca:** We provided services to AstraZeneca to retrospectively analyze samples from the FLAURA clinical trial (NCT02296125). The goal of this analysis was to interpret and establish the clinical utility of blood-based longitudinal monitoring of EGFR sensitizing and resistance mutations by ddPCR in advanced NSCLC patients treated with osimertinib. The data demonstrated that these circulating DNA mutations could be tracked in blood to interpret the patient's prognosis, and could help AstraZeneca to identify disease progression 3 months (median) in advance of standard imaging.

- **Genentech:** We partnered with Genentech to discover a novel proteomic classifier for advanced NSCLC patients treated with atezolizumab. The test was discovered on a small clinical cohort (n=77) and was independently validated on blinded samples (n=270) from the POPLAR clinical trial (NCT01903993). The validation revealed that the proteomic test was predictive of progression free survival and overall survival for atezolizumab versus the control arm docetaxel. Additionally, an analysis compared the correlation between our proteomic classifier with standard of care biomarkers (PD-L1 expression status and tumor mutation burden), which revealed there was no significant correlation. This implies that our classifier provides unique and valuable information in the treatment of patients with advanced NSCLC. It is our belief that Genentech could use this strategy to identify patients that could derive a longer progression free survival from atezolizumab.
- **Merck KGaA & Pfizer:** We announced the initiation of a clinical phase development program for the anti-PD-L1 checkpoint inhibitor, avelumab with Merck KGaA and Pfizer on February 12, 2020. The new proteomic test was developed through retrospective analysis of the circulating proteome combined with our proprietary AI platform. We have completed initial discovery of the test that identifies likely responders to avelumab and efforts are now focusing on transferring the test into our CLIA lab in Boulder, Colorado for clinical phase test validation.

**Competitive Advantages**

We believe the following are our key competitive advantages:

- **Our proprietary extensively validated deep learning platform, which is tailored to discover diagnostic tests that address clinical unmet needs.** Our platform is an extensively validated deep learning platform optimized for discovery of diagnostic tests. By combining our data-driven and technology agnostic approach with deep learning techniques, we believe we have overcome many standard machine learning challenges. This has enabled us to develop commercial tests for clinical unmet needs and collaborate with our biopharmaceutical customers and academic partners.
- **Our data-driven approach to precision medicine combined with our biobank, which enables us to accelerate development of new tests.** We have over 140,000 samples and data in our biobank, including tumor profiles and immune profiles, used for both internal and external research and development initiatives. Our biobank, clinical trials, commercial testing and other partnerships provide an ongoing source of new data that further enhances our proprietary AI platform. We are continuously identifying and incorporating new market insights and input from our customers, key opinion leaders, and scientific experts to leverage this data in developing our diagnostic tests.
- **Our leadership in clinical proteomics, demonstrated research, development, and scientific expertise, combined with our intellectual property portfolio.**
  - Our leadership in clinical proteomics and our technology agnostic approach, we believe provides us with a distinct advantage over our competitors, who focus on any single technology, such as genomics or proteomics. Our certified, high-complexity laboratories offer significant advantages in development of commercial tests.
  - Our proprietary technologies and processes are protected by a portfolio of approximately 82 issued patents in the United States and internationally, and 20 uniquely registered United States trademarks. We take efforts to protect our proprietary position using a variety of methods, such as a pursuit of United States and foreign patent applications related to our proprietary technology, use of trade secrets, trademarks, know-how, continuing technological innovation and potential in-licensing and acquisition opportunities.
- **Our demonstrated success commercializing diagnostic tests in lung disease.** With six diagnostic tests launched and three currently in development, our commercial portfolio of blood-based solutions currently addresses clinical unmet needs within diagnosis, treatment and monitoring of lung cancer.

Our diagnostic tests provide rapid, actionable, and holistic diagnostic information to help inform physicians on the next steps in a patient's care plan. We have displayed agility in our R&D and commercial launch efforts and within a month of initiating a development collaboration, launched two diagnostic tests for COVID-19 for commercial use.

- **Our depth and breadth of point of care access to physicians allows us to drive adoption of our diagnostic tests while incorporating real-life feedback to inform new product development.** Our commercial team's primary focus is to articulate the scientific and clinical evidence behind our tests, how they impact clinical care and can ultimately help to improve patient outcomes. Our demonstrated scientific expertise, leadership in clinical proteomics and breadth of data, including peer-reviewed publications, presentations and clinical studies, forms the basis of our relationships with major hospitals and physician networks across the United States.
- **Our commercial infrastructure, which includes our extensive knowledge and experience in sales, marketing, reimbursement and operations, provides us with the ability to launch, scale and drive revenue.** We believe our commitment to commercial excellence helps us to leverage insights, operational excellence and proven approaches to deliver revenue growth and enhance the brand of our company and products. We are able to deploy rapid clinical testing turnaround times and develop commercial tests at scale. Scaling of our test capacity to meet volumes is then achieved by adding instrumentation and qualified personnel to our quality systems.

**Our Strategy**

We strive to provide swift, comprehensive and actionable insights to improve patient outcomes across lung disease and to help answer critical clinical questions faced by physicians, researchers, and biopharmaceutical companies. To achieve this, we intend to:

- **Drive increased awareness, adoption, and reimbursement coverage of our diagnostic tests by:**
  - continuously educating physicians, key opinion leaders, hospital systems, advocacy groups, patients, payers, academic research organizations, and technology assessment and guideline organizations on the clinical data and benefits of our tests;
  - utilizing our pulmonology-focused sales force and commercial reach with targeted awareness campaigns to employ highly targeted sales and marketing tactics in pulmonology clinics specializing in the management of lung nodules and the diagnosis of lung cancer;
  - continuing to invest in the expansion of our sales force and commercial support team;
  - incorporating our testing services into diagnostic pathways and protocols via a top-down strategy that introduces our diagnostic tests to the largest United States health systems; and
  - leveraging our clinical data to gain broad coverage from public and private payers for our tests.
- **Deepen our relationships with current biopharmaceutical customers and establish new customer opportunities by**:
  - selling our complete offering of tests and services to biopharmaceutical companies in the United States and internationally;
  - leveraging existing projects and relationships to expand sales with our current biopharmaceutical customers; and
  - targeting companies developing novel companion diagnostic strategies and drug development projects best suited to our platform for new test discovery, development and commercialization.
- **Further demonstrate the clinical utility and economic benefits of our diagnostic tests by**:
  - investing in commercial clinical testing, research studies and clinical trials to further demonstrate the clinical utility of our tests;

- providing rapid, actionable, and holistic diagnostic information to help inform physicians on the next steps in a patient's care plan; and
- providing timely and actionable clinical information to help improve overall patient outcomes and lower the overall healthcare cost.

- **Introduce new diagnostic tests in lung disease by**:
  - engaging with our customers, key opinion leaders, and scientific experts to stay ahead of the rapidly evolving diagnostic and therapeutic landscape and to identify additional clinical unmet needs;
  - entering strategic partnerships with biopharmaceutical companies, academic research organizations, technology providers, and other diagnostic companies; and
  - developing companion diagnostic tests to support the therapeutics' regulatory approval and adoption process for our biopharmaceutical customers.
- **Enhance our proprietary AI platform and expand our technology portfolio by:**
  - continuing to invest in R&D capabilities to foster innovation in test discovery and development;
  - identifying, acquiring technologies and integrating new data types into our proprietary AI platform; and
  - entering strategic partnerships across our commercial product portfolio and product development efforts in order to further our development capabilities, accelerate launch of commercial products, or expand our service offering.
- **Continue to expand and leverage our biobank by:**
  - expanding and enhancing the robustness of our samples and the data set, including through our collaborations and partnerships;
  - pursuing commercial opportunities with companies and researchers who are interested in utilizing our biobank for their own discovery and development efforts; and
  - monetizing these commercial opportunities.

**Overview of the Current Landscape**

Lung cancer (both small cell and non-small cell) is the second most common cancer diagnosed in the United States with nearly 230,000 patients diagnosed each year. With an estimated 135,000 patient deaths in 2020, lung cancer is accountable for more deaths annually than the next three deadliest cancers combined (colorectal, pancreas, and breast). Additionally, every year in the United States an estimated 1.6 million people are diagnosed with an incidental nodule in the lung. These nodules can arise from a variety of causes ranging from smoking to fungal infections or other lung diseases. While most lung nodules are found to be benign and ultimately harmless, about 5% are found to be malignant within two years from nodule identification.

Despite significant advances over the last decade, lung cancer is still the deadliest type of cancer in both men and women in the United States today. While diagnostic testing has become routinely used at certain points in the lung cancer continuum of care, we believe there is a substantial need for novel, advanced testing to improve on the current standard of care. We estimate that in the United States, the lung cancer continuum of care currently represents over 10 million annual testing opportunities, and is over a $27 billion market annually for testing alone. We estimate that the biopharmaceutical partnering and research opportunities represent over a $2 billion market annually.

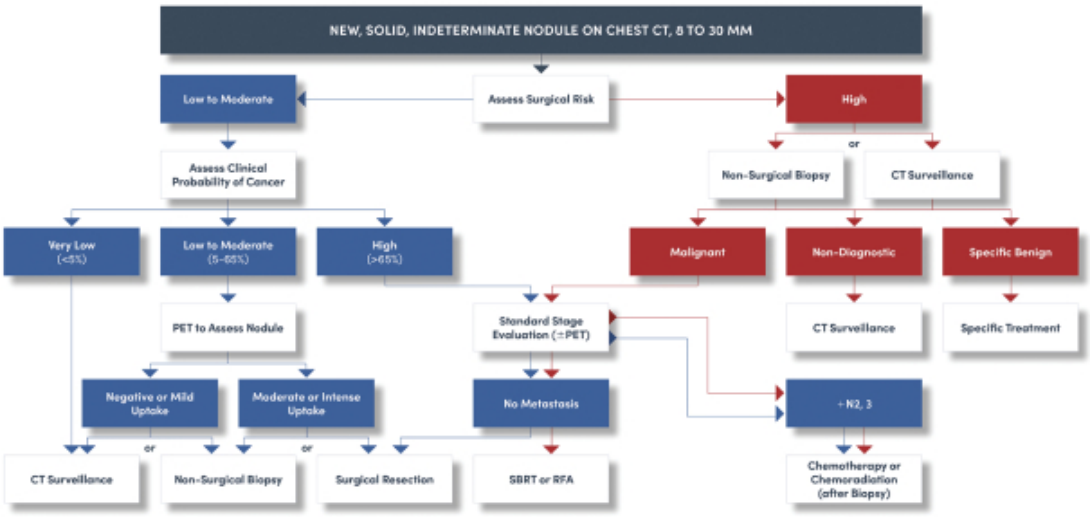
***Diagnosis – Nodule Management***

Over 1.6 million people are diagnosed with incidental pulmonary nodules annually in the United States. Incidental nodules are identified when a person is being evaluated for another medical concern, typically through

X-ray or CT imaging. On July 7, 2020, the United States Preventive Services Task Force (USPSTF) published an updated draft statement to the 2013 low-dose CT (LDCT) screening recommendation that proposes an expansion to the eligible population for lung cancer screening to patients 50 to 80 years old in the United States with a smoking pack-year history of 20 or more years or who currently smoke or quit smoking within the past 15 years. Based upon the new USPSTF recommendation, we believe approximately 15 million people are eligible for LDCT, which we believe could potentially lead to the identification of over 4 million lung nodules annually. However, in 2018, only 4.2% of the eligible population underwent screening. Improved patient adherence to screening is expected to result in earlier identification of lung nodules.

Following initial discovery of a lung nodule, patients are typically evaluated by a pulmonologist for risk of lung cancer. A recent study found that on average, patients wait 8 months following initial detection of a lung nodule before diagnosis of cancer. The same study also estimated that approximately two thirds of incidental nodules found did not receive follow-up after initial discovery. If a patient can be diagnosed with cancer at an early stage, their survival chances are greatly increased, including the chance of cure. The volume of patients waiting for evaluation has led to the implementation of "nodule clinics" in centers around the country to try to catch cancer earlier by reducing wait times for diagnostic procedures and increasing the number of patients that are being routinely observed.

The ACCP guidelines for lung nodules management further detail the intervention or monitoring pathways for a patient based on their individual risk of cancer. Several "risk calculators" have been developed to help translate a patient's clinical risk factors such as age, smoking status, cancer history, nodule size, location, and edge characteristics into a risk percentage. However, standard practice is physician assessed risk of malignancy.




As illustrated above, for patients whose lung cancer risk is determined to be High (greater than 65%), guidelines recommend sending the patient for a stage evaluation and surgical resection if there are no metastases. If the risk of lung cancer is determined to be Very Low (less than 5%), guidelines recommend CT surveillance to monitor the nodule for growth or shrinkage. Approximately 80% of patients fall into the Low to Moderate group (5-65%) where guidelines state CT scans, positron emission tomography (PET) scans, biopsy, bronchoscopy, or surgery are all options and should be chosen based on the physician's clinical judgement and risk threshold.

With a large and varied set of clinical options, the Low to Moderate risk group represents the area of greatest need for precision diagnostic testing to help reclassify risk and direct patients to the relevant treatment pathway. A 2015 publication of 18 pulmonology clinics across the United States and 377 patients with lung

nodules showed 62% of biopsies and 35% of surgeries were performed on patients with benign nodules. Conversely, an estimated 17% of patients with malignant nodules are initially sent to watchful waiting, where a follow-up CT scan is scheduled in three to six months, potentially delaying their diagnosis.

In addition to the median workup cost of $2,794 for a non-surgical biopsy and $24,623 for a surgical resection, performing invasive procedures on patients with benign nodules exposes them to potentially serious adverse events and could impede future lung function. In a population-based analysis of patients diagnosed with lung cancer from 2001 to 2010, it was identified that the incidence of at least one hospitalized adverse event occurred in 30% of the population. Specifically, the rate of incidence by invasive procedure type was 26% for a bronchoscopy, 34% for a percutaneous biopsy, and 39% for a surgical resection. A recent cost-benefit analysis showed that among Medicare claims, over 40% of the total cost in management of lung cancer was attributed to benign patients with an invasive procedure. Diagnostic tests can help reduce unnecessary biopsies or surgeries on patents with benign nodules and can help catch those that are malignant earlier. These tests could improve patient outcomes, alleviate patient anxiety, and save costs to both the patient and the healthcare system.

***NSCLC Treatment Guidance***

Following confirmed diagnosis, the patient's NSCLC is staged which helps the physician direct the patient to an appropriate treatment pathway. Approximately 70% of patients with lung cancer are diagnosed with advanced stage disease (typically stage IIIB/IV), resulting in an estimated five-year survival of 6%. Meanwhile, five-year survival for patients diagnosed with early stage (typically stage I-IIIA) disease is 59%.

***Early Stage NSCLC***

We estimate that there are over 700,000 testing opportunities annually in the United States in early stage lung cancer to assess the risk of recurrence following surgery, and to detect potential target mutations for therapeutics. The current standard of care in early stage disease is surgery with curative intent. Depending on the risk of recurrence for a patient, they may also receive chemotherapy, radiotherapy or chemoradiation post-surgery. The assessment of risk of recurrence is primarily based on the stage of cancer at diagnosis, with stage I patients typically receiving no additional treatment beyond surgery. However, 20 to 40% of patients with stage I disease have a lung cancer recurrence within five years following surgery, representing a sub-group of patients who may have benefited from a more intensive care plan, including increased follow up or additional therapy.

We believe there is a clear clinical need for blood-based diagnostic testing prior to surgery to identify stage I patients who may benefit from a more intensive treatment protocol and we also believe there is the need for identifying stage II and IIIA patients where low risk patients may benefit from a less intensive treatment protocol. There have also been recent advances in the use of targeted therapies in early stage lung disease, which we believe will lead to the need for testing designed specifically for mutation detection. Beyond clinical testing, we believe diagnostic testing for research use as part of our laboratory services could help biopharmaceutical companies identify new patient targets for neoadjuvant or adjuvant therapy in earlier stage disease.

***Advanced Stage NSCLC***

We estimate that there are over 1.5 million diagnostic testing opportunities annually in the United States to guide advanced stage lung cancer treatment decisions. We believe there is a need for blood-based testing solutions that measure tumor mutations and the patient's immune profile, providing physicians with holistic and timely information to assess the overall prognosis of the patient and personalize treatment plans when tissue is not available.

Traditionally, therapeutics for advanced NSCLC have been FDA-approved based on improvement in response, or survival for a population in a given tumor type. However, data have shown that it is not a one size fits all approach as each patient responds differently based on their individual biology. Today, the NCCN

guidelines recommend nearly 50 FDA-approved systemic treatment regimens for patients with advanced NSCLC. Although an increasing number of these therapeutics have companion diagnostic tests to inform treatment, there remains a need for more comprehensive biomarkers to help further identify the right patient for the right treatment. In addition to biomarker analysis, physicians assess the patient's medical history, presence of co-morbidities, and ultimately the patient's prognosis to help guide treatment decisions.

Approximately 50% of patients do not have sufficient tissue collected following diagnosis to facilitate tissue-based molecular testing. Conducting an additional tissue biopsy is costly and has the risk of adverse events. Blood-based testing can provide rapid, actionable, upfront tumor profiling from a minimally invasive blood draw, and eliminate the need for repeat biopsy procedures. Blood-based offerings include testing of individual driver mutations in lung cancer, or broad mutation profiling, typically through next generation sequencing. The broader mutation panels often include genes that are prevalent in and may be tied to therapeutics approved in tumor types outside of lung cancer. Single gene assays or smaller actionable gene panels may be focused more specifically on lung cancer.

In addition to the tumor mutation profiling, the state of the patient's immune system has long been understood to be an important factor in the patient's diagnosis, prognosis, and response to therapy. The causal relationship between inflammation and cancer progression is more widely accepted today as the immunology and oncology communities have continued to collaborate around the advancement of immune-targeting drugs. However, recent studies indicate that less than 25% of treatment-naïve lung cancer patients were alive after five years when treated with single agent immunotherapy and some patients do not benefit from immunotherapy in comparison to those treated with chemotherapy. These reports underscore the complexity of the underlying biology and the need for immune-related biomarker treatment selection.

***Monitoring***

We estimate that there are over 1 million testing opportunities in the United States for blood-based tumor and immune profiling to monitor for disease recurrence and progression in NSCLC patients. Unfortunately, advanced stage lung cancer is often terminal, so repeat tissue biopsy to assess the evolution of resistance mutations or to detect disease progression is not feasible from either a cost or risk perspective to the patient, which we believe demonstrates an important need for blood-based testing to help routinely monitor these patients. As a patient progresses through therapies, changes in their immune system occur and blood-based immune profiling could help physicians identify these changes prior to subsequent therapy selection.

**Our Platform and Technologies**

Our focus on tumor and immune profiling is central to our core belief that no single technology will answer all clinical questions that we encounter. Therefore, we employ multiple technologies, including genomics, transcriptomics, proteomics, and radiomics, and our proprietary AI platform, Diagnostic Cortex, to discover innovative diagnostic tests for clinical use. Through our learning loop, we continuously revisit our technology strategy and integrate new technologies into our evolving platform, which ultimately support the addition of new service and product revenue offerings. We focus on developing technologies that are capable of single and multi-omic research and development.

***Diagnostic Cortex Artificial Intelligence Platform***

The Diagnostic Cortex is an extensively validated deep learning platform optimized for the discovery of clinical diagnostic tests, which we believe overcomes standard machine learning challenges faced in life sciences research. Researchers commonly encounter issues with machine learning-based biological discoveries that cannot be repeated or validated when assessed in additional specimen cohorts. This challenge, commonly referred to as overfitting, occurs when the machine identifies a perfect pattern in an initial training dataset but is unable to identify the same pattern in a new dataset. For over 15 years we have focused on developing our platform to

overcome this challenge through proprietary computational techniques to ensure each diagnostic test that is discovered can be further developed to perform consistently in the clinical testing environment.

We continuously evolve and improve the Diagnostic Cortex platform. These improvements range from basic code optimization to complex improvements such as the incorporation of novel computational methods for the optimization of multi-omic diagnostic tests. Any AI platform is inherently limited without the highest quality data inputs. Therefore, all of the technologies that we employ have been chosen and developed to provide high-quality data to enable our Diagnostic Cortex platform. We feel that this level of data integrity is crucial for the development of diagnostic tests that require the advanced pattern matching abilities of deep learning algorithms.

We utilize multiple technologies, including ddPCR, NGS, LC-MS, ELISA, and our proprietary DeepMALDI mass spectrometry platform in our molecular analysis of the tumor, immune system, and host-status of each patient. The data from these technologies feed into our proprietary Diagnostic Cortex platform to discover clinically relevant diagnostic tests.

We are experts in many technologies, but we are a true market leader with over 15 years of experience in the field of clinical proteomics. We have been discovering and developing proteomic-based diagnostic tests and have a deep understanding of how to incorporate technologies that can be applied to blood samples in order to extract important protein-based biological information in the form of clinical diagnostic tests.

Our suite of technologies that assist us in discovery, development and commercialization of novel diagnostic tests includes:

***DeepMALDI Mass Spectrometry***

We have developed DeepMALDI, a proprietary high density matrix-assisted laser desorption/ionization time-of-flight (MALDI-ToF) mass spectrometry (MS) technology, to produce blood-based proteomic data for disease diagnosis, personalized health care, precision medicine for direct treatment options, and disease screening in lung and other disease states. DeepMALDI overcomes the limitations of conventional MALDI and other mass spectrometry methods to produce highly sensitive, stable, and reproducible data by: (1) utilizing optimized signal-to-noise reduction and signal processing algorithms; and (2) novel batch correction methods and spectral alignment methods. The combination of these improvements yields substantially higher quality data content and is thereby much better suited for the discovery of biomarkers with clinical utility.

Our current DeepMALDI methods allow us to achieve finer mass resolution, greater sensitivity, and 20-times faster imaging speeds than other instruments. Additionally, we believe enhancements to our DeepMALDI methods and MALDI-ToF technology evolution will allow us to measure approximately 1,500 proteins, an improvement from the estimated 900 proteins we can measure today. We intend to maintain our leadership role in the discovery of proteomics-based diagnostic tests. We utilize our DeepMALDI and MALDI-ToF technologies in our discovery and development efforts and as part of our collaborations with our biopharmaceutical customers and academic partners.

***Liquid Chromatography Mass Spectrometry MS***

We use Multiple Reaction Monitoring (MRM) MS with triple quadrupole mass spectrometers and up-front liquid chromatography (LC) sample injection in the Nodify XL2 test. This mass spectrometry method offers highly sensitive, specific, and cost-effective analysis for simultaneous quantitation of hundreds to several thousands of targeted peptides in a single experiment. We have since included the MRM technologies as part of our services for discovery and development with our biopharmaceutical customers and academic partners.

***Enzyme-Linked Immunosorbent Assay***

ELISA is the most widely used ligand binding assay platform within and outside the pharmaceutical industry. Formats include direct, indirect and sandwich assays and are typically run in manually or semi-

automated modes. We use a semi-automated implementation of ELISA in clinical testing for the Nodify CDT test and the Platelia SARS-CoV-2 Total Ab test for COVID-19. The acquisition of Oncimmune USA in 2019 expanded our ability to conduct very high throughput and cost-effective ELISAs in our clinical testing laboratory. We have now included the ELISA technologies for research and development both internally and externally with our biopharmaceutical customers and academic partners.

***Droplet Digital PCR Platform***

We use the ddPCR technology for multiplexed, semi-automated nucleic acid detection. This allows high sensitivity, fast turn-around times, flexibility in our laboratory workflows, rapid scaling from low to moderate analyte complexity, and high-volume scalability. ddPCR is an absolute quantitation method based on the partitioning of circulating nucleic acids into up to 20,000 droplets per reaction and is used for the GeneStrat test and SARS-CoV-2 ddPCR test for COVID-19. We have included the ddPCR technologies for research and development both internally and externally with our biopharmaceutical customers and academic partners.

***Next Generation Sequencing Technology***

We use an NGS technology for broad genomic sequencing of clinical specimens. Our strategy with NGS relies on a menu of off-the-shelf and custom research use assays, which we develop and make available as a part of our biopharmaceutical test services. The NGS technology integrates automated systems to yield high sensitivity results with a rapid turnaround time. Since adoption of this technology, we have included the NGS technologies for research and development both internally and externally with our biopharmaceutical customers and academic partners.

**Our Clinical Validation Data**

We are dedicated to continuously publishing and presenting new data on the clinical validation and utility of our diagnostic tests. We have participated in 27 clinical studies, 4 of which are ongoing, and have published over 275 peer-reviewed publications and presentations. Below we outline our clinical validation data for our six diagnostic tests: Nodify CDT, Nodify XL2, GeneStrat, VeriStrat, SARS-CoV-2 ddPCR, and Platelia SARS-CoV-2 Total Ab.

***Nodify CDT***

Nodify CDT has been studied in 14 peer reviewed published studies and presentations. Here we highlight an overview of one of our key peer-reviewed clinical validation papers.

- *Healey GF, J Cancer Ther 2017*: In this study, the objective was to assess the clinical test performance of Nodify CDT (previously named EarlyCDT-Lung) and its clinical utility in assessing risk of indeterminate pulmonary nodules. A High Level test result demonstrated a 98% specificity and 28% sensitivity with a positive predictive value (PPV) of 78%. With these test performance metrics, the test is most clinically useful as a tool to ‘rule-in’ cancer, which is can be defined as helping to identify patients who may be at a higher risk of malignancy. Conversely, a result of No Significant Level of Autoantibodies Detected (NSLAD) does not help rule out lung cancer and therefore does not change a patient’s pre-test risk of lung cancer.

***Nodify XL2***

Nodify XL2 has been studied in 12 peer reviewed published studies and presentations. Here we highlight an overview of two of our key peer-reviewed clinical validation papers.

- *Silvestri G, CHEST, 2018 (PANOPTIC)*: In the prospective, multicenter PANOPTIC clinical study, the test demonstrated a sensitivity of 97%, a specificity of 44% and a negative predictive value of 98% in

distinguishing benign from malignant nodules. When compared to traditional cancer risk assessments, Nodify XL2 performed better than a PET scan commonly used and validated lung nodule risk models (including the Swensen nodule calculator), and physicians' cancer probability estimates. The PANOPTIC study concluded that if the test results were used to direct care, 40% fewer invasive procedures would be performed on benign nodules. As such, Nodify XL2 may have significant clinical utility in guiding incidental lung nodule management decisions, potentially eliminating unnecessary invasive procedures, resulting in improved quality of life for patients as well as reduced financial expense for both the patient and the health system.

- *Pritchett M, Am J Respir Crit Care Med, 2020:* Preliminary results from the ORACLE registry study were accepted as a late breaking abstract at the American Thoracic Society conference. In the study, the Nodify XL2 test resulted in 46% of nodules being re-classified from the "low to moderate risk" (5-65%) into the "very low risk" (less than 5%) category. This redistribution was predicted in the PANOPTIC clinical validation study and is now seen in real-world clinical use in the ORACLE study and through commercial clinical testing. This shift in distribution may lead to a substantial increase in benign nodules correctly routed to CT surveillance, thus a significant reduction of invasive procedures being performed on benign disease.

***GeneStrat***

GeneStrat has been studied in 30 peer reviewed published studies and presentations. Here we highlight an overview of one of our key peer-reviewed clinical validation papers.

- *Mellert H, J Mol Diagn, 2017*: This study highlights the clinical validation data for the targetable mutations (EGFR, KRAS, ALK) in the blood-based GeneStrat test. The overall clinical test performance of the genes and variants in GeneStrat is 91% sensitivity and 100% specificity. Clinical sensitivity for each gene ranged from 88% to 100%. Clinical specificity for each gene was 100%. Additionally, this study reported on mutation results from our commercial clinical testing. Mutation results were available within 72 hours for 94% of the tests evaluated. The GeneStrat test is a rapid, highly sensitive, and actionable blood-based test that supports faster targeted therapy treatment decisions for patients with NSCLC.

***VeriStrat***

VeriStrat has been studied in over 85 peer reviewed and published clinical studies across many different types of treatment regimens such as chemotherapy, targeted therapies, immune checkpoint inhibitors, and combination therapies. The presence of a VeriStrat Poor result indicates the presence of chronic inflammation and a chronic acute phase immune response. Typically, patients with a VeriStrat Good result respond better to standard of care treatments than those patients that test as VeriStrat Poor. The results consistently show the test to be predictive of outcomes, independent of other prognostic factors including PD-L1 expression and performance status.

- *Leal T, Curr Med Res Opin, 2020*: Timely assessment of patient-specific prognosis is critical to oncology care, however clinical prognostic factors traditionally used in NSCLC treatment have limitations. This meta-analysis study examined the prognostic performance of VeriStrat through a systematic literature review of 21 published studies. It was found that patients who test as VeriStrat Poor, on average, have an overall survival that is less than half of those who test as VeriStrat Good, independent of treatment type and line of therapy, demonstrating that the test is strongly prognostic. Conversely, patients with a VeriStrat Good test result typically respond better to standard of care treatments than those patients that test as VeriStrat Poor. The robust prognostic performance of VeriStrat has clinical implications for patient and physician shared decision-making and potential for the introduction of novel treatment strategies.
- *Mitchell BR, J Clin Oncol, 2020*: Recently, we published data at the American Society of Clinical Oncology 2020 virtual meeting on an interim analysis from the INSIGHT clinical study. The data

suggest that blood-based VeriStrat testing can provide clinically significant information to predict outcomes and guide treatment choices made by physicians for patients with advanced NSCLC who are eligible for immune checkpoint inhibitor therapy. Specifically, the study identified that patients who have tumors that express PD-L1 greater than 50% and have a VeriStrat Poor result should not be treated with immunotherapy alone.

***Biodesix WorkSafe COVID-19 Testing Program***

*Bio-Rad SARS-CoV-2 ddPCR Test*

FDA EUA Authorization—All acceptance criteria for the performance verification of the Bio-Rad SARS-CoV-2 ddPCR test were fulfilled. The sample size used for the clinical evaluation study of the test was 60, and included 30 negative specimens and 30 positive contrived specimens per FDA EUA guidance. Specifically, verification of accuracy revealed 100% agreement with the reference result. An additional study was performed to confirm our first 5 positive and first 5 negative clinical specimens relative to an external laboratory with an orthogonal EUA test. Data from this study demonstrated 100% concordance.

Here we highlight an overview of one of the recent publications on ddPCR testing for SARS-CoV-2:

- *Suo T, Emerging Microbes & Infections, 2020:* Quantitative real time PCR (RT-PCR) is widely used as the gold standard for clinical detection of SARS-CoV-2. However, due to the low viral load specimens and the limitations of RT-PCR, significant numbers of false negative reports are inevitable, which results in failure to timely diagnose, cut off transmission, and assess discharge criteria. To improve this situation, an independently developed optimized ddPCR was used for detection of SARS-CoV-2, which showed that the limit of detection of ddPCR is significantly lower than that of RT-PCR. Results showed that the ddPCR test demonstrated 95% accuracy vs. 47% for other “bulk” RT-PCR technologies used in other molecular tests. Results from this publication were prior to the Bio-Rad SARS-CoV-2 ddPCR assay receiving FDA EUA.

*Platelia SARS-CoV-2 Total Ab Test*

FDA EUA Authorization—All acceptance criteria for the performance verification of the Platelia SARS-CoV-2 Total Ab test were fulfilled. The test is intended for the qualitative detection of total anti-SARS-CoV-2 nucleocapsid antibodies (IgG, IgM and IgA) in human serum or plasma specimens. Specifically, verification of accuracy revealed 100% agreement with the reference result. Additionally, precision was evaluated and found to be comparable to that reported by the manufacturer within-run, between-day, between-instrument and between-operator. Finally, all confirmed negative specimens tested were within the reference interval. The sensitivity is 98% (95% confidence interval (6.8%-99.9%)) and specificity is 99% (95% confidence interval (98.7%-99.9%)) eight days after the onset of symptoms.

**Case Studies**

We believe every patient deserves a personalized approach to improve their care. Our objective is to empower physicians with swift, comprehensive, and actionable insights to help address clinical questions across lung disease. The following are case studies provided by our customers from their real-world experience with our diagnostic tests.

*Case Study #1: Catching Cancer Earlier with Nodify CDT*

**Outcome**: Appropriate management of patients with incidentally discovered lung nodules must balance between the need to identify malignant nodules earlier and the potential harm of invasive procedures, while keeping patient preferences in consideration. In this case, a 90% post-Nodify CDT risk of malignancy result led to a decision change by the physician and patient to proceed with an invasive diagnostic workup, which led to an earlier diagnosis of stage IA lung cancer.

**Case Background**: A 64-year-old female presented for medical attention after falling on her right side. A chest X-ray showing a spot on the lung and subsequent CT scan identified a spiculated (nodule edge characteristic), 10 mm lung nodule in the patient's right upper lobe. Based on her clinical risk factors and nodule characteristics, a 39% risk of malignancy was determined by the Solitary Pulmonary Nodule Calculator. At this estimated risk, the patient was not comfortable with any invasive diagnostic procedures but was willing to undergo a follow-up PET/CT scan and a blood draw for Nodify Lung testing. PET/CT results had a standard uptake value (SUV) of 3.3, which is not a strong indicator of benign or malignant disease. The patient's Nodify CDT post-test risk of malignancy was 90%. Through shared decision making based on the test results, the patient proceeded with a biopsy, which was diagnosed as cancerous. Early detection identified the patient as a candidate for a potentially curative procedure.

*Case Study #2: Avoiding Unnecessary Procedures with Nodify XL2*

**Outcome**: Traditional diagnostic risk assessment and testing indicated that this patient had a higher risk of malignancy, but because of the patient's health condition, a biopsy was not preferred. A 6% post-Nodify XL2 risk of malignancy result led the physician and patient to make a shared decision to monitor the nodule with a short-term follow-up CT. The follow-up CT demonstrated a reduction in size, indicating a benign diagnosis. Blood-based risk classification provided additional information that enabled a decision to avoid an unnecessary invasive procedure.

**Case Background**: A 74-year-old male with severe chronic obstructive pulmonary disease (COPD) presented for medical evaluation. The patient's pulmonary function tests showed severe obstruction. A CT scan was completed for evaluation for candidacy of procedure which revealed a spiculated 10 mm nodule in the patient's left upper lobe. The pre-test risk of malignancy with the Solitary Pulmonary Nodule Calculator was calculated as 49%, however biopsy was not a preferred option due to the patient's poor pulmonary function and the difficult location of the lung nodule. The Nodify XL2 test was ordered and returned a result of Likely Benign, with a 6% post-Nodify XL2 risk of malignancy. Subsequent PET/CT imaging showed SUV of 7.0, which is concerning for a lung malignancy. Based upon the Nodify XL2 results and patient preference, a wait and watch approach with repeat chest imaging was pursued. A repeat CT scan demonstrated a reduction in size of the nodule to 7 mm, indicating an inflammatory or benign etiology.

*Case Study #3: Biodesix Lung Reflex Results Changed Patient's Cancer Treatment Plan*

**Outcome**: It is important for physicians to have a holistic view of each patient's dynamic disease state to make more informed patient care decisions. In this case, the patient with advanced NSCLC did not have any driver mutations, as identified by GeneStrat. However, the patient's VeriStrat Good result facilitated a conversation between the patient and physician about their positive prognosis and the benefits that more aggressive treatment could provide. Prior to receiving the VeriStrat result, the patient was considering foregoing systemic therapy. The combined Biodesix Lung Reflex results facilitated a shared decision to begin treatment with a combination immunotherapy and chemotherapy regimen.

**Case Background**: A 79-year-old female presented to the clinic with a cough, fever, and chest pain. The patient was a former smoker who had quit more than 25 years ago. A CT scan identified a lung mass (greater than 30 mm) and the patient was scheduled for bronchoscopy to confirm diagnosis and stage. A blood sample was collected during the pre-operative appointment for Biodesix Lung Reflex testing. The patient's final diagnosis was stage IV adenocarcinoma. The GeneStrat test result was mutation negative and the VeriStrat test result was Good. The patient was reviewed by a multi-disciplinary team of physicians and based on the staging and test results was referred to a medical oncologist for treatment with a combination of immunotherapy and chemotherapy. The patient previously wished to avoid systemic therapy, but our tests supported a shared decision with her physician to move ahead with an aggressive treatment regimen.

*Case Study #4: First Do No Harm – Biodesix Lung Reflex Supports Shared Decision Making*

**Outcome**: Lung cancer is a deadly disease, and often patients with advanced disease on average live about 10 months. In this case, an elderly patient was diagnosed with advanced NSCLC, but was hesitant to receive further surgical procedures. This patient received the unfortunate combination of a VeriStrat Poor and a KRAS mutation. The results facilitated a conversation with the physician and the patient's family regarding her overall poor prognosis and short estimated survival. The patient and family decided to pursue end-of-life palliative care, saving the patient from unnecessary procedures and adverse effects.

**Case Background**: A 92-year-old female presented with back and chest pain and recent difficulty breathing. The patient had also lost 8 to 10 pounds in recent weeks and had a productive cough. The patient had a 40 pack-year smoking history but had quit over 35 years prior. A PET/CT scan revealed metastatic disease with multiple brain metastases, leading to a diagnosis of stage IV lung cancer. The patient and her family were hesitant to proceed with an invasive procedure for further diagnosis and clinical staging to inform a treatment plan. Biodesix Lung Reflex testing was ordered to inform potential treatment pathways. The GeneStrat test result showed the patient was positive for a KRAS G12V mutation, implying a worse prognosis. Additionally, the VeriStrat test result was Poor.

**Our Diagnostic Tests in Development**

With the goal of finding solutions for clinical unmet needs related to diagnosis, treatment and monitoring in lung disease, our diagnostic tests in development include the following:

*Early Stage NSCLC—Risk of Recurrence*

Currently, surgical resection of the tumor without systemic or radiation therapy is standard of care for stage I NSCLC patients. However, 20 to 40% of surgically treated patients will suffer a recurrence within 5 years after surgery. From market research with pulmonologists, thoracic surgeons, and medical oncologists, we identified a significant clinical unmet need for a blood-based test to help identify stage I NSCLC patients who are at a higher risk of recurrence and may benefit from neoadjuvant or adjuvant systemic treatment. With this information, we discovered the Risk of Recurrence (ROR) test, which is a pre-surgery blood-based proteomic test, designed with the Diagnostic Cortex to predict whether a stage I NSCLC patient has a higher risk of recurrence post-surgical resection. Knowing this information early and before surgery may support treatment decisions such as neoadjuvant or adjuvant therapy, which have the potential to reduce tumor volume and address micro-metastatic disease as early as possible. Our ROR test validated in an independent sample set, and we are currently working with major academic institutions across the United States to further validate the test.

*Late Stage NSCLC—Immunotherapy Treatment Guidance*

In 2015, the first immunotherapy-based treatment regimen was approved by the FDA for use in lung cancer. Currently, there are 9 immune checkpoint inhibitor (ICI) regimens (single agent or combinations) recommended by the NCCN guidelines for treatment of advanced NSCLC patients. For a portion of patients treated, these drugs can result in significant improvement in overall survival compared with platinum-based chemotherapy options. The combination ICI regimens see some improvement in performance over single agent ICI, but side effect profiles are worse, and costs are higher than for single agent ICI. In addition, recent data have shown that a subset of patients experience more rapid disease progression on ICI compared with chemotherapy. We utilized the Diagnostic Cortex platform to discover our Primary Immune Response (PIR) test. PIR is a blood-based proteomic test designed to profile a patient's immune response to their cancer and stratify by who is likely to respond to ICI treatment. Our PIR test has been validated in multiple independent sample sets for advanced stage NSCLC patients treated with single agent ICI, and we are currently working with major academic institutions across the United States to further validate the test in a prospective study called BEACON-Lung.

*Monitoring – Progression & Resistance*

Blood-based monitoring with our ddPCR technology may offer a feasible method to non-invasively evaluate therapeutic mechanism of action, disease progression, and the emergence of resistance mutations in patients treated with targeted therapies. Our internal validation studies have shown the utility of the GeneStrat *EGFR* ddPCR test in all three of these indications. The test can identify disease progression up to 3 months (median) in advance of standard imaging. Using ddPCR for longitudinal blood-based monitoring of EGFR cell-free DNA mutations is a cost-effective testing method while patients are being treated with targeted therapies.

**Clinical Trials**

We are dedicated to continuously publishing and presenting new data on the clinical validation and utility of our diagnostic tests. We have participated in 27 clinical studies, 4 of which are ongoing, and have published over 275 peer-reviewed publications and presentations. The following are our ongoing clinical studies for our diagnostic testing solutions.

*ORACLE Registry Study (NCT03766958)*

The ORACLE registry study was designed to develop real-world clinical utility data for Nodify XL2 and is titled “An Observational Registry Study to Evaluate the Performance of the Nodify XL2 Test”. The study objectives are to show a reduction in invasive procedures on patients with benign nodules compared to a historical control obtained from chart review. The first patient enrolled on October 16, 2018. As of May 1, 2020, 423 patients have been enrolled and are undergoing primary endpoint analysis, with 2-year follow-up estimated to be completed by the first half of 2022.

*ALTITUDE Clinical Utility Study (NCT04171492)*

The ALTITUDE clinical utility study is designed to evaluate the performance of Nodify Lung (Nodify XL2 and Nodify CDT) in a randomized controlled study (RCT). The study is titled “A Multicenter, Randomized Controlled Trial, Prospectively Evaluating the Clinical Utility of the Nodify XL2 Proteomic Test in Incidentally Discovered Low to Moderate Risk Lung Nodules”. We received central investigational review board (IRB) approval in December 2019 and have an enrollment goal of 2,000 patients. The study objectives are to evaluate how the addition of the Nodify Lung test result impacts the clinical decision making for patients with new, incidentally identified solid lung nodules assessed as low to moderate risk of lung cancer. The trial has an adaptive study design with a blinded standard of care arm and 2:1 randomization for open-label results for Nodify XL2. First patient first visit is expected the second half of 2020. Phase 1 of the study with only Nodify XL2 is expected to enroll 500 patients. Phase 2 of the adaptive study design will include an open-label arm for Nodify CDT, which is aligned with our commercial testing algorithm.

*INSIGHT Observational Study (NCT03289780)*

The INSIGHT observational study is designed to evaluate the real-world clinical utility and performance of the Biodesix Lung Reflex (GeneStrat and VeriStrat) testing strategy. The title is “Observational Study Assessing the Clinical Effectiveness of VeriStrat and Validating Immunotherapy Tests in Subjects with Non-Small Cell Lung Cancer (INSIGHT)” and the first patient enrolled was on May 11, 2016. To date, we have over 3,500 patients enrolled with a target 5,000 enrollment goal. Final analysis with 3-year follow-up is estimated to be completed by 2024. Results of an interim analysis were presented at ASCO 2020. The study rationale is to guide the adoption of VeriStrat and inform medical decision making, including treatment choice, and enable the validation of additional mass spectrometry-based proteomic tests. The primary study objective is to describe the impact of the VeriStrat test results on treatment decisions, including but not limited to the percentage change in treatment decision, differences in chosen treatments between patients classified as VeriStrat Good and those classified as VeriStrat Poor, and the percentage of patients receiving systemic therapy or supportive therapies only.

*BEACON-Lung Clinical Study (Pending IRB Submission)*

In partnership with ALCMI (Addario Lung Cancer Medical Institute), the BEACON-Lung clinical study is intended to evaluate the performance and utility of our proteomic product currently in development, PIR, in advanced stage NSCLC patients who express high PD-L1. The study title is "A Biomarker Analysis in High PD-L1 Expressing NSCLC Patients Treated With An Immune Checkpoint Inhibitor (ICI) With or Without Platinum-Based Chemotherapy." IRB submission is planned for the second half of 2020. The study design is an observational, multicenter, open-label study to assess biomarkers (serum, microbiome, radiomics and tissue) as predictive of early progression in 390 treatment-naive patients with advanced stage NSCLC and PD-L1 greater than or equal to 50% treated with two standard of care regimens, triplet therapy (platinum-based chemotherapy plus ICI regimen) and ICI monotherapy (single agent ICI). The objectives are to collect biospecimens and evaluate candidate biomarkers, with a focus on PIR, to detect early progression on ICI monotherapy versus triplet therapy.

**Commercialization**

For our lung cancer and nodule management tests, commercial efforts are focused on the promotion of our testing strategies to healthcare professionals actively involved in the diagnosis and treatment of lung cancer. Primarily focusing on pulmonology, the commercial team, consisting of specialty sales representatives, medical affairs, marketing and customer care representatives, works to educate and inform the entire patient care group consisting of physicians, nurses, office staff, laboratory personnel, and administration as to the appropriate use and value provided by our testing. The team's goal is to drive test adoption through articulating the scientific and clinical evidence behind our tests, how they impact the clinical care of a patient, and how the tests can ultimately help to improve patient outcomes.

Patients with pulmonary nodules are concentrated in this sub-specialty, where additional resources such as lung cancer screening and nodule management clinics may exist to provide an increased level of care. We are also engaging large hospital systems in a "top-down" approach, with a goal of incorporating our tests into system wide pathways and protocols.

After a physician orders our tests, blood is collected either in the physician office or laboratory, third party "store front" patient service centers, or it can be collected in the patient's home or workplace. We have contracted with a network of patient service centers and mobile phlebotomy services to be enable collection of blood samples outside of the physician office, at home or work for patients across the United States.

For our Biodesix WorkSafe COVID-19 testing program, we have a dedicated outreach team that works with healthcare providers and hospitals, and employers looking to safely return to work across many industries, including food services, oil and gas, biotechnology and pharmaceuticals, sports teams, universities, and many small businesses. We recognize everyone's COVID-19 situation is unique, which is why we provide end-to-end customized solutions to support testing for our different customers, such as risk assessment tools, physician ordering services, on-site testing, phlebotomy services, shipping logistics, and ongoing support.

Our business development team is focused on selling our complete offering of tests and services to biopharmaceutical companies in the United States and internationally. Our team consists of customer facing business development associates that work with our biopharmaceutical customers to identify projects, draw up statements of work and negotiate service agreements. Alliance managers help to manage the contractual obligations and scope of the project, whereas our operations team assures the project is managed with adequate resources and delivers on time. We take a two-pronged approach generating business in this segment. Primarily, we leverage existing projects and relationships to expand sales in current accounts. We also actively map ongoing drug development projects in biopharmaceutical companies and target programs best suited to our platform for new test development.

**Coverage and Reimbursement**

The primary source of reimbursement for our tests in the United States is from third-party payers including government payers, such as Medicare, and commercial payers, such as insurance companies. For our COVID-19 tests, the primary source of reimbursement is through contracts with hospitals, companies providing wellness testing for their employees, or direct pay from patients. We believe that our lung cancer tests can both improve patient outcomes and help guide cost-effective treatment choices for patients with and at-risk of lung cancer. Achieving broad coverage and adequate reimbursement for each of our tests is a key component of our financial success and will continue to be important over time.

Under the Families First Coronavirus Response Act (FFCRA) and Coronavirus Aid, Relief, and Economic Security (CARES) Act, Congress has imposed a broad requirement that Medicare fee-for-service, Medicare Advantage, Medicaid, and commercial payers generally cover clinical diagnostic laboratory tests administered during the Public Health Emergency for the detection of SARS-CoV-2 or the diagnosis of the virus that causes COVID-19. Where applicable, the FFCRA and CARES require payers to cover COVID-19 tests without cost sharing or medical management techniques like prior authorization. Medicare fee-for-service does not require cost sharing or prior authorization for any clinical diagnostic laboratory tests.

The Department of Health & Human Services (HHS) has indicated in guidance that the coverage requirements of the FFCRA and CARES can apply both to infection and serological testing, but that they are only applicable to testing that is "diagnostic," which "may include testing of individuals with signs or symptoms compatible with COVID-19, as well as asymptomatic individuals with known or suspected recent exposure to SARS-CoV-2." Testing that is "not primarily intended for individualized diagnosis or treatment of COVID-19 or another health condition," including "testing conducted to screen for general workplace health and safety," is beyond the scope of the statutory coverage requirements. We believe these coverage requirements apply to the Biodesix SARS-CoV-2 ddPCR test and the Biodesix Platelia SARS-CoV-2 Total AB test when performed for diagnostic purposes. In some cases, we submit claims to insurance payers for the Biodesix SARS-CoV-2 ddPCR test and/or the Biodesix Platelia SARS-CoV-2 Total AB test. In these cases, insurance payers may have a different position on the scope of mandatory coverage of our tests under the FFCRA and CARES. More commonly, we enter into arrangements with clients under which the client pays us directly for testing.

The payment rate for the Biodesix SARS-CoV-2 ddPCR test and the Biodesix Platelia SARS-CoV-2 Total AB test depends on the payer. We bill for the Biodesix SARS-CoV-2 ddPCR test using the Healthcare Common Procedure Coding System (HCPCS) code U0003 (Infectious agent detection by nucleic acid (DNA or RNA); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), 2 amplified probe technique, making use of high throughput technologies as described by CMS-2020-01-R). Medicare has established a payment rate of $100 for U0003. We bill for the Biodesix Platelia SARS-CoV-2 Total AB test using HCPCS code 86769 (Antibody; severe acute respiratory syndrome coronavirus 2 (SAR-CoV-2). Medicare has established a payment rate of $42.13 for 86769. These payment rates may be subject to change effective January 1, 2021, under Medicare's annual basis of payment determination process for new or substantially revised HCPCS codes. When covered under the FFCRA and CARES, commercial insurance payers must make payment for the Biodesix SARS-CoV-2 ddPCR test and the Biodesix Platelia SARS-CoV-2 Total AB test at the cash price for the test listed by us on our website or at a lower negotiated rate. When entering into arrangements with clients under which the client pays us directly for testing, we and the client negotiate a payment rate for the test.

Compliance with applicable laws and regulations, as well as internal compliance policies and procedures adds complexity to the billing process. The CMS are responsible for overseeing the establishment of new Healthcare Common Procedure Coding System (HCPCS) codes for billing the Medicare program and other payers. CMS continuously evaluates and implements changes to the Medicare billing, coding, and reimbursement processes. To receive reimbursement from third-party payers, we bill our tests using a variety of HCPCS codes or

CPT codes, as defined by the American Medical Association. For some of the tests we conduct, there may not be a specific CPT or HCPCS code, in which case the test may be billed under a miscellaneous code for an unlisted molecular pathology procedure or unlisted multiple analyte assay with algorithmic analysis (MAAA) procedure. Because these miscellaneous codes do not describe a specific service, the third-party payer claim may be examined to determine the service provided, whether the service was appropriate and medically necessary and whether payment should be rendered. This process can result in a delay in processing the claim, a lower reimbursement amount, and/or denial of the claim.

***Government Payers***

Medicare is limited to items and services that are within the scope of a Medicare benefit category and that are reasonable and necessary for the diagnosis and treatment of an illness or an injury. Medicare develops National Coverage Determinations (NCDs) and Local Coverage Determinations (LCDs), setting forth additional requirements for coverage for tests such as ours using an evidence-based coverage process with opportunity for public participation. Median age at diagnosis for lung cancer is 71 years old; therefore the Medicare eligible population represents approximately 60-65 % of the addressable market in lung cancer.

Novitas Solutions, the MAC responsible for developing coverage policies for tests performed in the region that includes our Boulder, Colorado clinical laboratory, issued a final LCD *Biomarkers for Oncology* (L35396) that included coverage for the VeriStrat test on October 1, 2015 (most recently revised effective July 1, 2020). This policy provides coverage for patients with non-small cell lung cancer whose *EGFR* gene mutation status is either wild type (negative) or mutation status unknown. The *Biomarkers for Oncology* LCD also includes coverage for the genes in the GeneStrat test for patients with non-small cell lung cancer.

Palmetto GBA, the MAC responsible for administering the molecular diagnostics services program covering many other regions of the United States including the De Soto, Kansas clinical laboratory, issued a positive coverage LCD for the Nodify XL2 test, known under the generic name BDX-XL2 (L37031), effective July 10, 2017 (most recently revised effective October 24, 2019). The test is covered for patients who are 40 years or older, have a suspicious pulmonary nodule between 8 and 30mm, and have a pre-test risk of cancer of equal to or less than 50% as assessed by the Solitary Pulmonary Nodule Malignancy Risk calculator (Mayo Clinic). There is currently no Medicare coverage, and as a result, no Medicare reimbursement, for the Nodify CDT test, but we are actively engaged in efforts to gain such coverage and reimbursement by Medicare.

Our tests and those like ours are typically paid by Medicare Part B under the Clinical Laboratory Fee Schedule (CLFS). In April 2014, Congress passed the Protecting Access to Medicare Act of 2014 (PAMA) which included changes to how prices are assigned to billing codes used to identify these tests. Under PAMA, entities who receive a majority of their Medicare payments under that CLFS or the Physician Fee Schedule are required to report private payer payment rates and volumes every three years, or every year for tests with the Advanced Diagnostic Laboratory Test (ADLT) designation. CMS calculates a weighted median rate for each code, which establishes the Medicare CLFS reimbursement rate for the subsequent three years, or one year for ADLTs.

On December 21, 2018, CMS determined that VeriStrat met the criteria for an “existing ADLT,” meaning an advanced test that was paid on the CLFS prior to January 1, 2018. Assignment of this status meant that beginning on January 1, 2020, the reimbursement rate assigned to the code used to identify VeriStrat would be set annually. Data collected from January to June of 2018 was reported to CMS in the first quarter of 2019 and set the rate of $2,871 for calendar year 2020, representing no change from the rate paid for VeriStrat for calendar year 2019. Data collected from January to June 2019 was reported in the first quarter of 2020 that will be used to set the rate for calendar year 2021.

On May 17, 2019, CMS determined that Nodify XL2 met the criteria for “new ADLT” status. From July 1, 2019 through March 31, 2020, Medicare paid the list price of $3,520. During the period from July 2019 to November 2019, we collected the required commercial payment data and reported to CMS in December 2019.

The data from this period was used to set the payment rate for the test from April 1, 2020 through December 31, 2021, which remains priced at $3,520. The rate for 2022 will be set based on data collected in the first half of 2020 and reported in the first quarter of 2021.

Medicare Advantage plans, which are an alternative to original Medicare and are offered by private companies, such as commercial payers, also cover and reimburse our products. Medicare Advantage plans must provide at least the same level of coverage for Medicare beneficiaries as traditional Medicare; however, reimbursement for our tests by Medicare Advantage plans can depend on our contracts with each plan.

State-based Medicaid and Managed Medicaid plans offered by private companies such as commercial payers, have limited coverage and reimbursement of our products. Payment by Managed Medicaid is also dependent on our contracts with each plan.

***Commercial Third-Party Payers***

We are actively engaged in efforts to achieve broad coverage and adequate reimbursement for all of our marketed tests. Reimbursement from commercial payers differs depending on if they have established coverage and if we are contracted as a "participating provider" or do not have a contract and are considered a "non-participating provider." Approval of a claim is dependent on coverage, and reimbursement rate and timing of payment is based on the terms of or presence of a contract. When we are not reimbursed in full or at all, we may submit appeals of the denial or underpayment or seek payment from the patient. However, insurance appeal and patient collection efforts take a substantial amount of time and can have varying levels of success.

We bill for the VeriStrat and Nodify XL2 tests using test specific CPT codes—81538 and 0080U, respectively. The GeneStrat test is billed based on the genes that are ordered by the physician using the existing molecular pathology codes. The Nodify CDT test is billed using the unlisted MAAA code.

With the evolution of genomic testing, individual commercial third-party payers' medical coverage policies around the CPT codes we bill and their associated payment rates have changed over time, resulting in changes to our reimbursement revenues. We believe all of our products provide significant clinical value and reduction in downstream healthcare spend, as evidenced in research studies and clinical publications, which we believe will continue to support and drive third-party payer reimbursement.

Our strategy includes educating commercial third-party payers and evidence review organizations regarding our strong clinical data, which we believe validates the value of our tests and will eventually result in more commercial third-party payers covering our tests. The VeriStrat test is covered by many private payers including Aetna, Cigna, Humana, and various Blue Cross Blue Shield plans. We are actively engaged with private payers to expand coverage and contracting for all of our marketed tests.

**Competitors**

We primarily face competition from lung cancer diagnostic solutions companies in the United States, Europe and Asia seeking to answer clinical questions in the space, all of whom provide cancer-focused diagnostic tests to hospitals, researchers, clinicians, laboratories and other medical facilities.

***Diagnosis—Nodule Management***

We are not aware of any other company that offers two commercial blood-based tests to help physicians reclassify risk of malignancy in patients with suspicious lung nodules. We are aware of efforts by Veracyte, Inc. to develop and validate a test that may be competitive to the Nodify XL2 and/or Nodify CDT tests in the future. Additionally, Veracyte currently markets a test that is used post-bronchoscopy that is not competitive with our pre-bronchoscopy nodule risk assessment tests.

***Prognosis, Treatment Guidance and Monitoring—NSCLC***

We are unaware of any other diagnostic test available, commercially or in development, that will compete with our VeriStrat immune profiling test. There is substantial interest and activity in tumor profiling through liquid biopsy. Our genomic test offering, GeneStrat, faces competition from academic hospital laboratories, and companies such as Guardant Health and Foundation Medicine. We believe that there are several companies and academic research institutions in the process of developing tests for monitoring patients on or following treatment for recurrence or progression of lung cancer.

***COVID-19 Testing***

We believe that our competitors include national and state laboratories, reference laboratories such as Lab Corporation and Quest Diagnostics, in-hospital laboratories, and a number of other diagnostic providers. We are aware that a number of other companies have announced development efforts to develop COVID-19 tests.

***Biopharmaceutical Diagnostic Discovery, Development & Testing Services***

We are aware of a number of companies who compete with our diagnostic tests and services, including diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics. From the perspective of tumor profiling, we believe Guardant Health and Foundation Medicine are our most significant competitors. Conversely, in the immune profiling market, we believe Adaptive Biotechnologies and Personalis are our most significant competitors.

**Clinical Laboratory Operations**

We perform the VeriStrat, GeneStrat, and COVID-19 ddPCR tests in our Boulder, Colorado clinical laboratory. The laboratory is CAP-accredited, CLIA-certified, New York Department of Health (NYSDOH)— permitted and licensed, ISO 13485:2016 Quality Management Systems—Requirements for Regulatory Purposes for Medical Devices certified, along with all other states that require licensing: California, Maryland, Pennsylvania, and Rhode Island. All aspects of the testing process from receipt of the test requisition form through to delivery of test results are performed in the Boulder, Colorado facility. The proprietary testing methods use semi-automated workflows that facilitate the successful delivery of greater than 90% of our tests within 3 days, and we believe our existing workflows will continue to successfully deliver our tests within this timeframe.

The Nodify XL2, Nodify CDT, and COVID-19 complete antibody tests are performed in our De Soto, Kansas clinical laboratory. This clinical laboratory is CLIA-certified, COLA-accredited, New York Department of Health—permitted and licensed, and licensed by California, Maryland, Pennsylvania, and Rhode Island. Efforts are underway with the NYSDOH to become permitted and licensed to perform Nodify XL2 and Nodify CDT testing for samples from the state of New York. Receipt of requisitions and testing is performed in our De Soto, Kansas clinical laboratory. Delivery of the test results is performed by personnel from our Boulder, Colorado headquarters. The proprietary testing methods use semi-automated workflows that facilitate the successful delivery of greater than 90% of our tests within 5 days, and we believe our existing workflows will continue to successfully deliver our tests within this timeframe.

Personnel in both facilities are responsible for quality assurance oversight, licensing, and regulation compliance and maintenance to ensure data integrity and consistent, validated processes.

**Supply Chain**

We rely on third-party suppliers, including in some instances single source suppliers, to provide us with certain components of our diagnostic tests. The number of suppliers feeding into the production of our diagnostic tests is in excess of 65 worldwide. We consider a select few of these suppliers, located in the United States,

Europe and China, as critical single source providers of components. Bio-Rad, as described below, is the sole source supplier for our GeneStrat and COVID-19 diagnostic and antibody tests. Oncimmune is also the sole source supplier for our Nodify CDT tests but there are known secondary suppliers for these materials. We have initiated the second source qualification process for the majority of these critical components.

In addition, we purchase supplies through purchase orders without long-term supply agreements with, or guaranteed commitments from, many of our suppliers, including single source suppliers. Additionally, at present, we rely on contract manufacturers for the production of our diagnostic tests. We depend on our suppliers and contract manufacturers to provide us and our customers with materials in a timely manner that meet our and their quality, quantity and cost requirements.

We entered into a nonexclusive license and supply agreement with Bio-Rad in August 2019. We rely on Bio-Rad to supply equipment and reagents used to perform ddPCR testing, a service offered by us under a variety of fee for service agreements and the core technology powering the GeneStrat test, but these supplies are able to be supplied by known suppliers. A disruption to this supply would negatively impact our ability to perform the GeneStrat and SARS CoV-2 tests until alternatives could be validated.

While we have initiated the second source qualification process for the majority of these critical components, we may not be successful in securing second sourcing for all of them at all or on a timely basis. A disruption to this supply would negatively impact our ability to perform these tests until an alternative supplier could be validated.

All materials for our VeriStrat test and Nodify XL2 tests have alternative suppliers readily available, and a disruption in any single supplier would not materially impact our ability to deliver the test.

The COVID-19 pandemic has allowed us to pressure-test our supply chain and logistics processes as we purchased additional manufacturing capacity above our normal run rates to ensure that supply to execute on tests for the foreseeable future was available in-stock and in-house. Our suppliers have been able to allocate sufficient capacity to meet this increased demand with reasonable lead times and therefore we believe sufficient capacity exists for all tests for the next 24 months.

**Intellectual Property**

Our success depends, in part, on our ability to obtain and maintain intellectual property and proprietary protection for our products and other know-how, to operate our business without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of others, and to defend and enforce our intellectual property and proprietary rights. We take efforts to protect our proprietary position using a variety of methods, which include pursuit of United States and foreign patent applications related to our proprietary technology, inventions and improvements that we determine are important to our business. We also may rely on trade secrets, trademarks, know-how, continuing technological innovation and potential in-licensing and acquisition opportunities to develop and maintain our proprietary position. For more information regarding risks relating to intellectual property, please see “Risk Factors—Risks Related to Our Intellectual Property.”

We have invested heavily in the protection of our key assets, namely the VeriStrat® and GeneStrat® tests, and we acquired a patent portfolio relating to the Nodify XL2® and CDT™ tests in our acquisitions of Integrated Diagnostics in June 2018, and of Oncimmune USA in October 2019 from Oncimmune Limited (Oncimmune). We own patents and patent applications as well as trade secrets relating to our products currently in development, collection device for whole blood, business strategy, client lists and business methods. Further, we have expanded our access to key intellectual property through license and co-development agreements, including our Non-Exclusive License Agreement with Bio-Rad (the Bio-Rad License), which allows us to use the Droplet Digital PCR™ technology developed by Bio-Rad and which we employ in our GeneStrat test.

Our patent strategy has focused on creating and acquiring protection for our VeriStrat and Nodify XL2 proteomic tests, while utilizing trade secret and some methods patent protection for our genomic test (the GeneStrat test) and ELISA test (the Nodify CDT test). We have entered into a non-exclusive license agreement with Bio-Rad, without the right to grant sublicenses, to utilize certain of Bio-Rad's intellectual property, machinery, materials, reagents, supplies and know-how necessary for the performance of ddPCR in cancer detection testing for third parties in the United States. See "—Material Agreements – Non-Exclusive License Agreement." In addition, we have separately been granted permission by Bio-Rad to use the Bio-Rad SARS-CoV-2 ddPCR assay for commercial diagnostic services. We have patent protection in the United States and other countries around the world for the primary use of the VeriStrat test for profiling of patients with NSCLC, and various other uses of the VeriStrat test, such as breast cancer, prostate cancer, head and neck cancer have received patent protection. We have also received patent protection relating to our core classifier development program, our Diagnostic Cortex® technologies and our approaches to using mass shot matrix-assisted laser desorption time of flight (MALDI-TOF) technology (DeepMALDI® techniques). Additionally, our first device patent was issued in 2019 for our internally designed blood collection device.

As of September 21, 2020, our patent portfolio includes approximately 47 issued United States patents, 35 issued foreign patents, which includes 2 European patents that were nationalized in multiple European countries, and 37 pending applications (including 1 PCT applications and 22 foreign patent applications). With regard to our product development efforts, PCT applications have been filed around our risk of recurrence and primary immunoresistance tests.

The patent portfolio can be broken down into 5 categories:

1) Issued patents and patent applications relating to the VeriStrat and Nodify tests and uses of these tests;

2) Issued patents and patent applications relating to methods for developing classifiers using the Diagnostic Cortex and DeepMALDI technologies;

3) Issued patents and patent applications relating to tests currently in development;

4) Issued patents and patent applications relating to our novel blood collection device; and

5) Issued patents and patent applications relating to tests developed for our third-party partners.

The patents relating to the VeriStrat test are scheduled to expire between 2026 and 2032. The patents relating to the Nodify XL2 test are scheduled to expire beginning in 2031 (excluding any patent term extension granted by the USPTO), and the patents relating to the Nodify CDT test are scheduled to expire in 2027. The patent related to the blood collection device is scheduled to expire in 2039. Should our current patent applications in prosecution in the United States issue, the resulting patents would be scheduled to have expiration dates between 2036 and 2040 (excluding any patent term extension(s) granted by the USPTO).

Pending PCT patent applications are not eligible to become issued patents until, among other things, we file such PCT applications as national stage patent application(s) within 30 months in the countries in which we seek patent protection. If we do not timely file any national stage patent applications, we may lose our priority date with respect to any such PCT patent applications and any patent protection on the inventions disclosed in such PCT patent applications. Provisional patent applications are not eligible to become issued patents but can become the basis of PCT and United States non-provisional patent applications, if such PCT or United States non-provisional applications are filed within 12 months of filing the related provisional patent application. If we do not timely file any non-provisional patent applications, we will lose our priority date and any patent protection on the inventions disclosed in any such provisional patent application.

In addition, the term of individual issued patents depends upon the legal term for patents in the countries in which they are obtained. In most countries in which we have filed, including the United States, the patent term is generally 20 years from the earliest filing date of a non-provisional patent application, assuming the patent has not been terminally disclaimed over a commonly-owned patent or a patent naming a common inventor, or over a

patent not commonly owned but that was disqualified as prior art as the result of activities undertaken within the scope of a joint research agreement. The life of a patent, and the protection it affords, is therefore limited and once the patent lives of our issued patents have expired, we may face competition, including from other competing technologies. In the United States, the term of a patent may also be eligible for patent term adjustment for delays within the USPTO. The term of a patent that covers a biological product may also be eligible for patent term extension when FDA approval is granted for a portion of the term effectively lost as a result of the FDA regulatory review period, subject to certain limitations and provided statutory and regulatory requirements are met. Any such patent term extension can be for no more than five years, only one patent per approved product can be extended, the extension cannot extend the total patent term beyond 14 years from approval, and only those claims covering the approved biological product, a method for using it or a method for manufacturing it may be extended. We may not receive an extension if we fail to exercise due diligence during the testing phase or regulatory review process, fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the length of the extension could be less than we request. There can be no assurance that we will benefit from any patent term extension or favorable adjustment to the term of any of our patents. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Our ability to maintain and solidify our proprietary and intellectual property position will depend on our success in obtaining effective patent claims and maintaining and enforcing claims that are granted. However, our owned and licensed patents could be invalidated or narrowed or otherwise fail to adequately protect our proprietary and intellectual property position and our pending owned and licensed patent applications, and any patent applications that we may in the future file or license from third parties, may not result in the issuance of patents.

Because branding is as much a part of any intellectual property strategy as patent or trade secret protection we have a number of registered and pending trademarks relating to our company and products. We have received or filed for trademark protection in the United States for our tradename (Biodesix), the names of four of our commercial tests (namely the VeriStrat, GeneStrat, Nodify XL2 and Nodify CDT tests), and a suite of research tests (ImmunoStrat), as well as having trademark protection for our core development and methodological platforms, such as our Diagnostic Cortex and DeepMALDI technologies. In all, as of September 21, 2020, we have 20 uniquely registered United States trademarks 7 of which (including Biodesix, VeriStrat, and GeneStrat) have received foreign issuances as well. We will continue to pursue protection in the United States and abroad for our branded assets and will continue to use branding to protect products currently in development, key Biodesix developments and non-trade secret methodologies.

We also rely on trade secrets, including know how, confidential information, unpatented technologies and other proprietary information, to (1) strengthen or enhance our competitive position, (2) protect and maintain aspects of our business that are not amenable to, or that we do not presently consider appropriate for, patent protection, and (3) prevent competitors from reverse engineering or copying our technologies. We have decided that some technologies, such as our laboratory methodologies (including sample preparation and assay development), and some information (such as client and billing information) are best kept as trade secrets. However, trade secrets and confidential know-how are difficult to protect. To avoid inadvertent and improper disclosure of trade secrets, and to avoid the risks of former employees using these trade secrets to future employment, it is our policy to require employees, consultants and independent contractors to assign all rights to intellectual property they develop in connection with their employment with or services for the Company to the Company. We also protect our existing and developing intellectual property expressly through confidentiality provisions in agreements with third parties. There can be no assurance, however, that these agreements will be self-executing or otherwise provide meaningful protection for our trade secrets or other intellectual property or proprietary information, or adequate remedies in the event of unauthorized use or disclosure of such trade secrets or other intellectual property or proprietary information.

We also seek to preserve the integrity and confidentiality of our trade secrets and other confidential information by maintaining physical security of our premises and physical and electronic security of our

information technology systems. While we have confidence in the measures we take to protect and preserve our trade secrets, such measures can be breached, and we may not have adequate remedies for any such breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

We intend to pursue additional intellectual property protection to the extent we believe it would advance our business objectives, which may include objectives within and outside the United States. Despite our efforts to protect our intellectual property rights, and despite the breadth of protection that has issued around our key assets, these rights may not be respected in the future or may be circumvented or challenged (and potentially invalidated) in a legal proceeding in any jurisdiction where we have intellectual property rights. In addition, the laws of various foreign countries where we have received intellectual property protection and where we may eventually distribute our products may not afford the same protections or assurances to the same extent as the laws in the United States. See “Risk Factors—Risks Related to Our Intellectual Property” for additional information regarding these and other risks related to our intellectual property portfolio and their potential effect on us.

**Government Regulations**

Clinical laboratory tests like our diagnostic tests are regulated under the CLIA and State law. The FDA regulates medical devices pursuant to the FDCA, including many diagnostic test kits, such as IVDs. However, most LDTs are not currently subject to the FDA’s regulation (although reagents, instruments, software or components provided by third parties and used to perform LDTs may be subject to such regulation) because the FDA has historically exercised enforcement discretion over LDTs. LDTs are a subset of in vitro clinical tests (IVCTs) that are intended for clinical use and developed, validated, and offered within a single laboratory for use only in that laboratory. FDA’s authority to regulate LDTs has been contested for many years, and there have been several legislative and administrative proposals regarding LDT regulation seeking to end or limit enforcement discretion and to bring LDTs under new or existing FDA regulatory frameworks:

- On July 9, 2012, Congress passed legislation in the FDASIA requiring the agency to notify the Committee on Health, Education, Labor, and Pensions and the House Committee on Energy and Commerce of its intent to regulate LDTs. This law, though enacted, had a 5-year sunset provision, meaning that FDA is no longer subject to this notification requirement.
- In October 2014, the FDA issued two draft guidance documents: *Framework for Regulatory Oversight of Laboratory Developed Tests*, which provided an overview of how the FDA would regulate LDTs through a risk-based approach, and *FDA Notification and Medical Device Reporting for Laboratory Developed Tests*, which provided guidance on how the FDA intends to collect information on existing LDTs, including adverse event reports. In the Framework for Regulatory Oversight draft guidance, the FDA asserted that LDT manufacturers would be subject to medical device premarket submission, registration, listing, and adverse event reporting requirements phased in over several years based on which tests posed the highest risk to public health.
- On November 18, 2016, however, the FDA announced that it would not release the final guidance and would instead continue to work with stakeholders, the new administration, and Congress to determine the right approach.
- On January 13, 2017, the FDA released a discussion paper on possible approaches to regulate LDTs in which it described a policy wherein previously marketed LDTs would not be expected to comply with most or all FDA oversight requirements, except for adverse event and malfunction reporting. In addition, certain new and significantly modified LDTs would not be expected to comply with pre-market review unless the agency determines certain tests could lead to patient harm.
- In March 2017, the draft Diagnostic Accuracy and Innovation Act (DAIA) was introduced and outlined a regulatory approach for IVCT tests, i.e., IVDs and LDTs, that was risk-based and flexible.
- In April 2017, the FDA issued a document describing 20 case studies of LDTs that raised concerns about the safety and efficacy of this category of tests.

- In August 2018, the FDA responded to the DAIA draft with its own proposal for IVCTs, including PMA, provisional approval, and precertification, in addition to authority to revoke approval, request raw data, and take corrective action against test developers to protect public health.
- On October 31, 2018, the FDA issued its Safety Communication entitled "The FDA Warns Against the Use of Many Genetic Tests with Unapproved Claims to Predict Patient Response to Specific Medications" alleging that the agency was "aware" of healthcare providers making "inappropriate changes to a patient's antidepressant medication based on the results from genetic tests." Following this Safety Alert, the FDA contacted several laboratories that offered tests that made claims regarding drug responses for specific medications. While most laboratories addressed the FDA's concerns by removing specific medication names from their labeling, the FDA issued an enforcement letter against a laboratory for making such claims without first undergoing the FDA premarket review.
- In December 2018, a new draft bill which revised the DAIA and incorporated feedback from the FDA was released. The Verifying Accurate, Leading-edge, IVCT Development (VALID) Act creates a risk-based regulatory framework for IVCT regulation.
- On April 4, 2019, the FDA issued a warning letter to Inova Genomics Laboratory for its pharmacogenomics tests, i.e., tests that predict medication response, among other things. In this letter, the FDA rebutted Inova's argument that it believed it was operating within the scope of FDA's LDT exemption and not subject to the FDA's premarket review or labeling requirements by noting that the FDA has not created a legal "carve-out" or exemption for LDTs and that it ultimately retains discretion to take action when appropriate.
- On March 5, 2020, identical versions of the VALID Act were introduced in both chambers of Congress.
- On August 19, 2020, HHS announced a new policy determining that FDA must engage in notice-and-comment rulemaking before requiring premarket review of LDTs.

We currently market our GeneStrat, VeriStrat, Nodify XL2 and Nodify CDT tests as LDTs in the United States. As a result, we believe our diagnostic services are not currently subject to the FDA's enforcement of its medical device regulations and the applicable FDCA provisions. If the FDA disagrees with the LDT status of any of our tests, the FDA may consider the test to be an unapproved medical device and may subject us to FDA enforcement action, including, without limitation, requiring us to seek clearance, authorization or approval for the laboratory test. If the FDA were to begin enforcement with respect to our LDTs, we could incur substantial costs and delays associated with trying to obtain pre-market clearance or approval and costs associated with complying with post-market requirements.

To date, the FDA has not engaged in notice-and-comment rulemaking or released broad-sweeping guidance, but it could choose to do so in the future and if pre-market review is required, our business could be negatively impacted as a result of commercial delay that may be caused by the new requirements. The cost of conducting clinical trials and otherwise developing data and information to support pre-market applications may be significant. If we are required to submit applications for our currently marketed tests, we may be required to conduct additional studies, which may be time-consuming, costly and could result in our currently-marketed currently marketed tests being withdrawn from the market. Continued compliance with the FDA's regulations would increase the cost of conducting our business, and subject us to heightened regulation by the FDA including penalties for failure to comply with these requirements. Failure to comply with applicable regulatory requirements could result in an enforcement action by the FDA, such as fines, product suspensions, warning letters, recalls, injunctions and other civil and criminal sanctions. There are other regulatory and legislative proposals that would increase general FDA oversight of clinical laboratories and LDTs. Until the FDA finalizes its regulatory position regarding LDTs, or the VALID Act or other legislation is passed reforming the federal government's regulation of LDTs, it is unknown how the FDA may regulate our tests in the future and what testing and data may be required to support any required clearance or approval. The outcome and ultimate impact

of such proposals on the business is difficult to predict at this time and are monitoring developments and anticipate that our products will be able to comply with requirements that may be imposed by the FDA. In the meantime, we maintain our CLIA accreditation, which permits the use of LDTs for diagnostics purposes.

**FDA Emergency Use Authorization**

Section 564 of the FDCA allows the FDA to authorize the shipment of drugs, biological products, or medical devices that either lack required approval, licensure, or clearance (unapproved products), or are approved but are to be used for unapproved ways to diagnose, treat, or prevent serious diseases or conditions in the event of an emergency declaration by the HHS Secretary. 21 U.S.C. § 360bbb-3(a)(1)-(2).

On February 4, 2020, HHS Secretary Alex M. Azar II declared a public health emergency for COVID-19, under 21 U.S.C. § 360bbb-3(b)(1), justifying the authorization of emergency use of IVDs for detection and/or diagnosis of COVID-19. This determination was published in the Federal Register on February 7, 2020. 85 Fed. Reg. 7316 (Feb. 7, 2020).

While this emergency declaration is effective, the FDA may authorize the use of an unapproved product or an unapproved use of an approved product if it concludes that:

- an agent referred to in the emergency declaration could cause a serious or life-threatening disease or condition;
- it is reasonable to believe that the authorized product may be effective in diagnosing, treating, or preventing that disease or condition or a serious or life-threatening disease or condition caused by an approved product or a product marketed under an EUA;
- the known and potential benefits of the authorized product, when used for that disease or condition, outweigh known and potential risks, taking into consideration the material threat of agents identified in the emergency declaration;
- there is no adequate, approved, and available alternative to the authorized product for diagnosing, preventing, or treating the relevant disease or condition;
- any other criteria prescribed by the FDA is satisfied. *Id.* § 360bbb-3(c).

Medical products that are granted an EUA are only permitted to commercialize their products under the terms and conditions provided in the authorization. The FDA may revoke an EUA where it is determined that the underlying health emergency no longer exists or warrants such authorization, if the conditions for the issuance of the EUA are no longer met, or if other circumstances make revocation appropriate to protect the public health or safety, and we cannot predict how long the EUAs for the SARS-CoV-2 tests will remain in place.

The Bio-Rad SARS-CoV-2 ddPCR test and the Platelia SARS-CoV-2 Total Ab test have been granted FDA EUA pursuant to the current emergency declaration. We have completed all required performance verification studies to validate the use of the tests in our laboratories in accordance with the FDA Policy for Coronavirus Disease-2019 Tests During the Public Health Emergency, CAP and New York State Clinical Laboratory Standards of Practice (NYS CLEP) requirements. The FDA Policy for COVID-19 Tests is a guidance document that explains the FDA's current thinking on the topic, is subject to change, and does not establish any legally enforceable responsibilities. As stated in the FDA's Policy for COVID-19, the FDA does not expect a separate notification or EUA request from laboratories that are performing testing using EUA-authorized test kits purchased from commercial manufacturers or their distributors. According to the FDA Policy for COVID-19 Tests, a laboratory may make certain modifications to an EUA-authorized test if the modified test is validated using a bridging study without submitting an EUA amendment or formal notification. A laboratory may modify an EUA authorized test for use of a new specimen through a bridging study when the new specimen type has been previously authorized for another test of the same technology without submitting an EUA amendment or formal notification.

**Federal and State Laboratory Licensing Requirements**

The Biodesix Boulder, Colorado clinical laboratory is a CAP-accredited clinical laboratory regulated by CMS pursuant to CLIA. CMS has granted CAP deeming authority under CLIA, which allows CAP to inspect laboratories in lieu of CMS. The CAP accreditation program involves unannounced on-site inspections of our laboratories. In addition to holding a CLIA Certificate and CAP laboratory accreditation, Biodesix's Quality Management System (QMS) holds an ISO 13485:2016 certificate. The Biodesix Boulder, Colorado clinical laboratory has received approval from NYSDOH, NYS CLEP in Soluble Tumor Markers and Molecular, Cellular Tumor Markers as well as holding state permits and licenses in California, Maryland, New York, Pennsylvania, and Rhode Island.

CLIA regulations establish standards for proficiency testing; facility administration; general laboratory systems; pre-analytic, analytic systems, post-analytic systems; personnel qualifications and responsibilities; quality control, quality assessment; and specific provisions for laboratories performing moderate to high complexity tests. Our Boulder, Colorado clinical laboratory is inspected biennially as part of its ongoing certification under CLIA certificate of accreditation by CAP. The Boulder, Colorado clinical laboratory most recently passed its CAP inspection in February 2019.

Under CLIA, a laboratory is any facility that performs laboratory testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease, or the impairment of or assessment of health. CLIA requires that a laboratory hold a certificate applicable to the type of laboratory examinations it performs and that it complies with, among other things, standards covering operations, personnel, facilities administration, quality systems and proficiency testing, which are intended to ensure, among other things, that clinical laboratory testing services are accurate, reliable and timely.

The Biodesix De Soto, Kansas clinical laboratory is a COLA-accredited clinical laboratory regulated by CMS pursuant to CLIA. COLA Inc. (COLA) was founded in 1988 as a private alternative to help laboratories stay in compliance with CLIA. In 1993, the Health Care Financing Administration (now CMS) granted COLA deeming authority under CLIA, and in 1997 The Joint Commission also recognized COLA Inc.'s laboratory accreditation program. The De Soto, Kansas clinical laboratory is inspected biennially by COLA. The De Soto, Kansas clinical laboratory most recently passed inspection in August 2019. The De Soto, Kansas clinical laboratory also holds state permits and licenses in California, Maryland, New York, Pennsylvania, and Rhode Island.

The ISO is an independent, non-governmental international organization that defines world-class specifications for products, services and systems, to ensure quality, safety and efficiency. ISO 13485:2016 is a harmonized, international regulatory benchmark for quality management systems that addresses most or all of the QMS requirements in markets including the United States, European Union, Australia, Japan and Canada. The ISO 13485:2016 certificate confirms that an organization operates a QMS that conforms to the standards established by ISO. The FDA recently proposed a rule to harmonize and modernize its QSR, which would supplant the existing requirements with ISO 13485:2016. In March 2020, we passed an ISO 13485:2016 inspection.

To renew our CLIA certificate, we are subject to survey and inspection every two years to assess compliance with program standards. Laboratories such as ours, which are performing high complexity testing, are required to meet more stringent CLIA requirements than laboratories performing less complex tests, and therefore our laboratories are also subject to random, unannounced survey and inspection at any time. In addition, a laboratory that is certified as "high complexity" under CLIA may develop, manufacture, validate and use proprietary LDTs. CLIA requires analytical validation including accuracy, precision, specificity, sensitivity and establishment of a reference range for any LDT used in clinical testing. The regulatory and compliance standards applicable to the testing we perform may change over time and any such changes could have a material effect on our business.

CLIA provides that a state may adopt laboratory regulations that are more stringent than those under federal law, and a number of states have implemented their own more stringent laboratory regulatory requirements. State laws may require that out-of-state laboratories maintain an in-state laboratory license to perform tests on samples from patients who reside in that state. As a condition of licensure, certain states may require that laboratory personnel meet qualifications, quality control procedures, facility requirements, record maintenance requirements or other state-specific requirements. Because our Boulder, Colorado clinical laboratory is located in the State of Colorado, we do not need a specific State of Colorado laboratory license, however, we maintain licenses to conduct testing in other states where nonresident laboratories are required to obtain state laboratory licenses. We maintain licenses for our Boulder, Colorado and De Soto, Kansas laboratories with NYSDOH. We also hold licenses in other states in which we operate, including California, Maryland, Pennsylvania and Rhode Island, that require licensing of out-of-state laboratories under certain circumstances. Other states may currently have or adopt similar licensure requirements in the future, which may require us to modify, delay or stop its operations in those states until such requirements are met.

Failure to comply with CLIA certification and state clinical laboratory licensure requirements may result in a range of enforcement actions, including certificate or license suspension, limitation, or revocation, directed plan of action, onsite monitoring, civil monetary penalties, criminal sanctions, and revocation of the laboratory's approval to receive Medicare and Medicaid payment for its services, as well as significant adverse publicity.

CLIA and state laws and regulations, operating together, sometimes limit the ability of laboratories to offer consumer-initiated testing, also known as "direct access testing". We do not offer direct access testing and instead require that our tests be ordered by licensed healthcare providers.

Our Boulder, Colorado and De Soto, Kansas laboratories are certified and adhere to the NYS CLEP, based on New York State Public Health Law, Article 5 Title 5. NYS CLEP is exempt from CLIA and establishes their own method of laboratory certification and assay validation approval. To process NYS patient specimens a laboratory must submit a robust analytical and clinical validation package to demonstrate clinical utility of the test and receive approval prior to offing the test in the state of New York. Our GeneStrat and VeriStrat tests have received NYS CLEP approval. NYS CLEP requires semi-annual inspections to ensure the laboratory meets all general and specialty standards. Biodesix passed NYS CLEP inspection in May 2019 and is currently scheduled for a routine re-inspection in May 2021. Although delays related to NYS CLEP's COVID-19 response resulted in the department's inability to complete the review of our Boulder, Colorado and De Soto, Kansas laboratories prior to the permit expiration date, the current permit expiration dates have been extended until NYS CLEP has made a final determination of the application.

**Regulatory framework for medical devices in the United States**

Pursuant to its authority under the FDCA, the FDA has jurisdiction over medical devices, which are defined to include, among other things, IVDs. The FDA regulates the research, design, development, pre-clinical and clinical testing, manufacturing, safety, effectiveness, packaging, labeling, storage, recordkeeping, pre-market clearance or approval, adverse event reporting, marketing, promotion, sales, distribution and import and export of medical devices. It is possible that one of our current, or future, tests will be subject to FDA authority and oversight as either an IVD or a CDx pursuant to the FDA's authority to regulate medical devices under the FDCA.

Medical devices are subject to extensive regulation in the United States and elsewhere, including by the FDA and its foreign counterparts. Government regulations specific to medical devices are wide ranging and govern, among other things:

- product design, development, manufacture, and release;
- laboratory and clinical testing, labeling, packaging, storage and distribution;
- product safety and efficacy;

- premarketing clearance or approval;
- service operations;
- record keeping;
- product marketing, promotion and advertising, sales and distribution;
- post-marketing surveillance, including reporting of deaths or serious injuries and recalls and correction and removals;
- post-market approval studies; and
- product import and export.

**Device classification**

Under the FDCA, medical devices are classified into one of three classes: Class I, Class II or Class III, depending on the degree of risk to patients that is associated with each medical device and the amount of oversight needed to provide reasonable assurances with respect to safety and effectiveness of the medical device.

Class I includes devices with the lowest risk to the patient and are those for which safety and effectiveness can be reasonably assured by adherence to a set of FDA regulations, referred to as the General Controls for Medical Devices, which require compliance with the applicable portions of the FDA's QSR, facility registration and product listing, reporting of adverse events and malfunctions, and appropriate, truthful and non-misleading labeling and promotional materials. Some Class I devices also require premarket clearance by the FDA through the 510(k) premarket notification process described below. Most Class I products are exempt from the premarket notification requirements.

Class II devices are subject to the General Controls as well as any special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These special controls can include performance standards, patient registries, FDA guidance documents and post-market surveillance. Most Class II devices are subject to premarket review and clearance by the FDA. Premarket review and clearance by the FDA for Class II devices is accomplished through the 510(k) premarket notification process, although some Class II devices are exempt from the 510(k) requirements.

Class III devices include devices deemed by the FDA to pose the greatest risk: such as life-supporting or life-sustaining devices, implantable devices, or those deemed novel and not substantially equivalent to a predicate device following the 510(k) process. CDx tests are regularly considered Class III devices.

**Premarket submission process**

Unless a statutory or regulatory exemption or enforcement discretion policy applies, before a new medical device, or a new intended use of, claim for, or significant modification to an existing device, can be marketed in the United States, the manufacturer must obtain the FDA's: (1) permission for commercial distribution under section 510(k) of the FDCA (510(k) clearance); or (2) approval of a PMA; or (3) de novo classification and authorization. These processes can be resource intensive, expensive, and lengthy, and require payment of significant user fees.

Under the 510(k) clearance process, the manufacturer must submit to the FDA a premarket notification, demonstrating that the device is "substantially equivalent" to a legally marketed predicate device. A predicate device is a legally marketed device that is not subject to a PMA, i.e., a device that was legally marketed prior to May 28, 1976 (pre-amendments device) and therefore a PMA is not required, a device that has been reclassified from Class III to Class II or I, or a device that was previously found substantially equivalent through the 510(k) process. To be "substantially equivalent," the proposed device must have the same intended use as the predicate

device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Premarket notifications typically include bench, analytical, and preclinical data. Clinical data is sometimes required to support substantial equivalence. If a manufacturer obtains a 510(k) clearance for its device and then makes a modification that could significantly affect the device's safety or effectiveness or constitutes a major change or modification in the intended use of the device, a new clearance, authorization or approval may be required.

By statute, the FDA is required to complete its review of a 510(k) notification within 90 days of receiving the 510(k) notification. As a practical matter, clearance often takes longer, and clearance is never assured. Although many 510(k) premarket notifications are cleared without clinical data, the FDA may require further information, including clinical data, to make a determination regarding substantial equivalence, which may significantly prolong the review process. If the FDA agrees that the device is substantially equivalent, it will grant clearance to commercially market the device. If the FDA determines that the device is not "substantially equivalent" to a predicate device, or if the device is automatically classified into Class III, the device sponsor must then fulfill the much more rigorous, costly, and time-consuming PMA approval process or seek reclassification of the device through the de novo process.

To obtain a PMA, the applicant must submit data and information demonstrating reasonable assurance of the safety and effectiveness of the device for its intended use to the FDA's satisfaction. Accordingly, a PMA typically includes, but is not limited to, extensive technical information regarding device design and development, pre-clinical and clinical trial data, manufacturing information, labeling, and financial disclosure information for the clinical investigators in device studies. The PMA application must provide valid scientific evidence that demonstrates to the FDA's satisfaction a reasonable assurance of the safety and effectiveness of the device for its intended use.

Once filed as a PMA, the FDA has 180 days to review the filed PMA application, although the review of an application more often occurs over a significantly longer period of time. During this review period, the FDA may request additional information or clarification of information already provided, and the FDA may issue a major deficiency letter to the applicant, requesting the applicant's response to deficiencies communicated by the FDA.

Prior to approval of a PMA, the FDA may conduct inspections of any clinical trial data and clinical trial sites, as well as inspections of any manufacturing facility and processes. The FDA's review of a PMA application generally takes between one and three years, but may take significantly longer. The FDA can delay, limit or deny approval of a PMA application for many reasons, including (1) the device may not be shown safe or effective to the FDA's satisfaction; (2) the data from pre-clinical studies and/or clinical trials may be found unreliable or insufficient to support approval; (3) the manufacturing process or facilities may not meet applicable requirements; and (4) changes in FDA approval policies or adoption of new regulations may require additional data.

If the FDA evaluation of a PMA is favorable, the FDA will issue either an approval letter, or an approvable letter, the latter of which usually contains a number of conditions that must be met in order to secure final approval of the PMA. When and if those conditions have been fulfilled to the satisfaction of the FDA, the agency will issue a PMA approval letter authorizing commercial marketing of the device, subject to the conditions of approval and the limitations established in the approval letter. The FDA also may determine that additional tests or clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and data is submitted in an amendment to the PMA, or the PMA is withdrawn and resubmitted when data is available. The PMA process can be expensive, uncertain and lengthy. A number of devices for which the FDA approval has been sought by other companies have never been approved by the FDA for marketing. New PMA applications or PMA supplements are required for any modifications to the manufacturing process, equipment or facility, quality control procedures, sterilization, packaging, expiration date, labeling, device specifications, ingredients, materials or design of a device that has been approved through the PMA process.

As a condition of PMA application approval, the FDA may also require some form of post-approval study or post-market surveillance, whereby the applicant conducts a follow-up study or follows certain patient groups for a number of years and makes periodic reports to the FDA on the clinical status of those patients when necessary to protect the public health or to provide additional or longer term safety and effectiveness data for the device. The FDA may also approve a PMA application with other post-approval conditions intended to ensure the safety and effectiveness of the device, such as, among other things, restrictions on labeling, promotion, sale, distribution and use.

Alternatively, the FDA also allows the submission of a direct de novo petition. This procedure allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA application. Prior to the enactment of FDASIA, a medical device could only be eligible for de novo classification if the manufacturer first submitted a 510(k) premarket notification and received a determination from the FDA that the device was not substantially equivalent. FDASIA streamlined the de novo classification pathway by permitting manufacturers to request de novo classification directly without first submitting a 510(k) premarket notification to the FDA and receiving a not substantially equivalent determination.

The 510(k), de-novo or PMA processes can be expensive, lengthy and unpredictable. The FDA's 510(k) clearance process usually takes from three to 12 months, but can last longer. The process of obtaining a PMA is much more costly and uncertain than the 510(k) clearance process and generally takes from one to three years, or even longer, from the time the application is filed with the FDA. In addition, a PMA generally requires the performance of one or more clinical trials. Despite the time, effort and cost, a device may not be approved or cleared by the FDA. Any delay or failure to obtain necessary regulatory clearances or approvals could harm our business. Furthermore, even if we are granted regulatory clearances or approvals, they may include significant limitations on the indicated uses for the device, which may limit the market for the device.

**Companion Diagnostics and the Premarket Process**

We believe that one of our future product candidates may include a companion diagnostic or complementary diagnostic (collectively CDx). CDx's can identify patients who are most likely to benefit from a particular therapeutic product; identify patients likely to be at increased risk for serious side effects as a result of treatment with a particular therapeutic product; or monitor response to treatment with a particular therapeutic product for the purpose of adjusting treatment to achieve improved safety or effectiveness. The use of the CDx will be stipulated in the labeling of both the CDx and the therapeutic product. The FDA may require an application for the CDx separate from the drug approval process, and this could potentially delay the approval of any new drug application or the CDx, or complicate the review process. CDx's are generally regulated as Class III medical devices by the FDA and are therefore most often subject to the PMA approval process.

The FDA issued guidance in July 2016 for the co-development of CDx tests with a therapeutic product and issued another draft guidance in December 2018 specific to oncology CDx tests. The FDA finalized this draft guidance in April 2020 in "Developing and Labeling In vitro Companion Diagnostic Devices for a Specific Group of Oncology Therapeutic Products." The guidance is meant to guide the development of CDx products, which are defined as IVDs that provide information that is essential for the safe and effective use of the therapeutic product. A CDx is often developed and approved or cleared contemporaneously with the therapeutic, and the use of the CDx is stipulated in the labeling of both the CDx and the corresponding therapeutic product. While it supports contemporaneous marketing authorizations, if there are any deficiencies in the submissions, the FDA may place a PMA review of a CDx on hold or request additional testing, which could potentially delay the approval of the corresponding new drug application or the marketing authorization of the CDx, or otherwise complicate the review process. Some oncology CDx tests can be developed in a way that results in labeling for a specific group of oncology therapeutic products, rather than a single therapeutic product.

**Post-Market FDA Regulation**

Even if regulatory clearance, authorization or approval of a device is granted, the FDA may impose limitations on the uses and indications for which the device may be labeled and promoted, and the device remains subject to significant regulatory requirements. Medical devices may be marketed only for the uses and indications for which they are cleared, authorized or approved. After a device, including a device exempt from FDA premarket review, is placed on the market, numerous post-market regulatory requirements apply, and the FDA has broad authority to enforce these requirements. Medical device manufacturers are subject to unannounced inspections by the FDA and other state, local and foreign regulatory authorities to assess compliance with the QSR and other applicable regulations, and these inspections may include the manufacturing facilities of any suppliers. Failure to comply with applicable regulatory requirements can result in enforcement action by the FDA, which may include sanctions such as: warning letters, fines, injunctions, consent decrees and civil penalties; unanticipated expenditures, including requirements to repair, replace, and/or refund the cost of the devices, recall or seizure of our products; operating restrictions, partial suspension or total shutdown of production; the FDA's refusal of our requests for 510(k) clearance, de novo classification, or PMA of new products, new intended uses or modifications to existing products; the FDA's refusal to issue certificates to foreign governments needed to export products for sale in other countries; and withdrawing 510(k) clearance or PMAs that have already been granted and criminal prosecution. In the event that a supplier fails to maintain compliance with the FDA's or our quality requirements, we may have to qualify a new supplier and could experience manufacturing delays as a result.

**Federal and State Fraud and Abuse Laws**

We are subject to federal fraud and abuse laws such as the federal Anti-Kickback Statute (AKS), the federal prohibition against physician self-referral (Stark Law), the Eliminating Kickbacks in Recovery Act (EKRA), and the federal False Claims Act (FCA). We are also subject to similar state and foreign fraud and abuse laws.

The AKS prohibits knowingly and willfully offering, paying, soliciting, or receiving remuneration, directly or indirectly, overtly or covertly, in cash or in kind, in return for or to induce such person to refer an individual, or to purchase, lease, order, arrange for, or recommend purchasing, leasing or ordering, any item or service that may be reimbursable, in whole or in part, under a federal healthcare program, such as Medicare or Medicaid. There are a number of statutory exceptions and regulatory safe harbors to the AKS that provide protection from AKS liability to arrangements that fully satisfy the applicable requirements.

EKRA prohibits knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in return for the referral of a patient to, or in exchange for an individual using the services of certain entities, including laboratories, if the services are covered by a health care benefit program. The term "health care benefit program" is broadly defined such that EKRA extends to referrals reimbursed by both governmental and commercial third party payers. EKRA includes a number of statutory exceptions that provide protection from EKRA liability if the applicable requirements are met.

The Stark Law generally prohibits, among other things, clinical laboratories and other so-called "designated health services" entities from billing Medicare for any services when the physician ordering the service, or any member of such physician's immediate family, has a financial relationship, such as a direct or indirect investment interest in or compensation arrangement with the billing entity, unless the arrangement meets an exception to the prohibition. The Stark Law also prohibits physicians from making such referrals to a designated health services entity. There are also similar state laws that apply where Medicaid and/or commercial payers are billed.

The FCA imposes civil penalties against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment to the government that are false or fraudulent, or knowingly making, using or causing to be made or used a false record or statement material to such a false or fraudulent claim, or knowingly concealing or knowingly and improperly avoiding, decreasing, or concealing an

obligation to pay money to the federal government. This statute also permits a private individual acting as a "qui tam" whistleblower to bring actions on behalf of the federal government alleging violations of the FCA and to share in any monetary recovery. FCA liability is potentially significant in the healthcare industry because the statute provides for treble damages and mandatory penalties of $11,665 to $23,331 per false claim or statement for penalties assessed after June 19, 2020, with respect to violations occurring after November 2, 2015.

Other federal statutes pertaining to healthcare fraud and abuse include the civil monetary penalties statute, which prohibits, among other things, the offer or payment of remuneration to a Medicaid or Medicare beneficiary that the offeror or payer knows or should know is likely to influence the beneficiary to order or receive a reimbursable item or service from a particular provider, practitioner, or supplier, and contracting with an individual or entity that the person knows or should know is excluded from participation in a federal health care program. In addition, federal criminal statutes created by HIPAA prohibit, among other things, knowingly and willfully executing or attempting to execute a scheme to defraud any healthcare benefit program or obtain by means of false or fraudulent pretenses, representations or promises any money or property owned by or under the control of any healthcare benefit program in connection with the delivery of or payment for healthcare benefits, items or services.

In addition to these federal laws, there are often similar state anti-kickback and false claims laws that typically apply to arrangements involving reimbursement by a state-funded Medicaid or other health care program. Often, these laws closely follow the language of their federal law counterparts, although they do not always have the same exceptions or safe harbors. In some states, these anti-kickback laws apply with respect to all payers, including commercial payers.

A number of states have enacted laws that require pharmaceutical and medical device companies to monitor and report payments, gifts and other remuneration made to physicians and other healthcare providers, and, in some states, marketing expenditures. In addition, some state statutes impose outright bans on certain manufacturer gifts to physicians or other health care professionals. Some of these laws, referred to as "aggregate spend" or "gift" laws, carry substantial fines if they are violated.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs and extensive annual trainings for all of our employees and contractors. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion from participation in government-funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, reputational harm, diminished profits and future earnings, additional reporting or oversight obligations if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with the law, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations. If any of the physicians or other healthcare providers or entities with whom we do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government-funded healthcare programs.

**Anti-Corruption**

The FCPA and similar international bribery laws make it unlawful for entities to make payments to foreign government officials to assist in obtaining and maintaining business. Specifically, the anti-bribery provisions of the FCPA prohibit any offer, payment, promise to pay, or authorizing the payment of money or anything of value to any person, while knowing that all or a portion of such money or thing of value will be offered, given or promised, directly or indirectly, to a foreign official to do or omit to do an act in violation of his or her duty, or to secure any improper advantage in order to assist in obtaining or retaining business for or with, or directing business, to any person. In addition to the anti-bribery provisions of the FCPA, the statute also contains accounting requirements designed to operate in tandem with the anti-bribery provisions. Covered companies are

required to make and keep books and records that accurately and fairly reflect the transactions of the company and devise and maintain an adequate system of internal accounting controls. With our international operations through our third party partnerships, we could incur significant fines and penalties, as well as criminal liability, if we fail to comply with either the anti-bribery or accounting requirements of the FCPA, or similar international bribery laws. Even an unsuccessful challenge of our compliance with these laws could cause us to incur adverse publicity and significant legal and related costs.

**Privacy and Data Protection Laws**

Numerous federal and state laws and regulations, including HIPAA, as amended by the HITECH, govern the collection, dissemination, security, use and confidentiality of protected health information (PHI) and personal information. In the course of performing our business we obtain personal information, including PHI. Laws and regulations relating to privacy, data protection, and consumer protection are evolving and subject to potentially differing interpretations. Under HIPAA and HITECH, the HHS, issues regulations that establish uniform standards governing the conduct of certain electronic healthcare transactions and requirements for protecting the privacy and security of PHI, used or disclosed by covered entities (CEs) and their authorized business associates (BAs). Because we are a health care provider that electronically transmits health care information, we are at times either a CE or a BA, as defined by HIPAA. Our subcontractors that create, receive, maintain, transmit or otherwise process PHI on our behalf are HIPAA BAs and must also comply with HIPAA, as applicable.

HIPAA and HITECH include the privacy and security rules, breach notification requirements and electronic transaction standards. The privacy rule governs the use and disclosure of PHI by CEs and BAs. The privacy rule generally prohibits the use or disclosure of PHI except as permitted under the rule. The rule also sets forth individual patient rights, such as the right to access or amend certain records containing such individual's PHI, or to request restrictions on the use or disclosure of such individual's PHI. The security rule requires CEs and BAs to safeguard the confidentiality, integrity, and availability of electronically transmitted or stored PHI (also referred to as ePHI) by implementing administrative, physical and technical safeguards. Under HITECH's breach notification rule, a CE must notify individuals, the Secretary of HHS, and in some circumstances, the media of certain breaches of unsecured PHI or ePHI.

Penalties for failure to comply with a requirement of HIPAA and HITECH vary depending on the number and nature of the violations, but can be significant and include civil monetary or criminal penalties. HIPAA is enforced by the Department of Health and Human Services, Office of Civil Rights, and HIPAA also authorizes state attorneys general to file suit on behalf of their residents for violations. Courts are able to award damages, costs and attorneys' fees related to violations of HIPAA in such cases. While HIPAA does not create a private right of action allowing individuals to file suit in civil court for violations of HIPAA, its standards have been used as the basis for duty of care cases in state civil suits such as those for negligence or recklessness in the misuse or breach of PHI. In addition, HIPAA mandates that the Secretary of HHS conduct periodic compliance audits of HIPAA CEs, such as us, and their BAs for compliance with the HIPAA privacy and security standards. It also tasks HHS with establishing a methodology whereby harmed individuals who were the victims of breaches of unsecured PHI may receive a percentage of the civil monetary penalty paid by the violator.

In addition, we may be subject to state privacy, cybersecurity, and data breach notification laws, which may govern the collection, use, disclosure and protection of health-related and other personal information. California, for example, has enacted the Confidentiality of Medical Information Act, which, in addition to HIPAA and HITECH, sets forth standards with which all California health care providers must abide. State laws may be more stringent, broader in scope or offer greater individual rights with respect to PHI than HIPAA, and state laws may differ from each other, which may complicate compliance efforts. For instance, the CCPA became effective on January 1, 2020. The CCPA, among other things, gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing and receive detailed information about how their personal information is used by requiring covered companies to provide new disclosures to California consumers (as that term is broadly defined) and provide such consumers new ways to opt-out of certain sales of

personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA has been amended from time to time, and it remains unclear what, if any, further modifications will be made to this legislation or how it will be interpreted. Although there are certain exemptions for PHI and clinical trial data, the CCPA's implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future and the CCPA may increase our compliance costs and potential liability. Additionally, a new California ballot initiative, the California Privacy Rights Act (CPRA), has garnered enough signatures to be included on the November 2020 ballot in California. If voted into law by California residents, the CPRA would impose additional data protection obligations on companies doing business in California, including additional consumer rights processes and opt outs for certain uses of sensitive data. It would also create a new California data protection agency specifically tasked to enforce the law, which would likely result in increased regulatory scrutiny of California businesses in the areas of data protection and security. Similar laws have been proposed in other states and at the federal level, and if passed, such laws may have potentially conflicting requirements that could continue to make compliance challenging and costly.

Additionally, the Federal Trade Commission (FTC) and state attorneys general enforce consumer protection laws that prohibit unfair and deceptive acts and practices, including Section 5 of the FTC Act, which creates standards for the collection, use, dissemination and security of health-related and other personal information. Claims of unfair or deceptive trade practices regarding privacy and security can lead to significant liabilities and consequences, including regulatory investigations, penalties, fines and orders as well as civil claims, which could impact our data practices and operations or cause reputational damage.

We may also be subject to laws and regulations in foreign countries covering data privacy and other protection of health and employee information that may add additional compliance burden and complexity. For example, in the EEA and the United Kingdom, the collection and use of personal data is governed by the GDPR. The GDPR, together with national legislation, regulations and guidelines of the EU member states and the United Kingdom governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, analyze, store, transfer and otherwise process personal data. European data protection authorities may interpret the GDPR and national laws differently and impose additional requirements, which adds to the complexity of processing personal data in or from the EEA or United Kingdom. Guidance on implementation and compliance practices are often updated or otherwise revised. GDPR applies extra-territorially under certain circumstances and imposes stringent requirements on controllers and processors of personal data, including, for example, requirements to ensure a legal bases to process personal information, provide robust disclosures to individuals, facilitate data subject rights, provide data security breach notifications within 72 hours after discovering a breach in certain circumstances, limit retention of personal information and apply enhanced protections to health data and other categories of sensitive personal information. Failure to comply with the requirements of the GDPR may result in fines of up to €20 million or up to 4% of the total worldwide annual turnover of our preceding fiscal year, whichever is higher, and other administrative penalties. To comply with the GDPR and other applicable international data protection laws and regulations, we may be required to put in place additional mechanisms ensuring compliance, which may result in other substantial expenditures.

**Cybersecurity**

Our business relies on secure and continuous processing of information and the availability of our IT networks and IT resources, as well as critical IT vendors that support our technology, research and other data processing operations. While we take steps to protect our systems and data, security incidents, data breaches, computer malware and computer hacking attacks have become more prevalent across industries, including the life sciences sector, and may occur on our systems or those of our third-party service providers. Unauthorized persons may in the future be able to exploit weaknesses in the security systems of our (or our third-party service providers) IT networks and gain access to PHI and other personal information, or sensitive trade secrets or other proprietary information. Any wrongful use or disclosure of PHI, other personal information, trade secrets or other proprietary information by us or our third-party service providers could subject us to regulatory fines or

penalties, third party claims or otherwise could adversely affect our business and results of operations. Although HIPAA and the regulations promulgated thereunder do not provide for a private right of action, failures to adequately protect PHI or our IT systems could be viewed as violations of the HIPAA security rule or violations of other applicable information security laws, regulations, contractual obligations or industry standards, and could further result in costly data breach notification obligations that negatively impact our reputation. Moreover, data security incidents or data breaches, as well as attacks on our IT systems, could result in operational disruptions or data loss or corruption that could adversely impact our business and operations, result in substantial investment of resources to investigate, recover and remediate and subject us to heightened regulatory scrutiny.

**International Regulations**

Many countries in which we may offer any of our diagnostic tests in the future have anti-kickback regulations prohibiting providers from offering, paying, soliciting or receiving remuneration, directly or indirectly, in order to induce business that is reimbursable under any national health care program. In situations involving physicians employed by state-funded institutions or national health care agencies, violation of the local anti-kickback law may also constitute a violation of the FCPA.

The FCPA prohibits any United States individual, business entity or employee of a United States business entity to offer or provide, directly or through a third party, including any potential distributors we may rely on in certain markets, anything of value to a foreign government official with corrupt intent to influence an award or continuation of business or to gain an unfair advantage, whether or not such conduct violates local laws. In addition, it is illegal for a company that reports to the SEC to have false or inaccurate books or records or to fail to maintain a system of internal accounting controls. We will also be required to maintain accurate information and control over sales and distributors' activities that may fall within the purview of the FCPA, its books and records provisions and its anti-bribery provisions.

The standard of intent and knowledge in anti-bribery cases is minimal. Intent and knowledge are usually inferred from that fact that bribery took place. The accounting provisions do not require intent. Violations of the FCPA's anti-bribery provisions for corporations and other business entities are subject to a fine of up to $2 million and officers, directors, stockholders, employees, and agents are subject to a fine of up to $100,000 and imprisonment for up to five years. Other countries, including the United Kingdom and other OECD Anti-Bribery Convention members, have similar anti-corruption regulations, such as the United Kingdom Anti-Bribery Act.

When marketing our diagnostic tests outside of the United States, we may be subject to foreign regulatory requirements governing human clinical testing, prohibitions on the import of tissue necessary for us to perform our diagnostic tests or restrictions on the export of tissue imposed by countries outside of the United States or the import of tissue into the United States, and marketing approval. These requirements vary by jurisdiction, differ from those in the United States and may in some cases require us to perform additional pre-clinical or clinical testing. In many countries outside of the United States, coverage, pricing and reimbursement approvals are also required**.**

**Healthcare Reform**

In March 2010, the ACA was enacted in the United States. The ACA made a number of substantial changes to the way healthcare is financed both by governmental and private insurers. For example, the ACA requires each medical device manufacturer to pay a sales tax equal to 2.3% of the price for which such manufacturer sells its medical devices. The medical device tax was permanently repealed at the end of 2019. The ACA also contains a number of other provisions, including provisions governing enrollment in federal and state healthcare programs, reimbursement matters and fraud and abuse, which we expect will impact our industry and our operations in ways that we cannot currently predict.

The Trump administration and Congress have, and we expect they will continue to, seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the ACA. Since January 2017, the Trump administration has issued three executive orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. For example, on January 22, 2018, the Trump administration signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have been signed into law. The TCJA among other things, included a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment, or penalty, imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate". In December 2018, a federal district court in Texas ruled that the ACA's individual mandate, without the penalty that was repealed effective January 1, 2019, was unconstitutional and could not be severed from the ACA. As a result, the court ruled the remaining provisions of the ACA were also invalid. The Fifth Circuit Court of Appeals affirmed the district court's ruling that the individual mandate was unconstitutional, but it remanded the case back to the district court for further analysis of whether the mandate could be severed from the ACA; that is, whether the entire ACA was therefore also unconstitutional. The United States Supreme Court granted certiorari on March 2, 2020, and the case is expected to be decided in 2021.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted to reduce healthcare expenditures. These changes include the Budget Control Act of 2011, which, among other things, led to aggregate reductions of Medicare payments to providers of up to 2% per fiscal year that started in 2013 and, due to subsequent statutory amendments, will remain in effect through 2030 unless additional Congressional action is taken. In 2020, the CARES Act temporarily suspended the 2% cut in Medicare payments from May 1, 2020 through December 31, 2020, and it extended the cut through FY 2030 to offset the cost of such temporary suspension. The American Taxpayer Relief Act of 2012 made other changes, including reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. If federal spending is further reduced, anticipated budgetary shortfalls may also impact the ability of relevant agencies, such as the FDA or the National Institutes of Health to continue to function at current levels. Amounts allocated to federal grants and contracts may be reduced or eliminated. These reductions may also impact the ability of relevant agencies to timely review and approve R&D, manufacturing, and marketing activities, which may delay our ability to develop, market and sell any products we may develop.

**Environmental, Health and Safety Regulations**

We are subject to various federal, state, local, and foreign environmental, health and safety laws and regulations and permitting and licensing requirements. Such laws include those governing laboratory practices, the generation, storage, use, manufacture, handling, transportation, treatment, remediation, release and disposal of, and exposure to, hazardous materials and wastes and worker health and safety. Our operations involve the generation, use, storage and disposal of hazardous materials, and the risk of injury, contamination or non-compliance with environmental, health and safety laws and regulations or permitting or licensing requirements cannot be eliminated. In particular, the introduction of our Bio-Rad SARS-CoV-2 ddPCR and Platelia SARS-CoV-2 Total Ab tests requires that we maintain compliance with applicable and evolving federal and state laws and regulations relating to COVID-19, including the generation, use, storage, and disposal of testing materials and agents. Compliance with environmental laws and regulations has not had a material effect on our capital expenditures, earning or competitive position.

**Material Agreements**

***Acquisition of Integrated Diagnostics***

On June 30, 2018, we purchased select assets and liabilities from Integrated Diagnostics, Inc. and IND Funding, LLC (collectively, the Seller) which included CLIA lab in Seattle, Washington and all rights to the Nodify XL2 test and the intellectual property related to that test. The purchase was made for total consideration of $27.6 million, consisting of $8.0 million (10,649,604 shares) of our Company's Series G Preferred Stock and contingent consideration with an initial fair market value of $19.6 million.

The acquisition of Integrated Diagnostics included a contingent consideration arrangement that requires additional consideration to be paid by us to the Seller based on the Milestone of the attainment of a three consecutive month gross margin target of $2 million within a seven-year period. The amount can be payable in stock or cash at our and the Seller's option. The total amount of undiscounted contingent consideration which we may be required to pay under the arrangement is $37.0 million. For the 6 months following the achievement of the Milestone, the Seller has the option to require us to pay the contingent consideration in cash over 8 equal installments due each calendar quarter. If the Seller elects not to exercise this option, have 12 months to either settle the contingent consideration in two equal quarterly cash installments or in 14,959,114 of Series G Preferred Stock. As of June 30, 2020, we have not made any payments in connection with the contingent consideration.

***Acquisition of Oncimmune USA***

On October 31, 2019, we completed an acquisition of United Kingdom-based Oncimmune's United States operations including its CLIA clinical laboratory in De Soto, Kansas and its IPN malignancy test, then marketed in the United States as the EarlyCDT-Lung. We renamed the test and relaunched the test on February 28, 2020 as the Nodify CDT test and the De Soto, Kansas clinical laboratory will be the sole United States provider of the Nodify CDT test.

As part of the acquisition, we and Oncimmune entered into several agreements to govern the relationship between the parties and to allow us to provide the Nodify CDT test. The overarching umbrella PCA defines the general relationship between the parties. Included under the PCA was (a) an asset purchase agreement (APA) whereby we acquired all of the United States assets associated with the De Soto, Kansas clinical laboratory, as well as the trademarks and patent application associated with the test; (b) an intellectual property license granting us the rights necessary under Oncimmune's background intellectual property to perform the Nodify CDT test; (c) a supply agreement for supplying us with the necessary materials and reagents needed to run the Nodify CDT test; and (d) a development agreement where Oncimmune agrees to assist us in further developing the Nodify CDT test. We were also granted an option through December 31, 2020 to acquire the rights to expand the field of use of the Nodify CDT test to include lung cancer screening.

As consideration for the rights granted to us, we agreed to payments of $1.2 million and further agreed to an option fee for the screening option of $9 million due within 30 days of exercising the option. We also agreed to a revenue share payment of 8% of recognized revenue for non-screening tests up to an annual minimum volume and 5% thereafter, with an escalating minimum through the first four years of sales. The minimum sales volumes will be adjusted upwards in the event we exercise the screening option. Royalty payments of $0.1 million were paid for the six months ended June 30, 2020. As of June 30, 2020, we have paid $1.0 million of the agreed upon payments. In July 2020, we paid the remaining $0.2 million. In September 2020, we notified Oncimmune that we would not exercise this option for expansion of the field of use.

***Non-Exclusive License Agreement***

In August 2019, we entered into the Bio-Rad License. Bio-Rad is a key supplier of equipment and reagents used to perform ddPCR testing—a service offered by us under a fee for service agreement—and the core technology powering the GeneStrat and COVID ddPCR tests.

Under the terms of the Bio-Rad License, we received a non-exclusive license, without the right to grant sublicenses, to utilize certain of Bio-Rad's intellectual property, machinery, materials, reagents, supplies and know-how necessary for the performance of ddPCR in cancer detection testing for third parties in the United States. We agreed to purchase all of the necessary supplies and reagents for such testing exclusively from Bio-Rad, pursuant to a separately executed supply agreement with Bio-Rad. As further consideration for the non-exclusive license, we agreed to pay a royalty of 2.5% on the net revenue received for the performance of such ddPCR testing collected from third parties.

The Bio-Rad License expires in August 2024. Either party may terminate for the other's uncured material breach or bankruptcy events. Bio-Rad may terminate the Bio-Rad License if we do not purchase licensed products under the separate supply agreement for a consecutive twelve month period or for any material breach by us of the supply agreement.

In addition, we have been granted permission by Bio-Rad to use the Bio-Rad SARS-CoV-2 ddPCR assay for commercial diagnostic services.

***Debt Refinancing***

In February 2018, we entered into an agreement with Innovatus Life Sciences Lending Fund to refinance long-term debt carried over from earlier loan agreements. The initial amount borrowed under the 2018 Notes was $23 million and the maturity date is February 2023. We are required to make quarterly interest payments that began in June 2018 and outstanding principal is due in 24 equal installments commencing in March 2021. The agreement has been amended multiple times to adjust terms to account for our acquisitions and growth.

The loan may be prepaid by us at any time, subject to a prepayment penalty of up to 3% of the principal amount, depending on the date of prepayment. Upon payment of the 2018 Notes at maturity or prepayment on any earlier date, unless waived, a 2% back-end facility fee will apply to the amounts paid or prepaid. The 2% fee is being recorded as additional interest expense over the term of the 2018 Notes.

The 2018 Notes contain customary affirmative and negative covenants for a loan, requires us to comply with a minimum daily liquidity covenant, and has a rolling monthly revenue requirement. Failure to comply with the covenants and loan requirements may result in early amortization of the loan in a 24 or 36-month payment schedule. Further, we granted the lender a security interest in all of our assets through a pledge and security agreement, patent security agreement and trademark security agreement, each between us and the lender.

***Drug Co-Development***

In April 2014, we and AVEO entered into a Co-Development and Collaboration Agreement (AVEO Agreement) whereby the two parties agreed to co-develop AVEO's compound ficlatuzumab and our VeriStrat test. Under the AVEO Agreement, we agreed to use commercially reasonable efforts to continue to develop the VeriStrat test and obtain regulatory approval for VeriStrat as a companion diagnostic for ficlatuzumab in certain major markets. We agreed with AVEO to agree on a development plan for ficlatuzumab and VeriStrat.

Under the AVEO Agreement, we agreed to co-develop their clinical trial asset, ficlatuzumab (HGF-inhibitor), along with our proteomic test, BDX004 (a variant of our VeriStrat test), a test that identifies a subgroup of individuals who derive the most benefit from this drug. In collaboration with AVEO, we reported early clinical data on ficlatuzumab in head and neck cancer, acute myeloid leukemia, and pancreatic cancer. Most recently, we announced data from our phase 1b study in pancreatic cancer, a challenging disease to treat, that demonstrated encouraging responses that support the further assessment of the drug. We believe BDX004 could help differentiate patient benefit to ficlatuzumab across multiple indications and support decision making in therapeutic selection.

As part of the AVEO Agreement, we granted AVEO a perpetual, non-exclusive, royalty-free license to certain background intellectual property related to VeriStrat, our interest in joint inventions developed under the AVEO Agreement and certain diagnostic data to develop, manufacture, seek regulatory approval for and commercialize ficlatuzumab and certain IVD devices for use in connection with ficlatuzumab. AVEO granted us a perpetual, non-exclusive, royalty-free license to certain background intellectual property related to ficlatuzumab, their interest in joint inventions developed under the AVEO Agreement and certain clinical data and biomarker data to develop, manufacture and commercialize VeriStrat and certain IVD devices other than VeriStrat. We solely own inventions relating to VeriStrat (excluding ficlatuzumab) and AVEO solely owns inventions relating to ficlatuzumab (excluding VeriStrat), and we jointly own all other inventions under the AVEO Agreement.

As consideration for the licenses under the AVEO Agreement, we agreed to reimburse AVEO for $15 million of certain ficlatuzumab clinical development costs. Additionally, we agreed to pay half of AVEO's clinical development costs above that $15 million cap. Unless we or AVEO exercises our right to opt-out of the co-development, we equally share in any income received from licensing rights to ficlatuzumab to any third parties. If either party exercises the right to opt-out prior to the first commercial sale of ficlatuzumab, the party that opts out will receive 25% of any such income. In September 2020, we exercised our opt-out right for the payment of half of the development and regulatory costs for ficlatuzumab. This opt-out is effective as of December 2, 2020 with remaining obligations estimated to be $0.3 million. Following the effective date, we will be entitled to a 10% royalty of net sales of ficlatuzumab and 25% of license income generated from the licensing of ficlatuzumab.

In any event, we and AVEO agreed to negotiate a definitive commercialization agreement for ficlatuzumab in good faith upon results of a clinical trial for ficlatuzumab, pursuant to which AVEO would be the lead commercialization party. Such commercialization agreement would allocate commercialization responsibilities, provide decision-making processes, and include other terms related to the commercialization of ficlatuzumab. The AVEO Agreement provides that under such commercialization agreement, we would share all profits and losses from the commercialization of ficlatuzumab, except that each party would have the option to opt-out of commercialization activities and we would be entitled to receive a low single-digit royalty of net sales of ficlatuzumab made by AVEO. The AVEO Agreement also sets forth certain key provisions to be included in the definitive commercialization agreement. We and AVEO agreed that under such commercialization agreement, we would share all profits and losses from the commercialization of ficlatuzumab, except that each party would have the option to opt-out of commercialization activities and instead receive a low single-digit royalty of net sales of ficlatuzumab made by the other party.

The AVEO Agreement continues in force until terminated by either party for the other's uncured material breach or bankruptcy events, or as terminated under the terms of the commercialization agreement. If we terminate the AVEO Agreement for anything other than a breach by AVEO that prevents or irreparably disrupts certain clinical activities, AVEO will be deemed to have exercised its opt-out rights and will receive 25% of any income received by us for licenses under ficlatuzumab to third parties. If we terminate for a breach by AVEO that prevents or irreparably disrupts certain clinical activities, AVEO will instead receive 12.5% of any such income.

In October 2016 we and AVEO amended the AVEO Agreement to deem our obligation to cover initial pre-clinical costs satisfied in exchange for a one-time payment of all applicable development costs incurred to that date, and to provide that we and AVEO would share development costs. Under the amended terms, we agreed to allow AVEO to recapture these costs that it otherwise would not have been responsible for sharing, from any royalties or revenues eventually derived under the AVEO Agreement.

Ficlatuzumab is currently being evaluated in SCCHN, PDAC, and AML.

**Employees**

As of June 30, 2020, we had 154 full time employees, 43 of whom were engaged in development activities, and 38 of whom were engaged in general and administrative functions. Our employees are primarily located in

Boulder, Colorado, with additional employees located in De Soto, Kansas and remotely across the country. None of our employees are represented by any collective bargaining agreements. We believe that we maintain good relations with our employees.

**Facilities**

We occupy approximately 29,722 square feet of office and laboratory space in Boulder, Colorado under a lease that ends on January 14, 2023. We also occupy 9,066 square feet of office and laboratory space in De Soto, Kansas under a lease that ends on October 31, 2020. A portion of our employees are located outside of Colorado and Kansas, and others work from home. We believe our existing facilities meet our current needs. We will need additional office space in the future as we continue to build our development, commercial and support teams. We believe we can find suitable additional space in the future on commercially reasonable terms.

**Legal Proceedings**

We may from time to time be involved in various legal proceedings and other matters arising in the normal course of business. For example, we have received, and may in the future continue to, receive letters, claims or complaints from others alleging false advertising, patent infringement, violation of employment practices and trademark infringement. We have also instituted, and may in the future institute additional, legal proceedings to enforce our rights and seek remedies, such as monetary damages, injunctive relief and declaratory relief. We cannot predict the results of any such disputes, and despite the potential outcomes, the existence thereof may have an adverse material impact on us because of diversion of management time and attention as well as the financial costs related to resolving such disputes.

# MANAGEMENT

## Executive Officers and Directors

The following table sets forth information concerning certain individuals, including their ages as of June 30, 2020, who are expected to serve as our directors and executive officers upon completion of this offering.

| Name | Age | Position |
|---|---|---|
| **Executive Officers** | | |
| Scott Hutton | 48 | President, Chief Executive Officer and Director |
| Robin Harper Cowie | 40 | Chief Financial Officer, Secretary, and Treasurer |
| Kieran O'Kane | 43 | Chief Commercial Officer |
| Robert Georgantas III, Ph.D | 50 | Senior Vice President, Research and Translational Science |
| Gary Pestano, Ph.D | 53 | Chief Development Officer |
| **Non-Employee Directors** | | |
| John Patience | 72 | Chairman and Director |
| Jean Franchi | 53 | Director |
| Hany Massarany | 59 | Director |
| Jack Schuler | 79 | Director |
| Matthew Strobeck, Ph.D | 47 | Director |
| Charles Watts, M.D | 77 | Director |

(1) Member of the Audit Committee.
(2) Member of the Compensation Committee.
(3) Member of the Nominating and Corporate Governance Committee.

The following are brief biographies describing the backgrounds of our executive officers and non-employee directors:

### *Executive Officers*

***Scott Hutton*** has served as our President, Chief Executive Officer and Director since January 2020, and previously held the role of Chief Operating Officer from March 2018 to December 2019. Additionally, Mr. Hutton has served on the board of Eximis Surgical since February 2018 and was an Observer on the Board of Directors of Aqueduct Critical Care from September 2014 to January 2017. Mr. Hutton joined Biodesix from Spectranetics Corp (NASDAQ: SPNC), a U.S.-based global leader in vascular intervention and lead management solutions (now part of Royal Philips (NYSE: PHG)), where he served as Senior Vice President and General Manager of the Vascular Intervention division from January 2017 to December 2017. Prior to joining Spectranetics, Mr. Hutton held several positions of increasing responsibility, including Vice President and General Manager, at Medtronic plc (NYSE: MDT), a global healthcare products company and manufacturer of medical devices and supplies, over a period of 16 years. From April 2012 to January 2017, Mr. Hutton was Vice President and General Manager of Neurosurgery, where he oversaw the operations of the approximately $1 Billion Neurosurgery Business Unit. From 2008 to 2012, he grew from Senior Director of Global Marketing to Vice President and Business Leader of the Surgical Navigation and Intra-Operative Imaging Business. Mr. Hutton holds a B.A. in Health and Kinesiology from Purdue University. In July 2011, Mr. Hutton received the *Medtronic Wallin Leadership Award* for his focus on talent development, business performance, and his personal and intentional demonstration of leadership.

***Robin Harper Cowie*** has served as our Chief Financial Officer since April 2017. She has been with the Company in multiple financial and reimbursement positions since March 2011, serving as Vice President of

Finance from February 2016 to April 2017, Vice President of Reimbursement & Health Economics from February 2015 to February 2016, Senior Director of Reimbursement from January 2014 to February 2015, and Director of Reimbursement from March 2011 to January 2014. Prior to joining Biodesix, Ms. Harper Cowie held a leadership role in payer and government relations at Precision Therapeutics, Inc. Ms. Harper Cowie's background includes corporate finance, managed care and payer relations, reimbursement and regulatory policy, and revenue cycle operations. Additionally, she spent several years as a researcher at the University of Pittsburgh Medical Center. Ms. Harper Cowie holds a B.S. in Molecular Biology from the University of Pittsburgh, and an M.B.A. in Finance from the Joseph M. Katz Graduate School of Business from the University of Pittsburgh.

***Kieran O'Kane*** has served as our Chief Commercial Officer since March 2020 and has been with the Company in multiple marketing management roles since February 2018. From April 2016 to February 2018, prior to joining Biodesix, Mr. O'Kane lead the Global Diagnostics Marketing team at NanoString Technologies, a biotechnology company focused in developing cancer diagnostic tools. He is a highly experienced strategic and tactical global sales and marketing leader for both in-line and pipeline products with a career focus in oncology. Mr. O'Kane has held commercial leadership positions and managed multiple new product launches at Biotheranostics, Cell Therapeutics, Eisai, Cephalon, Bristol-Myers Squibb, and Roche. Mr. O'Kane received a B.S. in Pharmacology at King's College, University of London.

***Gary Pestano, Ph.D.*** has served as our Chief Development Officer since October 2018 and has been with the Company in Product Development and Operations since March 2012. Prior to joining Biodesix, Dr. Pestano held senior positions in Pharma Services, R&D and Project Leadership at Ventana Medical Systems, a member of the Roche Group, from 2003 to 2012. Dr. Pestano's experience in laboratory operations management and assay development for high complexity molecular diagnostics in oncology and virology include molecular and proteomic testing. Dr. Pestano is the co-inventor on multiple national and international patents for diagnostic tests. He has also fostered many collaborations in academia and industry as a part of new product development. Dr. Pestano received a B.S. in Biochemistry from The City College of New York, his Ph.D. in Molecular Cell Biology at The Graduate Center, City University of New York where his thesis focused on vaccine development for novel genetic variants of HIV-1. He conducted his post-doctoral training in Cancer Immunology and AIDS at the Dana Farber Cancer Institute, Harvard Medical School.

***Robert W. Georgantas III, Ph.D.*** has served as our Senior Vice President of Research and Translational Science since August 2019. From 2014 to 2019, prior to joining Biodesix, Dr. Georgantas worked at AbbVie where he served as Director of Immunology Programs and Biomarkers within the Genomics Research Center of Excellence, a group of experts tasked with applying genetics, genomics, epigenetics, and metagenomics to inform the product pipeline primarily regarding new target discovery, biomarkers for clinical trials, and asset positioning. Dr. Georgantas is recognized as a leader of immunology translational science and strategy. Dr. Georgantas completed his Ph.D. in pharmacology and molecular medicine at The Johns Hopkins University School of Medicine.

***Board of Directors***

John Patience has served as a Director of the Company since June 2008 and Chairman of the Board since September 2020. Mr. Patience currently serves as both a Director and Chairman of the board of Accelerate Diagnostics, Inc. (NASDAQ: AXDX) and has served in that capacity since joining the board in 2012. Mr. Patience served as a director of Ventana Medical Systems, Inc. from 1989 and as Vice Chairman from 1999 until Ventana's acquisition by Roche in 2008. Mr. Patience also served as a director of Stericycle, Inc. (NASDAQ: SRCL) since its founding in 1989 to June 2018. Mr. Patience is also a founding partner of Crabtree Partners, a private equity investment partnership in Lake Forest, Illinois. Mr. Patience was previously a partner of a venture capital investment firm that provided both Ventana and Stericycle with early stage funding. Mr. Patience was also previously a partner at the consulting firm McKinsey & Co., Inc., specializing in health care. Mr. Patience holds a B.A. in Liberal Arts and an L.L.B. from the University of Sydney, Australia, and an M.B.A. from the University of Pennsylvania's Wharton School of Business.

***Jean M. Franchi*** has served as a Director of the Company since April 2020. Ms. Franchi is currently Chief Financial Officer at Replimune, a biotechnology company developing oncolytic immuno-gene therapies. Prior to

Replimmune, Ms. Franchi was Chief Financial Officer at Merrimack Pharmaceuticals from 2017 to 2019, Dimension Therapeutics from 2015 to 2017, and Good Start Genetics from 2012 to 2015. From 1995 to 2011, Ms. Franchi held various positions at Genzyme Corporation, including Senior Vice President of Corporation Finance, Senior Vice President of Business Unit Finance, and Vice President of Finance and Controller, Product Line and International Group. Ms. Franchi currently serves on the boards of directors of Biophytis BSA and Visioneering Technologies, Inc. Ms. Franchi received her B.A. in Accounting from Hofstra University.

***Hany Massarany*** has served as a Director of the Company since July 2020. Mr. Massarany was President and Chief Executive Officer of GenMark Diagnostics, Inc. (NASDAQ: GNMK) from April 2011 to March 2020. From February 2009 to April 2011, Mr. Massarany served as President of at Ventana Medical Systems and Head of Roche Tissue Diagnostics, a division of F. Hoffman-La Roche Ltd. focused on manufacturing instruments and reagents that automate tissue processing and slide staining diagnostics for cancer. From 1999 to 2009, Mr. Massarany held various global leadership positions with Ventana, including Chief Operating Officer, Executive Vice President, Worldwide Operations, Senior Vice President, Corporate Strategy and Development, and Vice President, North American Commercial Operations. Mr. Massarany also held executive management positions with Bayer Diagnostics and Chiron Diagnostics, working in both the Asia Pacific region and the United States. Mr. Massarany served on the board of directors of GenMark Diagnostics, Inc. from May 2011 to February 2020. Mr. Massarany earned a B.S. in Microbiology and Immunology from Monash University in Australia and an M.B.A. from Melbourne University.

***Jack Schuler*** has served as a Director of the Company since June 2008. Mr. Schuler served as a director of Ventana Medical Systems, Inc. from 1991 and as Chairman of the board from 1995 until Ventana's acquisition by Roche in 2008. Prior to joining Ventana, Mr. Schuler was President and Chief Operating Officer of Abbott Laboratories, a diversified health care company, which he joined in 1972 and where he held a number of management and marketing positions, also serving as a director from April 1985 to August 1989. Additionally, Mr. Schuler has served as a director of Abbott Laboratories (NYSE:ABT), Medtronic (Lead Director) (NYSE: MDT), Stericyle (Chairman) (NASDAQ: SRCL), Chiron Corporation, and Quidel Corporation (NASDAQ: QDEL), and currently serves on the board of directors of Accelerate Diagnostics (NASDAQ: AXDX). Mr. Schuler holds a B.S. in Mechanical Engineering from Tufts University and an M.B.A. from Stanford University Graduate School of Business Administration.

***Matthew Strobeck, Ph.D***. has served as a Director of the Company since January 2012. Dr. Strobeck is currently the Managing Partner of Birchview Capital. In addition, Dr. Strobeck is currently a Director of Quidel Corporation (NASDAQ: QDEL), Accelerate Diagnostics (NASDAQ: AXDX), Tepha Inc., and Monteris Medical. Dr. Strobeck received a B.S. from St. Lawrence University, a Ph.D. from the University of Cincinnati, a S.M. from the Harvard University/MIT Health Sciences Technology Program, and a S.M. from the MIT Sloan School of Management.

***Charles Watts, M.D***. has served as a Director of the Company since July 2019. Until his retirement, Dr. Watts served as Chief Medical Officer at Northwestern Memorial Hospital (NMH) and Associate Dean for Clinical Affairs at the Feinberg School of Medicine, Northwestern University from 2001 to 2011. Prior to his tenure at Northwestern, Dr. Watts served as Chief of Clinical Affairs and Associate Dean at the University of Michigan Medical Center. He has also served as Executive in Residence for the Health Management Academy, as an active faculty member of a nationally based Physician Leadership Program. Dr. Watts served as a Director of Providence Health and Services (Seattle, Washington) from 2012 to 2016 where he chaired the Quality and Patient Safety Improvement Committee, and served as a Trustee of Swedish Health Services until May 2017, when he accepted an appointment as interim Chief Medical Officer, serving in that capacity until June 2019. He currently serves as a Trustee on the Institute for Systems Biology Board and as a director of Accelerate Diagnostics. Dr. Watts received his medical degree from the University of Michigan.

**Board Composition**

The primary responsibilities of our Board of Directors are to provide oversight, strategic guidance, counseling and direction to our management. Our Board of Directors meets on a regular basis and additionally as required. Our Board of Directors currently consists of ten directors.

In accordance with our amended and restated certificate of incorporation that will go into effect upon the completion of this offering, our Board of Directors will be divided into three classes with staggered, three-year terms. At each annual meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Effective upon the completion of this offering, our directors will be divided among the three classes as follows:

- the Class I directors will be John Patience and Scott Hutton, and their terms will expire at our first annual meeting of stockholders following this offering;
- the Class II directors will be Matthew Strobeck, Ph.D. and Charles Watts, M.D., and their terms will expire at our second annual meeting of stockholders following this offering; and
- the Class III directors will be Jean Franchi, Hany Massarany and Jack Schuler, and their terms will be expire at our third annual meeting of stockholders following this offering.

Our amended and restated certificate of incorporation and amended and restated bylaws that will go into effect upon the completion of this offering will provide that the authorized number of directors may be changed only by resolution of the Board of Directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our Board of Directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control of our company. Our directors may be removed only for cause by the affirmative vote of the holders of at least two-thirds of our outstanding voting stock entitled to vote in the election of directors.

**Director Independence**

Under the listing requirements and rules of Nasdaq Global Market, independent directors must comprise a majority of our Board of Directors as a listed company within one year of the closing of this offering.

Our Board of Directors has undertaken a review of its composition, the composition of its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our Board of Directors has determined that Ms. Franchi and Messrs. Massarany, Strobeck, Watts, Schuler and Patience do not have any relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is “independent” as that term is defined under the applicable listing requirements and rules of the Nasdaq Global Market. In making this determination, our Board of Directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our Board of Directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

**Leadership Structure of the Board**

Our corporate governance guidelines, which will become effective immediately prior to the completion of this offering, will provide our Board of Directors with flexibility to combine or separate the positions of Chairman of the board and Chief Executive Officer and/or the implementation of a lead director in accordance with its determination that utilizing one or the other structure would be in the best interests of our company. Mr. Patience currently serves as the Chairman of our Board of Directors.

**Board Committees**

Our Board of Directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. Our Board of Directors may establish other committees to facilitate the

management of our business. The composition and functions of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our Board of Directors.

***Audit Committee***

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, our audit committee will consist of Ms. Franchi and Messrs. Massarany and Strobeck, each of whom our Board of Directors has determined satisfies the independence requirements under the applicable listing requirements and rules of the Nasdaq Global Market and Rule 10A-3(b)(1) of the Exchange Act. The chair of our audit committee is Ms. Franchi, whom our Board of Directors has determined is an "audit committee financial expert" within the meaning of the SEC regulations. Each member of our audit committee can read and understand fundamental financial statements in accordance with applicable listing standards. In arriving at these determinations, our Board of Directors has examined each audit committee member's scope of experience and the nature of her or his employment in the corporate finance sector. The functions of this committee include:

- helping our Board of Directors oversee our corporate accounting and financial reporting processes;
- reviewing and discussing with our management the adequacy and effectiveness of our disclosure controls and procedures;
- assisting with design and implementation of our risk assessment functions;
- evaluating the qualifications, performance and independence of our independent registered public accounting firm and deciding whether to retain its services;
- monitoring the rotation of partners of our independent registered public accounting firm on our engagement team as required by law;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end results;
- developing procedures for employees to submit concerns anonymously about questionable accounting or audit matters;
- reviewing related party transactions;
- approving, or as permitted, pre-approving, audit and permissible non-audit services to be performed by an independent registered public accounting firm; and
- reviewing and assessing, at least annually, the performance of the audit committee and adequacy of its charter.

***Compensation Committee***

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, our compensation committee will consist of Messrs. Massarany, Patience and Watts, and the chair of our compensation committee will be Mr. Massarany. Our Board of Directors has determined that each of Messrs. Massarany, Patience and Watts is independent under the applicable listing requirements and rules of the Nasdaq Global Market and is a "non-employee director" as defined in Rule 16b-3 promulgated under the Exchange Act. The functions of this committee include:

- reviewing, modifying and overseeing overall compensation strategy and policies;
- reviewing and approving the compensation and other terms of employment of our chief executive officer, other executive officers and senior management, as appropriate;
- reviewing and approving the compensation arrangements with our executive officers and other senior management, as appropriate;
- reviewing and recommending to the full Board of Directors the compensation of our directors;

- appointing and overseeing the work of compensation consultants, legal counsel or any other advisors and consultants engaged for the purpose of advising the compensation committee;
- adopting and administering equity award plans, compensation plans and similar programs, as well as modification or termination of plans and programs;
- establishing policies with respect to equity compensation arrangements;
- reviewing and evaluating with the chief executive officer the succession plans for our executive officers; and
- reviewing and assessing, at least annually, the performance of the compensation committee and the adequacy of its charter.

***Nominating and Corporate Governance Committee***

Effective as of the date the registration statement of which this prospectus forms a part is declared effective by the SEC, our nominating and corporate governance committee consists of Ms. Franchi and Messrs. Strobeck and Schuler and the chair of our nominating and corporate governance committee will be Mr. Strobeck. Our Board of Directors has determined that Ms. Franchi and Messrs. Strobeck and Schuler are independent under the applicable listing standards. The functions of this committee include:

- reviewing periodically and evaluating director performance of our Board of Directors and its applicable committees, and recommending to our Board of Directors and management areas for improvement;
- identifying, evaluating, nominating and recommending individuals for membership on our Board of Directors;
- reviewing with our chief executive officer the plans for succession to the offices of our executive officers and make recommendations to our Board of Directors with respect to the selection of appropriate individuals to succeed to these positions;
- reviewing and recommending to our Board of Directors any amendments to our corporate governance policies; and
- reviewing and assessing, at least annually, the performance of the nominating and corporate governance committee and the adequacy of its charter.

**Code of Conduct**

We have adopted a Code of Conduct that applies to all of our employees, officers (including our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions), agents and representatives, including directors and consultants. The full text of our Code of Conduct will be posted on our website at www.biodesix.com. We intend to disclose future amendments to certain provisions of our Code of Conduct, or waivers of such provisions, applicable to any principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and our directors, on our website identified above. The information contained on, or accessible from, or hyperlinked to, our website is not part of, and is not incorporated into, this prospectus.

**Compensation Committee Interlocks and Insider Participation**

None of the members of the compensation committee is currently, or has been at any time, one of our officers or employees. None of our executive officers currently serve, or has served during the last calendar year, as a member of the Board of Directors or compensation committee of any entity that has one or more executive officers serving as a member of our Board of Directors or compensation committee.

**Non-Employee Director Compensation**

During the year ended December 31, 2019, none of our non-employee directors received retainers or other cash payments with respect to service on our Board of Directors or any of its committees. In connection with this offering, we expect to adopt a formal non-employee director compensation program.

***2019 Director Compensation Table***

The following table sets forth information for the fiscal year ended December 31, 2019 regarding the compensation awarded to, earned by or paid to our non-employee directors. The only compensation received by our non-employee directors was in the form of restricted stock units (RSUs) and option awards.

In respect of 2019 service, Messrs. Schuler, Patience, Miller, and Strobeck each received stock options representing the right to purchase 208,696 shares of our common stock. Dr. Watts joined the Board of Directors as of July 16, 2019. The Board of Directors granted him a new member equity award and a pro-rata award for the term from his first board meeting until March 31, 2020, upon availability from the stock option pool. As such, Dr. Watts received stock options representing the right to purchase 156,522 shares of our common stock. These stock options vest in a series of twelve (12) successive, equal monthly installments measured from the vesting commencement date. Moreover, Dr. Watts received an RSU award with respect to 156,522 shares of our common stock. Two-fifths (2/5) of the shares subject to this RSU award vest on the second anniversary of the vesting commencement date, with the remaining balance vesting in a series of thirty-six (36) successive equal monthly installments measured from the second anniversary of the vesting commencement date, provided that, no shares will be issued until the earlier of Dr. Watts' separation from service other than for cause and the fifth anniversary of the vesting commencement date. In the event Dr. Watts is terminated for cause, this award will be forfeited and no shares will be issued.

| Name | Stock Awards ($)(1) | Option Awards ($)(2) | Total ($) |
|---|---|---|---|
| Jack Schuler | — | 16,689 | 16,689 |
| John Patience | — | 16,689 | 16,689 |
| Mark C. Miller | — | 16,689 | 16,689 |
| Matthew Strobeck, Ph.D | — | 16,689 | 16,689 |
| Charles M. Watts, M.D. | 20,348 | 12,517 | 32,865 |

(1) The amounts reported represent the aggregate grant date fair market value of the RSUs, calculated in accordance with FASB ASC Topic 718 based on the assumption that the value of each RSU was equal to $0.13.

(2) The amounts reported represent the aggregate grant date fair market value of the stock options calculated in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant date fair value of the award disclosed in this column are set forth in Note 11 of our audited financial statements included elsewhere in this prospectus and under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Significant Judgments and Estimates—Stock-based compensation and common stock valuation" in this prospectus. These amounts do not correspond to the actual value that may be recognized by the named executive officers upon vesting of the applicable awards.

# EXECUTIVE COMPENSATION

The following is a discussion of compensation arrangements of our named executive officers. This discussion contains forward-looking statements that are based on our current plans, considerations, expectations, and determinations regarding future compensation programs. Actual compensation programs that we adopt may differ materially from currently planned programs as summarized in this discussion. As an "emerging growth company" (as defined in the JOBS Act), we are not required to include a Compensation Discussion and Analysis and have elected to comply with the scaled disclosure requirements applicable to emerging growth companies.

## Overview

Our current executive compensation program is intended to align executive compensation with our performance objectives and business strategy and to enable us to attract, motivate, retain and reward executive officers whose contributions are critical to our long-term success. The compensation paid or awarded to our executive officers is generally based on the assessment of each individual's performance compared against the business objectives established for the fiscal year as well as our historical compensation practices. New-hire executive officers' compensation is primarily determined based on the negotiations of the parties as well as our historical compensation practices. For the year ended December 31, 2019, the material elements of our executive compensation program were base salary, discretionary cash bonus and equity awards in the form of stock options.

Following this offering, we expect that our executive compensation program will evolve to reflect our status as a newly publicly-traded company, while still supporting our overall business and compensation objectives. The compensation committee of our Board of Directors (Compensation Committee) oversees our executive compensation program. In addition, during the year ended December 31, 2019, we retained an independent executive compensation consultant to help advise on elements of our executive compensation program. This section provides a discussion of the compensation paid or awarded to our Chief Executive Officer and our two other most highly compensated executive officers serving as of December 31, 2019, the end of fiscal 2019. We refer to these individuals as our "named executive officers." For the year ended December 31, 2019, our named executive officers were:

- David Brunel, Former Chief Executive Officer;
- Robin Harper Cowie, Chief Financial Officer; and
- Scott Hutton, Former Chief Operating Officer.

Effective December 31, 2019, Mr. Brunel ceased to be our Company's Chief Executive Officer. Effective January 1, 2020, Mr. Brunel became our Company's Chairman of the Board of Directors. Pursuant to the Brunel Consulting Agreement as described in the section titled "Certain 2020 Actions", Mr. Brunel resigned from his position as Chairman of the Board of Directors and ceased to be a member of the Board of Directors effective as of September 14, 2020. As of such resignation, Mr. Brunel began service at the pleasure of the Board of Directors as a Director Emeritus. He will cease providing services to the Company as an employee on December 31, 2020 and will provide consulting services to the Company beginning on January 1, 2021. Effective January 1, 2020, Mr. Hutton ceased to be our Chief Operating Officer and became our President and Chief Executive Officer.

## Compensation of Named Executive Officers

### *Base Salary*

Base salaries are intended to provide a level of compensation sufficient to attract and retain an effective management team, when considered in combination with the other components of our executive compensation program. The relative levels of base salary for our named executive officers are designed to reflect each

executive officer's scope of responsibility and accountability to us. Please see the "Salary" column in the 2019 Summary Compensation Table for the base salary amounts received by each named executive officer during the year ended December 31, 2019.

***Annual Cash Bonuses***

We provide our senior leadership team with short-term incentive compensation through an annual cash bonus program. Annual bonus compensation holds executives accountable, rewards the executives based on actual business results and helps create a "pay for performance" culture. Our annual cash bonus program provides cash incentive award opportunities based on the achievement of performance goals approved by our Compensation Committee at the beginning of each fiscal year.

Generally, our Compensation Committee establishes a Company-based performance metric as a threshold vesting criteria for any payouts for a particular annual bonus period. In determining bonus payouts, if any, individual performance of our named executive officers with respect to individual goals established at the beginning of the applicable year is only considered if that metric is met or exceeded. For 2019, the Compensation Committee determined that the Company's revenue would be the applicable Company-based metric, and at year end, measured actual revenue against targeted revenue, determined in accordance with U.S. GAAP. No payouts were earned or made under the 2019 annual cash bonus program.

***Equity Awards***

To further align the interests of our executive officers with the interests of our stockholders and to further focus our executive officers on our long-term performance, we have historically granted equity compensation in the form of stock options. In the year ended December 31, 2019, the Board of Directors awarded Messrs. Brunel, Hutton, and Ms. Harper Cowie stock options (Time-Vested Options) representing the right to purchase 270,000, 250,000, and 210,000 shares of our common stock, respectively, on a five-year vesting schedule. Two fifths (2/5) of the Time-Vested Options vest on the second anniversary of the vesting commencement date, with the remaining balance vesting in a series of thirty-six (36) successive equal monthly installments measured from the second anniversary of the vesting commencement date, subject to the award recipient's continued service through the applicable vesting date. In September 2020, the Board of Directors amended the Time-Vested Options such that twenty-one sixtieths (21/60) of the Time-Vested Options vest on the date that is twenty-one (21) months after the vesting commencement date, with the remaining balance vesting in a series of thirty-nine (39) successive equal monthly installments measured from such date.

In the year ended December 31, 2019, the Board of Directors also awarded Messrs. Brunel, Hutton, and Ms. Harper Cowie stock options (Performance-Vested Options) representing the right to purchase 160,000, 150,000, and 105,000 shares of our common stock, respectively, on a three-year vesting schedule subject to the achievement of applicable performance criteria. One third (1/3) of these Performance-Vested Options vest after each of the first (2019 Tranche), second (2020 Tranche) and third (2021 Tranche) anniversaries of the vesting commencement date, subject to the Company's achievement of recognized revenue of at least $31 million, $67 million and $134 million for the years ended December 31, 2019, 2020 and 2021, respectively. The Board of Directors has sole discretion to determine if the performance hurdles are met and to determine the vesting date, and shall make such determinations within 90 days after the end of the applicable fiscal year. In September 2020 and in light of the impact of the COVID-19 pandemic on the Company's operations and other considerations, the Board of Directors amended the Performance-Vested Options to provide that the performance hurdles for the 2020 Tranche and the 2021 Tranche are $28.6 million and $51.5 million, respectively. The Board of Directors retains ultimate discretion to determine whether such performance hurdles have been met, and at the time of the amendment believed that such achievement was uncertain.

Please see "Outstanding Equity Awards at Fiscal 2019 Year-End" for a summary of the outstanding equity awards held by each of the named executive officers as of 2019 year-end.

**2019 Summary Compensation Table**

The following table shows information regarding the compensation of our named executive officers for services performed during the year ended December 31, 2019.

| Name and Principal Position | Fiscal Year | Salary ($) | Non-Equity Incentive Plan Compensation ($)(3) | Option Awards ($)(4) | Total ($) |
|---|---|---|---|---|---|
| David Brunel<br>Former Chief Executive Officer (1) | 2019 | 343,750 | — | 41,157 | 384,907 |
| Scott Hutton<br>Former Chief Operating Officer (2) | 2019 | 298,475 | — | 38,285 | 336,760 |
| Robin Harper Cowie<br>Chief Financial Officer | 2019 | 263,525 | — | 30,150 | 293,675 |

(1) Mr. Brunel's service as our Chief Executive Officer terminated on December 31, 2019, after which he became Chairman of our Board of Directors. Mr. Brunel resigned from the Board of Directors in September 2020. Effective January 1, 2021, Mr. Brunel is expected to transition into a consulting role for which he will be paid a quarterly fee of $5,000.

(2) Mr. Hutton's service as our Chief Operating Officer terminated on January 1, 2020, after which he became the President and Chief Executive Officer.

(3) Based on our 2019 performance measured against the Company's objectives, our Compensation Committee determined not to award payouts under the 2019 annual cash bonus program.

(4) The amounts disclosed represent the aggregate grant date fair value of the award as calculated in accordance with FASB ASC Topic 718. The assumptions used in calculating the grant date fair value of the award disclosed in this column are set forth in Note 11 of our audited financial statements included elsewhere in this prospectus. These amounts do not correspond to the actual value that may be recognized by the named executive officers upon vesting of the applicable awards.

**Outstanding Equity Awards at Fiscal 2019 Year-End**

The following table presents information regarding the outstanding equity awards held by each of the named executive officers as of December 31, 2019. As of the year ended December 31, 2019, none of the named executive officers held any outstanding restricted stock units or other stock awards.

| Name | Grant Date | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#) | Option Exercise Price ($) | Option Expiration Date |
|---|---|---|---|---|---|---|
| David Brunel | 4/26/2010 | 41,824 | — | — | 2.75 | 4/25/2020 |
| | 4/22/2011 | 66,964 | — | — | 2.80 | 4/21/2021 |
| | 8/8/2011 | 125,000 | — | — | 0.56 | 8/7/2021 |
| | 1/30/2012 | 115,000 | — | — | 0.56 | 1/29/2022(5) |
| | 1/30/2012 | 50,426 | — | — | 3.52 | 1/29/2022 |
| | 2/5/2013 | 5,250 | — | — | 4.00 | 2/4/2023 |
| | 3/11/2013 | 111,500 | — | — | 0.58 | 3/10/2023(5) |
| | 2/4/2014 | 110,000 | — | — | 0.74 | 2/3/2024(5) |
| | 2/20/2014 | 85,365 | — | — | 4.10 | 2/19/2024 |
| | 4/8/2015 | 49,167 | 833(1) | — | 0.74 | 4/7/2025(5) |
| | 4/7/2016 | 306,083 | 54,167(1) | — | 0.14 | 4/6/2026(5) |
| | 10/14/2016 | 27,563 | — | — | 0.14 | 10/13/2026(5) |
| | 5/16/2017 | 116,667 | 83,333(1) | — | 0.07 | 5/15/2027(5) |
| | 4/4/2018 | 76,667 | 123,333(1) | — | 0.07 | 4/3/2028(5) |
| | 4/4/2018 | 400,000 | — | — | 0.75 | 12/31/2027 |
| | 3/22/2019 | — | 270,000(2) | 160,000(4) | 0.13 | 12/31/2028(5) |
| Scott Hutton | 4/4/2018 | — | 500,000(3) | — | 0.07 | 4/3/2028 |
| | 3/22/2019 | — | 250,000(2) | 150,000(4) | 0.13 | 12/31/2028 |
| Robin Harper Cowie | 4/22/2011 | 15,000 | — | — | 0.44 | 4/21/2021 |
| | 2/4/2014 | 60,000 | — | — | 0.74 | 2/3/2024 |
| | 4/8/2015 | 39,333 | 667(1) | — | 0.74 | 4/7/2025 |
| | 4/7/2016 | 213,010 | 45,500(1) | — | 0.14 | 4/6/2026 |
| | 5/16/2017 | 58,333 | 41,667(1) | — | 0.07 | 5/15/2027 |
| | 4/4/2018 | 47,917 | 77,083(1) | — | 0.07 | 4/3/2028 |
| | 3/22/2019 | — | 210,000(2) | 105,000(4) | 0.13 | 12/31/2028 |

(1) These stock options vest in a series of sixty (60) successive, equal monthly installments measured from the vesting commencement date.

(2) Two fifths (2/5) of these Time-Vested Options vest on the second anniversary of the vesting commencement date, with the remaining balance vesting in a series of thirty-six (36) successive equal monthly installments measured from the second anniversary of the vesting commencement date, subject to the award recipient's continued employment through the applicable vesting date. In September 2020, the Board of Directors amended these Time-Vested Options such that twenty-one sixtieths (21/60) of the Time-Vested Options vest on the date that is twenty-one (21) months after the vesting commencement date, with the remaining balance vesting in a series of thirty-nine (39) successive equal monthly installments measured from such date.

(3) Two fifths (2/5) of these Time-Vested Options vest on the second anniversary of the vesting commencement date, with the remaining balance vesting in a series of thirty-six (36) successive equal monthly installments measured from the second anniversary of the vesting commencement date, subject to the award recipient's continued employment through the applicable vesting date.

(4) In the year ended December 31, 2019, the Board of Directors awarded Messrs. Brunel, Hutton, and Ms. Harper Cowie stock options representing the right to purchase 160,000, 150,000 and 105,000 shares of our common stock, respectively. One third (1/3) of these performance-based stock options vest (or could have vested) after each of the first, second and third anniversaries of the vesting commencement date, subject to the Company's achievement of recognized revenue of at least $31 million, $67 million and $134 million for the years ended December 31, 2019, 2020 and 2021, respectively. The Board of Directors has sole discretion to determine if the performance hurdles are met and to determine the vesting date, and shall make such determinations within 90 days after the end of the applicable fiscal year. For the 2019 Tranche, the Board of Directors determined that the performance hurdle was not met. As a result one third (1/3) of each executive's award was cancelled, and the remaining two thirds (2/3) of each of Mr. Hutton's and Ms. Cowie's awards are currently outstanding. Under the terms of the Brunel Consulting Agreement, the 2021 Tranche of Mr. Brunel's award was cancelled. In addition, in September 2020 and in light of the impact of the COVID-19 pandemic on the Company's operations and other considerations, the Board of Directors amended the Performance-Vested Options to provide that the performance hurdles for the 2020 Tranche and the 2021 Tranche are $28.6 million and $51.5 million, respectively. The Board of Directors believes that the achievement of the performance hurdles remains uncertain, and retains ultimate discretion to determine whether such performance hurdles have been met.

(5) Under the terms of the Brunel Consulting Agreement, the expiration date of these stock options has been amended to be the earlier of (i) December 31, 2021, (ii) thirty (30) days after the termination of the Brunel Consulting Agreement, and (iii) the original expiration date of such term as reflected in the table above.

**Additional Matters**

***Harper Cowie Offer Letters***

For the year ended December 31, 2019, Ms. Harper Cowie was party to an offer letter agreement with the Company, dated as of March 11, 2011, as amended (the 2011 Harper Cowie Offer Letter). Effective February 16, 2019, Ms. Harper Cowie's base salary was raised to $265,000 annually, and she is eligible to receive a bonus of up to 50% of her base salary if certain milestones and objectives determined by the Company were achieved.

Ms. Harper Cowie and the Company entered into a new offer letter agreement, dated as of February 23, 2020, which supersedes the 2011 Harper Cowie Offer Letter (the 2020 Harper Cowie Offer Letter). Under the terms of the 2020 Harper Cowie Offer Letter, Ms. Harper Cowie is entitled to a base salary of $290,000 annually effective the beginning of the first month after this offering, and she is eligible to receive a bonus of up to 50% of her base salary after approval from the Compensation Committee and Board of Directors that relevant objectives have been achieved. In addition, Ms. Harper Cowie is entitled to certain severance benefits in the event that her employment with the Company is terminated without Cause, as defined in the 2011 Harper Cowie Offer Letter, including but not limited to a termination following a change in control. The severance benefits consist of (i) base salary continuation for a period of 6 months following the effective date of a general release of claims, less standard deductions and withholdings, and (ii) if Ms. Harper Cowie timely elects healthcare continuation coverage under the Consolidated Omnibus Reconciliation Act of 1985, as amended (COBRA), Company-paid COBRA premiums (including in respect of coverage for eligible dependents) for a period starting on Ms. Harper Cowie's termination date and ending 12 months thereafter, subject to earlier termination if Ms. Harper Cowie becomes eligible for health coverage from a subsequent employer, or if Ms. Harper Cowie ceases to be eligible for COBRA continuation for any reason including plan termination. Any change in control which results in a change of position for Ms. Harper Cowie also results in accelerated vesting of 100% of all unvested and then outstanding options held by Ms. Harper Cowie. In order to receive the severance benefits, Ms. Harper Cowie is required to execute a release of all claims in favor of the Company which becomes irrevocable, and to be in continued compliance with cooperation, non-disparagement or confidentiality provisions contained therein and with obligations under the Company's Confidentiality and Inventions Assignment Agreement, including non-solicit provisions thereof.

Pursuant to the 2020 Harper Cowie Offer Letter, in the event Ms. Harper Cowie resigned, or if her employment was terminated by the Company for Cause or due to death or disability, Ms. Harper Cowie would be entitled to any salary earned but unpaid prior to such termination, any reimbursable business expenses that were incurred but not reimbursed as of Ms. Harper Cowie's last day of employment, and, if applicable, all accrued but unused vacation. Any unvested stock options or other equity awards shall cease to vest and be forfeited on Ms. Harper Cowie's last day of employment.

***Hutton Offer Letters***

For the year ended December 31, 2019, Mr. Hutton was party to an offer letter agreement with the Company, dated as of February 8, 2018, as amended (the 2018 Hutton Offer Letter). Effective February 16, 2019, Mr. Hutton's base salary was raised to $300,000 annually. Under the terms of the 2018 Hutton Offer Letter, Mr. Hutton is eligible to receive a bonus of up to 50% of his base salary if certain milestones and objectives determined by the Company are achieved. Mr. Hutton and the Company entered into a new offer letter agreement, dated as of February 23, 2020, which supersedes the 2018 Hutton Offer Letter (the 2020 Hutton Offer Letter). Under the terms of the 2020 Hutton Offer Letter, effective January 1, 2020, Mr. Hutton's base salary was raised to $350,000 annually. Effective the beginning of the first month after this offering, Mr. Hutton's base salary will be further adjusted to $425,000 annually, and he will be eligible to receive a bonus of up to 100% of his base salary.

In addition, Mr. Hutton is entitled to certain severance benefits in the event that his employment with the Company is terminated without Cause, as defined in the 2018 Hutton Offer Letter, including but not limited to a termination following a change in control or, following a change in control, a successor's failure to assume the terms and conditions of the 2018 Hutton Offer Letter as it relates to Mr. Hutton's salary, duties and responsibilities or severance provisions. The severance benefits consist of (i) base salary continuation for a period of 12 months following the effective date of a general release of claims, less standard deductions and withholdings, and (ii) if Mr. Hutton timely elects healthcare continuation coverage under COBRA, Company-paid COBRA premiums (including in respect of coverage for eligible dependents) for a period starting on Mr. Hutton's termination date and ending 12 months thereafter, subject to earlier termination if Mr. Hutton becomes eligible for health coverage from a subsequent employer, or if Mr. Hutton ceases to be eligible for COBRA continuation for any reason including plan termination. In order to receive the severance benefits, Mr. Hutton is required to execute and allow to become effective a release of all claims in favor of the Company, which becomes irrevocable and to be in continued compliance with any cooperation, non-disparagement or confidentiality provisions contained therein and with obligations under the Company's Confidentiality and Inventions Assignment Agreement, including non-solicit provisions thereof.

Pursuant to the 2018 Hutton Offer Letter, in the event Mr. Hutton resigned, or if his employment was terminated by the Company for Cause or due to death or disability, Mr. Hutton would be entitled to any salary earned but unpaid prior to such termination, any reimbursable business expenses that were incurred but not reimbursed as of Mr. Hutton's last day of employment, and, if applicable, all accrued but unused vacation. Any unvested stock options or other equity awards shall cease to vest and be forfeited on Mr. Hutton's last day of employment. In the event that Mr. Hutton's employment is terminated by the Company without Cause, as defined in the 2020 Hutton Offer Letter, he is entitled to the same severance benefits as provided for under the 2018 Hutton Offer Letter, plus an additional payout of target bonus previously established by the Compensation Committee. Furthermore, any change in control which results in a change of position will trigger the accelerated vesting of 100% of all unvested and then outstanding options held by Mr. Hutton.

***401(k) Plan***

The Company participates in a multiple employer tax-qualified 401(k) savings plan which allows participants to defer eligible compensation up to the maximum amount allowed under Internal Revenue Service guidelines. The Company does not currently make any discretionary or employer matching contributions under the plan.

**Equity Compensation Plans**

***2016 Equity Incentive Plan***

In 2016, our Board of Directors adopted the 2016 Incentive Plan. The following summary describes the material terms of the 2016 Incentive Plan. This summary is not a complete description of all provisions of the 2016 Incentive Plan and is qualified in its entirety by reference to the 2016 Incentive Plan, which will be filed as an exhibit to the registration statement of which this prospectus is a part.

The purpose of the 2016 Incentive Plan is to help secure and retain persons performing services to the Company, provide incentives for such persons to exert maximum efforts for the success of the Company and any affiliate, and provide a means by which such persons may benefit from increases in value of the Company's common stock. The 2016 Incentive Plan provides for the grant of incentive stock options (within the meaning of Section 422 of the Code), nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units (RSUs), and other stock awards. Only directors, employees and consultants who provide services to us or any affiliate of ours are eligible to receive such awards.

*Stock Subject to the Plan.* The number of shares reserved for issuance under the 2016 Incentive Plan as of December 31, 2019 was 10,999,384, all of which may be issued in satisfaction of incentive stock option awards.

To the extent an equity award granted under the 2016 Incentive Plan or the Company's predecessor plan expires or otherwise terminates without having been exercised or settled in full, or is settled in cash, or the shares underlying an award are forfeited, cancelled or repurchased by the Company, the shares subject to such award will become available for future issuance under the 2016 Incentive Plan. In addition, to the extent shares subject to an award are withheld to satisfy a participant's tax withholding obligations on a stock award, or are reacquired by the Company as consideration for the exercise or purchase price of a stock award, such shares will become available for future issuance under the 2016 Incentive Plan.

As of December 31, 2019, our employees, directors and consultants hold outstanding stock options granted under the 2016 Incentive Plan for the purchase of up to 9,887,733 shares of our common stock, with 3,626,699 of those options vested as of such date, and outstanding RSUs with respect to 156,522 shares of our common stock.

*Plan Administration.* Our Board of Directors, or a committee or committees delegated by our Board of Directors, administers the 2016 Incentive Plan. Subject to the terms of the 2016 Incentive Plan, our Board of Directors will have the authority to determine the eligibility for awards and the terms, conditions, and restrictions, including vesting terms, the number of shares subject to an award, and any performance goals applicable to awards made under the 2016 Incentive Plan. The Board of Directors also will have the authority, subject to the terms of the 2016 Incentive Plan, to construe and interpret the 2016 Incentive Plan and awards.

*Participants.* Employees, directors and consultants of the Company and any affiliate are eligible to participate in the 2016 Incentive Plan, if selected for participation by the plan administrator.

*Stock Options and Stock Appreciation Rights.* Our Board of Directors may grant incentive stock options, nonstatutory stock options, and stock appreciation rights under the 2016 Incentive Plan, provided that incentive stock options are granted only to employees of the Company, a parent corporation or a subsidiary corporation. The exercise price of stock options and stock appreciation rights under the 2016 Incentive Plan must equal to at least 100% of the fair market value of our common stock on the date of grant. The term of an option or stock appreciation right may not exceed ten years; provided, however, that an incentive stock option held by an employee who owns more than 10% of all of our classes of stock, or of certain of our affiliates, may not have a term in excess of five years, and must have an exercise price of at least 110% of the fair market value of our common stock on the grant date. Subject to the provisions of the 2016 Incentive Plan, the Board of Directors will determine the remaining terms of the options and stock appreciation rights, including the number of shares subject to the award, vesting, and the nature of any performance measures. Upon a participant's termination of service, the participant may exercise his or her option or stock appreciation right, to the extent vested (unless the Board of Directors permits otherwise), as specified in the award agreement.

*Stock Awards*. Our Board of Directors will decide at the time of grant whether an award will be in the form of restricted stock, RSUs, or other stock awards. The Board of Directors will determine the terms of the awards, including the number of shares subject to the award, vesting, and the nature of any performance measures. Our Board of Directors may grant other stock awards that are valued in whole or in part by reference to, or otherwise based on, shares of our common stock, including the appreciation in value thereof.

*Transferability of Awards.* The 2016 Incentive Plan does not allow options or stock appreciation rights to be transferred other than by will or the laws of descent and distribution following the participant's death. Restricted stock awards may be transferable by the participant only upon such terms and conditions as set forth in the award agreement, as the Board of Directors determines in its sole discretion.

*Certain Adjustments.* If any change is made in our common stock, without the receipt of consideration by us, such as through a merger, consolidation, reorganization, reincorporation, recapitalization, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or any similar equity restructuring transaction, appropriate and proportionate adjustments will be made in the number, class, and price of shares subject to each outstanding award and the number and kind of shares subject to the plan.

*Corporate Transactions.* In the event we experience a corporate transaction under the terms of the 2016 Incentive Plan, subject to the terms of the applicable award agreement or any other written agreement between the participant and the Company or any affiliate, or unless otherwise expressly provided by the Board of Directors at the time of grant of an award, our Board of Directors may (i) arrange for the surviving or acquiring corporation to assume or continue the stock awards, or to substitute stock awards; (ii) arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of common stock issued pursuant to stock awards to the surviving or acquiring corporation; (iii) accelerate the vesting, in whole or in part, of stock awards, and terminate such awards if not exercised; (iv) arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to stock awards; (v) cancel or arrange for the cancellation of stock awards in exchange for such cash consideration or no consideration as our Board of Directors, in its sole discretion, may consider appropriate; or (vi) make a payment (in the form determined by the Board of Directors) equal to the excess, if any, of the value of the property a participant would have received upon the exercise of a stock award immediately prior to the effective time of the corporate transaction over any exercise price payable by such participant in connection with such exercise, which payments may be made subject to conditions or contingencies applicable to shareholders of common stock in the transaction. The Board of Directors is not required to take the same action or actions with respect to all stock awards or portions thereof with respect to all participants, and may take different actions with respected to vested and unvested portions of stock awards.

*Change in Control.* In the event we experience a change in control under the terms of the 2016 Incentive Plan, an award may be subject to additional acceleration of vesting and exercisability as may be provided in the award agreement or in any other written agreement between the Company or any affiliate and the participant.

*New Plan Benefits.* The Board of Directors has the discretion to grant awards under the 2016 Incentive Plan, and therefore it is not possible at the time of filing of this prospectus to determine future awards that will be received by our named executive officers or others under the 2016 Incentive Plan. Only directors, employees, and consultants are eligible for consideration to participate in the 2016 Incentive Plan.

*Amendment and Termination*. The Board of Directors has the authority to amend or terminate the 2016 Incentive Plan, subject to any stockholder approval required by law. No amendment may impair the rights of a holder of an outstanding award without the consent of such holder.

***Amended and Restated 2006 Employee, Director and Consultant Stock Plan***

The following is a description of the material terms of the Biodesix, Inc. 2006 Employee, Director and Consultant Stock Plan, as amended and restated in 2008, 2011 and 2013 (the 2006 Incentive Plan). The summary

below does not contain a complete description of all provisions of the 2006 Incentive Plan and is qualified in its entirety by reference to the plan, a copy of which will be included as an exhibit to the registration statement of which this prospectus forms a part.

The 2006 Incentive Plan was replaced by the 2016 Incentive Plan. The 2006 Incentive Plan governs outstanding awards granted prior to the adoption of the 2016 Incentive Plan, but no further awards will be granted pursuant to the 2006 Incentive Plan.

*Authorized Shares.* At the time the 2006 Incentive Plan was replaced by the 2016 Incentive Plan, 801,585 shares of our common stock remained reserved for issuance under the 2006 Incentive Plan and became available for issuance under the 2016 Incentive Plan. In addition, from and after the date on which the 2016 Incentive Plan was adopted, to the extent that any equity award granted under the 2006 Incentive Plan expires or otherwise terminates without having been exercised or settled in full, or is settled in cash, or the shares underlying an award are forfeited, cancelled or repurchased by the Company, the shares subject to such award will become available for future issuance under the 2016 Incentive Plan. As of December 31, 2019, our employees, directors and consultants hold outstanding stock options granted under the 2006 Incentive Plan for the purchase of up to 1,488,414 shares of our common stock, with 1,468,054 of those options vested as of such date.

*Plan Administration.* Our Board of Directors, or a committee delegated by our board of directors, administers the 2006 Incentive Plan. Subject to the provisions of our 2006 Incentive Plan, the plan administrator has the authority to, among other things, determine the eligibility for awards and the terms, conditions, and restrictions, including vesting terms, the number of shares subject to an award, and any performance goals applicable to awards made under the 2006 Incentive Plan, construe and interpret the 2006 Incentive Plan and all awards granted thereunder, and to exercise powers and to perform acts necessary or expedient to promote the best interests of the Company.

*Participants.* Employees, directors and consultants of the Company and any affiliate were eligible to participate in the 2006 Incentive Plan, if selected for participation by the plan administrator.

*Types and Terms of Awards.* Under the 2006 Incentive Plan, we were authorized to grant stock options, stock appreciation rights, restricted stock awards, RSUs, and other stock awards. Stock options and stock appreciation rights may not be exercised beyond a ten-year term (or such shorter period as required with respect to incentive stock options held by certain holders). The terms of the awards are specified in an underlying award agreement approved by the plan administrator.

*Termination of Employment*. Under the terms of the 2006 Incentive Plan relating to stock options and stock appreciation rights, upon a participant's termination of service, the participant may exercise his or her options or stock appreciation rights, to the extent vested (unless the Board of Directors permits otherwise), as specified in the award agreement.

*Certain Adjustments.* If any change is made in our common stock, without the receipt of consideration by us, such as through a merger, consolidation, reorganization, reincorporation, recapitalization, stock dividend, dividend in property other than cash, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or other similar transaction, appropriate and proportionate adjustments will be made in the number, class, and price of shares subject to each outstanding award and the number and kind of shares subject to the plan.

*Corporate Transactions.* In the event we experience a corporate transaction under the terms of the 2006 Incentive Plan, subject to the terms of the applicable instrument evidencing the stock award or any other written agreement between the participant and the Company or any affiliate, or unless otherwise expressly provided by the Board of Directors at the time of grant of an award, the surviving or acquiring corporation may assume or continue any or all outstanding stock awards, or substitute similar stock awards, and any reacquisition or

repurchase rights held by the Company in respect of common stock issued pursuant to stock awards may be assigned by the Company to its successor in connection with such corporate transaction. However, if a surviving or acquiring corporation or its respective parent chooses to assume or substitute none or only a portion of the stock awards, the stock awards that have not been assumed, continued, or substituted for similar awards, unless otherwise determined by the Board of Directors, terminate if not exercised at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by the Company with respect to the stock awards shall lapse. Notwithstanding the forgoing, in the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, our Board of Directors may provide, in its sole discretion, that the participant will receive a payment (in the form determined by the Board of Directors) equal to the excess, if any, of the value of the property the participant would have received upon the exercise of a stock award immediately prior to the effective time of the corporate transaction over any exercise price payable by such participant in connection with such exercise.

*Change in Control.* In the event we experience a change in control under the terms of the 2006 Incentive Plan, an award may be subject to additional acceleration of vesting and exercisability as may be provided in the award agreement or in any other written agreement between the Company or any affiliate and the participant.

*Amendment and Termination*. The Board of Directors may, at any time, amend or terminate the 2006 Incentive Plan as it shall deem advisable, subject to any stockholder approval required by law. No amendment may impair the rights of a holder of an outstanding award without the consent of such holder.

***Amended and Restated Bonus-to-Options Program***

The following is a description of the material terms of the Biodesix, Inc. Bonus-to-Options Program, as amended and restated in 2015 (the Bonus-to-Options Program). The Bonus-to-Options Program was initially adopted by the Board of Directors in 2008, and subsequently amended and restated in 2010, 2011 and 2015. The summary below does not contain a complete description of all provisions of the Bonus-to-Options Program and is qualified in its entirety by reference to the plan, a copy of which will be included as an exhibit to the registration statement of which this prospectus forms a part.

The Bonus-to-Options Program is only available to the Chief Executive Officer, direct reports to the Chief Executive Officer and vice presidents of the Company. The Bonus-to-Options Program allows executives to convert some or all of their annual cash bonus into fully vested, non-qualified stock options to purchase shares of our common stock. Executives must declare their intent to participate in this program not later than the last day of the calendar year prior to the taxable year for which bonuses will be awarded. For the first year in which an executive becomes eligible to participate, the executive has 30 days to declare his or her intent to participate in this program. Executives may declare their intent to convert a percentage of their bonus, up to 100%, or designate a maximum dollar amount of bonus to be converted into options under this program. None of our named executive officers received option awards under this program during the year ended December 31, 2019.

The exercise price for the options under the Bonus-to-Options Program equals the greater of the “Deemed Preferred Price” or the then current price for the shares of our common stock. The Deemed Preferred Price is determined by dividing (i) the sum of the products of (A) the share price in each of the most recent sales of preferred stock of the Company and (B) with respect to each such sale, the number of months elapsed between such sale and earlier to occur of the next subsequent sale of preferred stock of the Company or the final day of the calendar year by (ii) 12, rounded down to the nearest whole cent. Options issued under this program must be exercised within a ten-year term.

A maximum of 1% of the fully-diluted equity, as of December 31 of the year for which the bonus was awarded, may be issued in any one year to the executives. If the executive team has elected to receive options that, in the aggregate, would total more than the maximum allotment for the year, then a maximum percentage of each person’s bonus to be converted to options will be set such that the 1% threshold is not exceeded. As of

June 30, 2020, our executives held outstanding stock options granted under the Bonus-to-Options Program for the purchase of up to 1,028,367 shares of our common stock.

**Certain 2020 Actions**

***Brunel Consulting Agreement***

Mr. Brunel resigned his position as Chairman of the Board of Directors, resigned from any committees of the Board of Directors of which he was a part, and ceased being a member of the Board of Directors effective September 14, 2020. Thereafter he began his service at the pleasure of the Board of Directors as a Director Emeritus. In addition, Mr. Brunel and the Company entered into a consulting agreement, dated as of September 19, 2020 (the Brunel Consulting Agreement), pursuant to which Mr. Brunel will cease providing services to the Company as an employee on December 31, 2020 and will provide consulting services to the Company beginning on January 1, 2021.

The consulting period under the Brunel Consulting Agreement will extend from and including January 1, 2021 through December 31, 2021 unless earlier terminated by either party. During the consulting period Mr. Brunel will be entitled to receive a quarterly consulting fee of $5,000.

The Brunel Consulting Agreement further provides that each stock option held by Mr. Brunel, other than those stock options granted under the Bonus-to-Options Program, as amended and restated, be amended to provide that the expiration date of such stock option is the earlier of (i) December 31, 2021, (ii) thirty (30) days after the termination of the Brunel Consulting Agreement, and (iii) the original expiration date of such term. For any outstanding stock options held by Mr. Brunel that remain subject to time-based vesting, the parties agreed that such vesting would continue through January 1, 2021, and that the unvested portion of any such option would be cancelled. The 2020 Tranche of Mr. Brunel's Performance-Vested Option remains outstanding and will have the opportunity to vest based on the Company's recognized revenue in 2020. However, the 2021 Tranche of Mr. Brunel's Performance-Vested Option was cancelled.

Mr. Brunel is subject to restrictive covenants as set forth in the Brunel Consulting Agreement, including perpetual non-disparagement and confidentiality covenants, and, during a restricted period commencing on the effective date of such agreement and expiring on December 31, 2021, covenants regarding non-competition, no interference with customers and suppliers of the Company, non-solicitation, and no-hire.

***Modifications of Prior Equity Grants***

As described above, in September 2020 the Board of Directors of the Company amended the Time-Vested Options and the Performance-Vested Options as follows.

Under the original vesting schedule for the Time-Vested Awards, two fifths (2/5) of the stock options vest two years after the vesting commencement date, and the remaining balance vest in a series of thirty-six (36) successive equal monthly installments measured from the second anniversary of the vesting commencement. As amended, twenty-one sixtieths (21/60) of the Time-Vested Options vest on the date that is twenty-one (21) months after the vesting commencement date, with the remaining balance vesting in a series of thirty-nine (39) successive equal monthly installments measured from such date.

Under the original terms of the Performance-Vested Awards, one third (1/3) of stock options vest (or could have vested) after each of the first, second and third anniversaries of the vesting commencement date, subject to the Company's achievement of recognized revenue of at least $31 million, $67 million and $134 million for the years ended December 31, 2019, 2020 and 2021, respectively. The Board of Directors has sole discretion to determine if the performance hurdles are met and to determine the vesting date, and shall make such determinations within 90 days after the end of the applicable fiscal year. For the 2019 Tranche, the Board of

Directors determined that the performance hurdle was not met. As a result, one third (1/3) of each executive's award was cancelled, and the remaining two thirds (2/3) of each of Mr. Hutton's and Ms. Cowie's award is currently outstanding. The 2020 Tranche of Mr. Brunel's Performance-Vested Option also remains outstanding, and will have the opportunity to vest based on the Company's recognized revenue in 2020. However, under the terms of the Brunel Consulting Agreement, the 2021 Tranche of Mr. Brunel's award was cancelled. In addition, in September 2020 and in light of the impact of the COVID-19 pandemic on the Company's operations and other considerations, the Board of Directors amended the Performance-Vested Options to provide that the performance hurdles for the 2020 Tranche and the 2021 Tranche are $28.6 million and $51.5 million, respectively. The Board of Directors retains ultimate discretion to determine whether such performance hurdles have been met, and at the time of the amendment believed that such achievement was uncertain.

***2020 Equity Incentive Plan***

In connection with this offering, our board of directors and our current stockholders are expected to approve the Biodesix, Inc. 2020 Equity Incentive Plan (the 2020 Incentive Plan), to be effective prior to the completion of this offering. The 2020 Incentive Plan, if created, would replace the 2016 Incentive Plan, as described above. The following summary describes what we expect to be the material terms of the 2020 Incentive Plan. This summary is not a complete description of all provisions of the 2020 Incentive Plan and is qualified in its entirety by reference to the 2020 Incentive Plan, which will be filed as an exhibit to the registration statement of which this prospectus is a part.

The purposes of the 2020 Incentive Plan are to align the interests of the Company's stockholders and those eligible for awards, to retain officers, directors, employees, and other service providers, and to motivate such persons to act in the long-term best interests of the Company and its stockholders. The 2020 Incentive Plan provides for the grant of incentive stock options (within the meaning of Section 422 of the Code), nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock units, performance awards and other stock awards. Officers, directors, employees, consultants, agents and independent contractors who provide services to us or to any subsidiary of ours are eligible to receive such awards.

*Stock Subject to the Plan*. The number of shares reserved for issuance under the 2020 Incentive Plan is , plus an annual increase added on the first day of each calendar year, beginning with the calendar year ending December 31, 2021, and continuing until, and including, the calendar year ending December 31, 20 . The annual increase will be equal to the lesser of (i) 4% of the number of shares of our common stock issued and outstanding as of the December 31st of the immediately preceding calendar year and (ii) such lesser amount determined by the board of directors. Up to shares of our common stock that may be issued under the 2020 Incentive Plan may be issued in satisfaction of incentive stock option awards.

To the extent an equity award granted under the 2020 Incentive Plan (other than any substitute award) or granted under any other equity plan maintained by us under which awards are outstanding as of the effective date of the 2020 Incentive Plan (the Prior Plans) expires or otherwise terminates without having been exercised or paid in full, or is settled in cash, the shares subject to such award will become available for future grant under the 2020 Incentive Plan. In addition, to the extent shares subject to an award are withheld to satisfy a participant's tax withholding obligation upon the exercise or settlement of such award (other than any substitute award) or to pay the exercise price of a stock option granted under the 2020 Incentive Plan or a Prior Plan, such shares will become available for future grant under the 2020 Incentive Plan.

*Director Compensation Limit*. The aggregate value of cash compensation paid and the grant date fair value of equity awards granted during any year to any non-employee director will not exceed $600,000 for incumbent non-employee directors and $1,050,000 for non-employee directors who are first appointed to our board of directors in such year.

*Plan Administration*. Our Compensation Committee will administer the 2020 Incentive Plan. Our board of directors has the authority to amend and modify the plan, subject to any stockholder approval required by law or

stock exchange rules. Subject to the terms of the 2020 Incentive Plan, our Compensation Committee will have the authority to determine the eligibility for awards and the terms, conditions, and restrictions, including vesting terms, the number of shares subject to an award, and any performance goals applicable to grants made under the 2020 Incentive Plan. The Compensation Committee also will have the authority, subject to the terms of the 2020 Incentive Plan, to construe and interpret the 2020 Incentive Plan and awards, and amend outstanding awards at any time.

*Stock Options and Stock Appreciation Rights*. Our Compensation Committee may grant incentive stock options, nonstatutory stock options, and stock appreciation rights under the 2020 Incentive Plan, provided that incentive stock options are granted only to employees. The exercise price of stock options and stock appreciation rights under the 2020 Incentive Plan will be determined by the Compensation Committee, but must equal to at least 100% of the fair market value of our common stock on the date of grant. The term of an option or stock appreciation right may not exceed ten years; provided, however, that an incentive stock option held by an employee who owns more than 10% of all of our classes of stock, or of certain of our affiliates, may not have a term in excess of five years, and must have an exercise price of at least 110% of the fair market value of our common stock on the grant date. Subject to the provisions of the 2020 Incentive Plan, the Compensation Committee will determine the remaining terms of the options and stock appreciation rights, including the number of shares subject to the award, vesting, and the nature of any performance measures. Upon a participant's termination of service, the participant may exercise his or her option or stock appreciation right, to the extent vested (unless the Compensation Committee permits otherwise), as specified in the award agreement. The 2020 Incentive Plan prohibits the payment of dividend equivalents with respect to options and stock appreciation rights and prohibits the repricing of options and stock appreciation rights without stockholder approval.

*Stock Awards*. Our Compensation Committee will decide at the time of grant whether an award will be in the form of restricted stock, restricted stock units, or other stock awards. The Compensation Committee will determine the terms of the awards, including the number of shares subject to the award, vesting, and the nature of any performance measures. Unless otherwise specified in the award agreement, the recipient of restricted stock will have voting rights and be entitled to receive dividends with respect to his or her shares of restricted stock, provided that (i) a distribution with respect to shares of common stock, other than a regular cash dividend, and (ii) a regular cash dividend with respect to shares of common stock that are subject to performance-based vesting conditions, in each case, will be deposited with us and will be subject to the same restrictions as the underlying shares of common stock. The recipient of restricted stock units will not have voting rights, but his or her award agreement may provide for the receipt of dividend equivalents, provided that any dividend equivalents with respect to restricted stock units that are subject to performance-based vesting conditions will be subject to the same restrictions as the underlying restricted stock units. Our Compensation Committee may grant other stock awards that are based on or related to shares of our common stock, such as awards of shares of common stock granted as bonus and not subject to any vesting conditions, deferred stock units, stock purchase rights, and shares of our common stock issued in lieu of our obligations to pay cash under any compensatory plan or arrangement.

*Performance Awards*. Our Compensation Committee will determine the value of any performance award, the vesting and nature of the performance measures, and whether the award is denominated or settled in cash or in shares of our common stock. The performance goals applicable to a particular award will be determined by our Compensation Committee at the time of grant. Any dividends or dividend equivalents with respect to a performance award subject to performance-based vesting conditions will be subject to the same restrictions as such performance award.

*Transferability of Awards*. The 2020 Incentive Plan does not allow awards to be transferred other than by will or the laws of inheritance following the participant's death, and options may be exercised, during the lifetime of the participant, only by the participant. However, an award agreement may permit a participant to assign an award to a family member by gift or pursuant to a domestic relations order, or to a trust, family limited partnership or similar entity established for one of the participant's family members. A participant may also designate a beneficiary who will receive outstanding awards upon the participant's death.

*Certain Adjustments*. If any change is made in our common stock, without the receipt of consideration by us, such as through a stock split, stock dividend, extraordinary distribution, recapitalization, combination of shares, exchange of shares or other similar transaction, appropriate adjustments will be made in the number, class, and price of shares subject to each outstanding award and the numerical share limits contained in the plan.

*Change in Control*. Subject to the terms of the applicable award agreement, upon a "change in control" (as defined in the 2020 Incentive Plan), our board of directors may, in its discretion, determine whether some or all outstanding options and stock appreciation rights will become exercisable in full or in part, whether the restriction period and performance period applicable to some or all outstanding restricted stock awards and restricted stock unit awards will lapse in full or in part and whether the performance measures applicable to some or all outstanding awards will be deemed to be satisfied. Our board of directors may further require that shares of stock of the corporation resulting from such a change in control, or a parent corporation thereof, be substituted for some or all of our shares of common stock subject to an outstanding award and that any outstanding awards, in whole or in part, be surrendered to us by the holder and be immediately cancelled by us in exchange for a cash payment, shares of capital stock of the corporation resulting from or succeeding us, other property or a combination of cash, such shares of stock or other property.

*Clawback*. Awards granted under the 2020 Incentive Plan and any cash payment or shares of our common stock delivered pursuant to an award granted under the 2020 Incentive Plan are subject to forfeiture, recovery, or other action pursuant to the applicable award agreement or any clawback or recoupment policy that we may adopt.

*Amendment and Termination*. Our Compensation Committee has the authority to amend, suspend or terminate the 2020 Incentive Plan, subject to any stockholder approval required by law or stock exchange rules. Our 2020 Incentive Plan will terminate on the ten-year anniversary of its approval by our board of directors, unless we terminate it earlier.

***Employee Stock Purchase Plan***

In connection with this offering, our board of directors and our current stockholders are expected to approve the Employee Stock Purchase Plan (the ESPP) to be effective upon the completion of this offering. The following summary describes what we expect to be the material terms of the ESPP. This summary is not a complete description of all provisions of the ESPP and is qualified in its entirety by reference to the ESPP, which will be filed as an exhibit to the registration statement of which this prospectus is a part.

Generally, all of our full-time employees (including those of our consolidated subsidiaries, other than those subsidiaries excluded from participation by our board of directors or Compensation Committee) are eligible to participate in the ESPP. The Compensation Committee retains the discretion to change the scope of eligible participants, subject to applicable limitations under the Code. The ESPP permits employees to purchase our common stock through payroll deductions during six-month offering periods. The Compensation Committee retains the discretion to change the duration of future offering periods, subject to applicable limitations under the Code. Subject to applicable Code limitations, participants may authorize payroll deductions of a specific percentage of compensation of up to 15%, with such deductions being accumulated for six-month purchase periods beginning on the first business day of each offering period and ending on the last business day of each offering period, although the Compensation Committee retains the discretion to change the duration of future purchase periods, subject to the limitations under the Code. Under the terms of the ESPP, the purchase price per share with respect to an offering period will equal the lesser of (i) 85% of the fair market value of a share of our common stock on the first business day of such offering period and (ii) 85% of the fair market value of a share of our common stock on the last business day of such offering period, although the Compensation Committee has discretion to change the purchase price with respect to future offering periods, subject to the terms of the ESPP. No employee may participate in an offering period if the employee owns 5% or more of the total combined voting power or value of our stock or the stock of any of our subsidiaries. Except as otherwise determined by the

Compensation Committee with respect to future offering periods, no participant may purchase more than shares of our common stock during any offering period.

Subject to adjustment for stock splits, stock dividends or other changes in our capital stock, shares of our common stock have been reserved for issuance under the ESPP. Subject to the adjustment provisions contained in the ESPP, the maximum number of shares of our common stock available under the ESPP will automatically increase on the first trading day of each calendar year, commencing January 2021, by an amount equal to the lesser of (i) 1% of the shares of our common stock issued and outstanding on December 31 of the immediately preceding calendar year, and (ii) an amount determined by our board of directors.

Under the terms of the ESPP, in the event of the proposed dissolution or liquidation of the Company, any offering period then in progress will terminate immediately prior to the consummation of such proposed dissolution or liquidation, unless otherwise provided by the board of directors, and the board of directors may either provide for the purchase of shares as of the date on which such offering period terminates or return to each participant the payroll deductions credited to such participant's account. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger of the Company with or into another corporation, each outstanding option under the ESPP will be assumed or an equivalent option substituted by the successor corporation or a parent or subsidiary of the successor corporation, unless the board of directors determines, in the exercise of its sole discretion, in lieu of such assumption or substitution to either terminate all outstanding options under the ESPP and return to each participant the payroll deductions credited to such participant's account or to provide for the offering period in progress to end on a date prior to the consummation of such sale or merger.

The ESPP will be administered by the Compensation Committee or a designee of the Compensation Committee. The ESPP may be amended by our board of directors or the Compensation Committee but may not be amended without prior stockholder approval to the extent required by Section 423 of the Code. The ESPP shall continue in effect until the earlier of (i) the termination of the ESPP by our board of directors or the Compensation Committee pursuant to the terms of the ESPP and (ii) the ten-year anniversary of the effective date of the ESPP, with no new offering periods commencing on or after such ten-year anniversary.

## CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following is a description of certain relationships and transactions that exist or have existed or that we have entered into with our directors, executive officers, or stockholders who are known to us to beneficially own more than five percent of our voting securities and their affiliates and immediate family members, other than compensation arrangements which are described in the sections titled “Executive Compensation” and “Management—Non-Employee Director Compensation.”

We believe the terms obtained or consideration that we paid or received, as applicable, in connection with the transactions described below were comparable to terms available or the amounts that would be paid or received, as applicable, in arm’s-length transactions.

### Related Party Transaction Policy

We have established a written related party transaction policy that provides procedures for the review of transactions in excess of $120,000 in any year between us and any covered person having a direct or indirect material interest with certain exceptions. Covered persons include any director, executive officer, director nominee or stockholders known to us to beneficially own 5% or more of our voting securities or any affiliates and immediate family members of the foregoing. Any such related party transactions shall require advance approval by a majority of our independent directors or by our audit committee.

### Preferred Stock Financings

We have issued preferred stock from time to time to finance our operations or to make acquisitions. The purchasers of some of our preferred stock are covered persons or their affiliates.

In April 2017, May 2017, July 2017, December 2017, and February 2018, we sold an aggregate of 35,496,613 shares of Series G Preferred Stock to accredited investors at a purchase price of $0.75 per share for an aggregate purchase price of approximately $26.6 million, including conversion of indebtedness.

In June 2018, we issued an aggregate of 10,649,904 shares of Series G Preferred Stock to Integrated Diagnostics as consideration for certain assets and liabilities. See “Business—Material Agreements.” The shares issued at closing also include 2,219,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of the seller that may arise.

In October 2018, February 2019, and May 2019, we sold an aggregate of 23,923,188 shares of Series H Preferred Stock to accredited investors at a purchase price of $1.15 per share for an aggregate purchase price of approximately $27.5 million, including conversion of indebtedness.

The following table sets forth the number of shares of Series G Preferred Stock and Series H Preferred Stock purchased in the foregoing transactions by holders of more than 5% of our capital stock and their affiliated entities and our directors. None of our executive officers purchased shares of Series G Preferred Stock or Series H Preferred Stock in the foregoing transactions.

| Name of Stockholder | Series G Preferred Stock | Series H Preferred Stock |
|---|---|---|
| Jack Schuler and entities affiliated with Jack Schuler(1) | 12,556,930 | 8,959,765 |
| Entities affiliated with John Patience(2) | 7,668,930 | 4,182,413 |
| Manlia Limited(3) | 4,913,376 | 2,024,338 |
| Matthew Strobeck and entities affiliated with Matthew Strobeck(4) | 1,660,268 | 996,664 |
| Life Sciences Alternative Financing and entities affiliated with Life Sciences Alternative Financing(5) | 10,649,904 | 1,651,389 |
| Lawrence T. Kennedy, Jr. Revocable Trust UAD 6/19/01(6) | 4,000,000 | 2,597,236 |

(1) Includes shares of preferred stock purchased by Jack Schuler, a member of our Board of Directors who together with his affiliates holds more than 5% of our capital stock, and by Jack W. Schuler Living Trust, Schuler GC 2010 Continuation Trust, Schuler Grandchildren LLC, Tanya Eva Schuler, Trust, Therese Heidi Shuler, Trust, and Tino Hans Schuler, Trust.
(2) Includes shares of preferred stock purchased by John Patience Trust, dated July 23, 1993 and Patience Enterprises LP, entities affiliated with John Patience, a member of our Board of Directors who together with his affiliates holds more than 5% of our capital stock.
(3) Mr. Cawthorn is an affiliate of Manlia Limited, which holds more than 5% of our capital stock.
(4) Includes shares of preferred stock purchased by Clajer Capital LLC. Dr. Strobeck, a member of our Board of Directors is an affiliate of Clajer Capital LLC.
(5) Includes shares of preferred stock acquired by Life Sciences Alternative Financing LLC and IND Funding LLC in connection with the acquisition of certain assets and liabilities of Integrated Diagnostics, Inc., which together hold more than 5% of our capital stock.
(6) Lawrence T. Kennedy, Jr. Revocable Trust UAD 6/19/01 holds more than 5% of our capital stock.

Upon the closing of this offering, each outstanding share of Series A-1 Preferred Stock, Series A-2 Preferred Stock, Series A-3 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, Series G Preferred Stock and Series H Preferred Stock will convert into one share of common stock. Upon the closing of this offering, each share of Series B-1 Preferred Stock will convert into approximately 1.16363 shares of common stock. For a description of the material rights and privileges of the preferred stock, see “Description of Capital Stock—Preferred Stock.”

**Convertible Debt Financings**

In March 2020, we issued $10.0 million in convertible debt (the March 2020 Notes) that was scheduled to mature in August 2020. In August 2020, the maturity date of this debt was extended to June 30, 2021. The March 2020 Notes were issued in two tranches of $5 million, with the first tranche being funded in March 2020 and the second tranche in June 2020. Interest on the March 2020 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date and if the March 2020 Notes are unpaid, the outstanding principal and unpaid accrued interest under the March 2020 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price will be equal to 80% of the price per share paid for the common stock sold in this offering. We may prepay the March 2020 Notes in whole or in part at any time with prior consent of at least two-thirds of the noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the March 2020 Notes include a number of our directors and their affiliates.

In December 2019, we issued $6.0 million in convertible debt (the December 2019 Notes), that were scheduled to mature in August 2020. In August 2020, the maturity date of this debt was extended to June 30, 2021. The December 2019 Notes were issued in two tranches of $3.0 million, with the first tranche funded in December 2019. Interest on the December 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date if the December 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the December 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price will be equal to 80% of the price per share paid for the common stock sold in this offering. We may prepay the December 2019 Notes in whole or in part at any time with prior consent of at least two-thirds of noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the December 2019 Notes included a number of our directors and their affiliates.

In August and September 2019 we issued $10.0 million in convertible debt (the August 2019 Notes) that was scheduled to mature in August 2020. In August 2020, the maturity date of this debt was extended to June 30, 2021. Interest on the August 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at the original issuance price of $1.15 per share. On or before the maturity date if the August 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the August 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price would be equal to 95% of the price per share paid for the common stock sold in this offering. We may prepay the August 2019 Notes in whole or in part at any time with prior consent of at least two-thirds of the August 2019 noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the August 2019 Notes include a number of our directors and their affiliates.

In connection with the issuance of the December 2019 Notes, the conversion price on the August 2019 Notes was amended to 80% of the price per share paid for the preferred stock in any subsequent qualified financing or the common stock in an initial public offering. In addition, the conversion price to Series H preferred stock at the maturity date was amended to be 80% of the Series H original issuance price of $1.15 per share.

**Investor Rights Agreement**

In October 2018, we entered into an amended and restated investor rights agreement (IRA) with certain holders of our preferred stock and common stock, including certain holders of 5% of our capital stock, and including certain members of, and affiliates of, our directors and certain of our executive officers. The IRA provides the holders of our preferred stock with certain registration rights, including the right to demand that we file a registration statement or request that their shares be covered by a registration statement that we are otherwise filing. The IRA also provides certain major stockholders with information rights, which will terminate upon the closing of this offering, and a right of first refusal with regard to certain issuances of our capital stock, which will not apply to, and will terminate upon, the closing of, this offering. After the closing of this offering, the holders of shares of common stock issuable on conversion of outstanding preferred stock, will be entitled to rights with respect to the registration of their shares of common stock under the Securities Act under this agreement. For a description of these registration rights, see “Description of Capital Stock—Registration Rights.”

**Voting Agreement**

In October 2018, we entered into an amended and restated voting agreement with certain holders of our preferred stock and common stock, including certain holders of 5% of our capital stock, and including certain members of, and affiliates of, our directors and certain of our executive officers. Pursuant to the Voting Agreement, certain holders of our preferred stock and common stock have agreed to vote their shares in favor of specified transactions approved by the requisite supermajority of the shares of our voting capital stock held by investors party thereto. The Voting Agreement will terminate upon the closing of this offering.

**Right of First Refusal and Co-Sale Agreement**

In October 2018, we entered into an amended and restated right of first refusal and co-sale agreement (Co-Sale Agreement) with certain holders of our preferred stock and common stock, including certain holders of 5% of our capital stock, and including certain members of, and affiliates of, our directors and certain of our executive officers. Pursuant to the Co-Sale Agreement, we have a right of first refusal in respect of certain sales of securities by certain holders of our capital stock. To the extent we do not exercise such right in full, certain holders of our preferred stock are granted certain rights of first refusal and co-sale in respect of such sales. The Co-Sale Agreement will terminate upon the closing of this offering.

**Contingent Value Rights Agreement**

In February 2016, we entered into a contingent value rights agreement (CVR Agreement) with certain holders of our preferred and common stock, including several members of our Board. Pursuant to the CVR Agreement, the holders would be eligible to receive in the aggregate up to 15% of any future income and proceeds that we would receive, subject to a number of conditions and offsets, with respect to ficlatuzumab rights under our agreement with AVEO.

## PRINCIPAL STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of June 30, 2020:

- each of our named executive officers;
- each of our directors;
- all of our directors and executive officers as a group; and
- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock.

We have determined beneficial ownership in accordance with the rules of the SEC, and therefore it represents sole or shared voting or investment power with respect to our securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned, subject to community property laws where applicable. We have deemed shares of common stock subject to options that are currently exercisable or exercisable within 60 days of June 30, 2020, to be outstanding and to be beneficially owned by the person holding the option for the purpose of computing the percentage ownership of that person but have not treated them as outstanding for the purpose of computing the percentage ownership of any other person.

We have based percentage ownership of common stock before this offering on shares of common stock outstanding as of , 2020, which includes shares of common stock resulting from the conversion of all outstanding shares of preferred stock immediately upon the closing of this offering, as if this conversion had occurred as of , 2020. Percentage ownership of common stock after this offering assumes the sale of shares of common stock in this offering and no exercise of the underwriters' over-allotment option.

The table below does not reflect any shares of common stock that may be purchased in this offering through the directed share program described under "Underwriters—Directed Share Program." Unless otherwise indicated, the address for each beneficial owner listed in the table below is c/o Biodesix, Inc., 2970 Wilderness Place, Suite 100, Boulder, Colorado 80301.

| | Shares Beneficially Owned Prior to this Offering | | Shares Beneficially Owned Following this Offering | |
|---|---|---|---|---|
| Name and Address of Beneficial Owner | Shares | % | Shares | % |
| **Principal Stockholders:** | | | | |
| Jack Schuler and entities affiliated with Jack Schuler(1) | 39,726,309 | 32.8% | | |
| John Patience and entities affiliated with John Patience(2) | 27,443,229 | 22.6% | | |
| Life Sciences Alternative Financing LLC and entities affiliated with Life Sciences Alternative Financing LLC(3) | 12,301,293 | 10.2% | | |
| Robert Cawthorn and entities affiliated with Robert Cawthorn(4) | 10,833,313 | 8.9% | | |
| Entities affiliated with Lawrence T. Kennedy, Jr.(5) | 6,597,236 | 5.5% | | |
| **Directors and Named Executive Officers:** | | | | |
| Scott Hutton(6) | 346,667 | * | | |
| Robin Harper Cowie(7) | 513,260 | * | | |
| David Brunel(8) | 1,973,227 | 1.6% | | |
| Jack Schuler(9) | 39,726,309 | 32.8% | | |
| John Patience(10) | 27,443,229 | 22.6% | | |
| Robert Cawthorn(11) | 10,833,313 | 8.9% | | |
| Matthew Strobeck, Ph.D.(12) | 5,365,866 | 4.4% | | |
| Mark Miller(13) | 1,454,075 | 1.2% | | |
| Charles Watts, M.D.(14) | 226,087 | * | | |
| Jean Franchi(15) | 58,101 | * | | |
| Hany Massarany(16) | 17,391 | * | | |
| All directors and named executive officers as a group (14 persons) | 88,425,409 | 70.6% | | |

* Represents beneficial ownership of less than 1%.

(1) Consists of (a) 278,261 shares of common stock issuable upon the exercise of options held by Jack Schuler that are vested and exercisable within 60 days of June 30, 2020, (b) 979,601 shares of common stock issuable upon conversion of (i) 49,975 shares of Series D Preferred Stock, (ii) 51,317 shares of Series E Preferred Stock, (iii) 218,713 shares of Series F Preferred Stock, (iv) 313,690 shares of Series G Preferred Stock and (v) 345,906 shares of Series H Preferred Stock held by JS Grandchildren Trust, (c) 979,601 shares of common stock issuable upon conversion of (i) 49,975 shares of Series D Preferred Stock, (ii) 51,317 shares of Series E Preferred Stock, (iii) 218,713 shares of Series F Preferred Stock, (iv) 313,690 shares of Series G Preferred Stock and (v) 345,906 shares of Series H Preferred Stock held by Schuler Descendants Trust, (d) 2,047,488 shares of common stock issuable upon conversion of (i) 83,085 shares of Series C Preferred Stock, (ii) 99,950 shares of Series D Preferred Stock, (iii) 107,834 shares of Series E Preferred Stock, (iv) 437,427 shares of Series F Preferred Stock, (v) 627,380 shares of Series G Preferred Stock and (vi) 691,812 shares of Series H Preferred Stock held by Schuler Grandchildren LLC, (e) 2,092,584 shares of common stock issuable upon conversion of (i) 83,416 shares of Series C Preferred Stock, (ii) 99,950 shares of Series D Preferred Stock, (iii) 107,834 shares of Series E Preferred Stock, (iv) 437,427 shares of Series F Preferred Stock, (v) 627,380 shares of Series G Preferred Stock and (vi) 736,577 shares of Series H Preferred Stock held by Therese Heidi Schuler, Trust, (f) 2,092,584 shares of common stock issuable upon conversion of (i) 83,416 shares of Series C Preferred Stock, (ii) 99,950 shares of Series D Preferred Stock, (iii) 107,834 shares of Series E Preferred Stock, (iv) 437,427 shares of Series F Preferred Stock, (v) 627,380 shares of Series G Preferred Stock and (vi) 736,577 shares of Series H Preferred Stock held by Tanya Eva Schuler, Trust, (g) 29,163,606 shares of common stock issuable upon conversion of (i) 1,454,545 shares of Series B Preferred Stock, (ii) 1,250,000 shares of Series B-1 Preferred Stock, (iii) 333,333 shares of Series C Preferred Stock, (iv) 3,101,784 shares of Series D Preferred Stock, (v) 1,759,853 shares of Series E Preferred Stock, (vi) 6,273,780 shares of Series F Preferred Stock, (vii) 9,419,362 shares of Series G Preferred Stock, and (viii) 5,366,411 shares of Series H Preferred Stock held by Jack W. Schuler Living Trust and (h) 2,092,584 shares of common stock issuable upon conversion of (i) 83,416 shares of Series C Preferred Stock, (ii) 99,950 shares of Series D Preferred Stock, (iii) 107,834 shares of Series E Preferred Stock, (iv) 437,427 shares of Series F Preferred Stock, (v) 627,380 shares of Series G Preferred Stock and (vi) 736,577 shares of Series H Preferred Stock held by Tino Hans Schuler, Trust.

(2) Consists of (a) 278,261 shares of common stock issuable upon the exercise of options held by John Patience that are vested and exercisable within 60 days of June 30, 2020, (b) 10,858,953 shares of common stock issuable upon conversion of (i) 1,454,545 shares of Series B Preferred Stock, (ii) 250,000 shares of Series D Preferred Stock, (iii) 809,200 shares of Series E Preferred Stock, (iv) 3,205,681 shares of Series F Preferred Stock, (v) 957,114 shares of Series G Preferred Stock and (vi) 4,182,413 shares of Series H Preferred Stock held by Patience Enterprises LP and (c) 16,306,015 shares of common stock issuable upon conversion of (i) 1,250,000 shares of Series B-1 Preferred Stock, (ii) 666,666 shares of Series C Preferred Stock, (iii) 2,932,534 shares of Series D Preferred Stock, (iv) 1,484,624 shares of Series E Preferred Stock, (v) 3,055,837 shares of Series F Preferred Stock and (vi) 6,711,816 shares of Series G Preferred Stock held by John Patience Trust, dated July 23, 1993.

(3) Consists of (a) 10,649,904 shares of common stock issuable upon conversion of 10,649,904 shares of Series G Preferred Stock held by IND Funding LLC and (b) 1,651,389 shares of common stock issuable upon conversion of 1,651,389 shares of Series H Preferred Stock held by Life Sciences Alternative Financing LLC.

(4) Consists of (a) 10 shares of common stock, (b) 278,261 shares of common stock issuable upon the exercise of options held by Robert Cawthorn that are vested and exercisable within 60 days of June 30, 2020 and (c) 10,555,052 shares of common stock issuable upon conversion of (i) 392,292 shares of Series A-1 Preferred Stock, (ii) 60,000 shares of Series A-2 Preferred Stock, (iii) 120,665 shares of Series A-3 Preferred Stock, (iv) 187,273 shares of Series B Preferred Stock, (v) 312,500 shares of Series B-1 Preferred Stock, (vi) 233,333 shares of Series C Preferred Stock, (vii) 299,000 shares of Series D Preferred Stock, (viii) 452,602 shares of Series E Preferred Stock, (ix) 1,508,529 shares of Series F Preferred Stock, (x) 4,913,376 shares of Series G Preferred Stock and (xi) 2,024,338 shares of Series H Preferred Stock held by Manlia Limited.

(5) Consists of (a) 4,594,651 shares of common stock issuable upon conversion of (i) 2,666,668 shares of Series G Preferred Stock and (ii) 1,927,983 shares of Series H Preferred Stock held by Lawrence T. Kennedy, Jr. Revocable Trust UAD 6/19/01 and as amended from time to time and (b) 2,002,585 shares of common stock issuable upon conversion of (i) 1,333,332 shares of Series G Preferred Stock and (ii) 669,253 shares of Series H Preferred Stock held by Lawrence T. Kennedy, Jr. Perpetuity Trust UAD 6/30/16.

(6) Consists of 346,667 shares of common stock issuable upon the exercise of options held by Scott Hutton that are vested and exercisable within 60 days of June 30, 2020.

(7) Consists of 513,260 shares of common stock issuable upon the exercise of options held by Robin Harper Cowie that are vested and exercisable within 60 days of June 30, 2020.

(8) Consists of (a) 455,477 shares of common stock, (b) 1,333,151 shares of common stock issuable upon the exercise of options held by David Brunel that are vested and exercisable within 60 days of June 30, 2020 and (c) 184,599 shares of common stock issuable upon conversion of (i) 660 shares of Series A-1 Preferred Stock, (ii) 110,399 shares of Series A-3 Preferred Stock and (iii) 73,540 shares of Series B Preferred Stock.

(9) Consists of 39,726,309 shares beneficially owned by Jack Schuler and entities affiliated with Jack Schuler, as set forth in footnote (1).

(10) Consists of 27,443,229 shares beneficially owned by John Patience and entities affiliated with John Patience, as set forth in footnote (2).

(11) Consists of 10,833,313 shares beneficially owned by Robert Cawthorn and entities affiliated with Robert Cawthorn, as set forth in footnote (4).

(12) Consists of (a) 298,261 shares of common stock issuable upon the exercise of options held by Dr. Matthew Strobeck that are vested and exercisable within 60 days of June 30, 2020 and (b) 4,937,172 shares of common stock issuable upon conversion of (i) 100,000 shares of Series C Preferred Stock, (ii) 686,250 shares of Series D Preferred Stock, (iii) 750,907 shares of Series E Preferred Stock, (iv) 903,516 shares of Series F Preferred Stock, (v) 1,660,268 shares of Series G Preferred Stock and (vi) 836,231 shares of Series H Preferred Stock held by Dr. Matthew Strobeck and (c) 130,433 shares of common stock issuable upon conversion of 130,433 shares of Series H Preferred Stock held by Clajer Capital LLC.

(13) Consists of (a) 298,261 shares of common stock issuable upon the exercise of options held by Mark Miller that are vested and exercisable within 60 days of June 30, 2020, (b) 1,089,148 shares of common stock issuable upon conversion of (i) 726,750 shares of Series D Preferred Stock and (ii) 362,398 shares of Series E Preferred Stock held by Tiger's Family LLC and (c) 66,666 shares of common stock issuable upon conversion of 66,666 shares of Series C Preferred Stock held by Mark C. Miller Trust. Mark Miller disclaims beneficial ownership of the shares the 362,398 shares of Series E Preferred Stock held by Tiger's Family LLC.

(14) Consists of 226,087 shares of common stock issuable upon the exercise of options held by Dr. Charles Watts that are vested and exercisable within 60 days of June 30, 2020.

(15) Consists of 58,101 shares of common stock issuable upon the exercise of options held by Jean Franchi that are vested and exercisable within 60 days of June 30, 2020.

(16) Consists of 17,391 shares of common stock issuable upon the exercise of options held by Hany Massarany that are vested and exercisable within 60 days of June 30, 2020.

# DESCRIPTION OF CAPITAL STOCK

*The description below of our capital stock and provisions of our amended and restated certificate of incorporation and amended and restated bylaws are summaries and are qualified by reference to the amended and restated certificate of incorporation and the amended and restated bylaws to be in effect upon the closing of this offering, which are filed as exhibits to the registration statement of which this prospectus is part, and by the applicable provisions of Delaware law.*

## General

Upon the closing of this offering, our amended and restated certificate of incorporation will authorize us to issue up to shares of common stock, $0.001 par value per share, and shares of preferred stock, $0.001 par value per share.

As of , 2020, there were shares of common stock issued and outstanding, held by stockholders of record.

As of , 2020, after giving effect to the conversion of all outstanding shares of preferred stock into shares of common stock, there would have been shares of common stock issued and outstanding, held by stockholders of record.

## Common Stock

### *Voting Rights*

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Under our amended and restated certificate of incorporation and amended and restated bylaws, our stockholders will not have cumulative voting rights. Because of this, the holders of a majority of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election.

### *Dividend Rights*

Subject to preferences that may apply to any then-outstanding preferred stock, the holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the Board of Directors out of legally available funds. We do not anticipate paying any cash dividends in the foreseeable future.

### *Liquidation Rights*

In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

### *Preemptive or Similar Rights*

Holders of common stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

**Preferred Stock**

As of , 2020, there were shares of preferred stock outstanding, which will be converted into shares of common stock upon the closing of the offering. On the closing of this offering and under our amended and restated certificate of incorporation, our Board of Directors may, without further action by our stockholders, fix the rights, preferences, privileges and restrictions of up to an aggregate of shares of preferred stock in one or more series and authorize their issuance. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. Any issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders would receive dividend payments and payments on liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deterring or preventing a change of control or other corporate action. No shares of preferred stock will be outstanding immediately following the closing of this offering. We have no present plan to issue any shares of preferred stock.

***Preferred Stock Financings***

We have issued preferred stock from time to time to finance our operations or to make acquisitions. The purchasers of some of our preferred stock are covered persons or their affiliates.

In April 2017, May 2017, July 2017, December 2017, and February 2018, we sold an aggregate of 35,496,613 shares of Series G Preferred Stock to accredited investors at a purchase price of $0.75 per share for an aggregate purchase price of approximately $26.6 million, including conversion of indebtedness.

In June 2018, we issued an aggregate of 10,649,904 shares of Series G Preferred Stock to Integrated Diagnostics as consideration for certain assets and liabilities. See “Business—Material Agreements.” The shares issued at closing also include 2,219,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of the seller that may arise.

In October 2018, February 2019, and May 2019, we sold an aggregate of 23,923,188 shares of Series H Preferred Stock to accredited investors at a purchase price of $1.15 per share for an aggregate purchase price of approximately $27.5 million, including conversion of indebtedness.

Upon the closing of this offering, each outstanding share of Series A-1 Preferred Stock, Series A-2 Preferred Stock, Series A-3 Preferred Stock, Series B Preferred Stock, Series C Preferred Stock, Series D Preferred Stock, Series E Preferred Stock, Series F Preferred Stock, Series G Preferred Stock and Series H Preferred Stock will convert into one share of common stock. Upon the closing of this offering, each share of Series B-1 Preferred Stock will convert into approximately 1.16363 shares of common stock.

**Convertible Debt**

The March 2020 Notes were scheduled to mature in August 2020, but in August 2020 we extended the maturity date of this debt to June 30, 2021. The March 2020 Notes were issued in two tranches of $5.0 million, with the first tranche funded in March 2020 and the second tranche in June 2020. Interest on the March 2020 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date if the March 2020 Notes are unpaid, the outstanding principal and unpaid accrued interest under the March 2020 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price will be equal to 80% of the price per share paid for the common stock sold in this offering. We may prepay the March 2020 Notes in whole or in part at any time with prior consent of at least two-thirds of the noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the March 2020 Notes include a number of our directors and their affiliates.

The December 2019 Notes were scheduled to mature in August 2020, but in August 2020 we extended the maturity date of this debt to June 30, 2021. The December 2019 Notes were issued in two tranches of $3.0 million, with the first tranche funded in December 2019 and the second tranche in February 2020. Interest on the December 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date if the December 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the December 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price will be equal to 80% of the price per share paid for the common stock sold in this offering. We may prepay the December 2019 Notes in whole or in part at any time with prior consent of at least two-thirds of the noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the December 2019 Notes include a number of our directors and their affiliates.

The August 2019 Notes were scheduled to mature in August 2020, but in August 2020 we extended the maturity date of this debt to June 30, 2021. Interest on the August 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at the original issuance price of $1.15 per share. On or before the maturity date if the August 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the August 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price would be equal to 95% of the price per share paid for the common stock sold in this offering. We may prepay the August 2019 Notes in whole or in part at any time with prior consent of at least two-thirds of the August 2019 noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of our equity securities in such transaction. The holders of the August 2019 Notes include a number of our directors and their affiliates.

The discounts on the automatic conversions created a put option liability that was separated from the March 2020 Notes. The estimated value of the put option liability as of the issuance of the March 2020 Notes at June 30, 2020 was $2.5 million. The put option liability was reflected as a debt discount on the March 2020 Notes, which is being amortized over the term of the March 2020 Notes. The unamortized debt discount was $1.4 million as of June 30, 2020.

The discounts on the automatic conversions created a put option liability that was separated from the December 2019 Notes. The estimated value of the put option liability as of the issuance of the December 2019 Notes and June 30, 2020 was $1.5 million. The put option liability was reflected as a debt discount on the December 2019 Notes, which is being amortized over the term of the December 2019 Notes. The unamortized debt discount was $0.3 million as of June 30, 2020.

The discounts on the automatic conversions created a put option liability that was separated from the August 2019 Notes. The estimated value of the put option liability as of the issuance of the August 2019 Notes was $0.5 million. The put option liability was reflected as a debt discount on the August 2019 Notes which is being amortized over the term of the August 2019 Notes. The unamortized debt discount was $0.1 million as of June 30, 2020.

In connection with the issuance of the December 2019 Notes, the conversion price on the August 2019 Notes was amended to 80% of the price per share paid for the preferred stock in any subsequent qualified financing or the common stock in an initial public offering. In addition, the conversion price to Series H preferred stock at the maturity date was amended to be 80% of the Series H original issuance price of $1.15 per share. The changes to the discounts on the conversions of the August 2019 Notes created an increase to the put option liability on the August 2019 Notes of $2.0 million to a total estimated value of $2.5 million as of December 31, 2019. The increase in the value of the put option liability was reflected as a change in put option in the accompanying 2019 statement of operations.

As of June 30, 2020, accrued interest of $0.4 million is included in the convertible debt balance included on the accompanying balance sheet.

**Warrants**

We have issued warrants from time to time to purchase shares of preferred stock in conjunction with the sale of preferred stock and debt. The grant date fair value and fair value at each reporting date of the warrants was determined using the Black-Scholes option pricing model with weighted average assumptions relatively consistent with those for our granted stock options, other than term, which is the contractual term of the warrant and the use of the exercise price and current estimated fair value of the respective series of preferred stock.

The following table presents the activity for convertible preferred stock warrants outstanding (in thousands, except weighted average exercise price):

| | Series E | | Series G | |
|---|---|---|---|---|
| | Warrants | Weighted Average Exercise Price | Warrants | Weighted Average Exercise Price |
| Outstanding - December 31, 2018 | 1,827 | $ 5.00 | 613 | $ 0.75 |
| Granted | — | — | | |
| Forfeited/canceled | (902) | 5.00 | — | — |
| Exercised | — | — | — | — |
| Outstanding - December 31, 2019 | 925 | $ 5.00 | 613 | $ 0.75 |
| Granted | — | — | — | — |
| Forfeited/canceled | (925) | $ 5.00 | — | — |
| Exercised | — | — | — | — |
| Outstanding - June 30, 2020 | — | — | 613 | $ 0.75 |
| Weighted average remaining contractual life at June 30, 2020 | | | 7.5 years | |

**Stock Options**

As of , 2020, options to purchase an aggregate of shares of common stock were outstanding under our 2006 Incentive Plan and no additional shares of common stock were reserved for future issuance under our 2006 Incentive Plan. As of , 2020, options to purchase an aggregate of shares of common stock were outstanding under our 2016 Incentive Plan, and subsequent to , 2020, we granted options to purchase an additional shares of common stock. As of , 2020, shares of common stock were reserved for future issuance under our 2016 Incentive Plan. Subsequent to , 2020, we reserved an additional shares of common stock for future issuance under our 2016 Incentive Plan. For additional information regarding the terms of these plans, see the section titled “Executive Compensation—Employee Benefit Plans.”

**Registration Rights**

We are party to an IRA which provides that certain holders of shares of common stock, including those shares of common stock that will be issued upon conversion of preferred stock in connection with this offering. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of the IRA and are described in additional detail below. We, along with , as well as other stockholders, are parties to the IRA. We entered into the IRA in connection with the issuance of Series H Preferred Stock in October 2018. The following summary discusses certain material provisions of the IRA and is qualified by the full text of the agreement, which is filed as an exhibit to the registration statement of which this prospectus is a part.

The registration of shares of common stock pursuant to the exercise of registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses (other than underwriting discounts, selling commissions and stock transfer taxes) of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, if we determine in good faith in consultation with the underwriters, we have the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will terminate on the date five years following the closing part of this offering.

***Demand Registration Rights***

The holders of an aggregate of shares of common stock issuable upon conversion of outstanding shares of preferred stock will be entitled to certain demand registration rights. Ending on the date six months following the effective date of the registration statement of which this prospectus is a part, upon the written request of the holders of a majority of our registrable securities then outstanding that we file a registration statement under the Securities Act covering at least a majority of our registrable securities then outstanding, or lesser percent if the anticipated aggregate offering price, net of underwriting discounts and commissions, would exceed $5.0 million we are obligated to register the sale of all registrable securities that the holders may request in writing to be registered. We are required to effect no more than two registration statements that are declared or ordered effective. We may postpone the filing of a registration statement for up to 120 days once in a 12-month period if in the good faith judgment of our Board of Directors such registration would be seriously detrimental to us.

***Piggyback Registration Rights***

The holders of registrable securities will be entitled to certain piggyback registration rights.

If we register any of our securities for public sale, either for our own account or for the account of other security holders, we will also have to register all registrable securities that the holders of such securities request in writing be registered. This piggyback registration right does not apply to a registration relating to any of our stock plans, stock purchase or similar plan, a transaction under Rule 145 of the Securities Act or a registration related to stock issued upon conversion of debt securities. We, based on consultation with the underwriters of any underwritten offering will have the right to limit the number of shares registered by these holders if the underwriters determine that including all registrable securities will jeopardize the success of the offering.

***Form S-3 Registration Rights***

The holders of at least 10% of the registrable securities then outstanding will be entitled to certain registration rights on Form S-3. The holders of these shares can request that we register all or a portion of their shares on Form S-3 if we are eligible to file a registration statement on Form S-3 and the aggregate price to the public of the shares offered is in excess of $5.0 million. We are required to effect no more than two Form S-3 registration statements that are declared or ordered effective in any 12-month period. We may postpone the filing of a registration statement for up to 120 days not more than once in a 12-month period if in the good faith judgment of our Board of Directors such registration would be seriously detrimental to us.

**Anti-Takeover Provisions**

***Section 203 of the Delaware General Corporation Law***

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the Board of Directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

A Delaware corporation may "opt out" of these provisions with an express provision in its original certificate of incorporation or an express provision in its amended and restated certificate of incorporation or amended and restated bylaws resulting from a stockholders' amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

***Certificate of Incorporation and Bylaws to be in Effect Upon the Closing of this Offering***

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws will:

- permit our Board of Directors to issue up to shares of preferred stock, with any rights, preferences and privileges as they may designate, including the right to approve an acquisition or other change of control;

- provide that the authorized number of directors may be changed only by resolution of our Board of Directors;
- provide that our Board of Directors will be classified into three classes of directors;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least 66 2/3% of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by the chairman of our Board of Directors, our chief executive officer or by our Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding capital stock entitled to vote generally in the election of directors, voting together as a single class.

The combination of these provisions will make it more difficult for our existing stockholders to replace our Board of Directors as well as for another party to obtain control of us by replacing our Board of Directors. Since our Board of Directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change our control.

These provisions are intended to enhance the likelihood of continued stability in the composition of our Board of Directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in our control or management. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock.

**Choice of Forum**

Our amended and restated certificate of incorporation will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a breach of fiduciary duty owed by any director, officer or other employee to us or our stockholders; (iii) any action asserting a claim against us or any director or officer or other employee arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or

amended and restated bylaws; or (iv) any action asserting a claim against us or any director or officer or other employee that is governed by the internal affairs doctrine. Notwithstanding the foregoing, the exclusive forum provision will not apply to any claim to enforce any liability or duty created by the Exchange Act or the Securities Act and for which the federal courts have exclusive jurisdiction. Our amended and restated certificate of incorporation further provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Exchange Act or the Securities Act.

**Limitations of Liability and Indemnification**

See the section titled “Executive Compensation—Limitations on Liability and Indemnification Matters.”

**Exchange Listing**

Our common stock is currently not listed on any securities exchange. We have applied to list our common stock on The Nasdaq Global Market under the symbol “BDSX”.

**Transfer Agent and Registrar**

The transfer agent and registrar for our common stock will be Computershare Trust Company, N.A. The transfer agent’s address 150 Royall Street, Canton, Massachusetts 02021, and its telephone number is (800) 962-4284.

## SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, no public market existed for our common stock. Future sales of shares of our common stock in the public market after this offering, and the availability of shares for future sale, could adversely affect the market price of our common stock prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nonetheless, sales of substantial amounts of our common stock, or the perception that these sales could occur, could adversely affect prevailing market prices for our common stock and could impair our future ability to raise equity capital.

### Sales of Restricted Shares

Based on the number of shares outstanding on , 2020, upon the closing of this offering, shares of common stock will be outstanding, assuming no exercise of the underwriters' over-allotment option, and no exercise of outstanding options. All of the shares of common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act, except for any shares sold to our "affiliates," as that term is defined under Rule 144 under the Securities Act.

The remaining shares of common stock and common stock subject to stock options will be on issuance "restricted securities," as that term is defined in Rule 144 under the Securities Act. Restricted securities may be sold in the public market only if registered under the Securities Act or if they qualify for exemption from registration under Rules 144 or 701 under the Securities Act, which are summarized below. Restricted securities may also be sold outside of the United States to non-United States persons in accordance with Rule 904 of Regulation S.

### Rule 144

In general, persons who have beneficially owned restricted shares of our common stock for at least six months, and any of our affiliates who own either restricted or unrestricted shares of our common stock, are entitled to sell their securities without registration with the SEC under an exemption from registration provided by Rule 144 under the Securities Act.

In general, a person who has beneficially owned restricted shares of our common stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale, (ii) we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale, and (iii) we are current in our Exchange Act reporting at the time of sale. Persons who have beneficially owned restricted shares of our common stock for at least six months, but who are our affiliates at the time of, or any time during the 90 days preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares of common stock then outstanding, which will equal approximately shares immediately after the closing of this offering based on the number of shares of common stock outstanding as of , 2020; or
- the average weekly trading volume of our common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case that we have been subject to the Exchange Act periodic reporting requirements for at least 90 days before the sale. Such sales both by affiliates and by non-affiliates must also comply with the manner of sale, current public information and notice provisions of Rule 144.

Substantially all of the restricted shares are subject to lock-up agreements as described below and in the section titled “Underwriters.”

**Rule 701**

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares. However, substantially all Rule 701 shares are subject to lock-up agreements as described below and in the section titled “Underwriters” and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

**Form S-8 Registration Statements**

As soon as practicable after the closing of this offering, we intend to file with the SEC one or more registration statements on Form S-8 under the Securities Act to register the shares of common stock that are issuable pursuant to our 2006 Incentive Plan and 2016 Incentive Plan. These registration statements will become effective immediately upon filing. Shares covered by these registration statements will then be eligible for sale in the public markets, subject to vesting restrictions, the applicable lock-up agreements described below and Rule 144 limitations applicable to affiliates.

**Lock-Up Agreements**

We and all of our directors and officers, as well as the other holders of substantially all of our common stock and securities convertible into or exercisable or exchangeable for our common stock outstanding immediately upon the closing of this offering, have agreed with Morgan Stanley & Co. LLC and William Blair & Company, L.L.C. on behalf of the underwriters that, for a period ending on and including the 180th day following the date of this prospectus, subject to certain exceptions, we and they will not, and will not publicly disclose an intention to, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock, file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock, except with the prior written consent of Morgan Stanley & Co. LLC and William Blair & Company, L.L.C., in their sole discretion, with or without notice, on behalf of the underwriters. See the section titled “Underwriters” for a more complete description of the lock-up agreements with the underwriters.

In addition to the restrictions contained in the lock-up agreements described above, we have entered into agreements with certain security holders, including our IRA and our standard forms of notice of exercise under our 2006 Incentive Plan and our 2016 Incentive Plan, that contain market stand-off provisions imposing restrictions on the ability of such security holders to offer, sell or transfer our equity securities for a period ending on and including the 180th day following the date of this prospectus.

**Registration Rights**

Upon the closing of this offering, the holders of shares of our common stock issuable upon conversion of outstanding shares of preferred stock, or their transferees, will be entitled to certain rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section titled “Description of Capital Stock—Registration Rights” for additional information.

**Directed Share Program**

At our request, the underwriters have reserved up to 5% of the shares of common stock offered by this prospectus, for sale at the initial public offering price through a directed share program to certain individuals, including our directors, employees and certain of our existing stockholders. Any individuals that participate in this directed share program will be subject to lockup restrictions with the underwriters with respect to any shares purchased through the directed share program. For additional information, see the section titled “Underwriters—Directed Share Program.”

## MATERIAL UNITED STATES FEDERAL INCOME TAX CONSEQUENCES TO NON-UNITED STATES HOLDERS OF OUR COMMON STOCK

The following is a summary of the material United States federal income tax consequences to non-United States holders (as defined below) of the acquisition, ownership and disposition of our common stock issued pursuant to this offering. This discussion is not a complete analysis of all potential United States federal income tax consequences relating thereto, does not address the potential application of the Medicare contribution tax on net investment income, and does not address any estate or gift tax consequences or any tax consequences arising under any state, local or foreign tax laws, or any other United States federal tax laws. This discussion is based on the Code and applicable Treasury Regulations promulgated thereunder, judicial decisions and published rulings and administrative pronouncements of the Internal Revenue Service (IRS) all as in effect as of the date hereof. These authorities are subject to differing interpretations and may change, possibly retroactively, resulting in United States federal income tax consequences different from those discussed below. We have not requested a ruling from the IRS with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS or a court will agree with such statements and conclusions.

This discussion is limited to non-United States holders who purchase our common stock pursuant to this offering and who hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all of the United States federal income tax consequences that may be relevant to a particular holder in light of such holder's particular circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to holders subject to special rules under the United States federal income tax laws, including:

- certain former citizens or long-term residents of the United States;
- partnerships or other pass-through entities (and investors therein);
- "controlled foreign corporations";
- corporations that accumulate earnings to avoid United States federal income tax;
- banks, financial institutions, investment funds, insurance companies, brokers or dealers in securities;
- tax-exempt organizations and governmental organizations;
- foreign pension funds;
- tax-qualified retirement plans;
- persons subject to the alternative minimum tax;
- persons that own, or have owned, actually or constructively, more than 5% of our common stock;
- accrual-method taxpayers subject to special tax accounting rules under Section 451(b) of the Code;
- persons who have elected to mark securities to market; and
- persons holding our common stock as part of a hedging or conversion transaction or straddle, or a constructive sale, or other risk reduction strategy or integrated investment.

If an entity or arrangement that is classified as a partnership for United States federal income tax purposes holds our common stock, the United States federal income tax treatment of a partner in the partnership will generally depend on the status of the partner and the activities of the partnership. Partnerships (including entities or arrangements treated as partnerships for United States federal income tax purposes) holding our common stock and the partners in such partnerships are urged to consult their tax advisors about the particular United States federal income tax consequences to them of holding and disposing of our common stock.

**PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE PARTICULAR UNITED STATES FEDERAL INCOME TAX CONSEQUENCES TO THEM OF**

**ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR FOREIGN TAX LAWS, AN APPLICABLE TAX TREATY OR ANY OTHER UNITED STATES FEDERAL TAX LAWS. IN ADDITION, YOU SHOULD ALSO CONSULT WITH YOUR TAX ADVISOR WITH RESPECT TO POTENTIAL CHANGES IN UNITED STATES FEDERAL TAX LAW AS WELL AS POTENTIAL CHANGES IN STATE, LOCAL OR FOREIGN TAX LAWS.**

### Definition of Non-United States Holder

For purposes of this discussion, a non-United States holder is any beneficial owner of our common stock that is not a "United States person" or a partnership (including any entity or arrangement treated as a partnership) for United States federal income tax purposes. A United States person is any person that, for United States federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation (or entity treated as a corporation for United States federal income tax purposes) created or organized under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to United States federal income tax regardless of its source; or
- a trust (1) whose administration is subject to the primary supervision of a United States court and which has one or more United States persons who have the authority to control all substantial decisions of the trust or (2) that has a valid election in effect under applicable Treasury Regulations to be treated as a United States person.

### Distributions on Our Common Stock

As described under the section titled "Dividend Policy," we have not paid and do not anticipate paying dividends in the foreseeable future. However, if we make cash or other property distributions on our common stock, such distributions will constitute dividends for United States federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under United States federal income tax principles. Amounts not treated as dividends for United States federal income tax purposes will constitute a return of capital and will first be applied against and reduce a holder's tax basis in our common stock, but not below zero. Any excess will be treated as gain realized on the sale or other disposition of our common stock and will be treated as described under the section titled "—Gain on Disposition of Our Common Stock" below.

Subject to the discussions below regarding effectively connected income, backup withholding and Sections 1471 through 1474 of the Code (commonly referred to as FATCA), dividends paid to a non-United States holder of our common stock generally will be subject to United States federal withholding tax at a rate of 30% of the gross amount of the dividends or such lower rate specified by an applicable income tax treaty. To receive the benefit of a reduced treaty rate, a non-United States holder must furnish us or our paying agent with a valid IRS Form W-8BEN or IRS Form W-8BEN-E (or applicable successor form) certifying such holder's qualification for the reduced rate. This certification must be provided to us or our paying agent before the payment of dividends and must be updated periodically. If the non-United States holder holds the stock through a financial institution or other agent acting on the non-United States holder's behalf, the non-United States holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries.

Non-United States holders that do not provide the required certification on a timely basis, but that qualify for a reduced treaty rate, may be eligible to obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If a non-United States holder holds our common stock in connection with the conduct of a trade or business in the United States, and dividends paid on our common stock are effectively connected with such holder's

United States trade or business (and are attributable to such holder's permanent establishment in the United States if required by an applicable tax treaty), the non-United States holder will be exempt from United States federal withholding tax. To claim the exemption, the non-United States holder must generally furnish a valid IRS Form W-8ECI (or applicable successor form) to the applicable withholding agent certifying eligibility for exemption.

However, any such effectively connected dividends paid on our common stock generally will be subject to United States federal income tax on a net income basis at the regular graduated United States federal income tax rates in the same manner as if such holder were a resident of the United States. A non-United States holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year (as adjusted for certain items), which will include effectively connected dividends. Non-United States holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

**Gain on Disposition of Our Common Stock**

Subject to the discussions below regarding backup withholding and FATCA, a non-United States holder generally will not be subject to United States federal income tax on any gain realized on the sale or other disposition of our common stock, unless:

- the gain is effectively connected with the non-United States holder's conduct of a trade or business in the United States, and if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-United States holder in the United States;
- the non-United States holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition, and certain other requirements are met; or
- our common stock constitutes a "United States real property interest" by reason of our status as a United States real property holding corporation (USRPHC) for United States federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-United States holder's holding period for our common stock, and our common stock is not regularly traded on an established securities market during the calendar year in which the sale or other disposition occurs.

Determining whether we are a USRPHC depends on the fair market value of our United States real property interests relative to the fair market value of our other trade or business assets and our foreign real property interests. We believe that we are not currently and do not anticipate becoming a USRPHC for United States federal income tax purposes, although there can be no assurance we will not in the future become a USRPHC.

Gain described in the first bullet point above generally will be subject to United States federal income tax on a net income basis at the regular graduated United States federal income tax rates in the same manner as if such holder were a resident of the United States. A non-United States holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year (as adjusted for certain items), which will include effectively connected gain. Gain described in the second bullet point above will be subject to United States federal income tax at a flat 30% rate (or such lower rate specified by an applicable income tax treaty), but may be offset by certain United States-source capital losses (even though the individual is not considered a resident of the United States), provided that the non-United States holder has timely filed United States federal income tax returns with respect to such losses. Non-United States holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules.

**Information Reporting and Backup Withholding**

Annual reports are required to be filed with the IRS and provided to each non-United States holder indicating the amount of dividends on our common stock paid to such holder and the amount of any tax withheld

with respect to those dividends. These information reporting requirements apply even if no withholding was required because the dividends were effectively connected with the holder's conduct of a United States trade or business, or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under a specific treaty or agreement with the tax authorities in the country in which the non-United States holder resides or is established. Backup withholding, currently at a 24% rate, generally will not apply to payments to a non-United States holder of dividends on or the gross proceeds of a disposition of our common stock provided the non-United States holder furnishes the required certification for its non-United States status, such as by providing a valid IRS Form W-8BEN, IRS Form W-8BEN-E or IRS Form W-8ECI, or certain other requirements are met. Backup withholding may apply if the payer has actual knowledge, or reason to know, that the holder is a United States person who is not an exempt recipient.

Information reporting and backup withholding generally are not required with respect to the amount of any proceeds from the sale or other disposition of our common stock by a non-United States holder outside the United States through a foreign office of a foreign broker that does not have certain specified connections to the United States. However, if a non-United States holder sells or otherwise disposes of its shares of common stock through a United States broker or the United States offices of a foreign broker, the broker will generally be required to report the amount of proceeds paid to the non-United States holder to the IRS and also backup withhold on that amount unless such non-United States holder provides appropriate certification to the broker of its status as a non-United States person (and the payer does not have actual knowledge or reason to know that such holder is a United States person) or otherwise establishes an exemption. Information reporting will also apply if a non-United States holder sells its shares of common stock through a foreign broker deriving more than a specified percentage of its income from United States sources or having certain other connections to the United States, unless such broker has documentary evidence in its records that such non-United States holder is a non-United States person (and the payer does not have actual knowledge or reason to know that such holder is a United States person) and certain other conditions are met, or such non-United States holder otherwise establishes an exemption.

Backup withholding is not an additional tax. If any amount is withheld under the backup withholding rules, the non-United States holder should consult with a United States tax advisor regarding the possibility of and procedure for obtaining a refund or a credit against the non-United States holder's United States federal income tax liability, if any.

**Withholding on Foreign Entities**

FATCA imposes a United States federal withholding tax of 30% on dividends paid on our common stock to a "foreign financial institution" (as specially defined under these rules) unless such institution enters into an agreement with the United States government to withhold on certain payments and to collect and provide to the United States tax authorities substantial information regarding certain United States account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with United States owners) or an exemption applies. FATCA also generally will impose a United States federal withholding tax of 30% on dividends paid on our common stock to a non-financial foreign entity unless such entity provides the withholding agent a certification identifying certain direct and indirect United States owners of the entity or an exemption applies. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. Under certain circumstances, a non-United States holder might be eligible for refunds or credits of such taxes. FATCA currently applies to dividends paid on our common stock. The Treasury Secretary has issued proposed regulations providing that the withholding provisions under FATCA do not apply with respect to gross proceeds from a sale or other disposition of our common stock, which may be relied upon by taxpayers until final regulations are issued.

Prospective investors are encouraged to consult with their own tax advisors regarding the possible implications of this legislation on their investment in our common stock.

## UNDERWRITERS

Under the terms and subject to the conditions in an underwriting agreement dated the date of this prospectus, the underwriters named below, for whom Morgan Stanley & Co. LLC and William Blair & Company, L.L.C. are acting as representatives, have severally agreed to purchase, and we have agreed to sell to them, severally, the number of shares indicated below:

| Name | Number of Shares |
|---|---|
| Morgan Stanley & Co. LLC | |
| William Blair & Company, L.L.C. | |
| Canaccord Genuity LLC | |
| BTIG, LLC | |
| Total: | |

The underwriters and the representatives are collectively referred to as the "underwriters" and the "representatives," respectively. The underwriters are offering the shares of common stock subject to their acceptance of the shares from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to the approval of certain legal matters by their counsel and to certain other conditions. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares are taken. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The underwriters initially propose to offer part of the shares of common stock directly to the public at the offering price listed on the cover page of this prospectus and part to certain dealers at a price that represents a concession not in excess of $ per share under the public offering price. After the initial offering of the shares of common stock, the offering price and other selling terms may from time to time be varied by the representatives.

We have granted to the underwriters an option, exercisable for 30 days from the date of this prospectus, to purchase up to additional shares of common stock at the public offering price listed on the cover page of this prospectus, less underwriting discounts and commissions. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with the offering of the shares of common stock offered by this prospectus. To the extent the option is exercised, each underwriter will become obligated, subject to certain conditions, to purchase about the same percentage of the additional shares of common stock as the number listed next to the underwriter's name in the preceding table bears to the total number of shares of common stock listed next to the names of all underwriters in the preceding table.

The following table shows the per share and total public offering price, underwriting discounts and commissions, and proceeds before expenses to us. These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional shares of common stock.

| | Per Share | Total | |
|---|---|---|---|
| | | No Exercise | Full Exercise |
| Public offering price | $ | $ | $ |
| Underwriting discounts and commissions to be paid by us: | $ | $ | $ |
| Proceeds, before expenses, to us | $ | $ | $ |

The estimated offering expenses payable by us, exclusive of the underwriting discounts and commissions, are approximately $ . We have agreed to reimburse the underwriters for expenses relating to clearance of this offering with the Financial Industry Regulatory Authority up to $ .

The underwriters have informed us that they do not intend sales to discretionary accounts to exceed 5% of the total number of shares of common stock offered by them.

We intend to apply to list our common stock on the Nasdaq Global Market under the trading symbol “BDSX”.

We and all directors and officers and the holders of substantially all of our outstanding stock and stock options have agreed that, without the prior written consent of the representatives on behalf of the underwriters, we and they will not, and will not publicly disclose an intention to, during the period ending 180 days after the date of this prospectus (the restricted period):

- offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for shares of common stock;
- file any registration statement with the Securities and Exchange Commission relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock; or
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock.

whether any such transaction described above is to be settled by delivery of common stock or such other securities, in cash or otherwise. In addition, we and each such person agrees that, without the prior written consent of the representatives on behalf of the underwriters, we or such other person will not, during the restricted period, make any demand for, or exercise any right with respect to, the registration of any shares of common stock or any security convertible into or exercisable or exchangeable for common stock.

The restrictions described in the immediately preceding paragraph to do not apply to:

- the sale of shares to the underwriters;
- the issuance by the Company of shares of common stock upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus of which the underwriters have been advised in writing;
- transactions by any person other than us relating to shares of common stock or other securities acquired in open market transactions after the completion of the offering of the shares; provided that no filing under Section 16(a) of the Exchange Act, is required or voluntarily made in connection with subsequent sales of the common stock or other securities acquired in such open market transactions; or
- facilitating the establishment of a trading plan on behalf of a shareholder, officer or director of the Company pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of common stock, provided that (i) such plan does not provide for the transfer of common stock during the restricted period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required of or voluntarily made by the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the restricted period.

The representatives, in their sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

In order to facilitate the offering of the common stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the common stock. Specifically, the underwriters may sell

more shares than they are obligated to purchase under the underwriting agreement, creating a short position. A short sale is covered if the short position is no greater than the number of shares available for purchase by the underwriters under the over-allotment option described above. The underwriters can close out a covered short sale by exercising the over-allotment option or purchasing shares in the open market. In determining the source of shares to close out a covered short sale, the underwriters will consider, among other things, the open market price of shares compared to the price available under the over-allotment option. The underwriters may also sell shares in excess of the over-allotment option, creating a naked short position. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering. As an additional means of facilitating this offering, the underwriters may bid for, and purchase, shares of common stock in the open market to stabilize the price of the common stock. These activities may raise or maintain the market price of the common stock above independent market levels or prevent or retard a decline in the market price of the common stock. The underwriters are not required to engage in these activities and may end any of these activities at any time.

We and the underwriters have agreed to indemnify each other against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on websites maintained by one or more underwriters, or selling group members, if any, participating in this offering. The representatives may agree to allocate a number of shares of common stock to underwriters for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters that may make Internet distributions on the same basis as other allocations.

**Other Relationships**

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Certain of the underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for us, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their various business activities, the underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve our securities and instruments. The underwriters and their respective affiliates may also make investment recommendations or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long or short positions in such securities and instruments.

**Pricing of the Offering**

Prior to this offering, there has been no public market for our common stock. The initial public offering price was determined by negotiations between us and the representatives. Among the factors considered in determining the initial public offering price were our future prospects and those of our industry in general, our sales, earnings and certain other financial and operating information in recent periods, and the price-earnings ratios, price-sales ratios, market prices of securities, and certain financial and operating information of companies engaged in activities similar to ours.

**Directed Share Program**

At our request, the underwriters have reserved up to 5% of the shares of common stock offered by this prospectus, for sale at the initial public offering price through a directed share program to certain individuals, including our directors, employees and certain of our existing stockholders. The sales will be made at our direction by Morgan Stanley & Co. LLC and its affiliates through a directed share program. The number of shares of our common stock available for sale to the general public in this offering will be reduced to the extent that these individuals purchase such reserved shares. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares of common stock offered by this prospectus. Any individuals that participate in this directed share program will be subject to the lockup restrictions during the restricted period described above with respect to any shares purchased through the directed share program. We have agreed to indemnify the underwriters against certain liabilities and expenses, including liabilities under the Securities Act, in connection with the sales of the shares reserved for the directed share program.

**Selling Restrictions**

***Canada***

The shares of our common stock may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares of our common stock must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

***European Economic Area***

In relation to each Member State of the EEA (each, a Member State), no securities have been offered or will be offered pursuant to the offering to the public in that Member State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that offers of securities may be made to the public in that Member State at any time under the following exemptions under the Prospectus Regulation:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the representatives; or

(c) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require us or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the

Prospectus Regulation and each person who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with each of the representatives and us that it is a "qualified investor" as defined in the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5 of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the shares acquired by it in the offer have not been acquired on a nondiscretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer of any shares to the public other than their offer or resale in a Member State to qualified investors as so defined or in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer of shares to the public" in relation to any shares in any Member State means the communication in any form and by means of sufficient information on the terms of the offer and the shares to be offered so as to enable an investor to decide to purchase shares, the expression "Prospectus Regulation" means Regulation (EU) 2017/1129 (as amended).

***United Kingdom***

Each underwriter has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (FSMA) received by it in connection with the issue or sale of the shares of our common stock in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the shares of our common stock in, from or otherwise involving the United Kingdom.

***Japan***

No registration pursuant to Article 4, paragraph 1 of the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) (the FIEL) has been made or will be made with respect to the solicitation of the application for the acquisition of the shares of common stock.

Accordingly, the shares of common stock have not been, directly or indirectly, offered or sold and will not be, directly or indirectly, offered or sold in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements, and otherwise in compliance with, the FIEL and the other applicable laws and regulations of Japan.

*For Qualified Institutional Investors (QII)*

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a "QII only private placement" or a "QII only secondary distribution" (each as described in Paragraph 1, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred to QIIs.

*For Non-QII Investors*

Please note that the solicitation for newly-issued or secondary securities (each as described in Paragraph 2, Article 4 of the FIEL) in relation to the shares of common stock constitutes either a “small number private placement” or a “small number private secondary distribution” (each as is described in Paragraph 4, Article 23-13 of the FIEL). Disclosure regarding any such solicitation, as is otherwise prescribed in Paragraph 1, Article 4 of the FIEL, has not been made in relation to the shares of common stock. The shares of common stock may only be transferred en bloc without subdivision to a single investor.

***Switzerland***

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document does not constitute a prospectus within the meaning of, and has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA (FINMA), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

## LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon for us by Sidley Austin LLP, San Francisco, California. Certain legal matters in connection with this offering will be passed upon for the underwriters by Davis Polk & Wardwell LLP, New York, New York. Partners of Sidley Austin LLP own less than 1% of our outstanding common stock.

## EXPERTS

The financial statements of Biodesix, Inc. as of December 31, 2019 and 2018, and for each of the years in the two-year period ended December 31, 2019, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act, with respect to the shares of common stock being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to our company and the common stock offered by this prospectus, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

We are not currently subject to the informational requirements of the Exchange Act. Upon the closing of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC. The SEC also maintains a website (*http://www.sec.gov*) that contains reports, proxy and information statements and other information that we file electronically with the SEC. We also maintain a website at *www.biodesix.com*, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The information contained on, or accessible from, or hyperlinked to, our website is not part of this prospectus by reference or otherwise.

**BIODESIX, INC.**

**INDEX TO FINANCIAL STATEMENTS**

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF OPERATIONS (UNAUDITED)**
**Six Months Ended June 30, 2020 and 2019**
**(in thousands, except share data)**

| | 2020 | 2019 |
|---|---|---|
| Revenues | $ 9,335 | $ 12,339 |
| Operating expenses | | |
| Direct costs and expenses | 3,455 | 2,741 |
| Research and development | 5,007 | 5,607 |
| Sales, marketing, general and administrative | 14,914 | 15,868 |
| Accretion of contingent consideration | 1,944 | 1,628 |
| Change in fair value of contingent consideration | (1,944) | 663 |
| Total operating expenses | 23,376 | 26,507 |
| Loss from operations | (14,041) | (14,168) |
| Interest expense | (4,241) | (1,299) |
| Other income, net | 311 | 868 |
| Net loss | $ (17,971) | $ (14,599) |
| Net loss per share, basic and diluted | $ (11.59) | $ (10.94) |
| Weighted-average shares outstanding, basic and diluted | 1,551 | 1,334 |
| Pro forma net loss per share, basic and diluted | $ (0.06) | |
| Pro forma weighted-average shares outstanding, basic and diluted | 271,344 | |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED BALANCE SHEETS (UNAUDITED)**
**(in thousands, except share data)**

| | June 30, 2020 | December 31, 2019 |
|---|---|---|
| **Assets** | | |
| Current assets | | |
| Cash and cash equivalents | $ 11,674 | $ 5,286 |
| Accounts receivable | 2,946 | 5,292 |
| Other current assets | 2,998 | 2,122 |
| Total current assets | 17,618 | 12,700 |
| Non-current assets | | |
| Property and equipment, net | 1,994 | 2,120 |
| Intangible assets, net | 14,145 | 15,092 |
| Deposits | 90 | 90 |
| Goodwill | 11,631 | 11,631 |
| Total non-current assets | 27,860 | 28,933 |
| Total assets | $ 45,478 | $ 41,633 |
| **Liabilities and Stockholders' Deficit** | | |
| Current liabilities | | |
| Accounts payable | $ 948 | $ 1,717 |
| Accrued liabilities | 4,323 | 4,180 |
| Deferred revenue | 4,435 | 1,283 |
| Convertible debt payable | 24,676 | 12,159 |
| Current portion of debt payable | 4,064 | — |
| Put option liability | 6,601 | 3,261 |
| Total current liabilities | 45,047 | 22,600 |
| Non-current liabilities | | |
| Warrant liability | 317 | 329 |
| Other liabilities | 230 | 358 |
| Long-term debt payable | 20,163 | 23,812 |
| Paycheck protection program debt payable | 3,092 | — |
| Contingent consideration | 29,114 | 29,114 |
| Total non-current liabilities | 52,916 | 53,613 |
| Total liabilities | 97,963 | 76,213 |
| Commitments and contingencies | | |
| Convertible Preferred stock | | |
| Convertible preferred stock, $0.001 par value, 185,432,719 (2020) and 174,237,067 (2019) authorized; 118,766,273 (2020 and 2019) issued and outstanding; liquidation preference of $202,582 (2020 and 2019) | 193,959 | 193,959 |
| Stockholders' deficit | | |
| Common stock, $0.001 par value, 220,000,000 (2020) and 190,000,000 (2019) authorized; 1,629,696 (2020) and 1,513,498 (2019) issued and outstanding | 2 | 1 |
| Additional paid-in capital | 2,389 | 2,324 |
| Accumulated deficit | (248,835) | (230,864) |
| Total stockholders' deficit | (246,444) | (228,539) |
| Total liabilities, convertible preferred stock, and stockholders' deficit | $ 45,478 | $ 41,633 |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (UNAUDITED)**
**For the Six Months Ended June 30, 2020 and 2019**
**(in thousands)**

| | Series A-1 | | Series A-2 | | Series A-3 | | Series B | | Series B-1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2019** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |
| Exercise of stock options | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | — | — |
| **Balance—June 30, 2020** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |

| | Series A-1 | | Series A-2 | | Series A-3 | | Series B | | Series B-1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2018** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |
| Exercise of stock options | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | — | — |
| **Balance—June 30, 2019** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (UNAUDITED)**
**For the Six Months Ended June 30, 2020 and 2019**
**(in thousands)**

(Continued from the previous page)

| | Series C | | Series D | | Series E | | Series F | |
|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2019** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |
| Exercise of stock options | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — |
| **Balance—June 30, 2020** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |

| | Series C | | Series D | | Series E | | Series F | |
|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2018** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |
| Exercise of stock options | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — |
| **Balance—June 30, 2019** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (UNAUDITED)**
**For the Six Months Ended June 30, 2020 and 2019**
**(in thousands)**

(Continued from the previous page)

| | Series G | | Series H | | Total Convertible Preferred Stock | Common Stock | | Additional Paid-In Capital | Accumulated Deficit | Total Stockholders' Deficit |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | | Shares | Amount | | | |
| **Balance—December 31, 2019** | 46,147 | $34,537 | 23,923 | $27,465 | $ 193,959 | 1,513 | $ 1 | $ 2,324 | $ (230,864) | $ (228,539) |
| Exercise of stock options | — | — | — | — | — | 116 | 1 | 10 | — | 11 |
| Stock-based compensation | — | — | — | — | — | — | — | 55 | — | 55 |
| Net loss | — | — | — | — | — | — | — | — | (17,971) | (17,971) |
| **Balance—June 30, 2020** | 46,147 | $34,537 | 23,923 | $27,465 | $ 193,959 | 1,629 | $ 2 | $ 2,389 | $ (248,835) | $ (246,444) |

| | Series G | | Series H | | Total Convertible Preferred Stock | Common Stock | | Additional Paid-In Capital | Accumulated Deficit | Total Stockholders' Deficit |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | | Shares | Amount | | | |
| **Balance—December 31, 2018** | 46,147 | $34,537 | 15,228 | $17,468 | $ 183,962 | 1,276 | $ 1 | $ 2,107 | $ (200,138) | $ (198,030) |
| Exercise of stock options | — | — | — | — | — | 166 | — | 31 | — | 31 |
| Stock-based compensation | — | — | — | — | — | — | — | 80 | — | 80 |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | 8,695 | 9,997 | 9,997 | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | (14,599) | (14,599) |
| **Balance—June 30, 2019** | 46,147 | $34,537 | 23,923 | $27,465 | $ 193,959 | 1,442 | $ 1 | $ 2,218 | $ (214,737) | $ (212,518) |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF CASH FLOWS (UNAUDITED)**
**For the Six Months Ended June 30, 2020 and 2019**
**(in thousands)**

| | 2020 | 2019 |
|---|---|---|
| Cash flows from operating activities | | |
| Net loss | $ (17,971) | $ (14,599) |
| Adjustments to reconcile net loss to net cash, cash equivalents, and restricted cash used in operating activities | | |
| Depreciation and amortization | 1,391 | 1,382 |
| Amortization of convertible notes debt discount | 2,611 | — |
| Stock-based compensation expense | 55 | 80 |
| Change in fair value of warrant liability | (55) | — |
| Change in contingent consideration | — | 2,291 |
| Accrued interest on debt payable and convertible debt payable | 644 | 339 |
| Amortization of debt issuance costs | 73 | 72 |
| Provision for doubtful accounts | 113 | — |
| Changes in operating assets and liabilities, net of assets acquired and liabilities assumed in acquisitions: | | |
| Accounts receivable | 2,233 | (529) |
| Other current assets | (876) | (375) |
| Other long-term assets | — | 3 |
| Accounts payable and other accrued liabilities | (210) | 1,339 |
| Deferred revenue | 3,152 | 216 |
| Net cash and cash equivalents and restricted cash used in operating activities | (8,840) | (9,781) |
| Cash flows from investing activities | | |
| Purchase of property and equipment | (232) | (781) |
| Patent costs and intangible asset acquisition, net | (86) | (70) |
| Payments to acquire Oncimmune assets | (500) | — |
| Net cash and cash equivalents and restricted cash used in investing activities | (818) | (851) |
| Cash flows from financing activities | | |
| Proceeds from issuance of series H preferred stock | — | 10,000 |
| Proceeds from issuance of convertible debt payable | 12,955 | — |
| Proceeds from exercise of common stock options | 11 | 31 |
| Proceeds from long-term debt payable | 3,085 | — |
| Other | (5) | (52) |
| Net cash and cash equivalents and restricted cash provided by financing activities | 16,046 | 9,979 |
| Net increase (decrease) in cash and cash equivalents and restricted cash | 6,388 | (653) |
| Cash, cash equivalents, and restricted cash—beginning of period | 5,468 | 6,094 |
| Cash, cash equivalents, and restricted cash—end of period | $ 11,856 | $ 5,441 |

See notes to financial statements.

**BIODESIX, INC.**

**CONDENSED STATEMENTS OF CASH FLOWS (UNAUDITED)**
**(in thousands)**

(Continued from the previous page)

Supplemental disclosure of cash flow information:

There was no cash paid for income taxes during the six months ended June 30, 2020 and 2019.

Cash paid for interest for the six-months ended June 30, 2020 and 2019 was $0.9 million.

Supplemental disclosure of non-cash activity (in thousands):

| | June 30, | |
|---|---|---|
| | 2020 | 2019 |
| Value of put option recorded at issuance of convertible debt payable | $3,340 | $— |

See notes to financial statements.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

## Note 1—Description of Business and Summary of Significant Accounting Policies

### *(a) Organization and Nature of Operations*

Biodesix, Inc. (the "Company"), formerly Elston Technologies, Inc., was incorporated in Delaware in 2005. The Company's headquarters are in Colorado, with laboratories in Colorado, Kansas, and Washington. Biodesix is a data-driven diagnostic solutions company leveraging state of the art technologies with its proprietary artificial intelligence platform to discover, develop, and commercialize solutions for clinical unmet needs, with a primary focus in lung disease. In addition to diagnostic tests, the Company provides biopharmaceutical companies with services that include diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics.

In March 2020, the World Health Organization declared the outbreak of COVID-19, a novel strain of coronavirus, a global pandemic. This outbreak is causing major disruptions to businesses and markets worldwide as the virus spreads. The COVID-19 pandemic has disrupted, and the Company expects will continue to disrupt, its operations. In addition, the COVID-19 pandemic also has started to negatively affect, and the Company expects will continue to negatively affect, its non-COVID-19 testing-related revenue and its clinical studies. The extent of the effect on the Company's operational and financial performance will depend on future developments, including the duration, spread and intensity of the pandemic, and governmental, regulatory and private sector responses, all of which are uncertain and difficult to predict. Although the Company is unable to estimate the financial effect of the pandemic, at this time, if the pandemic continues to evolve into a severe worldwide crisis, it could have a material adverse effect on the Company's business, results of operations, financial condition, and cash flows. The condensed financial statements do not reflect any adjustments as a result of the pandemic.

The Company is subject to various risks and uncertainties frequently encountered by early stage life science companies. Such risks and uncertainties include, but are not limited to, undeveloped technology, strict regulatory requirements and approval of products, a limited operating history, competition from other service providers, dependence on key personnel, the need for ongoing capital to fund operations, and management of rapid growth. To address these risks, the Company must, among other things, successfully develop its customer base, successfully execute its business and marketing strategy, successfully develop its technology, raise capital on acceptable terms to the Company, and attract, retain, and motivate qualified personnel. There can be no guarantee that the Company will be successful in addressing these or other such risks.

### *(b) Basis of Presentation*

The accompanying unaudited condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States (GAAP) for interim financial information and with the instructions of the Securities and Exchange Commission (SEC) on Form 10-Q and Rule 10-01 of Regulation S-X. Certain information and note disclosures normally included in annual financial statements prepared in accordance with GAAP, have been omitted. The accompanying unaudited condensed financial statements include all known adjustments necessary for a fair presentation of the results of interim periods as required by GAAP. These adjustments consist primarily of normal recurring accruals and estimates that impact the carrying value of assets and liabilities. Operating results for the period ended June 30, 2020 are not necessarily indicative of the results that may be expected for the year ending December 31, 2020.

The accompanying unaudited condensed financial statements should be read in conjunction with the audited condensed financial statements and the related notes for the year ended December 31, 2019, which are included elsewhere in this prospectus.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(c) Use of Estimates***

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Areas of the financial statements where estimates have the most significant effect include the valuation of contingent consideration and purchased technology related to the Company's business acquisition, stock-based compensation, valuation of put option liabilities, and the valuation allowance related to net deferred tax assets. Actual results could differ from those estimates.

***(d) Segment Information***

The Company operates in one operating segment and, accordingly, no segment disclosures have been presented herein. All equipment, leasehold improvements, and other fixed assets are physically located within the United States.

***(e) Comprehensive Loss***

Comprehensive loss is defined as the change in equity during a period from transactions and other events and/or circumstances from non-owner sources. If the Company had comprehensive gains (losses), they would be reflected in the statement of operations and comprehensive loss and as a separate component in the statement of stockholders' deficit. There were no elements of comprehensive loss during the six-months ended June 30, 2020 and 2019.

***(g) Concentration of Risk***

The Company is subject to credit risk from its accounts receivable related to services provided to its customers. Reimbursement on behalf of customers covered by Medicare accounted for 60% and 58% of the Company's diagnostic test revenue for the six months ended June 30, 2020 and 2019, respectively and represented 29% and 18% of the Company's total accounts receivable as of June 30, 2020 and December 31, 2019, respectively. One services customer represented 18% and 44% of the Company's total accounts receivable balance as of June 30, 2020 and December 31, 2019, respectively. One diagnostic test customer represented 32% and 0% of the Company's total accounts receivable balance as of June 30, 2020 and December 31, 2019, respectively.

***(h) Cash, Cash Equivalents, and Restricted Cash***

The Company considers all highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. The Company continually monitors its positions with, and the credit quality of, the financial institutions with which it invests. Periodically throughout the year, the Company has maintained balances in various operating accounts in excess of federally insured limits. Included in cash and cash equivalents are money market funds recorded at $10.6 million and $4.8 million at June 30, 2020 and December 31, 2019, respectively. These money market funds were measured using Level 1 inputs.

Restricted cash consists of deposits related to the Company's corporate credit card and a letter of credit related to an operating lease agreement. As of June 30, 2020 and December 31, 2019, the Company had $0.2 million in restricted cash, which was included in other current assets in the accompanying balance sheets.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(i) Accounts Receivable***

The Company provides an allowance for doubtful accounts based on experience and specifically identified risks. Accounts receivable are recorded at carrying value and charged off against the allowance for doubtful accounts when it is determined that recovery is unlikely and cease collection efforts cease.

The Company analyzes trade accounts receivable quarterly and considers historic experience, customer creditworthiness, facts and circumstances specific to outstanding balances, and payment terms when evaluating the adequacy of the allowance for doubtful accounts. The Company recorded an allowance for doubtful accounts of $0.2 million as of June 30, 2020 and December 31, 2019.

***(j) Inventory***

Inventories are stated at the lower of cost or net realizable value on a first-in, first-out basis. Inventory consists primarily of supplies, which are consumed when processing tests. The Company does not maintain any finished goods inventory. Inventory balances were $1.8 million and $0.8 million as of June 30, 2020 and December 31, 2019, respectively, and are included in other current assets in the accompanying balance sheets.

***(k) Property and Equipment***

Property and equipment are stated at cost. Depreciation is provided utilizing the straight-line method over the estimated useful lives, ranging from three to five years.

***(l) Intangible Assets***

Intangible assets are stated at cost, net of accumulated amortization and include patents, trademarks, and acquired developed technology. Trademarks have an indefinite life and are not being amortized but are reviewed for impairment on an annual basis. External costs associated with patents are capitalized as long as such efforts are expected to be successful. Upon approval of the patent, the related capitalized costs are amortized over the lesser of the contractual term of the patent or the estimated useful life of 10 years. Acquired developed technology is amortized over a useful life of 9 years.

Intangible assets are reviewed for impairment whenever events or changes in circumstances may affect the recoverability of the intangible assets. Such reviews include an analysis of current results and take into consideration the undiscounted value of projected operating cash flows. See Note 3, Business Combination, for further information.

***(m) Long-Lived Assets***

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recovered. The Company looks primarily to the undiscounted future cash flows in its assessment of whether or not long-lived assets have been impaired. The Company has determined that no impairments are necessary for the periods presented.

***(n) Deferred Rent***

The Company leases office space under non-cancelable, long-term operating leases that include scheduled increases in minimum rents and renewal provisions at the option of the Company. The expense associated with leases that have escalating payment terms is recognized on a straight-line basis over the lease term. Tenant improvement allowances received from a lessor are recorded as a deferred rent liability and recognized evenly as a reduction to rent expense over the remaining lease term. The portion of the deferred rent liability that will reverse in the next 12 months is not significant to the balance sheets; therefore, the entire amount was recorded as non-current in the accompanying condensed financial statements.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(o) Goodwill***

Goodwill is recorded when the purchase price paid for an acquisition exceeds the estimated fair value of the net identified tangible and intangible assets acquired. Goodwill is not amortized and is tested for impairment at the reporting unit level on an annual basis as of December 31 and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying value. The Company may first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is concluded that this is the case, it is necessary to perform a quantitative two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. The quantitative two-step goodwill impairment review process compares the fair value of the reporting unit in which goodwill resides to its carrying value. Multiple valuation techniques can be used to assess the fair value of the reporting unit. All these techniques include the use of estimates and assumptions that are inherently uncertain. Changes in these estimates and assumptions could materially affect the determination of fair value or goodwill impairment, or both. The Company assessed qualitative factors to determine whether it is more likely than not that the fair value of Goodwill exceeded the carrying value. Based on that assessment, there were no events or circumstances in the six months ended June 20, 2020 and 2019 to indicate that the fair value of goodwill exceeded its carrying value, and thus a quantitative analysis was not performed.

The Company did not have any goodwill impairments for the six months ended June 30, 2020 and 2019.

***(p) Revenue Recognition***

Revenue is recognized when control of the promised services is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those services.

The Company's revenue is generated from the following:

- Diagnostic tests. These services are completed upon the delivery of test results to the prescribing physician, which is considered the performance obligation. The fees for such services are billed either to a third party such as Medicare, medical facilities, commercial insurance payers, or to the patient.
- Services. These services are generally completed upon the delivery of test results for assay development and testing services, which is considered the performance obligation. Customers for these services are typically large pharmaceutical companies.

For the six months ended June 30, 2020 and 2019, revenue from these services consisted of the following (in thousands):

| | June 30, | |
|---|---|---|
| | 2020 | 2019 |
| Diagnostic tests | $7,246 | $ 8,947 |
| Services | 2,089 | 3,392 |
| Total revenue | $9,335 | $ 12,339 |

Diagnostic test revenue that were reimbursed by Medicare comprised 60% and 58% of diagnostic test revenue for the six months ended June 30, 2020 and 2019, respectively. Two services customers comprised 15% and 26% of services revenue for the six months ended June 30, 2020 and 2019, respectively. For the six months ended June 30, 2020, one health care provider comprised 13% of diagnostic test revenue.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

Revenue from diagnostic tests are recognized when the performance obligation is satisfied, which is when a customer receives results of the Company's tests, which is generally upon delivery to the requesting physician. Revenue from services are recognized when the performance obligation is satisfied, which is when a customer receives results of the Company's tests, which is generally upon the delivery of test results for assay development and testing services. The Company also provides services to patients with whom the Company does not have contracts as defined in ASC 606, *Revenue from Contracts with Customers* (ASC 606). The Company recognizes revenue for these patients when contracts as defined in ASC 606 are established at the amount of consideration to which it expects to be entitled or when the Company receives substantially all of the consideration subsequent to the performance obligations being satisfied.

The Company determines the transaction price related to its diagnostic test contracts by considering the nature of the payer and historical price concessions granted to groups of customers. For diagnostic test revenue, the Company estimates the transaction price which is the amount of consideration it expects to be entitled to receive in exchange for providing services based on its historical collection experience using a portfolio approach as a practical expedient to account for patient contracts as collective groups rather than individually.

***(q) Deferred Revenue***

Deferred revenue has historically primarily consists of research, development, and testing services fee payments received in advance. As of June 30, 2020, deferred revenue also includes $3.5 million in a Medicare advance payment on testing services which can either be paid back or earned back starting 120 days from receipt.

***(r) Research and Development Expenses and Accrued Research and Development Expenses***

Expenditures made for research and development are charged to expense as incurred. External costs consist primarily payments to clinical trial sites, sample acquisition costs and laboratory supplies purchased in connection with the Company's discovery and preclinical activities, process development and clinical development activities. Internal costs consist primary of employee-related costs, facilities, depreciation and costs related to compliance with regulatory requirements.

The Company estimates and accrues its expenses resulting from its obligations under contracts with vendors and consultants in connection with conducting research and development activities. The financial terms of these contracts vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. The Company's estimates depend on the timeliness and accuracy of the data provided by consultants and vendors regarding the status of each activity. The Company periodically evaluates the estimates to determine if adjustments are necessary or appropriate based on information received.

***(s) Stock-Based Compensation***

The Company accounts for stock-based compensation arrangements with employees and recognizes compensation expense for stock-based awards based on the estimated fair value of the awards. Compensation expense for all employee stock-based awards is based on the estimated grant-date fair value and recognized as an expense on a straight-line basis over the requisite service period (generally the vesting period).

***(t) Income Taxes***

The Company recognizes deferred tax assets and liabilities based on the differences between the tax basis of assets and liabilities and their reported amounts in the financial statements and net operating loss carryforwards

that will result in taxable or deductible amounts in future years. The Company establishes a valuation allowance for all deferred tax assets to the extent it is more likely than not that a deferred tax asset will not be realized.

***(u) Warrant Liability***

Freestanding financial instruments that permit the holder to acquire shares that are either puttable by the holder, redeemable or contingently redeemable are required to be reported as liabilities in the financial statements. The issuer must present such liabilities on the balance sheets at their estimated fair values. Changes in fair value of the liability are calculated each reporting period, and any change in value is recognized in operations. The Company has determined that certain warrants issued to investors and lenders, which are exercisable for shares of the Company's convertible preferred stock, shall be classified as liabilities due to a contingent redemption provision.

***(v) Changes in Fair Value of Contingent Consideration***

In connection with the purchase transaction with Integrated Diagnostics, Inc., the Company recorded contingent consideration pertaining to the amounts potentially payable to Integrated Diagnostics' shareholder pursuant to the terms of the asset purchase agreement. The fair value of contingent consideration is assessed at each balance sheet date and changes, if any, to the fair value are recognized as operating expenses within the statements of operations.

The estimated fair value of the contingent consideration is based upon significant assumptions including probabilities of successful achievement of the related milestone event ("Milestone"), the estimated timing in which the Milestone is achieved, and discount rates. The estimated fair value could materially differ from actual values or fair values determined using different assumptions.

***(w) Fair Value of Financial Instruments***

The carrying amounts of financial instruments, including cash and cash equivalents, receivables, other current assets, accounts payable, and accrued liabilities, approximated fair value as of June 30, 2020 and December 31, 2019 because of the relatively short maturity of these instruments.

The carrying amounts of long-term debt payable and convertible debt payable issued approximated fair value as of June 30, 2020 and December 31, 2019 because interest rates on these instruments approximate market interest rates.

***(x) Business Combinations***

The Company evaluates acquisitions of assets and other similar transactions to assess whether or not the transaction should be accounted for as a business combination by assessing whether or not the Company has acquired inputs and processes that have the ability to create outputs. If determined to be a business combination, the Company accounts for business acquisitions under the acquisition method of accounting as indicated in the Financial Accounts Standards Board ("FASB") issued Accounting Standards Codification ("ASC") Topic 805, *Business Combinations* ("ASC 805"), which requires the acquiring entity in a business combination to recognize the fair value of all assets acquired and liabilities assumed and establishes the acquisition date as the fair value measurement point. Accordingly, the Company recognizes assets acquired and liabilities assumed in business combinations, including contingent assets and liabilities, and non-controlling interest in the acquiree based on the fair value estimates as of the date of acquisition. In accordance with ASC 805, the Company recognizes and measures goodwill as of the acquisition date, as the excess of the fair value of the consideration paid over the fair value of the identified net assets acquired.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(y) Recently Issued Accounting Standards Not Yet Adopted***

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (ASC Topic 842). The new guidance maintains two classifications of leases: finance leases, which replace capital leases, and operating leases. Lessees will need to recognize a right-of-use asset and a lease liability on the statement of financial position for those leases previously classified as operating leases under the old guidance. The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for direct costs. The accounting standard will be effective for the Company beginning January 1, 2021. The Company is currently evaluating the impact of the lease guidance on the Company's financial statements.

***(z) Net loss per share and unaudited pro format net loss per share***

Basic net loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration of potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and potentially dilutive securities outstanding for the period. For purposes of the diluted net loss per share calculation, the convertible preferred stock, common stock options, restricted stock units, preferred stock warrants and convertible debt are considered to be potentially dilutive securities. Basic and diluted net loss attributable to common stockholders per share is presented in conformity with the two-class method required for participating securities as the convertible preferred stock is considered a participating security. The Company's participating securities do not have a contractual obligation to share in the Company's losses. As such, the net loss was attributed entirely to common stockholders. As the Company has reported a net loss for all periods presented, diluted net loss per common share is the same as basic net loss per common share for those periods.

The following table sets forth the computation of the basic and diluted net loss per share attributable to common stockholders (in thousands, except per share amounts):

| | Six months ended June 30, | |
|---|---|---|
| | 2020 | 2019 |
| Numerator | | |
| Net loss attributable to common stockholders | $ (17,971) | $ (14,599) |
| Denominator | | |
| Weighted-average shares outstanding used in computing net loss per share, basic and diluted | 1,551 | 1,334 |
| Net loss per share, basic and diluted | $ (11.59) | $ (10.94) |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive (in thousands):

| | Six months ended June 30, | |
|---|---|---|
| | 2020 | 2019 |
| Options to purchase common stock | 16,700 | 12,169 |
| Convertible preferred stock | 119,257 | 119,257 |
| Warrants | 613 | 2,440 |
| Restricted stock units | 315 | — |
| Convertible debt(1) | 253,887 | — |
| Total | 390,772 | 133,866 |

(1) The number of common shares that convertible debt was assumed to convert to was based on the Company's estimated common stock price as of June 30, 2020, as determined by the Company's board of directors with assistance from a valuation firm. The ultimate conversion price will be based on the fair value of the Company's common stock at the completion of an initial public offering.

*Unaudited pro forma net loss per share*

Unaudited pro forma basic and diluted net loss per share is calculated to give effect to the one-for-one conversion of all outstanding shares of the Company's convertible preferred stock and convertible debt into shares of common stock in using the as-converted method as though the conversion had occurred as of the beginning of the period presented or the date of issuance, if later.

The following table sets forth the computation of the basic and diluted unaudited pro forma net loss per share (in thousands, except for per share amounts):

| | Six months ended June 30, 2020 |
|---|---|
| **Numerator** | |
| Net loss | $ (17,971) |
| Add back: Interest expense on convertible debt | 2,901 |
| Net loss used in computing proforma net loss per share, basic and diluted | $ (15,070) |
| **Denominator** | |
| Weighted-average shares outstanding used in computing net loss per share, basic and diluted | 1,551 |
| Adjust: Assumed weighted-average effect of conversion of convertible preferred stock | 119,257 |
| Adjust: Assumed weighted-average effect of conversion of convertible debt(1) | 150,536 |
| Weighted-average shares outstanding used in computing pro forma net loss per share, basic and diluted | 271,344 |
| Pro forma net loss per share, basic and diluted | $ (0.06) |

(1) The number of common shares that convertible debt was assumed to convert to was based on the Company's estimated common stock price as of June 30, 2020, as determined by the Company's board of

directors with assistance from a valuation firm. The ultimate conversion price will be based on the fair value of the Company's common stock at the completion of an initial public offering.

**Note 2—Liquidity**

The accompanying condensed financial statements have been prepared on a going concern basis, which contemplates the realization of assets and liquidation of liabilities in the ordinary course of business. To date, the Company has funded its activities primarily through private equity placement offerings, convertible debt payable, and long-term debt. The Company is still in its early stage and has yet to generate revenue sufficient to create positive cash flows and most likely will be dependent upon future private equity placements or additional borrowings to execute its business plan. The Company has cash and cash equivalents of $11.7 million, cumulative net losses of $ 248.8 million, and stockholders' deficit of $246.4 million as of June 30, 2020. Based on cash and cash equivalents on hand at June 30, 2020, management has determined that additional private equity placement offerings will be necessary to fund operations through September 2021. As a result, the Company has obtained commitment letters from two significant investors which requires that they will provide funding to the Company to meet its obligations and debt service requirements through at least September 2021.

**Note 3—Business Combinations**

***Oncimmune Limited***

On October 31, 2019, the Company purchased select assets and liabilities from Oncimmune Limited ("Oncimmune") for total consideration of $1.2 million payable in quarterly installments commencing 30 days following the closing of the transaction. Concurrent with the Oncimmune purchase, the Company acquired an option to license rights within the United States to an additional indication for their product for $9 million. This option, which is exclusive to the Company, expires on the earlier of 30 days following Food and Drug Administration approval or December 31, 2020. As of June 30, 2020, $1.0 million has been paid with the remaining amount due of $0.2 million being included in accounts payable and accrued liabilities.

The Company accounted for the transaction as a business combination in accordance with ASC 805. As such, the assets acquired and liabilities assumed were recorded at fair value, with the remaining purchase price recorded as goodwill. The goodwill associated with the acquisition is the result of expected synergies, an increase in future revenues as a result of the expansion of the technology into additional markets as well as lower future operating expenses.

The following summarizes the aggregate consideration paid by the Company and the allocation of the purchase price (in thousands):

| | |
|---|---|
| Cash | $1,206 |
| Total fair value of consideration transferred | $1,206 |
| Deposit | $ 6 |
| Inventory | 14 |
| Property and equipment | 241 |
| Purchase option | 121 |
| Goodwill | 827 |
| Accrued liabilities | (3) |
| | $1,206 |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

As of December 31, 2019, the Company has finalized its accounting for this business combination.

***Integrated Diagnostics, Inc.***

On June 30, 2018, the Company purchased select assets and liabilities from Integrated Diagnostics, Inc. ("Indi") for total consideration of $27.6 million, consisting of $8.0 million (10,649,604 shares) of the Company's Series G Preferred Stock and contingent consideration with an initial fair value of $19.6 million. The 10,649,904 shares issued at closing include 2,129,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of Indi that may arise.

The Company accounted for the transaction as a business combination in accordance with ASC 805. As such, the assets acquired and liabilities assumed were recorded at fair value, with the remaining purchase price recorded as goodwill. The estimated fair values of acquired assets and assumed liabilities were determined by management with the assistance of an independent third party. The goodwill associated with the acquisition is the result of expected synergies, an increase in future revenues as a result of the expansion of the technology into additional markets as well as lower future operating expenses.

The following summarizes the aggregate consideration paid by the Company and the allocation of the purchase price (in thousands):

| | |
|---|---|
| Preferred stock issued—10,694,904 shares | $ 7,987 |
| Contingent consideration | 19,600 |
| Total fair value of consideration transferred | $27,587 |
| Prepaid expenses and other assets | $ 50 |
| Inventory | 394 |
| Property and equipment | 316 |
| Technology | 16,900 |
| Goodwill | 10,804 |
| Liabilities | (877) |
| | $27,587 |

The acquisition of Indi included a contingent consideration arrangement that requires additional consideration to be paid by the Company to Indi based on the Milestone of the attainment of a three consecutive month gross margin target of $2 million within a seven-year period after the acquisition date. For the six months following the achievement of the Milestone, Indi has the option to require the Company to pay the contingent consideration in cash over eight equal installments due each calendar quarter or to require the issuance of additional shares of Series G preferred stock. The total amount of undiscounted contingent consideration which the Company may be required to pay under the arrangement is $37.0 million. If Indi elects not to exercise these options, the Company has 12 months to either settle the contingent consideration in two equal quarterly cash installments or in 14,959,114 shares of Series G Preferred Stock.

The fair value of $19.6 million contingent consideration recognized on the acquisition date was estimated by management with the assistance of an independent third party. These fair value measurements were based on significant inputs not observable in the market and thus represent Level 3 fair value measurements. See Note 4, Fair Value Accounting, for a discussion of the fair value of the contingent consideration and changes in fair value subsequent to the acquisition date.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

Intangible assets acquired, amortization method and estimated useful lives as of June 30, 2018 was as follows (dollars in thousands):

| | Useful Life | Amortization Method | Fair Value |
|---|---|---|---|
| Technology | 9 years | Straight-line | $ 16,900 |

The technology acquired from Indi consisted of the technology and related know-how of the XL2 test for which Indi had developed. The fair value of the technology was estimated by applying a multi-period excess earnings method. The results of this method are based on significant inputs that are not observable in the market, or Level 3 inputs (see discussion of the fair value hierarchy in Note 4). Key assumptions included (a) projected revenue and related profitable attributable to the acquired technology over the estimated life of the acquired technology and (b) a discount rate of 37.5%.

As of December 31, 2018, the Company had finalized its accounting for this business combination.

**Note 4—Fair Value Accounting**

The Company accounts for certain assets and liabilities that are required to be recorded at fair value under a framework for measuring fair value that requires enhanced disclosures about fair value measurements. This framework requires disclosure about how fair value is determined for assets and liabilities and establishes a hierarchy for which these assets and liabilities must be grouped based on significant levels of inputs as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities;

Level 2: Quoted prices in active markets for similar assets and liabilities and inputs that are observable for the asset or liability; or

Level 3: Unobservable inputs in which there is little or no market data, which requires the reporting entity to develop its own assumptions.

The determination of where assets and liabilities fall within this hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

The following tables set forth by level, within the fair value hierarchy, the Company's liabilities measured at fair value on a recurring basis (in thousands):

**June 30, 2020:**

| Description | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| Warrant liability | $ — | $ — | $ 317 | $ 317 |
| Contingent value rights | $ — | $ — | $ 60 | $ 60 |
| Contingent consideration | $ — | $ — | $29,114 | $29,114 |
| Put option liability | $ — | $ — | $ 6,601 | $ 6,601 |

**December 31, 2019:**

| Description | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| Warrant liability | $ — | $ — | $ 372 | $ 372 |
| Contingent value rights | $ — | $ — | $ 60 | $ 60 |
| Contingent consideration | $ — | $ — | $29,114 | $29,114 |
| Put option liability | $ — | $ — | $ 3,261 | $ 3,261 |

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Due to the unobservable inputs needed to calculate the fair value of these balances, these liabilities are classified as Level 3 liabilities. The following is a reconciliation of the beginning and ending balances for the six- month period ended June 30, 2020 for assets measured at fair value on a recurring basis using significant unobservable inputs (in thousands):

| | |
|---|---|
| Warrant liability | |
| Beginning balance | $ 372 |
| Issuances | — |
| Exercises | — |
| Change in fair value | (55) |
| Ending balance | $ 317 |
| Contingent value rights | |
| Beginning balance | $ 60 |
| Issuances | — |
| Exercises | — |
| Change in fair value | — |
| Ending balance | $ 60 |
| Put option liability | |
| Beginning balance | $ 3,261 |
| Additions | 3,340 |
| Ending balance | $ 6,601 |
| Contingent consideration | |
| Beginning balance | $29,114 |
| Additions | — |
| Changes in fair value | (1,944) |
| Accretion | 1,944 |
| Payments | — |
| Ending balance | $29,114 |

There were no changes to the valuation methods during the months presented.

See Note 12 for further discussion of preferred stock warrants.

In addition to the shares of Series F Preferred Stock that were issued in January 2016, investors who purchased more than their pro-rata amount in the financing described above received a calculated number of contingent value rights (“CVRs”), but only to the extent that the total amount raised in the financing exceeded $20,202,323. One CVR represents 0.00375% of the Company’s interest in the drug ficlatuzumab (see Note 9). In connection with the Series F financing, the Company issued 3,999 CVRs originally valued at $0.5 million. The initial estimated value of the CVRs were recorded as a liability and as a reduction to the Series F proceeds. Upon receipt by the Company or a milestone, royalty, or any other type of payment from the Company’s ownership rights in the drug, the Company will make a cash payment to the CVR holders equal to 15% of net proceeds, as defined. In addition, the CVRs will be adjusted to their estimated fair values each reporting period. During the six months ended June 30, 2020, there was no change to the estimated value of the CVRs. The value of these CVRs was $0.1 million as of June 30, 2020.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The put option liability was valued based on the calculated returns as a result of the various discounts included in the Company's convertible debt payable and the related probability assessments of the various settlement scenarios that the discounts apply to. As of June 30, 2020 and December 31, 2019, the combined probability assessment of a qualified financing or initial public offering is 95%. See note 6 for further disclosure of the discounts and settlement scenarios.

***Contingent Consideration***

In connection with the transaction with Indi, the Company recorded contingent consideration pertaining to the amounts potentially payable to Indi's Selling Shareholders pursuant to the Asset Purchase Agreement (See Note 3). Contingent consideration is measured at fair value and is based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy. The valuation of contingent consideration uses assumptions the Company believes would be made by a market participant. The Company assesses these estimates on an on-going basis as additional data impacting the assumptions is obtained. Future changes in the fair value of contingent consideration related to updated assumptions and estimates are recognized within the statements of operations.

Contingent consideration may change significantly as development progresses and additional data are obtained, impacting the Company's assumptions regarding probabilities of successful achievement of related Milestone used to estimate the fair value of the liability and the timing in which they are expected to be achieved. In evaluating the fair value information, considerable judgment is required to interpret the market data used to develop the estimates. The estimates of fair value may not be indicative of the amounts that could be realized in a current market exchange. Accordingly, the use of different market assumptions and/or different valuation techniques could result in materially different fair value estimates. The fair value of the Company's contingent consideration liability was estimated using significant unobservable inputs. The fair value of $ 19.6 million contingent consideration recognized on the acquisition date was estimated by management with the assistance of an independent third party.

Changes in the fair value measurement each period reflect the passage of time as well as the impact of adjustments, if any, to the likelihood of achieving the specified targets. Contingent consideration is recorded in the balance sheets in long- term liabilities. The change to contingent consideration during the six months ended June 30, 2020 was primarily due to $1.9 million resulting from the accretion of the liability offset by $1.9 million due to the impact of the deceleration of expected revenue and decreases in expected costs. The $2.3 million change to the contingent consideration during the six months ended June 30, 2019 was primarily due to $1.6 million resulting from the impact of the acceleration of expected revenue and decreases in expected costs as a result of events occurring after the acquisition date, as well as $0.7 million resulting from the from the accretion of the liability.

The significant unobservable inputs used in the measurement of fair value of the Company's contingent consideration are probabilities of successful achievement of the Milestone, the period in which the Milestone is expected to be achieved and discount rates ranging from 12.2% to 13.5%. Significant increases or decreases in any of these inputs would result in a significantly higher or lower fair value measurement.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**Note 5—Balance Sheet Disclosures**

Property and equipment consist of the following (in thousands):

| | June 30, 2020 | December 31, 2019 |
|---|---|---|
| Lab equipment | $ 4,720 | $ 4,221 |
| Leasehold improvements | 1,755 | 1,894 |
| Computer equipment | 871 | 869 |
| Furniture and fixtures | 409 | 427 |
| Software | 630 | 503 |
| Construction in process | 24 | 592 |
| | 8,409 | 8,506 |
| Less accumulated depreciation | (6,415) | (6,386) |
| Total property and equipment | $ 1,994 | $ 2,120 |

Depreciation expense for each of the six months ended June 30, 2020 and 2019 was $0.4 million.

Intangible assets consist of the following (in thousands):

| | June 30, 2020 | December 31, 2019 |
|---|---|---|
| Patents | $ 1,329 | $ 1,245 |
| Less accumulated amortization | (453) | (411) |
| | $ 876 | $ 834 |
| Purchased technology | $16,900 | $ 16,900 |
| Less accumulated amortization | (3,756) | (2,817) |
| | $13,144 | $ 14,083 |
| Purchase option | $ 120 | $ 121 |
| Less accumulated amortization | (69) | (17) |
| | $ 51 | $ 104 |
| Trademarks (indefinite life) | $ 74 | $ 71 |
| Total intangible assets | $14,145 | $ 15,092 |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The Company recorded amortization expense of $1.0 million for the six months ended June 30, 2020 and 2019. Amortization related to the remaining net intangible assets is scheduled to amortize as follows (in thousands):

| Year Ending December 31, | |
|---|---|
| Remainder of 2020 | $ 1,030 |
| 2021 | 1,944 |
| 2022 | 1,938 |
| 2023 | 1,936 |
| 2024 | 1,927 |
| Thereafter | 5,296 |
| Total future amortization expense | $ 14,071 |

Accrued liabilities consist of the following (in thousands):

| | June 30, 2020 | December 31, 2019 |
|---|---|---|
| Compensation related accruals | $2,039 | $ 1,165 |
| Accrued clinical trial expense | 613 | 620 |
| Other expenses | 1,671 | 2,352 |
| Warrant liability, current | — | 43 |
| Total accrued liabilities | $4,323 | $ 4,180 |

**Note 6—Convertible Notes Payable**

In March 2020, the Company issued $10 million in convertible debt (the “March 2020 Notes”) that is scheduled to mature in August 2020. The March 2020 Notes were issued in two tranches of $5 million, with the first tranche being funded in March 2020 and the second tranche in June 2020. Interest on the March 2020 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date and if the March 2020 Notes are unpaid, the outstanding principal and unpaid accrued interest under the March 2020 Notes shall be automatically converted into, the earlier of, the preferred stock sold at the close of the Company’s next equity financing (Qualified Financing) or common stock in an initial public offering (IPO). The conversion price would be equal to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock sold in an IPO. The March 2020 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the note holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction. The discounts on the automatic conversions created a put option liability that was separated from the March 2020 Notes. The estimated value of the put option liability as of the issuance of the March 2020 Notes was $2.5 million. The put option liability was reflected as a debt discount on the March 2020 Notes which is being amortized over the term of the March 2020 Notes. The unamortized debt discount was $1.4 million as of June 30, 2020.

In December 2019, the Company issued $6 million in convertible debt (the “December 2019 Notes”) that is scheduled to mature in August 2020. The December 2019 Notes were issued in two tranches of $3 million, with the first tranche being funded in December 2019 and the second tranche in February 2020. Interest on the

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

December 2019 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date and if the December 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the December 2019 Notes shall be automatically converted into, the earlier of, the preferred stock sold at the close of the Company's next equity financing (Qualified Financing) or common stock in an initial public offering (IPO). The conversion price would be equal to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock sold in an IPO. The December 2019 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the note holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction. The discounts on the automatic conversions created a put option liability that was separated from the December 2019 Notes. The estimated value of the put option liability as of the issuance of the December 2019 Notes was $0.8 million for each tranche issued. The put option liability was reflected as a debt discount on the December 2019 Notes which is being amortized over the term of the December 2019 Notes. The unamortized debt discount was $0.3 million and $0.7 million as of June 30, 2020 and December 31, 2019, respectively.

In August and September 2019 (the "August 2019 Notes"), the Company issued $10 million in convertible debt that is scheduled to mature in August 2020. Interest on the August 2019 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at the original issuance price of $1.15 per share. On or before the maturity date and if the August 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the August 2019 Notes shall be automatically converted into, the earlier of, the preferred stock sold at the close of the Company's next equity financing (Qualified Financing) or common stock sold in the event of an IPO. The conversion price would be equal to 95% of the price per share paid for the preferred stock in the Qualified Financing or common stock sold in an IPO. The August 2019 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the August 2019 Note holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction. The discounts on the automatic conversions created a put option liability that was separated from the August 2019 Notes. The estimated value of the put option liability as of the issuance of the August 2019 Notes was $0.5 million. The put option liability was reflected as a debt discount on the August 2019 Notes which is being amortized over the term of the August 2019 Notes. The unamortized debt discount was $0.1 million and $0.3 million as of June 30, 2020 and December 31, 2019, respectively.

In connection with the issuance of the December 2019 Notes, the conversion price on the August 2019 Notes was amended to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock in an IPO. In addition, the conversion price to Series H preferred stock at the maturity date was amended to be 80% of the Series H original issuance price of $1.15 per share. The changes to the discounts on the conversions of the August 2019 Notes created an increase to the put option liability on the August 2019 Notes of $2 million to a total estimated value of $2.5 million as of December 31, 2019. The increase in the value of the put option liability was reflected as a change in put option in the accompany 2019 statement of operations.

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**NOTES TO FINANCIAL STATEMENTS**

A summary of convertible notes payable is as follows (in thousands):

| | June 30, 2020 | December 31, 2019 |
|---|---|---|
| March 2020 Notes | $10,000 | $ — |
| December 2019 Notes | 6,000 | 3,045 |
| August 2019 Notes | 10,000 | 10,000 |
| Accrued interest | 404 | 114 |
| Unamortized debt discount | (1,728) | (1,000) |
| | $24,676 | $ 12,159 |

**Note 7—Long-Term Debt**

***Paycheck Protection Program Note Payable***

In April 2020, Company entered into a loan pursuant to the Paycheck Protection Program under the CARES Act, as administered by the U.S. Small Business Administration (the "SBA"). The loan, in the principal amount of $ 3.1 million (the "PPP Loan"), was disbursed by JPMorgan Chase Bank ("Lender") pursuant to a Paycheck Protection Program Promissory Note and Agreement (the "Note and Agreement").

The PPP Loan matures on the two-year anniversary of the funding date and bears interest at a fixed rate of 1.00% per annum. Monthly principal and interest payments, less the amount of any potential forgiveness (discussed below), will commence after the six-month anniversary of the funding date. The Company did not provide any collateral or guarantees in connection with the PPP Loan, nor did the Company pay any facility charge to obtain the PPP Loan. The Note and Agreement provides for customary events of default, including those relating to failure to make payment, bankruptcy, breaches of representations and material adverse effects. The Company may prepay the principal of the PPP Loan at any time without incurring any prepayment charges.

All or a portion of the PPP Loan may be forgiven by the SBA and the Lender upon application by the Company. Under the CARES Act, loan forgiveness is available for the sum of documented payroll costs, covered rent payments, and covered utilities during the eight-week period beginning on the approval date of the PPP Loan. For purposes of the CARES Act, payroll costs exclude compensation of an individual employee earning more than $100,000, prorated annually. Not more than 40% of the forgiven amount may be for non-payroll costs. Forgiveness is reduced if full-time headcount declines, or if salaries and wages for employees with salaries of $100,000 or less annually are reduced by more than 25%. The Company cannot assure that the PPP Loan will be forgiven, in whole or in part.

The Company accounts for the PPP Loan as debt in accordance with FASB ASC 470, *Debt* and accrues interest in accordance with the interest method. If the loan is forgiven in part or in whole, and legal release is received, the Company will reduce the liability by the amount forgiven and record a gain on extinguishment in the statement of operations.

***Note Payable***

In February 2018, the Company extinguished a Note that originated in 2013 (the "2013 Notes") through the issuance of new long-term debt with a different private investment company (the "2018 Notes"). The lender for the 2018 Notes is also a holder of the Company's Series G preferred stock.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The initial amount borrowed under the 2018 Notes was $23 million and the maturity date is February 2023. At the time of the issuance of the 2018 Notes, the Company paid a 1% facility fee of $0.2 million and issued a warrant to the private investment company for the purchase of 613,333 shares of Series G preferred stock, which had an initial fair value of $0.3 million. The facility fee and the value of the warrants were recorded as reductions to the carrying value of the 2018 Notes and are being amortized to interest expense over the term of the 2018 Notes. The 2018 Notes bears interest at 10% with 7.5% being paid in cash and 2.5% being added to the principal value of the 2018 Notes through December 31, 2020. The Company is required to make quarterly interest payments beginning in June 2018 and outstanding principal is due in 24 equal installments commencing in March 2021. As of June 30, 2020 and December 31, 2019, the interest added to the principal value of the 2018 Notes was $1.4 million and $1.1 million, respectively.

The loan may be prepaid by the Company at any time, subject to a prepayment penalty of up to 3% of the principal amount, depending on the date of prepayment. Upon payment of the 2018 Notes at maturity or prepayment on any earlier date, unless waived, a 2% back-end facility fee will apply to the amounts paid or prepaid. The 2% fee is being recorded as additional interest expense over the term of the 2018 Notes. The 2018 Notes are senior to all of the Company's other indebtedness including any contingent consideration payable to Indi.

The 2018 Notes contains customary affirmative covenants, including covenants regarding compliance with applicable laws and regulations, payment of taxes, insurance coverage, notice of certain events, and reporting requirements. Further, the 2018 Notes contains customary negative covenants limiting the ability of the Company to, among other things, to incur future debt, transfer assets except for the ordinary course of business, make acquisitions, make certain restricted payments, and sell assets, subject to certain exceptions. In addition, the 2018 Notes requires the Company to comply with a minimum daily liquidity covenant and a rolling monthly revenue requirement. Failure to comply with the covenants and loan requirements may result in early amortization of the loan in a 24- or 36-month payment schedule. As of June 30, 2020, the Company was not in default under the terms of the 2018 Notes.

In accordance with the 2018 Notes, the Company granted the lender a security interest in all of the Company's assets through a pledge and security agreement, patent security agreement and trademark security agreement, each between the Company and the lender.

Long-term notes payable as of June 30, 2020 and December 31, 2019 was as follows (in thousands):

| | 2020 | 2019 |
|---|---|---|
| 2018 Notes | $24,389 | $24,088 |
| Other | 7 | 12 |
| Final payment fee | 216 | 170 |
| Unamortized debt discount and debt issuance costs | (385) | (458) |
| | 24,227 | 23,812 |
| Less: current maturities | (4,064) | — |
| Long-term notes payable | $20,163 | $23,812 |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

Maturities of long-term obligations as of June 30, 2020 are as follows (in thousands):

| Year Ending December 31, | |
|---|---|
| Remainder of 2020 | $ — |
| 2021 | 10,166 |
| 2022 | 12,199 |
| 2023 | 2,247 |
| 2024 | — |
| Thereafter | — |
| | $ 24,612 |

In connection with entering into the 2018 Notes, the Company issued to the lender a warrant to purchase 613,333 shares of Series G convertible preferred stock, at an exercise price of $0.75 per share, subject to adjustment upon specified dilutive issuances. The warrant was immediately exercisable upon issuance and expires on February 23, 2028. The fair value of the warrant on the issuance date of $0.3 million was recorded as a debt discount and as a preferred stock warrant liability.

**Note 8—Income Taxes**

Since inception, the Company has incurred net taxable losses, and accordingly, no current provision for income taxes has been recorded.

**Note 9 – Commitments**

***Leases***

The Company leases facilities under non-cancelable operating leases. Rent expense was $1.1 million for the six months ended June 30, 2020 and 2019, and was inclusive of common area maintenance charges.

Future minimum lease payments for operating lease obligations, net of sublease income are as follows as of June 30, 2020 (in thousands):

| Year Ending December 31, | |
|---|---|
| Remainder of 2020 | $ 509 |
| 2021 | 728 |
| 2022 | 625 |
| 2023 | 23 |
| 2024 | — |
| Thereafter | — |
| | $ 1,885 |

***Co-Development Agreement***

In April 2014 and amended in October 2016, the Company entered into a worldwide agreement with AVEO Oncology (“AVEO”) to develop and commercialize AVEO’s hepatocyte growth factor inhibitory antibody

ficlatuzumab with the Company's proprietary companion diagnostic test, BDX004, a version of the Company's serum protein test that is commercially available to help physicians guide treatment decisions for patients with advanced non-small cell lung cancer ("NSCLC"). Under the terms of the agreement, AVEO will conduct a proof-of-concept ("POC") clinical study of ficlatuzumab for NSCLC in which BDX004 will be used to select clinical trial subjects, referred to as the NSCLC POC Trial. The Company and AVEO will share equally in the costs of the NSCLC POC Trial, and each will be responsible for 50% of development and regulatory costs associated with all future clinical trials agreed upon by the Company and AVEO. The Company and AVEO continue to conduct POC clinical trials of ficlatuzumab in combination with BDX004 with each responsible for 50% of development and regulatory costs. Expenses related to this agreement for the six months ended June 30, 2020 and 2019 were approximately $0.7 million and $0.2 million, respectively.

***License Agreement***

In August 2019, we entered into the Bio-Rad License. Under the terms of the Bio-Rad License, the Company received a non-exclusive license, without the right to grant sublicenses, to utilize certain of Bio-Rad's intellectual property, machinery, materials, reagents, supplies and know-how necessary for the performance of Droplet Digital PCR (ddPCR) in cancer detection testing for third parties in the United States. The Company also agreed to purchase all of the necessary supplies and reagents for such testing exclusively from Bio-Rad, pursuant to a separately executed supply agreement with Bio-Rad. As further consideration for the non-exclusive license, the Company agreed to pay a royalty of 2.5% on the net revenue received for the performance of such ddPCR testing collected from third parties. Bio-Rad License expires in August 2024. Either party may terminate for the other's uncured material breach or bankruptcy events. Bio-Rad may terminate the Bio-Rad License if the Company does not purchase licensed products under the separate supply agreement for a consecutive twelve-month period or for any material breach by us of the supply agreement. The Company incurred royalty expense of $0.1 million for the six months ended June 30, 2020 under this agreement.

## Note 10—Convertible Preferred Stock

The following table details, by series, the Company's convertible preferred stock at June 30, 2020 (in thousands, except shares and original issue price):

| Series | Shares Authorized | Shares Issued and Outstanding | Defined Original Issue Price | Liquidation Preference |
|---|---|---|---|---|
| Series H | 53,031,883 | 23,923,188 | $ 1.15 | $ 27,512 |
| Series G | 76,464,035 | 46,146,517 | 0.75 | 34,610 |
| Series F | 19,468,203 | 19,468,203 | 1.50 | 29,202 |
| Series E | 13,972,954 | 7,639,556 | 5.00 | 38,198 |
| Series D | 11,781,710 | 10,874,876 | 4.00 | 43,499 |
| Series C | 2,356,597 | 2,356,596 | 3.00 | 7,070 |
| Series B-1 | 2,998,852 | 2,998,852 | 3.20 | 9,596 |
| Series B | 3,641,817 | 3,641,817 | 2.75 | 10,015 |
| Series A-3 | 750,000 | 750,000 | 2.24 | 1,680 |
| Series A-2 | 266,668 | 266,668 | 1.50 | 400 |
| Series A-1 | 700,000 | 700,000 | 1.14 | 800 |
| | 185,432,719 | 118,766,273 | | $ 202,582 |

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**NOTES TO FINANCIAL STATEMENTS**

*Series H*

In February and March 2019, the Company issued 8,695,621 shares of Series H Preferred Stock at $1.15 per share for total cash proceeds of $10.0 million.

The Company's convertible preferred stock has been classified as temporary equity in the accompanying balance sheets given that a majority of the Company's Board of Directors seats are held by convertible preferred stock holders and could cause certain events to occur that are outside of the Company's control whereby the Company could be obligated to redeem the convertible preferred stock. The Company has not adjusted the carrying values of the convertible preferred stock to the respective liquidation preferences of such shares as the instruments are currently not redeemable and the Company believes it is not probable that the instruments will become redeemable at this point in time. Adjustments to increase the carrying values to the respective liquidation preferences will be made if and when it becomes probable that an event would occur obligating the Company to pay such amounts.

*Conversion Rights*

The holders of Series A-1, Series A-2, and Series A-3 (collectively, "Series A"); Series B and Series B-1 (collectively, "Combined Series B"); Series C; Series D; Series E; Series F, Series G, and Series H are entitled to convert their shares into common stock at the option of the holder, at any time, into fully paid and non-assessable shares of common stock. The number of shares of common stock to which a holder of the Series A, Combined Series B, Series C, Series D, Series E, Series F, Series G, and Series H
(collectively, "Series Preferred") can convert is obtained by multiplying the conversion rate that is in effect by the number of shares of Series Preferred being converted. The conversion rate is determined by dividing the Original Issue Price by the applicable conversion price (initially the Original Issue Price for all classes of Series Preferred except Series B-1, for which the conversion price is initially $2.75). Each share of Series Preferred will be automatically converted into shares of common stock (based on the then-effective Series Preferred conversion price) if there is an affirmative election of 65% of the holders of the outstanding shares of Series Preferred or immediately upon the closing of a firmly underwritten public offering in which the offer and sale of common stock, voting together as a single class on an as-if-converted-to -common-stock basis, is at a per-share price of at least $2.00 (adjusted for stock splits, dividends, and recapitalizations) and gross cash proceeds to the Company (before underwriting discounts, commissions, and fees) are at least $40 million.

*Dividend Rights*

The Series Preferred holders are entitled to receive non-cumulative cash dividends. The dividends are required to be declared by the Board of Directors and are calculated at an annual rate of 8% of the Original Issue Price of the respective Series Preferred shares. Series Preferred holders have the following order of preference on dividends: Series H holders, Series G holders, Series F holders, Series E holders, Series D holders, Series C holders, Combined Series B holders, Series A holders. The Series A holders have preference over the common stockholders. In the event that dividends are paid on any class of Series Preferred, the Company shall pay an additional dividend on all outstanding shares of a higher preference in a per-share amount on an as-if-converted-to-common- stock basis. In the event dividends are paid on any common stock, the Company shall pay an additional dividend on all outstanding shares of Series Preferred stock in a per-share amount on an as-if-converted-to-common-stock basis.

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**NOTES TO FINANCIAL STATEMENTS**

*Voting Rights*

The holders of each share of Series Preferred stock have the right to one vote for each share of common stock on an as-if-converted basis. When converted, the common stock and Series Preferred stockholders have equal voting and power rights.

As long as any Series Preferred stock remains outstanding, a majority vote of the respective class of holders would be required to amend any provisions of the Company's articles of incorporation or bylaws that would adversely affect them.

*Redemption*

Series Preferred stockholders are subject to automatic redemption in the consolidation or merger of the Company or sale of all or substantially all of the Company's assets in which the stockholders of the Company immediately prior to the transaction hold less than 50% of the outstanding securities of the surviving entity. Proceeds available for distribution from such transaction will be distributed consistent with a liquidation event.

*Liquidation*

In accordance with the articles of incorporation, upon a defined event of acquisition or asset transfer, liquidation, dissolution, or winding up of the Company, any amounts that are available for distribution are to be paid out to its stockholders in the following order of preference, in an amount equal to the
per-share Original Issue Price, plus any accrued, declared, and unpaid dividends: Series H holders, Series G holders, Series F holders, Series E holders, Series D holders, Series C holders, Combined Series B holders, Series A holders. If the assets of the Company are insufficient to make payments in full to a class of holders of preferred stock, in the order of preference previously described, then remaining assets shall be distributed among the holders of that class of preferred stock ratably in proportion to the full amounts to which they would otherwise be respectively entitled and the holders of lower preference shares will receive nothing. Upon payment of all preferential amounts required to be paid to the Series Preferred, the holders of common stock and Series Preferred shall be entitled to receive a ratable portion, calculated on an as -if-converted basis, of the remaining assets of the Company available for distribution to its stockholders.

**Note 11—Stock Options**

In May 2006, the Company adopted the 2006 Employee, Director, and Consultant Stock Plan (the "2006 Plan") under which the Company is authorized to grant stock awards to employees, directors, and consultants of the Company. The Company is authorized to grant incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, and stock appreciation rights up to 4,935,043 total shares of stock awards. The award price and vesting terms are determined by the Board of Directors of the Company and evidenced in the award agreement extended to the employee, director, or consultant. The options granted generally terminate ten years from the date of grant and vest over various periods as determined by the Board of Directors of the Company.

In February 2016, the Company adopted the 2016 Equity Incentive Plan ("2016 Plan") as a successor to and continuation of the 2006 Plan. As of February 2016, no additional stock awards may be granted under the 2006 Plan and any unallocated shares remaining available for issuance pursuant to the exercise of options or issuance or settlement of stock awards not previously granted under the 2006 Plan will cease to be available under the 2006 Plan and will be added to the share reserve of the 2016 Plan and be immediately available for issuance

pursuant to the stock awards granted in the 2016 Plan. In addition, all outstanding stock awards granted under the 2006 Plan will remain subject to the terms of the 2006 Plan unless they expire, terminate or are forfeited, cancelled or otherwise returned to the Company and will immediately be added to the share reserve and become available for issuance under the 2016 Plan.

Under the 2016 Plan, the Company is authorized to grant stock awards to employees, directors, and consultants of the Company. The Company is authorized to grant incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, and stock appreciation rights up to 8,500,000 total shares, plus any shares subject to outstanding stock awards granted under the 2006 Plan. The award price and vesting terms are determined by the Board of Directors of the Company and evidenced in the award agreement extended to the employee, director, or consultant. The options granted generally terminate 10 years from the date of grant and vest over various periods as determined by the Board of Directors of the Company.

The following table presents the activity for options and restricted stock units (RSUs) outstanding (in thousands, except for weighted average exercise price and weighted average grant date value per share):

| | Stock Options | Weighted Average Exercise Price | RSUs | Weighted Average Grant Date Value Per Share |
|---|---|---|---|---|
| Outstanding—December 31, 2019 | 11,376 | $ 0.29 | 157 | $ 0.13 |
| Granted | 4,584 | 0.45 | 158 | 0.13 |
| Forfeited/canceled | (172) | 0.14 | — | — |
| Exercised | (116) | 0.09 | — | — |
| Outstanding—June 30, 2020 | 15,672 | $ 0.34 | 315 | $ 0.13 |

The following table presents the composition of options outstanding and exercisable as of June 30, 2020 (in thousands, except price and life):

| | Options Outstanding | | | Options Exercisable | |
|---|---|---|---|---|---|
| Exercise Prices | Number | Price* | Life (years)* | Number | Price* |
| $0.07 – $0.14 | 11,562 | $0.11 | 8.1 | 3,884 | $ 0.11 |
| $0.44 – $0.63 | 807 | 0.57 | 1.9 | 806 | 0.57 |
| $0.74 – $0.75 | 677 | 0.74 | 4.3 | 673 | 0.74 |
| $1.15 | 2,626 | 1.15 | 9.4 | 1,425 | 1.15 |
| Total—June 30, 2020 | 15,672 | $0.34 | 7.8 | 6,788 | $ 0.44 |

* Price and Life reflect the weighted average exercise price and weighted average remaining contractual life, respectively.

There were 315,000 and 157,000 restricted stock units outstanding at June 30, 2020 and December 31, 2019, respectively, none of which had vested as of June 30, 2020.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions for the six months ended June 30, 2020 (dollars in thousands):

| | |
|---|---|
| Approximate risk—free rate | 0.55% |
| Average expected life | 5.63 |
| Dividend yield | —% |
| Volatility | 76% |
| Estimated fair value of total options granted | $ 382 |

The Company estimates volatility based on the historical volatility of its peer group and average expected life based on the review of historical exercise behavior of option grants with similar vesting periods. The expense recorded for options granted under the Plan is net of estimated forfeitures of 10%.

The following table presents the impact of employee stock-based compensation expense on statements of income line items for the periods indicated (in thousands):

| | Six months ended June 30, | |
|---|---|---|
| | 2020 | 2019 |
| Research and development | $ 11 | $ 16 |
| Sales, marketing, general and administrative | 44 | 64 |
| Total stock-based compensation expense | $ 55 | $ 80 |

The unrecognized remaining stock-based compensation balance for shares issued inside of the Plan was approximately $0.5 million as of June 30, 2020 which will be amortized over the next three years.

As of June 30, 2020, the Company has issued a total of 1,218,140 stock options outside the 2006 Plan to employees of the Company. These options are issued at the discretion of the Board of Directors of the Company to the Chief Executive Officer and their direct reports who wish to convert all or a portion of their incentive compensation to options. The value of the options at the date of grant was calculated using the Black-Scholes option pricing model using approximately the same assumptions as in the previous table other than the term, which is approximately five years. As of June 30, 2020, 1,028,367 options outside of the 2006 Plan are outstanding and exercisable and have a weighted average exercise price of $1.87, a weighted average remaining life of six years, and were fully vested on the grant date. There was no unrecognized remaining stock-based compensation balance for shares issued outside of the 2006 Plan as of June 30, 2020.

**Note 12—Warrants for Convertible Preferred Stock**

The Company has issued warrants to purchase shares of preferred stock in conjunction with the sale of certain preferred shares and certain debt issuances. The grant date fair value and fair value at each reporting date of the warrants was determined using the Black-Scholes option pricing model with weighted average assumptions relatively consistent with those disclosed for stock options above, other than term, which is the contractual term of the warrant and the use of the exercise price and current estimated fair value of the respective series of preferred stock. The preferred warrants are classified as liabilities on the accompanying balance sheets as the underlying preferred stock has a contingent redemption feature. As these warrants are classified as a liability, they are revalued on each reporting date or exercise date, and any change in value is recorded to change in fair value of the warrant liability in the accompanying statements of operations.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following table presents the activity for convertible preferred stock warrants outstanding (in thousands, except weighted average exercise price):

| | Series E | | Series G | |
|---|---|---|---|---|
| | Warrants | Weighted Average Exercise Price | Warrants | Weighted Average Exercise Price |
| Outstanding—December 31, 2019 | 925 | $ 5.00 | 613 | $ 0.75 |
| Granted | — | — | — | — |
| Forfeited/canceled | (925) | — | — | — |
| Exercised | — | — | — | — |
| Outstanding—June 30, 2020 | — | $ — | 613 | $ 0.75 |
| Weighted average remaining contractual life at June 30, 2020 | | | 7.5 years | |

**Note 13—Subsequent Events**

The Company has evaluated all subsequent events through the auditors' report date, which is the date the condensed financial statements were available for issuance.

In September 2020, the Company exercised its opt-out right with Aveo for the of payment of 50% of development and regulatory costs for ficlatuzumab which will be effective December 2, 2020. The Company estimates it has $0.3 million in remaining obligations related to the Aveo agreement as of the opt-out date. Following the effective date, the Company will be entitled to a 10% royalty of net sales of ficlatuzumab and 25% of license income generated from the licensing of ficlatuzumab from Aveo.

In September 2020, the Company terminated its option to license rights within the United States from Oncimmune to an additional indication for their product.

In August 2020, the Company extended the maturity date of the Convertible Notes to June 30, 2021.

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors
Biodesix, Inc.:

### Opinion on the Financial Statements

We have audited the accompanying balance sheets of Biodesix, Inc. (the Company) as of December 31, 2019 and 2018, the related statements of operations, changes in convertible preferred stock and stockholders' deficit, and cash flows for each of the years in the two-year period ended December 31, 2019, and the related notes (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

### Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP
We have served as the Company's auditor since 2016.

Denver, Colorado
May 27, 2020, except for earnings per share and Note 1(aa), as to which the date is August 12, 2020

**BIODESIX, INC.**

**STATEMENTS OF OPERATIONS**
**(in thousands, except share data)**

| | For the Years Ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Revenues | $ 24,552 | $ 20,432 |
| Operating expenses | | |
| Direct costs and expenses | 6,074 | 4,406 |
| Research and development | 10,468 | 8,188 |
| Sales, marketing, general and administrative | 30,637 | 25,899 |
| Accretion of contingent consideration | 3,451 | 1,537 |
| Change in fair value of contingent consideration | 663 | 3,863 |
| Total operating expenses | 51,293 | 43,893 |
| Loss from operations | (26,741) | (23,461) |
| Other income (expense) | | |
| Interest income | 55 | 24 |
| Interest expense | (3,008) | (2,916) |
| Change in fair value of warrant liability | (104) | 87 |
| Loss on debt extinguishment | — | (202) |
| Change in fair value of put option liability | (2,000) | — |
| Other | 1,072 | 302 |
| Total other expense | (3,985) | (2,705) |
| Net loss | $ (30,726) | $ (26,166) |
| Net loss per share, basic and diluted | $ (21.31) | $ (22.07) |
| Weighted-average shares outstanding, basic and diluted | 1,441,925 | 1,185,858 |
| Pro forma net loss per share, basic and diluted (unaudited) | $ (0.20) | |
| Pro forma weighted-average shares outstanding, basic and diluted (unaudited) | 155,126 | |

See notes to financial statements.

**BIODESIX, INC.**

**BALANCE SHEETS**
**(in thousands, except share data)**

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| **Assets** | | |
| Current assets | | |
| Cash and cash equivalents | $ 5,286 | $ 5,914 |
| Accounts receivable | 5,292 | 1,892 |
| Other current assets | 2,122 | 2,107 |
| Total current assets | 12,700 | 9,913 |
| Non-current assets | | |
| Property and equipment, net | 2,120 | 1,388 |
| Intangible assets, net | 15,092 | 16,852 |
| Deposits | 90 | 100 |
| Goodwill | 11,631 | 10,804 |
| Total non-current assets | 28,933 | 29,144 |
| Total assets | $ 41,633 | $ 39,057 |
| **Liabilities and Stockholders' Deficit** | | |
| Current liabilities | | |
| Accounts payable | $ 1,717 | $ 886 |
| Accrued liabilities | 4,180 | 3,090 |
| Deferred revenue | 1,283 | 492 |
| Convertible debt payable | 12,159 | — |
| Put option liability | 3,261 | — |
| Total current liabilities | 22,600 | 4,468 |
| Non-current liabilities | | |
| Warrant liability | 329 | 268 |
| Other liabilities | 358 | 290 |
| Long-term debt payable | 23,812 | 23,099 |
| Contingent consideration | 29,114 | 25,000 |
| Total non-current liabilities | 53,613 | 48,657 |
| Total liabilities | 76,213 | 53,125 |
| Commitments and contingencies | | |
| Convertible Preferred stock | | |
| Convertible preferred stock, $0.001 par value, 174,237,067 (2019) and 156,350,836 (2018) authorized; 118,766,273 (2019) and 110,070,652 (2018) issued and outstanding; liquidation preference of $202,582 (2019) | 193,959 | 183,962 |
| Stockholders' deficit | | |
| Common stock, $0.001 par value, 190,000,000 (2019) and 180,000,000 (2018) authorized; 1,513,498 (2019) and 1,275,791 (2018) issued and outstanding | 1 | 1 |
| Additional paid-in capital | 2,324 | 2,107 |
| Accumulated deficit | (230,864) | (200,138) |
| Total stockholders' deficit | (228,539) | (198,030) |
| Total liabilities and stockholders' deficit | $ 41,633 | $ 39,057 |

See notes to financial statements.

**BIODESIX, INC.**

**STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT**
**FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018**
**(in thousands)**

| | Series A-1 | | Series A-2 | | Series A-3 | | Series B | | Series B-1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2017** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |
| Cumulative effect of ASC 606 Adoption | — | — | — | — | — | — | — | — | — | — |
| Exercise of stock options | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series G Preferred Stock—net of issuance costs of $11 | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series G Preferred Stock related to business combination | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series H for debt conversion | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | — | — |
| **Balance—December 31, 2018** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |
| Exercise of stock options | — | — | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $3 | — | — | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — | — | — |
| **Balance—December 31, 2019** | 700 | $ 800 | 267 | $ 400 | 750 | $1,672 | 3,642 | $9,907 | 2,999 | $9,551 |

See notes to financial statements.

**BIODESIX, INC.**

**STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT**
**FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018**
**(in thousands)**

(Continued from the previous page)

| | Series C | | Series D | | Series E | | Series F | |
|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | Shares | Amount | Shares | Amount |
| **Balance—December 31, 2017** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |
| Cumulative effect of ASC 606 Adoption | — | — | — | — | — | — | — | — |
| Exercise of stock options | — | — | — | — | — | — | — | — |
| Issuance of Series G Preferred Stock—net of issuance costs of $11 | — | — | — | — | — | — | — | — |
| Issuance of Series G Preferred Stock related to business combination | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | — | — | — | — | — | — |
| Issuance of Series H for debt conversion | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — |
| **Balance—December 31, 2018** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |
| Exercise of stock options | — | — | — | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $3 | — | — | — | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | — |
| Net loss | — | — | — | — | — | — | — | — |
| **Balance—December 31, 2019** | 2,357 | $ 7,040 | 10,875 | $ 41,266 | 7,640 | $ 32,736 | 19,468 | $ 28,585 |

See notes to financial statements.

**BIODESIX, INC.**

**STATEMENTS OF CHANGES IN CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT**
**FOR THE YEARS ENDED DECEMBER 31, 2019 AND 2018**
**(in thousands)**

(Continued from the previous page)

| | Series G | | Series H | | Total Convertible Preferred Stock | Common Stock | | Additional Paid-In Capital | Accumulate Deficit | Total Stockholder Deficit |
|---|---|---|---|---|---|---|---|---|---|---|
| | Shares | Amount | Shares | Amount | | Shares | Amount | | | |
| **Balance—December 31, 2017** | 33,497 | $ 25,061 | — | $ — | $ 157,018 | 1,070 | $ 1 | $ 1,915 | $ (174,411) | $ (172,495) |
| Cumulative effect of ASC 606 Adoption | — | — | — | — | — | | — | | 439 | 439 |
| Exercise of stock options | — | — | — | — | — | 206 | — | 50 | — | 50 |
| Issuance of Series G Preferred Stock—net of issuance costs of $11 | 2,000 | 1,489 | — | — | 1,489 | — | — | — | — | — |
| Issuance of Series G Preferred Stock related to business combination | 10,650 | 7,987 | — | — | 7,987 | — | — | — | — | — |
| Issuance of Series H Preferred Stock, net of issuance costs of $44 | — | — | 6,087 | 6,956 | 6,956 | | — | | — | — |
| Issuance of Series H for debt conversion | — | — | 9,141 | 10,512 | 10,512 | | — | | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | 142 | — | 142 |
| Net loss | — | — | — | — | — | — | — | — | (26,166) | (26,166) |
| **Balance—December 31, 2018** | 46,147 | $ 34,537 | 15,228 | $ 17,468 | $ 183,962 | 1,276 | $ 1 | $ 2,107 | $ (200,138) | $ (198,030) |
| Exercise of stock options | — | — | — | — | — | 237 | — | 47 | — | 47 |
| Issuance of Series H Preferred Stock, net of issuance costs of $3 | — | — | 8,695 | 9,997 | 9,997 | — | — | — | — | — |
| Stock-based compensation | — | — | — | — | — | — | — | 170 | — | 170 |
| Net loss | — | — | — | — | — | — | — | — | (30,726) | (30,726) |
| **Balance—December 31, 2019** | 46,147 | $ 34,537 | 23,923 | $ 27,465 | $ 193,959 | 1,513 | $ 1 | $ 2,324 | $ (230,864) | $ (228,539) |

See notes to financial statements.

**BIODESIX, INC.**

**STATEMENTS OF CASH FLOWS**
**(in thousands)**

| | For the Years Ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Cash flows from operating activities | | |
| Net loss | $ (30,726) | $ (26,166) |
| Adjustments to reconcile net loss to net cash, cash equivalents, and restricted cash used in operating activities | | |
| Depreciation and amortization | 2,793 | 1,740 |
| Amortization of convertible debt discount | 262 | — |
| Gain on disposal of assets | — | (20) |
| Non-cash portion of loss on extinguishment of debt | — | 85 |
| Stock-based compensation expense | 170 | 142 |
| Change in fair value of warrant liability | 104 | (87) |
| Change in fair value of contingent consideration | 4,114 | 5,400 |
| Change in fair value of put option | 2,000 | — |
| Write off of assets | 13 | 69 |
| Accrued interest on debt payable and convertible debt payable | 799 | 802 |
| Amortization of debt issuance costs | 144 | 105 |
| Provision for doubtful accounts | 246 | — |
| Changes in operating assets and liabilities, net of assets acquired and liabilities assumed in acquisitions: | | |
| Accounts receivable | (3,646) | (146) |
| Other current assets | 1 | (395) |
| Other long-term assets | 16 | 6 |
| Accounts payable and other accrued liabilities | 1,193 | 342 |
| Deferred revenue | 791 | 446 |
| Net cash and cash equivalents and restricted cash used in operating activities | (21,726) | (17,677) |
| Cash flows from investing activities | | |
| Purchase of property and equipment | (1,310) | (498) |
| Patent costs and intangible asset acquisition, net | (106) | (119) |
| Payments to acquire Oncimmune assets | (456) | — |
| Net cash and cash equivalents and restricted cash used in investing activities | (1,872) | (617) |
| Cash flows from financing activities | | |
| Proceeds from issuance of series G preferred stock | — | 1,500 |
| Proceeds from issuance of series H preferred stock | 10,000 | 7,000 |
| Proceeds from issuance of convertible debt payable | 13,044 | 10,283 |
| Proceeds from exercise of common stock options | 47 | 50 |
| Proceeds from long-term debt payable | — | 23,000 |
| Payments of equipment financing and debt payable | — | (22,518) |
| Other | (116) | 128 |
| Debt and equity financing costs | (3) | (411) |
| Net cash and cash equivalents and restricted cash provided by financing activities | 22,972 | 19,032 |
| Net (decrease) increase in cash and cash equivalents and restricted cash | (626) | 738 |
| Cash, cash equivalents, and restricted cash—beginning of year | 6,094 | 5,356 |
| Cash, cash equivalents, and restricted cash—end of year | $ 5,468 | $ 6,094 |

See notes to financial statements.

**BIODESIX, INC.**

**STATEMENTS OF CASH FLOWS**
**(in thousands)**

(Continued from the previous page)

Supplemental disclosure of cash flow information:

There was no cash paid for income taxes during the years ended December 31, 2019 and 2018.

Cash paid for interest for the years ended December 31, 2019 and 2018 was $1.8 million.

Supplemental disclosure of non-cash activity (in thousands):

| | December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Accrued business combination payments | $ 750 | $ — |
| Value of put option recorded at issuance of convertible debt payable | 1,261 | — |
| Issuance of Series G Preferred Stock in business combination | — | 7,987 |
| Fair value of warrants issued as part of 2018 loan agreement | — | 346 |
| Conversion of convertible debt payable plus accrued interest into Series H Preferred Stock | — | 10,512 |

See notes to financial statements.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

**Note 1—Description of Business and Summary of Significant Accounting Policies**

***(a) Organization and Nature of Operations***

Biodesix, Inc. (the "Company"), formerly Elston Technologies, Inc., was incorporated in Delaware in 2005. The Company's headquarters are in Colorado, with laboratories in Colorado, Kansas, and Washington. Biodesix is a data-driven diagnostic solutions company leveraging state of the art technologies with its proprietary artificial intelligence platform to discover, develop, and commercialize solutions for clinical unmet needs, with a primary focus in lung disease. In addition to diagnostic tests, the Company provides biopharmaceutical companies with services that include diagnostic research, clinical trial testing, and the discovery, development, and commercialization of companion diagnostics.

The Company is subject to various risks and uncertainties frequently encountered by early stage life science companies. Such risks and uncertainties include, but are not limited to, undeveloped technology, strict regulatory requirements and approval of products, a limited operating history, competition from other service providers, dependence on key personnel, the need for ongoing capital to fund operations, and management of rapid growth. To address these risks, the Company must, among other things, successfully develop its customer base, successfully execute its business and marketing strategy, successfully develop its technology, raise capital on acceptable terms to the Company, and attract, retain, and motivate qualified personnel. There can be no guarantee that the Company will be successful in addressing these or other such risks.

***(b) Basis of Presentation***

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP).

***(c) Use of Estimates***

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Areas of the financial statements where estimates have the most significant effect include the valuation of contingent consideration and purchased technology related to the Company's business acquisition, stock-based compensation, valuation of put option liabilities, and the valuation allowance related to net deferred tax assets. Actual results could differ from those estimates.

***(d) Segment Information***

The Company operates in one operating segment and, accordingly, no segment disclosures have been presented herein. All equipment, leasehold improvements, and other fixed assets are physically located within the United States.

***(e) Comprehensive Loss***

Comprehensive loss is defined as the change in equity during a period from transactions and other events and/or circumstances from non-owner sources. If the Company had comprehensive gains (losses), they would be

reflected in the statement of operations and comprehensive loss and as a separate component in the statement of stockholders' deficit. There were no elements of comprehensive loss during the years ended December 31, 2019 and 2018.

***(g) Concentration of Risk***

The Company is subject to credit risk from its accounts receivable related to services provided to its customers. Reimbursement on behalf of customers covered by Medicare accounted for 59% and 60% of the Company's diagnostic test revenue for the years ended December 31, 2019 and 2018, respectively, and represented 18% and 44% of the Company's total accounts receivable balance as of December 31, 2019 and 2018, respectively. One services customer represented 44% and 25% of the Company's total accounts receivable balance as of December 31, 2019 and 2018, respectively. As of December 31, 2019, two services customers represented 12% and 10% of the Company's total accounts receivable balance as of December 31, 2019.

***(h) Cash, Cash Equivalents, and Restricted Cash***

The Company considers all highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. The Company continually monitors its positions with, and the credit quality of, the financial institutions with which it invests. Periodically throughout the year, the Company has maintained balances in various operating accounts in excess of federally insured limits. Included in cash and cash equivalents are money market funds recorded at $4.8 million and $5.2 million at December 31, 2019 and 2018, respectively. These money market funds were measured using Level 1 inputs.

Restricted cash consists of deposits related to the Company's corporate credit card and a letter of credit related to an operating lease agreement. As of December 31, 2019 and 2018, the Company had $0.2 million in restricted cash, which was included in other current assets in the accompanying balance sheets.

***(i) Accounts Receivable***

The Company provides an allowance for doubtful accounts based on experience and specifically identified risks. Accounts receivable are recorded at carrying value and charged off against the allowance for doubtful accounts when it is determined that recovery is unlikely and cease collection efforts cease.

The Company analyzes trade accounts receivable quarterly and considers historic experience, customer creditworthiness, facts and circumstances specific to outstanding balances, and payment terms when evaluating the adequacy of the allowance for doubtful accounts. The Company recorded an allowance for doubtful accounts of $0.2 million as of December 31, 2019.

***(j) Inventory***

Inventories are stated at the lower of cost or net realizable value on a first-in, first-out basis. Inventory consists primarily of supplies, which are consumed when processing tests. The Company does not maintain any finished goods inventory. Inventory balances were $0.8 million and $0.7 million as of December 31, 2019 and 2018, respectively, and are included in other current assets in the accompanying balance sheets.

***(k) Property and Equipment***

Property and equipment are stated at cost. Depreciation is provided utilizing the straight-line method over the estimated useful lives, ranging from three to five years.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(l) Intangible Assets***

Intangible assets are stated at cost, net of accumulated amortization and include patents, trademarks, and acquired developed technology. Trademarks have an indefinite life and are not being amortized but are reviewed for impairment on an annual basis. External costs associated with patents are capitalized as long as such efforts are expected to be successful. Upon approval of the patent, the related capitalized costs are amortized over the lesser of the contractual term of the patent or the estimated useful life of 10 years. Acquired developed technology is amortized over a useful life of 9 years.

Intangible assets are reviewed for impairment whenever events or changes in circumstances may affect the recoverability of the intangible assets. Such reviews include an analysis of current results and take into consideration the undiscounted value of projected operating cash flows. See Note 3, Business Combination, for further information.

***(m) Long-Lived Assets***

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recovered. The Company looks primarily to the undiscounted future cash flows in its assessment of whether or not long-lived assets have been impaired. The Company has determined that no impairments are necessary for the periods presented.

***(n) Deferred Rent***

The Company leases office space under non-cancelable, long-term operating leases that include scheduled increases in minimum rents and renewal provisions at the option of the Company. The expense associated with leases that have escalating payment terms is recognized on a straight-line basis over the lease term. Tenant improvement allowances received from a lessor are recorded as a deferred rent liability and recognized evenly as a reduction to rent expense over the remaining lease term. The portion of the deferred rent liability that will reverse in the next 12 months is not significant to the balance sheets; therefore, the entire amount was recorded as non-current in the accompanying financial statements.

***(o) Goodwill***

Goodwill is recorded when the purchase price paid for an acquisition exceeds the estimated fair value of the net identified tangible and intangible assets acquired. Goodwill is not amortized and is tested for impairment at the reporting unit level on an annual basis as of December 31 and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying value. The Company may first perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If it is concluded that this is the case, it is necessary to perform a quantitative two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. The quantitative two-step goodwill impairment review process compares the fair value of the reporting unit in which goodwill resides to its carrying value. Multiple valuation techniques can be used to assess the fair value of the reporting unit. All these techniques include the use of estimates and assumptions that are inherently uncertain. Changes in these estimates and assumptions could materially affect the determination of fair value or goodwill impairment, or both. The Company assessed qualitative factors to determine whether it is more likely than not that the fair value of Goodwill exceeded the carrying value. Based on that assessment, there were no events or circumstances in 2019 and 2018 to indicate that the fair value of goodwill exceeded its carrying value, and thus a quantitative analysis was not performed.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following summarizes the Company's goodwill activity (in thousands):

| | |
|---|---|
| Balance—December 31, 2017 | $ — |
| Attributable to 2018 acquisition | 10,804 |
| Balance—December 31, 2018 | 10,804 |
| Attributable to 2019 acquisition | 827 |
| Outstanding—December 31, 2019 | $ 11,631 |

The Company did not have any goodwill impairments for the years ended December 31, 2019 and 2018.

***(p) Revenue Recognition***

Revenues are recognized when control of the promised services is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those services.

The Company's revenue is generated from the following:

- Diagnostic tests. These services are completed upon the delivery of test results to the prescribing physician, which is considered the performance obligation. The fees for such services are billed either to a third party such as Medicare, medical facilities, commercial insurance payers, or to the patient.
- Services. These services are generally completed upon the delivery of test results for assay development and testing services, which is considered the performance obligation. Customers for these services are typically large pharmaceutical companies.

For the years ended December 31, 2019 and 2018 revenue from these services consisted of the following (in thousands):

| | December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Diagnostic tests | $ 17,315 | $ 18,965 |
| Services | 7,237 | 1,467 |
| Total revenue | $ 24,552 | $ 20,432 |

Diagnostic test revenue that were reimbursed by Medicare comprised 60% and 61% of diagnostic test revenue in 2019 and 2018, respectively. One services customer comprised 71% and 95% of services revenue in 2019 and 2018, respectively.

Revenue from diagnostic tests are recognized when the performance obligation is satisfied, which is when a customer receives results of the Company's tests, which is generally upon delivery to the requesting physician. Revenue from services are recognized when the performance obligation is satisfied, which is when a customer receives results of the Company's tests, which is generally upon the delivery of test results for assay development and testing services. The Company also provides services to patients with whom the Company does not have contracts as defined in ASC 606, *Revenue from Contracts with Customers* (ASC 606). The Company recognizes revenue for these patients when contracts as defined in ASC 606 are established at the amount of consideration to which it expects to be entitled or when the Company receives substantially all of the consideration subsequent to the performance obligations being satisfied.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The Company determines the transaction price related to its diagnostic test contracts by considering the nature of the payer and historical price concessions granted to groups of customers. For diagnostic test revenue, the Company estimates the transaction price which is the amount of consideration it expects to be entitled to receive in exchange for providing services based on its historical collection experience using a portfolio approach as a practical expedient to account for patient contracts as collective groups rather than individually.

***(q) Deferred Revenue***

Deferred revenue primarily consists of services fee payments received in advance.

***(r) Research and Development Expenses and Accrued Research and Development Expenses***

Expenditures made for research and development are charged to expense as incurred. External costs consist primarily payments to clinical trial sites, sample acquisition costs and laboratory supplies purchased in connection with the Company's discovery and preclinical activities, process development and clinical development activities. Internal costs consist primary of employee-related costs, facilities, depreciation and costs related to compliance with regulatory requirements.

The Company estimates and accrues its expenses resulting from its obligations under contracts with vendors and consultants in connection with conducting research and development activities. The financial terms of these contracts vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. The Company's estimates depend on the timeliness and accuracy of the data provided by consultants and vendors regarding the status of each activity. The Company periodically evaluates the estimates to determine if adjustments are necessary or appropriate based on information received.

***(s) Stock-Based Compensation***

The Company accounts for stock-based compensation arrangements with employees and recognizes compensation expense for stock-based awards based on the estimated fair value of the awards. Compensation expense for all employee stock-based awards is based on the estimated grant-date fair value and recognized as an expense on a straight-line basis over the requisite service period (generally the vesting period).

***(t) Income Taxes***

The Company recognizes deferred tax assets and liabilities based on the differences between the tax basis of assets and liabilities and their reported amounts in the financial statements and net operating loss carryforwards that will result in taxable or deductible amounts in future years. The Company establishes a valuation allowance for all deferred tax assets to the extent it is more likely than not that a deferred tax asset will not be realized.

***(u) Warrant Liability***

Freestanding financial instruments that permit the holder to acquire shares that are either puttable by the holder, redeemable or contingently redeemable are required to be reported as liabilities in the financial statements. The issuer must present such liabilities on the balance sheets at their estimated fair values. Changes in fair value of the liability are calculated each reporting period, and any change in value is recognized in operations. The Company has determined that certain warrants issued to investors and lenders, which are exercisable for shares of the Company's convertible preferred stock, shall be classified as liabilities due to a contingent redemption provision.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

***(v) Changes in Fair Value of Contingent Consideration***

In connection with the purchase transaction with Integrated Diagnostics, Inc., the Company recorded contingent consideration pertaining to the amounts potentially payable to Integrated Diagnostics' shareholder pursuant to the terms of the asset purchase agreement. The fair value of contingent consideration is assessed at each balance sheet date and changes, if any, to the fair value are recognized as operating expenses within the statements of operations.

The estimated fair value of the contingent consideration is based upon significant assumptions including probabilities of successful achievement of the related milestone event ("Milestone"), the estimated timing in which the Milestone is achieved, and discount rates. The estimated fair value could materially differ from actual values or fair values determined using different assumptions.

***(w) Fair Value of Financial Instruments***

The carrying amounts of financial instruments, including cash and cash equivalents, receivables, other current assets, accounts payable, and accrued liabilities, approximated fair value as of December 31, 2019 and 2018 because of the relatively short maturity of these instruments.

The carrying amounts of long-term debt payable and convertible debt payable issued approximated fair value as of December 31, 2019 and 2018 because interest rates on these instruments approximate market interest rates.

***(x) Business Combinations***

The Company evaluates acquisitions of assets and other similar transactions to assess whether or not the transaction should be accounted for as a business combination by assessing whether or not the Company has acquired inputs and processes that have the ability to create outputs. If determined to be a business combination, the Company accounts for business acquisitions under the acquisition method of accounting as indicated in the FASB issued Accounting Standards Codification ("ASC") Topic 805, *Business Combinations* ("ASC 805"), which requires the acquiring entity in a business combination to recognize the fair value of all assets acquired and liabilities assumed and establishes the acquisition date as the fair value measurement point. Accordingly, the Company recognizes assets acquired and liabilities assumed in business combinations, including contingent assets and liabilities, and non-controlling interest in the acquiree based on the fair value estimates as of the date of acquisition. In accordance with ASC 805, the Company recognizes and measures goodwill as of the acquisition date, as the excess of the fair value of the consideration paid over the fair value of the identified net assets acquired.

***(y) Recently Issued Accounting Standards Adopted***

In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU 2014-09, "Revenue from Contracts with Customers", and has subsequently issued several supplemental and/or clarifying ASUs (collectively, "ASC 606"). ASC 606 prescribes a single common revenue standard that replaces most existing U.S. GAAP revenue recognition guidance. ASC 606 is intended to provide a more consistent interpretation and application of the principles outlined in the standard across filers in multiple industries and within the same industries compared to current practices, which should improve comparability. The Company adopted the new standard using the modified retrospective method on January 1, 2018 for contracts that are not completed as of the adoption date.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation. ASC 606 also impacts certain other areas, such as the accounting for costs to obtain or fulfill a contract. The standard also requires disclosure of the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

The Company examined its revenue recognition policies specific to revenue streams for diagnostic testing and services provided to third parties and came to conclusions on the impact of the new standard using the 5-step process prescribed by ASC 606. As noted above, the Company used the modified retrospective method to adopt the new standard which means the Company did not restate previously issued financial statements but recorded a one-time adjustment to accumulated deficit and accounts receivable of $0.4 million. This adjustment reflected the Company's ability to establish a transaction price for the Company's non-Medicare pay arrangements as of January 1, 2018 as a result of having sufficient history to determine the transaction price under these contracts.

ASC 606 did not have an aggregate impact the Company's net cash provided by operating activities but resulted in offsetting changes in certain assets and liabilities presented within net cash used in operating activities in the accompanying statement of cash flows, as noted above.

***(z) Recently Issued Accounting Standards Not Yet Adopted***

In February 2016, the Financial Accounting Standards Board ("FASB") issued ASU No. 2016-02, *Leases* (ASC Topic 842). The new guidance maintains two classifications of leases: finance leases, which replace capital leases, and operating leases. Lessees will need to recognize a right-of-use asset and a lease liability on the statement of financial position for those leases previously classified as operating leases under the old guidance. The liability will be equal to the present value of lease payments. The asset will be based on the liability, subject to adjustment, such as for direct costs. The accounting standard will be effective for the Company beginning January 1, 2021. The Company is currently evaluating the impact of the lease guidance on the Company's financial statements.

***(aa) Net loss per share and unaudited pro format net loss per share***

Basic net loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration of potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and potentially dilutive securities outstanding for the period. For purposes of the diluted net loss per share calculation, the convertible preferred stock, common stock options, restricted stock units, preferred stock warrants and convertible debt are considered to be potentially dilutive securities. Basic and diluted net loss attributable to common stockholders per share is presented in conformity with the two-class method required for participating securities as the convertible preferred stock is considered a participating security. The Company's participating securities do not have a contractual obligation to share in the Company's losses. As such, the net loss was attributed entirely to common stockholders. As the Company has reported a net loss for all periods presented, diluted net loss per common share is the same as basic net loss per common share for those periods.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following table sets forth the computation of the basic and diluted net loss per share attributable to common stockholders (in thousands, except per share amounts):

| | Year ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| **Numerator** | | |
| Net loss attributable to common stockholders | $ (30,726) | $ (26,166) |
| **Denominator** | | |
| Weighted-average shares outstanding used in computing net loss per share, basic and diluted | 1,442 | 1,186 |
| Net loss per share, basic and diluted | $ (21.31) | $ (22.07) |

The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been anti-dilutive (in thousands, except for per share amounts):

| | Year ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Options to purchase common stock | 12,492 | 9,085 |
| Convertible preferred stock | 119,257 | 110,562 |
| Warrants | 1,538 | 2,440 |
| Restricted stock units | 157 | — |
| Convertible debt | 125,429(1) | — |
| Total | 258,873 | 122,087 |

(1) The number of common shares that convertible debt was assumed to convert to was based on the Company's estimated common stock price as of December 31, 2019, as determined by the Company's board of directors with assistance from a valuation firm. The ultimate conversion price will be based on the fair value of the Company's common stock at the completion of an initial public offering.

*Unaudited pro forma net loss per share*

Unaudited pro forma basic and diluted net loss per share is calculated to give effect to the one-for-one conversion of all outstanding shares of the Company's convertible preferred stock and convertible debt into shares of common stock in using the as-converted method as though the conversion had occurred as of the beginning of the period presented or the date of issuance, if later.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following table sets forth the computation of the basic and diluted unaudited pro forma net loss per share (in thousands):

| | Year ended December 31, 2019 |
|---|---|
| **Numerator** | |
| Net loss | $ (30,726) |
| Add back: Interest expense on convertible debt | 375 |
| Net loss used in computing proforma net loss per share, basic and diluted | $ (30,351) |
| **Denominator** | |
| Weighted-average shares outstanding used in computing net loss per share, basic and diluted | 1,442 |
| Adjust: Assumed weighted-average effect of conversion of convertible preferred stock | 117,541 |
| Adjust: Assumed weighted-average effect of conversion of convertible debt | 36,143(1) |
| Weighted-average shares outstanding used in computing pro forma net loss per share, basic and diluted | 155,126 |
| Pro forma net loss per share, basic and diluted | $ (0.20) |

(1) The number of common shares that convertible debt was assumed to convert to was based on the Company's estimated common stock price as of December 31, 2019, as determined by the Company's board of directors with assistance from a valuation firm. The ultimate conversion price will be based on the fair value of the Company's common stock at the completion of an initial public offering.

**Note 2—Liquidity**

The accompanying financial statements have been prepared on a going concern basis, which contemplates the realization of assets and liquidation of liabilities in the ordinary course of business. To date, the Company has funded its activities primarily through private equity placement offerings, convertible debt payable, and long-term debt. The Company is still in its early stage and has yet to generate revenues sufficient to create positive cash flows and most likely will be dependent upon future private equity placements or additional borrowings to execute its business plan. The Company has cash and cash equivalents of $5.3 million, cumulative net losses of $230.9 million, and stockholders' deficit of $228.5 million as of December 31, 2019. Based on cash and cash equivalents on hand and amounts raised subsequent to December 31, 2019, management has determined that additional private equity placement offerings will be necessary to fund operations through May 2021. As a result, the Company has obtained commitment letters from two significant investors which requires that they will provide funding to the Company to meet its obligations and debt service requirements through at least May 2021.

**Note 3—Business Combinations**

***Oncimmune Limited***

On October 31, 2019, the Company purchased select assets and liabilities from Oncimmune Limited ("Oncimmune") for total consideration of $1.2 million payable in quarterly installments commencing 30 days following the closing of the transaction. Concurrent with the Oncimmune purchase, the Company acquired an option to license rights within the United States to an additional indication for their product for $9 million. This option, which is exclusive to the Company, expires on the earlier of 30 days following Food and Drug Administration approval or December 31, 2020. As of December 31, 2019, $0.5 million has been paid with the remaining amount due of $0.7 million being included in accounts payable and accrued liabilities.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The Company accounted for the transaction as a business combination in accordance with ASC 805. As such, the assets acquired and liabilities assumed were recorded at fair value, with the remaining purchase price recorded as goodwill. The goodwill associated with the acquisition is the result of expected synergies, an increase in future revenues as a result of the expansion of the technology into additional markets as well as lower future operating expenses.

The following summarizes the aggregate consideration paid by the Company and the allocation of the purchase price (in thousands):

| | |
|---|---|
| Cash | $1,206 |
| Total fair value of consideration transferred | $1,206 |
| Deposit | $ 6 |
| Inventory | 14 |
| Property and equipment | 241 |
| Purchase option | 121 |
| Goodwill | 827 |
| Accrued liabilities | (3) |
| | $1,206 |

As of December 31, 2019, the Company has finalized its accounting for this business combination.

***Integrated Diagnostics, Inc.***

On June 30, 2018, the Company purchased select assets and liabilities from Integrated Diagnostics, Inc. (“Indi”) for total consideration of $27.6 million, consisting of $8.0 million (10,649,604 shares) of the Company’s Series G Preferred Stock and contingent consideration with an initial fair value of $19.6 million. The 10,649,904 shares issued at closing include 2,129,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of Indi that may arise.

The Company accounted for the transaction as a business combination in accordance with ASC 805. As such, the assets acquired and liabilities assumed were recorded at fair value, with the remaining purchase price recorded as goodwill. The estimated fair values of acquired assets and assumed liabilities were determined by management with the assistance of an independent third party. The goodwill associated with the acquisition is the result of expected synergies, an increase in future revenues as a result of the expansion of the technology into additional markets as well as lower future operating expenses.

The following summarizes the aggregate consideration paid by the Company and the allocation of the purchase price (in thousands):

| | |
|---|---|
| Preferred stock issued—10,694,904 shares | $ 7,987 |
| Contingent consideration | 19,600 |
| Total fair value of consideration transferred | $27,587 |
| Prepaid expenses and other assets | $ 50 |
| Inventory | 394 |
| Property and equipment | 316 |
| Technology | 16,900 |
| Goodwill | 10,804 |
| Liabilities | (877) |
| | $27,587 |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The acquisition of Indi included a contingent consideration arrangement that requires additional consideration to be paid by the Company to Indi based on the Milestone of the attainment of a three consecutive month gross margin target of $2 million within a seven-year period after the acquisition date. For the six months following the achievement of the Milestone, Indi has the option to require the Company to pay the contingent consideration in cash over eight equal installments due each calendar quarter or through the issuance of shares of Series G Preferred Stock. The total amount of undiscounted contingent consideration which the Company may be required to pay under the arrangement is $37.0 million. If Indi elects not to exercise these options, the Company has 12 months to either settle the contingent consideration in two equal quarterly cash installments or in 14,959,114 shares of Series G Preferred Stock.

The fair value of $19.6 million contingent consideration recognized on the acquisition date was estimated by management with the assistance of an independent third party. These fair value measurements were based on significant inputs not observable in the market and thus represent Level 3 fair value measurements. See Note 4, Fair Value Accounting, for a discussion of the fair value of the contingent consideration and changes in fair value subsequent to the acquisition date.

Intangible assets acquired, amortization method and estimated useful lives as of June 30, 2018 was as follows (dollars in thousands):

| | Useful Life | Amortization Method | Fair Value |
|---|---|---|---|
| Technology | 9 years | Straight-line | $ 16,900 |

The technology acquired from Indi consisted of the technology and related know-how of the XL2 test for which Indi had developed. The fair value of the technology was estimated by applying a multi-period excess earnings method. The results of this method is based on significant inputs that are not observable in the market, or Level 3 inputs (see discussion of the fair value hierarchy in Note 4). Key assumptions included (a) projected revenue and related profitable attributable to the acquired technology over the estimated life of the acquired technology and (b) a discount rate of 37.5%.

As of December 31, 2018, the Company had finalized its accounting for this business combination.

**Note 4—Fair Value Accounting**

The Company accounts for certain assets and liabilities that are required to be recorded at fair value under a framework for measuring fair value that requires enhanced disclosures about fair value measurements. This framework requires disclosure about how fair value is determined for assets and liabilities and establishes a hierarchy for which these assets and liabilities must be grouped based on significant levels of inputs as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities;

Level 2: Quoted prices in active markets for similar assets and liabilities and inputs that are observable for the asset or liability; or

Level 3: Unobservable inputs in which there is little or no market data, which requires the reporting entity to develop its own assumptions.

The determination of where assets and liabilities fall within this hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following tables set forth by level, within the fair value hierarchy, the Company's liabilities measured at fair value on a recurring basis (in thousands):

**December 31, 2019:**

| Description | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| Warrant liability | $ — | $ — | $ 372 | $ 372 |
| Contingent value rights | $ — | $ — | $ 60 | $ 60 |
| Contingent consideration | $ — | $ — | $29,114 | $29,114 |

**December 31, 2018:**

| Description | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| Warrant liability | $ — | $ — | $ 268 | $ 268 |
| Contingent value rights | $ — | $ — | $ 60 | $ 60 |
| Contingent consideration | $ — | $ — | $25,000 | $25,000 |

Due to the unobservable inputs needed to calculate the fair value of these balances, these liabilities are classified as Level 3 liabilities. The following is a reconciliation of the beginning and ending balances for assets measured at fair value on a recurring basis using significant unobservable inputs (in thousands):

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| Warrant liability | | |
| Beginning balance | $268 | $ 9 |
| Issuances | — | 346 |
| Exercises | — | — |
| Change in fair value | 104 | (87) |
| Ending balance | $372 | $268 |

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| Contingent value rights | | |
| Beginning balance | $ 60 | $ 60 |
| Issuances | — | — |
| Exercises | — | — |
| Change in fair value | — | — |
| Ending balance | $ 60 | $ 60 |

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| Contingent consideration | | |
| Beginning balance | $ 25,000 | $ — |
| Additions | — | 19,600 |
| Changes in fair value | 663 | 3,863 |
| Accretion | 3,451 | 1,537 |
| Payments | — | — |
| Ending balance | $ 29,114 | $ 25,000 |

There were no changes to the valuation methods during the years presented.

See Note 12 for further discussion of preferred stock warrants.

In addition to the shares of Series F Preferred Stock that were issued in January 2016, investors who purchased more than their pro-rata amount in the financing described above received a calculated number of contingent value rights ("CVRs"), but only to the extent that the total amount raised in the financing exceeded $20,202,323. One CVR represents 0.00375% of the Company's interest in the drug ficlatuzumab (see Note 10). In connection with the Series F financing, the Company issued 3,999 CVRs originally valued at $0.5 million. The initial estimated value of the CVRs were recorded as a liability and as a reduction to the Series F proceeds. Upon receipt by the Company or a milestone, royalty, or any other type of payment from the Company's ownership rights in the drug, the Company will make a cash payment to the CVR holders equal to 15% of net proceeds, as defined. In addition, the CVRs will be adjusted to their estimated fair values each reporting period. During 2019 and 2018, there was no change to the estimated value of the CRVs. The value of these CVRs was $0.1 million as of December 31, 2019 and 2018.

***Contingent Consideration***

In connection with the transaction with Indi, the Company recorded contingent consideration pertaining to the amounts potentially payable to Indi's Selling Shareholders pursuant to the Asset Purchase Agreement (See Note 3). Contingent consideration is measured at fair value and is based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy. The valuation of contingent consideration uses assumptions the Company believes would be made by a market participant. The Company assesses these estimates on an on-going basis as additional data impacting the assumptions is obtained. Future changes in the fair value of contingent consideration related to updated assumptions and estimates are recognized within the statements of operations.

Contingent consideration may change significantly as development progresses and additional data are obtained, impacting the Company's assumptions regarding probabilities of successful achievement of related Milestone used to estimate the fair value of the liability and the timing in which they are expected to be achieved. In evaluating the fair value information, considerable judgment is required to interpret the market data used to develop the estimates. The estimates of fair value may not be indicative of the amounts that could be realized in a current market exchange. Accordingly, the use of different market assumptions and/or different valuation techniques could result in materially different fair value estimates. The fair value of the Company's contingent consideration liability was estimated using significant unobservable inputs. The fair value of $19.6 million contingent consideration recognized on the acquisition date was estimated by management with the assistance of an independent third party.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

Changes in the fair value measurement each period reflect the passage of time as well as the impact of adjustments, if any, to the likelihood of achieving the specified targets. Contingent consideration is recorded in the balance sheets in long-term liabilities. The $4.1 million adjustment to the contingent consideration during 2019 was primarily due to $3.4 million resulting from the reduction of estimated time to first payment and $0.7 million due to the impact of the acceleration of expected revenue and decreases in expected costs. The $5.4 million adjustment to the contingent consideration during 2018 was primarily due to $3.9 million resulting from the impact of the acceleration of expected revenue and decreases in expected costs as a result of events occurring after the acquisition date, as well as $1.5 million resulting from the reduction of estimated time to first payment.

The significant unobservable inputs used in the measurement of fair value of the Company's contingent consideration are probabilities of successful achievement of the Milestone, the period in which the Milestone is expected to be achieved and discount rates ranging from 12.2% to 13.5%. Significant increases or decreases in any of these inputs would result in a significantly higher or lower fair value measurement.

**Note 5—Balance Sheet Disclosures**

Property and equipment consist of the following (in thousands):

| | December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Lab equipment | $ 4,221 | $ 3,513 |
| Leasehold improvements | 1,894 | 1,881 |
| Computer equipment | 869 | 765 |
| Furniture and fixtures | 427 | 424 |
| Software | 503 | 373 |
| Construction in process | 592 | — |
| | 8,506 | 6,956 |
| Less accumulated depreciation | (6,386) | (5,568) |
| Total property and equipment | $ 2,120 | $ 1,388 |

Depreciation expense for each of the years ended December 31, 2019 and 2018 was $0.8 million and $0.7 million, respectively.

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Intangible assets consist of the following (in thousands):

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| Patents | $ 1,245 | $ 1,176 |
| Less accumulated amortization | (411) | (345) |
| | $ 834 | $ 830 |
| Purchased technology | $16,900 | $16,900 |
| Less accumulated amortization | (2,817) | (939) |
| | $14,083 | $15,961 |
| Purchase option | $ 121 | $ — |
| Less accumulated amortization | (17) | — |
| | $ 104 | $ — |
| Trademarks (indefinite life) | $ 71 | $ 61 |
| Total intangible assets | $15,092 | $16,852 |

The Company recorded amortization expense of $2.0 million and $1.0 million for the years ended December 31, 2019 and 2018, respectively. Amortization related to the remaining net intangible assets is scheduled to amortize as follows (in thousands):

| Year Ending December 31, | |
|---|---|
| 2020 | $ 2,229 |
| 2021 | 1,944 |
| 2022 | 1,937 |
| 2023 | 1,936 |
| 2024 | 1,927 |
| Thereafter | 5,048 |
| Total future amortization expense | $ 15,021 |

Accrued liabilities consist of the following (in thousands):

| | December 31, 2019 | December 31, 2018 |
|---|---|---|
| Compensation related accruals | $1,165 | $ 996 |
| Accrued clinical trial expense | 620 | 572 |
| Other expenses | 2,352 | 1,522 |
| Warrant liability, current | 43 | — |
| Total accrued liabilities | $4,180 | $3,090 |

**Note 6—Convertible Debt Payable**

In December 2019, the Company issued $6 million in convertible debt (the “December 2019 Notes”) that is scheduled to mature in August 2020. The December 2019 Notes were issued in two tranches of $3 million,

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with the first tranche being funded in December 2019. Interest on the December 2019 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date and if the December 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the December 2019 Notes shall be automatically converted into, the earlier of, the preferred stock sold at the close of the Company's next equity financing (Qualified Financing) or common stock in an initial public offering (IPO). The conversion price would be equal to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock sold in an IPO. The December 2019 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the note holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction. The discounts on the automatic conversions created a put option liability that was separated from the December 2019 Notes. The estimated value of the put option liability as of the issuance of the December 2019 Notes and December 31, 2019 was $0.8 million. The put option liability was reflected as a debt discount on the December 2019 Notes which is being amortized over the term of the December 2019 Notes. The unamortized debt discount was $0.7 million as of December 31, 2019.

In August and September 2019 (the "August 2019 Notes"), the Company issued $10 million in convertible debt that is scheduled to mature in August 2020. Interest on the August 2019 Notes is at 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at the original issuance price of $1.15 per share. On or before the maturity date and if the August 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the August 2019 Notes shall be automatically converted into, the earlier of, the preferred stock sold at the close of the Company's next equity financing (Qualified Financing) or common stock sold in the event of an IPO. The conversion price would be equal to 95% of the price per share paid for the preferred stock in the Qualified Financing or common stock sold in an IPO. The August 2019 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the August 2019 Note holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction. The discounts on the automatic conversions created a put option liability that was separated from the August 2019 Notes. The estimated value of the put option liability as of the issuance of the August 2019 Notes was $0.5 million. The put option liability was reflected as a debt discount on the August 2019 Notes which is being amortized over the term of the August 2019 Notes. The unamortized debt discount was $0.3 million as of December 31, 2019.

In connection with the issuance of the December 2019 Notes, the conversion price on the August 2019 Notes was amended to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock in an IPO. In addition, the conversion price to Series H preferred stock at the maturity date was amended to be 80% of the Series H original issuance price of $1.15 per share. The changes to the discounts on the conversions of the August 2019 Notes created an increase to the put option liability on the August 2019 Notes of $2 million to a total estimated value of $2.5 million as of December 31, 2019. The increase in the value of the put option liability was reflected as a change in put option in the accompany 2019 statement of operations.

As of December 31, 2019, accrued interest of $0.1 million is included in the convertible debt balance included on the accompanying balance sheet.

In April and July 2018, the Company issued $10.3 million in convertible debt that was scheduled to mature in April 2019 (the "April 2018 Notes"). Interest on the April 2018 Notes was at 6% per annum and was

payable in full upon maturity. On or before the maturity date and if the April 2018 Notes are unpaid, the outstanding principal and unpaid accrued interest under the April 2018 Note shall be automatically converted into the preferred stock sold at the close of the Company's next equity financing (Qualified Financing). The conversion price would be equal to 100% of the price per share paid for the preferred stock in the Qualified Financing. The April 2018 Notes may be prepaid in whole or in part at any time by the Company with prior consent of at least two-thirds of the April 2018 Notes holders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Company in such transaction.

In October 2018, the Company issued 6,086,941 shares of Series H Preferred Stock at $1.15 per share for total cash proceeds of $7.0 million. In connection with this issuance, the $10.3 million in convertible debt issued in April and July 2018 and accrued interest of $0.2 million automatically converted into 9,140,616 shares of Series H Preferred Stock as a Qualified Financing occurred prior to the maturity date.

**Note 7—Long-Term Debt**

In February 2018, the Company extinguished a Note that originated in 2013 (the "2013 Notes") through the issuance of new long-term debt with a different private investment company (the "2018 Notes"). The lender for the 2018 Notes is also a holder of the Company's Series G preferred stock. The Company recorded a $0.2 million loss on the extinguishment of the 2013 Notes.

The initial amount borrowed under the 2018 Notes was $23 million and the maturity date is February 2023. At the time of the issuance of the 2018 Notes, the Company paid a 1% facility fee of $0.2 million and issued a warrant to the private investment company for the purchase of 613,333 shares of Series G preferred stock, which had an initial fair value of $0.3 million. The facility fee and the value of the warrants were recorded as reductions to the carrying value of the 2018 Notes and are being amortized to interest expense over the term of the 2018 Notes. The 2018 Notes bears interest at 10% with 7.5% being paid in cash and 2.5% being added to the principal value of the 2018 Notes through December 31, 2020. The Company is required to make quarterly interest payments beginning in June 2018 and outstanding principal is due in 24 equal installments commencing in March 2021. As of December 31, 2019 and 2018, the interest added to the principal value of the 2018 Notes was $1.1 million and $0.5 million, respectively.

The loan may be prepaid by the Company at any time, subject to a prepayment penalty of up to 3% of the principal amount, depending on the date of prepayment. Upon payment of the 2018 Notes at maturity or prepayment on any earlier date, unless waived, a 2% back-end facility fee will apply to the amounts paid or prepaid. The 2% fee is being recorded as additional interest expense over the term of the 2018 Notes. The 2018 Notes are senior to all of the Company's other indebtedness including any contingent consideration.

The 2018 Notes contains customary affirmative covenants, including covenants regarding compliance with applicable laws and regulations, payment of taxes, insurance coverage, notice of certain events, and reporting requirements. Further, the 2018 Notes contains customary negative covenants limiting the ability of the Company to, among other things, to incur future debt, transfer assets except for the ordinary course of business, make acquisitions, make certain restricted payments, and sell assets, subject to certain exceptions. In addition, the 2018 Notes requires the Company to comply with a minimum daily liquidity covenant and a rolling monthly revenue requirement. Failure to comply with the covenants and loan requirements may result in early amortization of the loan in a 24- or 36-month payment schedule. As of December 31, 2019, the Company was not in default under the terms of the 2018 Notes.

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In accordance with the 2018 Notes, the Company granted the lender a security interest in all of the Company's assets through a pledge and security agreement, patent security agreement and trademark security agreement, each between the Company and the lender.

Long-term debt payable as of December 31, 2019 and 2018 was as follows (in thousands):

| | 2019 | 2018 |
|---|---|---|
| 2018 Notes | $24,088 | $23,495 |
| Other | 12 | 128 |
| Final payment fee | 170 | 78 |
| Unamortized debt discount and debt issuance costs | (458) | (602) |
| | $23,812 | $23,099 |

Maturities of long-term obligations as of December 31, 2019 are as follows (in thousands):

| Year Ending December 31, | |
|---|---|
| 2020 | $ — |
| 2021 | 10,044 |
| 2022 | 12,049 |
| 2023 | 2,177 |
| 2024 | — |
| Thereafter | — |
| | $ 24,270 |

In connection with entering into the 2018 Notes, the Company issued to the lender a warrant to purchase 613,333 shares of Series G convertible preferred stock, at an exercise price of $0.75 per share, subject to adjustment upon specified dilutive issuances. The warrant was immediately exercisable upon issuance and expires on February 23, 2028. The fair value of the warrant on the issuance date of $0.3 million was recorded as a debt discount and as a preferred stock warrant liability.

### Note 8—Income Taxes

Since inception, the Company has incurred net taxable losses, and accordingly, no current provision for income taxes has been recorded. The effective income tax rate of the provision for income taxes differs from the federal statutory rate as follows:

| | Years Ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Federal statutory income tax rate | 21% | 21% |
| State income taxes, net of federal benefit | 4 | 4 |
| Research and development credits | 2 | 2 |
| Permanent items | (4) | (6) |
| Change in valuation allowance | (23) | (21) |
| Effective income tax rate | —% | —% |

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The tax effects of temporary differences that give rise to significant portions of the deferred income tax assets and liabilities are as follows (in thousands):

| | December 31 | |
|---|---|---|
| | 2019 | 2018 |
| Net operating loss carryforwards | $ 55,411 | $ 49,406 |
| Research and development tax credits | 3,040 | 2,555 |
| Accruals and reserves | 286 | 275 |
| Intangible assets | (3,514) | (3,982) |
| Total | 55,223 | 48,254 |
| Valuation allowance | (55,223) | (48,254) |
| Net deferred tax assets | $ — | $ — |

At December 31, 2019, the Company had $222.1 million and $3.0 million of net operating loss and research and experimentation tax carryforwards, respectively, which are set to expire beginning in 2026. The Internal Revenue Code contains provisions that may limit the net operating loss carryovers available to be used in any year if certain events occur, including significant changes in ownership interest.

In assessing the realizability of its deferred tax assets, the Company considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. The Company considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. As the Company does not have any historical taxable income, projections of future taxable income over the periods in which the deferred tax assets are deductible, and after consideration of the history of operating losses, the Company does not believe it is more likely than not that it will realize the benefits of net deferred tax assets and, accordingly, has established a valuation allowance equal to 100% of net deferred tax assets. The valuation allowance increased by $7.0 million during 2019 and $5.5 million during 2018.

The Company has concluded that there were no significant uncertain tax positions relevant to the jurisdictions where the Company is required to file income tax returns requiring recognition in the financial statements for the years ended 2019 and 2018.

The Company has recognized no interest for the years ended December 31, 2019 and 2018 related to uncertain tax positions. As of December 31, 2019, and 2018, there was no accrued interest related to uncertain tax positions.

The Company monitors proposed and issued tax law, regulations, and cases to determine the potential impact of uncertain income tax positions. At December 31, 2019, the Company had not identified any potential subsequent events that would have a material impact on unrecognized income tax benefits within the next twelve months.

The Company’s federal and state tax returns remain open for 2013 through 2019 to examination by tax authorities.

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## Note 9—Commitments

***Leases***

The Company leases facilities under non-cancelable operating leases. Rent expense for the years ended December 31, 2019 and 2018 was $2.1 and $1.6 million, respectively, and was inclusive of common area maintenance charges.

Future minimum lease payments for operating lease obligations, net of sublease income are as follows (in thousands):

| Year Ending December 31, | |
|---|---|
| 2020 | $1,590 |
| 2021 | 1,254 |
| 2022 | 1,107 |
| 2023 | 23 |
| 2024 | — |
| Thereafter | — |
| | $3,974 |

***Co-Development Agreement***

In April 2014 and amended in October 2016, the Company entered into a worldwide agreement with AVEO Oncology ("AVEO") to develop and commercialize AVEO's hepatocyte growth factor inhibitory antibody ficlatuzumab with the Company's proprietary companion diagnostic test, BDX004, a version of the Company's serum protein test that is commercially available to help physicians guide treatment decisions for patients with advanced non-small cell lung cancer ("NSCLC"). Under the terms of the agreement, AVEO will conduct a proof-of-concept ("POC") clinical study of ficlatuzumab for NSCLC in which BDX004 will be used to select clinical trial subjects, referred to as the NSCLC POC Trial. The Company and AVEO will share equally in the costs of the NSCLC POC Trial, and each will be responsible for 50% of development and regulatory costs associated with all future clinical trials agreed upon by the Company and AVEO. The Company and AVEO continue to conduct POC clinical trials of ficlatuzumab in combination with BDX004 with each responsible for 50% of development and regulatory costs. AVEO may recapture certain of its costs under the agreement from royalties and other revenue received under the agreement. Expenses related to this agreement for the years ended December 31, 2019 and 2018 were approximately $0.9 million and $0.3 million, respectively.

***License Agreement***

In August 2019, the Company entered into the Bio-Rad License. Under the terms of the Bio-Rad License, the Company received a non-exclusive license, without the right to grant sublicenses, to utilize certain of Bio-Rad's intellectual property, machinery, materials, reagents, supplies and know-how necessary for the performance of Droplet Digital PCR (ddPCR) in cancer detection testing for third parties in the United States. The Company also agreed to purchase all of the necessary supplies and reagents for such testing exclusively from Bio-Rad, pursuant to a separately executed supply agreement with Bio-Rad. As further consideration for the non-exclusive license, the Company agreed to pay a royalty of 2.5% on the net revenue received for the performance of such ddPCR testing collected from third parties. The Bio-Rad License expires in August 2024. Either party may terminate for the other's uncured material breach or bankruptcy events. Bio-Rad may terminate the Bio-Rad License if the Company does not purchase licensed products under the separate supply agreement for a

consecutive twelve-month period or for any material breach by the Company of the supply agreement. The Company incurred royalty expense of $0.1 million during 2019 under this agreement.

**Note 10—Convertible Preferred Stock**

The following table details, by series, the Company's convertible preferred stock at December 31, 2019 (in thousands, except shares and original issue price):

| Series | Shares Authorized | Shares Issued and Outstanding | Defined Original Issue Price | Liquidation Preference |
|---|---|---|---|---|
| Series H | 41,836,231 | 23,923,188 | $ 1.15 | $ 27,512 |
| Series G | 76,464,035 | 46,146,517 | 0.75 | 34,610 |
| Series F | 19,468,203 | 19,468,203 | 1.50 | 29,202 |
| Series E | 13,972,954 | 7,639,556 | 5.00 | 38,198 |
| Series D | 11,781,710 | 10,874,876 | 4.00 | 43,499 |
| Series C | 2,356,597 | 2,356,596 | 3.00 | 7,070 |
| Series B-1 | 2,998,852 | 2,998,852 | 3.20 | 9,596 |
| Series B | 3,641,817 | 3,641,817 | 2.75 | 10,015 |
| Series A-3 | 750,000 | 750,000 | 2.24 | 1,680 |
| Series A-2 | 266,668 | 266,668 | 1.50 | 400 |
| Series A-1 | 700,000 | 700,000 | 1.14 | 800 |
| | 174,237,067 | 118,766,273 | | $ 202,582 |

*Series H*

In February and March 2019, the Company issued 8,695,621 shares of Series H Preferred Stock at $1.15 per share for total cash proceeds of $10.0 million.

In October 2018, the Company issued 6,086,941 shares of Series H Preferred Stock at $1.15 per share for total cash proceeds of $7.0 million. In connection with this issuance, the $10.3 million in convertible debt issued in April and July 2018 and accrued interest of $0.2 million converted into 9,140,616 shares of Series H Preferred Stock.

*Series G*

In June 2018, concurrent with the closing of the transaction with Indi, the Company issued 10,649,904 shares of Series G Preferred Stock to Indi, including 2,129,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of the seller that may arise. See Note 3, Business Combination, for further information.

In February 2018, the Company issued 2.0 million shares of Series G Preferred Stock to the lender of the 2018 Notes at $0.75 per share for total cash proceeds of $1.5 million. See Note 7, Long-term Debt, for further information.

The Company's convertible preferred stock has been classified as temporary equity in the accompanying balance sheets given that a majority of the Company's Board of Directors seats are held by convertible preferred stock holders and could cause certain events to occur that are outside of the Company's control whereby the

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Company could be obligated to redeem the convertible preferred stock. The Company has not adjusted the carrying values of the convertible preferred stock to the respective liquidation preferences of such shares as the instruments are currently not redeemable and the Company believes it is not probable that the instruments will become redeemable at this point in time. Adjustments to increase the carrying values to the respective liquidation preferences will be made if and when it becomes probable that an event would occur obligating the Company to pay such amounts.

*Conversion Rights*

The holders of Series A-1, Series A-2, and Series A-3 (collectively, "Series A"); Series B and Series B-1 (collectively, "Combined Series B"); Series C; Series D; Series E; Series F, Series G, and Series H are entitled to convert their shares into common stock at the option of the holder, at any time, into fully paid and non-assessable shares of common stock. The number of shares of common stock to which a holder of the Series A, Combined Series B, Series C, Series D, Series E, Series F, Series G, and Series H (collectively, "Series Preferred") can convert is obtained by multiplying the conversion rate that is in effect by the number of shares of Series Preferred being converted. The conversion rate is determined by dividing the Original Issue Price by the applicable conversion price (initially the Original Issue Price for all classes of Series Preferred except Series B-1, for which the conversion price is initially $2.75). Each share of Series Preferred will be automatically converted into shares of common stock (based on the then-effective Series Preferred conversion price) if there is an affirmative election of 65% of the holders of the outstanding shares of Series Preferred or immediately upon the closing of a firmly underwritten public offering in which the offer and sale of common stock, voting together as a single class on an as-if-converted-to-common-stock basis, is at a per-share price of at least $2.00 (adjusted for stock splits, dividends, and recapitalizations) and gross cash proceeds to the Company (before underwriting discounts, commissions, and fees) are at least $40 million.

*Dividend Rights*

The Series Preferred holders are entitled to receive non-cumulative cash dividends. The dividends are required to be declared by the Board of Directors and are calculated at an annual rate of 8% of the Original Issue Price of the respective Series Preferred shares. Series Preferred holders have the following order of preference on dividends: Series H holders, Series G holders, Series F holders, Series E holders, Series D holders, Series C holders, Combined Series B holders, Series A holders. The Series A holders have preference over the common stockholders. In the event that dividends are paid on any class of Series Preferred, the Company shall pay an additional dividend on all outstanding shares of a higher preference in a per-share amount on an as-if-converted-to-common-stock basis. In the event dividends are paid on any common stock, the Company shall pay an additional dividend on all outstanding shares of Series Preferred stock in a per-share amount on an as-if-converted-to-common-stock basis.

*Voting Rights*

The holders of each share of Series Preferred stock have the right to one vote for each share of common stock on an as-if-converted basis. When converted, the common stock and Series Preferred stockholders have equal voting and power rights.

As long as any Series Preferred stock remains outstanding, a majority vote of the respective class of holders would be required to amend any provisions of the Company's articles of incorporation or bylaws that would adversely affect them.

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*Redemption*

Series Preferred stockholders are subject to automatic redemption in the consolidation or merger of the Company or sale of all or substantially all of the Company's assets in which the stockholders of the Company immediately prior to the transaction hold less than 50% of the outstanding securities of the surviving entity. Proceeds available for distribution from such transaction will be distributed consistent with a liquidation event.

*Liquidation*

In accordance with the articles of incorporation, upon a defined event of acquisition or asset transfer, liquidation, dissolution, or winding up of the Company, any amounts that are available for distribution are to be paid out to its stockholders in the following order of preference, in an amount equal to the per-share Original Issue Price, plus any accrued, declared, and unpaid dividends: Series H holders, Series G holders, Series F holders, Series E holders, Series D holders, Series C holders, Combined Series B holders, Series A holders. If the assets of the Company are insufficient to make payments in full to a class of holders of preferred stock, in the order of preference previously described, then remaining assets shall be distributed among the holders of that class of preferred stock ratably in proportion to the full amounts to which they would otherwise be respectively entitled and the holders of lower preference shares will receive nothing. Upon payment of all preferential amounts required to be paid to the Series Preferred, the holders of common stock and Series Preferred shall be entitled to receive a ratable portion, calculated on an as-if-converted basis, of the remaining assets of the Company available for distribution to its stockholders.

**Note 11—Stock Options**

In May 2006, the Company adopted the 2006 Employee, Director, and Consultant Stock Plan (the "2006 Incentive Plan") under which the Company is authorized to grant stock awards to employees, directors, and consultants of the Company. The Company is authorized to grant incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, and stock appreciation rights up to 4,935,043 total shares of stock awards. The award price and vesting terms are determined by the Board of Directors of the Company and evidenced in the award agreement extended to the employee, director, or consultant. The options granted generally terminate ten years from the date of grant and vest over various periods as determined by the Board of Directors of the Company.

In February 2016, the Company adopted the 2016 Equity Incentive Plan ("2016 Incentive Plan") as a successor to and continuation of the 2006 Incentive Plan. As of February 2016, no additional stock awards may be granted under the 2006 Incentive Plan and any unallocated shares remaining available for issuance pursuant to the exercise of options or issuance or settlement of stock awards not previously granted under the 2006 Incentive Plan will cease to be available under the 2006 Incentive Plan and will be added to the share reserve of the 2016 Incentive Plan and be immediately available for issuance pursuant to the stock awards granted in the 2016 Incentive Plan. In addition, all outstanding stock awards granted under the 2006 Incentive Plan will remain subject to the terms of the 2006 Incentive Plan unless they expire, terminate or are forfeited, cancelled or otherwise returned to the Company and will immediately be added to the share reserve and become available for issuance under the 2016 Plan.

Under the 2016 Incentive Plan, the Company is authorized to grant stock awards to employees, directors, and consultants of the Company. The Company is authorized to grant incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, and stock appreciation rights up to 8,500,000 total shares, plus any shares subject to outstanding stock awards granted under the 2006 Incentive Plan. The award price and vesting terms are determined by the Board of Directors of the Company and evidenced in the award agreement extended to the employee, director, or consultant. The options granted generally terminate 10 years from the date of grant and vest over various periods as determined by the Board of Directors of the Company.

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The following table presents the activity for options and restricted stock units (RSUs) outstanding (in thousands, except for weighted average exercise price and weighted average grant date value per share):

| | Stock Options | Weighted Average Exercise Price | RSUs | Weighted Average Grant Date Value Per Share |
|---|---|---|---|---|
| Outstanding—December 31, 2017 | 6,824 | $ 0.27 | — | $ — |
| Granted | 2,872 | 0.07 | — | — |
| Forfeited/canceled | (1,624) | 0.36 | — | — |
| Exercised | (205) | 0.24 | — | — |
| Outstanding—December 31, 2018 | 7,867 | $ 0.21 | — | $ — |
| Granted | 5,070 | 0.37 | 157 | 0.13 |
| Forfeited/canceled | (1,323) | 0.14 | — | — |
| Exercised | (238) | 0.20 | — | — |
| Outstanding—December 31, 2019 | 11,376 | $ 0.29 | 157 | $ 0.13 |

The following table presents the composition of options outstanding and exercisable as of December 31, 2019 (in thousands, except price):

| | Options Outstanding | | | Options Exercisable | |
|---|---|---|---|---|---|
| Exercise Prices | Number | Price* | Life (years)* | Number | Price* |
| $0.07 – $0.14 | 8,688 | $0.11 | 8 | 2,931 | $ 0.11 |
| $0.44 – $0.63 | 807 | 0.57 | 2.4 | 807 | 0.57 |
| $0.74 – $0.75 | 681 | 0.74 | 4.8 | 661 | 0.74 |
| $1.15 | 1,200 | 1.15 | 9.5 | 696 | 1.15 |
| Total—December 31, 2019 | 11,376 | $0.29 | 7.6 | 5,095 | $ 0.41 |

* Price and Life reflect the weighted average exercise price and weighted average remaining contractual life, respectively.

There were 157,000 restricted stock units outstanding at December 31, 2019, none of which had vested as of December 31, 2019.

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions (dollars in thousands):

| | For the Years Ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Approximate risk—free rate | 2.26% | 2.64% |
| Average expected life | 5.58 years | 5.94 years |
| Dividend yield | —% | —% |
| Volatility | 91% | 81% |
| Estimated fair value of total options granted | $ 447 | $ 201 |

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The Company estimates volatility based on the historical volatility of its peer group and average expected life based on the review of historical exercise behavior of option grants with similar vesting periods. The expense recorded for options granted under the Plan is net of estimated forfeitures of 10%.

The following table presents the impact of employee stock-based compensation expense on statements of income line items for the periods indicated (in thousands):

| | For the Years Ended December 31, | |
|---|---|---|
| | 2019 | 2018 |
| Research and development | $ 33 | $ 27 |
| Sales, marketing, general and administrative | 137 | 115 |
| Total stock-based compensation expense | $ 170 | $ 142 |

The unrecognized remaining stock-based compensation balance for shares issued inside of the Plan was approximately $0.3 million as of December 31, 2019 which will be amortized over the next three years.

As of December 31, 2019, the Company has issued a total of 1,218,140 stock options outside the 2006 Incentive Plan to employees of the Company. These options are issued at the discretion of the Board of Directors of the Company to the Chief Executive Officer and their direct reports who wish to convert all or a portion of their incentive compensation to options. The value of the options at the date of grant was calculated using the Black-Scholes option pricing model using approximately the same assumptions as in the previous table other than the term, which is approximately five years. As of December 31, 2019, 1,116,295 options outside of the 2006 Incentive Plan are outstanding and exercisable and have a weighted average exercise price of $1.94, a weighted average remaining life of six years, and were fully vested on the grant date. There was no unrecognized remaining stock-based compensation balance for shares issued outside of the 2006 Incentive Plan as of December 31, 2019.

**Note 12—Warrants for Convertible Preferred Stock**

The Company has issued warrants to purchase shares of preferred stock in conjunction with the sale of certain preferred shares and certain debt issuances. The grant date fair value and fair value at each reporting date of the warrants was determined using the Black-Scholes option pricing model with weighted average assumptions relatively consistent with those disclosed for stock options above, other than term, which is the contractual term of the warrant and the use of the exercise price and current estimated fair value of the respective series of preferred stock. The preferred warrants are classified as liabilities on the accompanying balance sheets as the underlying preferred stock has a contingent redemption feature. As these warrants are classified as a liability, they are revalued on each reporting date or exercise date, and any change in value is recorded to change in fair value of the warrant liability in the accompanying statements of operations.

**BIODESIX, INC.**

**NOTES TO FINANCIAL STATEMENTS**

The following table presents the activity for convertible preferred stock warrants outstanding (in thousands, except weighted average exercise price):

| | Series D | | Series E | | Series G | |
|---|---|---|---|---|---|---|
| | Warrants | Weighted Average Exercise Price | Warrants | Weighted Average Exercise Price | Warrants | Weighted Average Exercise Price |
| Outstanding—December 31, 2017 | 907 | $ 4.00 | 1,827 | $ 5.00 | — | $ — |
| Granted | — | — | — | — | 613 | 0.75 |
| Forfeited/canceled | (907) | 4.00 | — | — | — | — |
| Exercised | — | — | — | — | — | — |
| Outstanding—December 31, 2018 | — | $ — | 1,827 | $ 5.00 | 613 | $ 0.75 |
| Granted | — | — | — | — | — | — |
| Forfeited/canceled | — | — | (902) | $ 5.00 | — | — |
| Exercised | — | — | — | — | — | — |
| Outstanding—December 31, 2019 | — | $ — | 925 | $ 5.00 | 613 | $ 0.75 |
| Weighted average remaining contractual life at December 31, 2019 | | | 0.46 years | | 8.0 years | |

**Note 13—Subsequent Events**

The Company has evaluated all subsequent events through the auditors' report date, which is the date the financial statements were available for issuance.

As of the quarter ended March 31, 2020, the Company failed to meet the revenue requirements specified in the fifth amendment to the 2018 Notes. In accordance with the 2018 Notes, a cure of this failure can be achieved by receiving $10 million from the sale of the Company's debt or equity securities, or a lesser amount if approved by the lender by June 30, 2020. If the Company does not receive this amount from the sale of the Company's securities, amortization of payments for the 2018 Notes will become payable in 24 equal monthly installments beginning June 30, 2020. The Company intends to pursue the equity cure.

In February 2020, the Company called the second mandatory closing of the December 2019 Notes for total cash proceeds of $3.0 million. In March 2020, the Company issued $10 million in convertible debt in two tranches of $5 million, with the first tranche being funded in March 2020. The terms of this debt were the same as the December 2019 Notes (see Note 6).

In March 2020, the World Health Organization declared the outbreak of COVID-19, a novel strain of Coronavirus, a global pandemic. This outbreak is causing major disruptions to businesses and markets worldwide as the virus spreads. The extent of the effect on the Company's operational and financial performance will depend on future developments, including the duration, spread and intensity of the pandemic, and governmental, regulatory and private sector responses, all of which are uncertain and difficult to predict. Although the Company is unable to estimate the financial effect of the pandemic, at this time, if the pandemic continues to evolve into a severe worldwide crisis, it could have a material adverse effect on the Company's business, results of operations, financial condition, and cash flows. The financial statements do not reflect any adjustments as a result of the pandemic.


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**BIODESIX, INC.**

**PART II**
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 13. Other Expenses of Issuance and Distribution.**

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of the common stock being registered. All amounts shown are estimates except for the SEC registration fee, the Financial Industry Regulatory Authority (FINRA), filing fee and Nasdaq Global Market initial listing fee.

| Item | Amount |
|---|---|
| SEC registration fee | $ 8,182.50 |
| FINRA filing fee | 13,500 |
| Initial listing fee | * |
| Printing and engraving expenses | * |
| Legal fees and expenses | * |
| Accounting fees and expenses | * |
| Transfer agent and registrar fees and expenses | * |
| Miscellaneous | * |
| Total | $ * |

* To be filed by amendment.

**Item 14. Indemnification of Directors and Officers.**

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended, (Securities Act). Our amended and restated certificate of incorporation to be in effect upon the closing of this offering allows for our indemnification of our directors, officers, employees and other agents to the maximum extent permitted by the Delaware General Corporation Law, and our amended and restated bylaws to be in effect upon the closing of this offering provide for indemnification of our directors and executive officers to the maximum extent permitted by the Delaware General Corporation Law.

We have entered into indemnification agreements with our directors and officers, whereby we have agreed to indemnify our directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee, or agent of Biodesix, Inc., provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interest of Biodesix, Inc.

At present, there is no pending litigation or proceeding involving a director or officer of Biodesix, Inc. regarding which indemnification is sought, nor is the registrant aware of any threatened litigation that may result in claims for indemnification.

We maintain insurance policies that indemnify our directors and officers against various liabilities arising under the Securities Act and the Securities Exchange Act of 1934, as amended, that might be incurred by any director or officer in his or her capacity as such.

The underwriters are obligated, under certain circumstances, pursuant to the underwriting agreement to be filed as Exhibit 1.1 hereto, to indemnify us, our officers and our directors against liabilities under the Securities Act.

**Item 15. Recent Sales of Unregistered Securities.**

The following sets forth information regarding all unregistered securities sold since January 1, 2017.

***Issuances of Capital Stock***

In April 2017, May 2017, July 2017, December 2017 and February 2018, the Registrant sold an aggregate of 35,496,613 shares of Series G Preferred Stock to accredited investors, including to its directors and their respective affiliates, at a purchase price of $0.75 per share for an aggregate purchase price of approximately $26.6 million, including conversion of indebtedness.

In June 2018, the Registrant issued an aggregate of 10,649,904 shares of Series G Preferred Stock to Integrated Diagnostics as consideration for certain assets and liabilities. See “Business—Material Agreements.” The shares issued at closing also include 2,219,981 shares that were deposited in an escrow account to be used to satisfy any indemnification obligations of the seller that may arise.

In October 2018, February 2019 and May 2019, the Registrant sold an aggregate of 23,923,188 shares of Series H Preferred Stock to accredited investors at a purchase price of $1.15 per share for an aggregate purchase price of approximately $27.5 million, including conversion of indebtedness.

***Warrant Issuances***

In February 2018, the Registrant issued a warrant to purchase 613,333 shares of Series G Preferred Stock at an exercise price of $0.75 per share to a lender in connection with a loan agreement.

***Convertible Promissory Note Issuances***

In December 2019, the Registrant issued $6.0 million in convertible debt (the December 2019 Notes) that was scheduled to mature in August 2020. In August 2020, the maturity date of this debt was extended to June 30, 2021. The December 2019 Notes were issued in two tranches of $3.0 million, with the first tranche funded in December 2019. Interest on the December 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at 80% of the original issuance price of $1.15 per share. On or before the maturity date if the December 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the December 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price will be equal to 80% of the price per share paid for the common stock sold in this offering. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the Registrant’s equity securities in such transaction. The holders of the December 2019 Notes include a number of the Registrant’s directors and their affiliates.

In August and September 2019 the Registrant issued $10.0 million in convertible debt (the August 2019 Notes) that was scheduled to mature in August 2020. In August 2020, the maturity date of this debt was extended to June 30, 2021. Interest on the August 2019 Notes is 3% per annum and is payable in full upon maturity through the conversion to Series H Preferred Stock at the original issuance price of $1.15 per share. On or before the maturity date if the August 2019 Notes are unpaid, the outstanding principal and unpaid accrued interest under the August 2019 Notes shall be automatically converted into common stock at the completion of this offering. The conversion price would be equal to 95% of the price per share paid for the common stock sold

in this offering. The Registrant may prepay the August 2019 Notes in whole or in part at any time with prior consent of at least two-thirds of the August 2019 noteholders. In the event of a corporate transaction, the unpaid principal and accrued interest shall become immediately due and payable in the same form of consideration and on the same terms and conditions as the consideration to be received by the holders of the equity securities of the Registrant in such transaction. The holders of the August 2019 Notes include a number of the Registrant's directors and their affiliates. In connection with the issuance of the December 2019 Notes, the conversion price of the August 2019 Notes was amended to 80% of the price per share paid for the preferred stock in the Qualified Financing or common stock in an IPO.

***Option and Common Stock Issuances***

From January 1, 2017 through April 2020, the Registrant granted to certain of its directors, employees, consultants and other service providers options to purchase 5,448,478 shares of common stock with per share exercise prices ranging from $0.07 to $1.15 and have issued shares of its common stock upon exercise of such options.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. Unless otherwise specified above, the Registrant believes these transactions were exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act (and Regulation D promulgated thereunder), or Rule 701 promulgated under Section 3(b) of the Securities Act as transactions by an issuer not involving any public offering or under benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed on the share certificates issued in these transactions. All recipients had adequate access, through their relationships with the Registrant, to information about the Registrant. The sales of these securities were made without any general solicitation or advertising.

**Item 16. Exhibits and Financial Statement Schedules.**

***(a) Exhibits.***

| Exhibit No. | Description |
|---|---|
| 1.1* | Form of Underwriting Agreement. |
| 3.1 | Fifteenth Amended and Restated Certificate of Incorporation of Biodesix, Inc., as currently in effect. |
| 3.2* | Form of Amended and Restated Certificate of Incorporation of Biodesix, Inc., to be in effect upon the closing of the offering. |
| 3.3 | Amended and Restated Bylaws of Biodesix, Inc., as currently in effect. |
| 3.4* | Form of Amended and Restated Bylaws of Biodesix, Inc., to be in effect upon the closing of the offering. |
| 4.1* | Specimen stock certificate evidencing shares of Common Stock. |
| 4.2† | Eleventh Amended and Restated Investor Rights Agreement, by and among Biodesix, Inc. and the investors listed on Exhibit A thereto, dated October 10, 2018. |
| 4.3† | Warrant held by Innovatus Life Sciences Lending Fund I, LP, to Purchase Series G Preferred Stock, dated February 23, 3018. |
| 4.4 | Secured Promissory Note held by Innovatus Life Sciences Lending Fund I, LP, in Biodesix, Inc., dated February 23, 2018. |
| 5.1* | Form of Opinion of Sidley Austin LLP. |

| Exhibit No. | Description |
|---|---|
| 10.1*+ | Biodesix, Inc. Amended and Restated 2006 Employee, Director and Consultant Stock Plan, as amended to date. |
| 10.2.1*+ | Form of Stock Option Grant Notice under the Amended and Restated 2006 Employee, Director and Consultant Stock Plan. |
| 10.2.2*+ | Form of Option Agreement under the Amended and Restated 2006 Employee, Director and Consultant Stock Plan. |
| 10.2.3*+ | Form of Notice of Exercise under the Amended and Restated 2006 Employee, Director and Consultant Stock Plan. |
| 10.3+ | Biodesix, Inc. 2016 Equity Incentive Plan, as amended to date. |
| 10.4.1*+ | Form of Stock Option Grant Notice under the 2016 Equity Incentive Plan. |
| 10.4.2*+ | Form of Option Agreement under the 2016 Equity Incentive Plan. |
| 10.4.3*+ | Form of Notice of Exercise under the 2016 Equity Incentive Plan. |
| 10.5.1+ | Biodesix, Inc., First Amended Bonus-to-Options Program, adopted by the Board of Directors on October 15, 2010. |
| 10.5.2+ | Biodesix, Inc., Second Amended Bonus-to-Options Program, adopted by the Board of Directors on June 21, 2011. |
| 10.5.3+ | Biodesix, Inc., Third Amended Bonus-to-Options Program, adopted by the Board of Directors on December 31, 2015. |
| 10.6.1*+ | Form of Stock Option Grant Notice under the Biodesix, Inc. Bonus-To-Options Program. |
| 10.6.2*+ | Form of Option Agreement under the Biodesix, Inc. Bonus-To-Options Program. |
| 10.7*+ | Form of Indemnification Agreement, by and between Biodesix, Inc. and each of its directors and executive officers. |
| 10.8*+ | Non-Employee Director Compensation Policy to be in effect upon the closing of this offering. |
| 10.9.1†+ | Executive Employment Letter, by and between Biodesix, Inc. and Scott Hutton, dated February 16, 2018. |
| 10.9.2†+ | Executive Employment Letter, by and between Biodesix, Inc. and Scott Hutton, dated February 23, 2020. |
| 10.10.1†+ | Employment Letter, by and between Biodesix, Inc. and Robin Harper Cowie, dated March 11, 2011. |
| 10.10.2†+ | Executive Employment Letter, by and between Biodesix, Inc. and Robin Harper Cowie, dated February 23, 2020. |
| 10.11+ | Consulting Agreement, by and between David Brunel and Biodesix, Inc., dated September 19, 2020. |
| 10.12†* | Office Lease between Aero-Tech Investments, LLC and Biodesix, Inc., dated October 5, 2011. |
| 10.13† | Lease Assignment of De Soto Facility, dated November 1, 2019. |
| 10.14.1†* | Loan and Security Agreement, by and among Innovatus Life Sciences Lending Fund I, LP, the Lenders listed therein, and Biodesix, Inc., dated February 23, 2018. |
| 10.14.2† | Limited Consent Agreement and Second Amendment to Loan and Security Agreement, by and among Innovatus Life Sciences Lending Fund I, LP, the Lenders listed therein, and Biodesix, Inc., dated June 30, 2018, as amended to date. |
| 10.15† | Patent Assignment between Biodesix, Inc., and Integrated Diagnostics, Inc., dated June 30, 2018. |
| 10.16†* | IP Assignment Agreement between Oncimmune Limited, and Biodesix, Inc., dated October 31, 2019. |
| 10.17†* | IP License Agreement between Oncimmune Limited, and Biodesix, Inc., dated October 31, 2019. |

| Exhibit No. | Description |
|---|---|
| 10.18†* | Non-Exclusive License Agreement between Bio-Rad Laboratories, Inc., and Biodesix, Inc., dated August 1, 2019. |
| 10.19†* | Supply Agreement between Biodesix, Inc., and Oncimmune, dated October 31, 2019. |
| 10.20†* | Supply Agreement between Bio-Rad Laboratories, Inc., and Biodesix, Inc., dated August 1, 2019. |
| 10.21†* | Co-Development and Collaboration Agreement between AVEO Pharmaceuticals, Inc., and Biodesix, Inc., dated April 9, 2014, as amended October 14, 2016. |
| 10.22† | Contingent Value Rights Agreement between Biodesix, Inc. and Holders on Schedule A mentioned within, dated February 22, 2016. |
| 10.23† | Asset Purchase Agreement among Biodesix, Inc., Integrated Diagnostics, Inc., and the stockholders of Integrated Diagnostics, Inc., listed therein, dated June 30, 2018. |
| 10.24† | Asset Purchase Agreement between Oncimmune Limited and Biodesix, Inc., dated June 27, 2019, as amended to date. |
| 10.25† | COVID-19 Testing Laboratory Services Agreement by and between Biodesix, Inc., and Centura Health Corporation, dated April 3, 2020. |
| 10.26† | First Amendment to COVID-19 Testing Laboratory Services Agreement by and between Biodesix, Inc. and Centura Health Corporation, dated April 23, 2020. |
| 10.27† | Second Amendment to COVID-19 Testing Laboratory Services Agreement by and between Biodesix, Inc. and Centura Health Corporation, dated May 27, 2020. |
| 10.28† | Third Amendment to COVID-19 Testing Laboratory Services Agreement by and between Biodesix, Inc. and Centura Health Corporation, dated August 7, 2020. |
| 10.29† | Contract Agreement between Biodesix, Inc. and the Colorado Department of Public Health and Environment, dated September 11, 2020. |
| 10.30† | Material Transfer Agreement by and between Biodesix, Inc. and Bio-Rad Laboratories, Inc., dated March 23, 2020. |
| 10.31† | First Amendment to Material Transfer Agreement by and between Biodesix, Inc. and Bio-Rad Laboratories, Inc. dated April 3, 2020. |
| 10.32† | Material Transfer Agreement by and between Biodesix, Inc. and Bio-Rad Laboratories, Inc., dated April 17, 2020. |
| 10.33† | Price Agreement by and between Biodesix, Inc. and Bio-Rad Laboratories, Inc., dated May 12, 2020. |
| 23.1 | Consent of independent registered public accounting firm. |
| 23.2* | Consent of Sidley Austin LLP (included in Exhibit 5.1). |
| 24.1 | Power of Attorney (see signature pages). |

* To be filed by amendment.

† Portions of this exhibit have been omitted as the Registrant has determined that the omitted information (i) is not material and (ii) would likely cause competitive harm to the Registrant if publicly disclosed.

+ Indicates management contract or compensatory plan.

***(b) Financial Statement Schedules.***

All financial statement schedules are omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or the notes thereto.

**Item 17. Undertakings.**

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance on Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act will be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus will be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time will be deemed to be the initial *bona fide* offering thereof.

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Boulder, State of Colorado on this 2nd day of October, 2020.

**BIODESIX, INC.**

By: /s/ Scott Hutton
Name: Scott Hutton
Title: President, Chief Executive Officer and Director

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Scott Hutton and Robin Harper Cowie, and each of them, his or her true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments (including post-effective amendments) to this registration statement together with all schedules and exhibits thereto and any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, together with all schedules and exhibits thereto, (ii) act on, sign and file such certificates, instruments, agreements and other documents as may be necessary or appropriate in connection therewith, (iii) act on and file any supplement to any prospectus included in this registration statement or any such amendment or any subsequent registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and (iv) take any and all actions which may be necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, hereby approving, ratifying and confirming all that such agent, proxy and attorney-in-fact or any of his substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date |
|---|---|---|
| /s/ Scott Hutton<br>Scott Hutton | President, Chief Executive Officer and Director<br>(*Principal Executive Officer*) | October 2, 2020 |
| /s/ Robin Harper Cowie<br>Robin Harper Cowie | Chief Financial Officer, Secretary and Treasurer<br>(*Principal Financial and Accounting Officer*) | October 2, 2020 |
| /s/ John Patience<br>John Patience | Chairman and Director | October 2, 2020 |
| /s/ Jack Schuler<br>Jack Schuler | Director | October 2, 2020 |
| /s/ Matthew Strobeck, Ph.D<br>Matthew Strobeck, Ph.D. | Director | October 2, 2020 |
| /s/ Charles Watts, M.D.<br>Charles Watts, M.D. | Director | October 2, 2020 |
| /s/ Jean Franchi<br>Jean Franchi | Director | October 2, 2020 |
| /s/ Hany Massarany<br>Hany Massarany | Director | October 2, 2020 |

# FIFTEENTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF BIODESIX, INC.

David Brunel hereby certifies that:

**ONE**: The name of this corporation is Biodesix, Inc. The date of filing the original Certificate of Incorporation of this corporation with the Secretary of State of the State of Delaware was December 23, 2005, under the name Elston Technologies, Inc.

**TWO**: He is the duly elected and acting Chief Executive Officer of Biodesix, Inc., a Delaware corporation.

**THREE**: The Certificate of Incorporation of this corporation is hereby amended and restated to read in its entirety as follows:

## I.

The name of this company is Biodesix, Inc. (the "***Company***").

## II.

The address of the registered office of the Company in the State of Delaware is 1209 Orange Street, City of Wilmington, County of New Castle, State of Delaware 19801, and the name of the registered agent of the Company in the State of Delaware at such address is The Corporation Trust Company.

## III.

The purpose of the Company is to engage in any lawful act or activity for which a corporation may be organized under the Delaware General Corporation Law ("***DGCL***").

## IV.

**A.** The Company is authorized to issue two classes of stock to be designated, respectively, "Common Stock" and "Preferred Stock." The total number of shares which the Company is authorized to issue is 336,350,836 shares, 180,000,000 shares of which shall be Common Stock (the "***Common Stock***") and 156,350,836 shares of which shall be Preferred Stock (the "***Preferred Stock***"). The Preferred Stock shall have a par value of $0.001 per share and the Common Stock shall have a par value of $0.001 per share.

**B.** The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares of Common Stock then outstanding) by the affirmative vote of the holders of a majority of the stock of the Company entitled to vote (voting together as a single class on an as-if-converted to Common Stock basis).

**C.** 700,000 shares of the authorized shares of Preferred Stock are hereby designated "***Series A-1 Preferred Stock***." 266,668 shares of the authorized shares of Preferred Stock are hereby designated "***Series A-2 Preferred Stock***." 750,000 shares of the authorized shares of Preferred Stock are hereby designated "***Series A-3 Preferred Stock***" (collectively, with the Series A-1 Preferred Stock and the Series A-2 Preferred Stock, the "***Series A Preferred***"). 3,641,817 shares of the authorized shares of Preferred Stock are hereby designated "***Series B Preferred Stock***." 2,998,852 shares of the authorized shares of Preferred Stock are hereby designated "***Series B-1 Preferred Stock***" (together with the Series B Preferred Stock, the "***Combined Series B Preferred***"). 2,356,597 shares of the authorized shares of the Preferred Stock are hereby designated "***Series C Preferred Stock***." 11,781,710 shares of the authorized shares of the Preferred Stock are hereby designated "***Series D Preferred Stock***." 13,972,954 shares of the authorized shares of the Preferred Stock are hereby designated "***Series E Preferred Stock***." 19,468,203 shares of the authorized shares of the Preferred Stock are hereby designated "***Series F Preferred Stock***." 76,464,035 shares of the authorized shares of the Preferred Stock are hereby designated "***Series G Preferred Stock***." 23,950,000 shares of the authorized shares of the Preferred Stock are hereby designated "***Series H Preferred Stock***." The Series A Preferred, the Combined Series B Preferred, the Series C Preferred Stock, the Series D Preferred Stock, the Series E Preferred Stock, the Series F Preferred Stock, the Series G Preferred Stock and the Series H Preferred Stock are herein together referred to as the "***Series Preferred***."

**D.** The rights, preferences, privileges, restrictions and other matters relating to the Series Preferred are as follows:

**1. DIVIDEND RIGHTS**.

**(a)** Holders of Series H Preferred Stock, in preference to the holders of the Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board of Directors of the Company (the "***Board***"), but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series H Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(b)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Holders of Series G Preferred Stock, in preference to the holders of the Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series G Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(c)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a) and Series G Preferred Stock set forth in Section 1(b), holders of Series F Preferred Stock, in preference to the holders of the Series E Preferred Stock, Series D

Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price per annum on each outstanding share they hold of Series F Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(d)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Series G Preferred Stock set forth in Section 1(b) and Series F Preferred Stock set forth in Section 1(c), holders of Series E Preferred Stock, in preference to the holders of the Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series E Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(e)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Series G Preferred Stock set forth in Section 1(b), Series F Preferred Stock set forth in Section 1(c) and Series E Preferred Stock set forth in Section 1(d), holders of Series D Preferred Stock, in preference to the holders of the Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series D Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(f)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Series G Preferred Stock set forth in Section 1(b), Series F Preferred Stock set forth in Section 1(c), Series E Preferred Stock set forth in Section 1(d) and Series D Preferred Stock set forth in Section 1(e), holders of Series C Preferred Stock, in preference to the holders of the Combined Series B Preferred, Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series C Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(g)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Series G Preferred Stock set forth in Section 1(b), Series F Preferred Stock set forth in Section 1(c), Series E Preferred Stock set forth in Section 1(d), Series D Preferred Stock set forth in Section 1(e) and Series C Preferred Stock set forth in Section 1(f), holders of Combined Series B Preferred, on a pari passu basis and in preference to the holders of the Series A Preferred or Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series B Preferred Stock and Series B-1 Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(h)** After payment of dividends to the holders of Series H Preferred Stock set forth in Section 1(a), Series G Preferred Stock set forth in Section 1(b), Series F Preferred Stock set forth in Section 1(c), Series E Preferred Stock set forth in Section 1(d), Series D Preferred Stock set forth in Section 1(e), Series C Preferred Stock set forth in Section 1(f) and Combined Series B Preferred set forth in Section 1(g), holders of Series A Preferred, on a pari passu basis and in preference to the holders of the Common Stock, shall be entitled to receive, when, as and if declared by the Board, but only out of funds that are legally available therefor, cash dividends at the rate of 8.0% of the applicable Original Issue Price (as such term is defined below) per annum on each outstanding share they hold of Series A-1 Preferred Stock, Series A-2 Preferred Stock and Series A-3 Preferred Stock. Such dividends shall be payable only when, as and if declared by the Board and shall be non-cumulative.

**(i)** The "***Original Issue Price***" shall be $1.15 for the Series H Preferred Stock, $0.75 for the Series G Preferred Stock, $1.50 for the Series F Preferred Stock, $5.00 for the Series E Preferred Stock, $4.00 for the Series D Preferred Stock, $3.00 for the Series C Preferred Stock, $3.20 for the Series B-1 Preferred Stock, $2.75 for the Series B Preferred Stock, $1.142857 for the Series A-1 Preferred Stock, $1.50 for the Series A-2 Preferred Stock and $2.240123 for the Series A-3 Preferred Stock (each such price as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to the applicable shares after the filing date hereof).

**(j)** So long as any shares of Series H Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series H Preferred Stock unless a dividend is paid simultaneously to each holder of Series H Preferred Stock, pro rata in accordance with the Original Issue Price of the Series H Preferred Stock or (ii) the Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(a) above on the Series H Preferred Stock shall have been paid or declared and set apart for payment.

**(k)** So long as any shares of Series G Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series G Preferred Stock unless a dividend is paid simultaneously to each holder of Series G Preferred Stock, pro rata in accordance with the Original Issue Price of the Series G Preferred Stock or (ii) the Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(b) above on the Series G Preferred Stock shall have been paid or declared and set apart for payment.

**(l)** So long as any shares of Series F Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series F Preferred Stock unless a dividend is paid simultaneously to each holder of Series F Preferred Stock, pro rata in accordance with the Original Issue Price of the Series F Preferred Stock or (ii) the Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(c) above on the Series F Preferred Stock shall have been paid or declared and set apart for payment.

**(m)** So long as any shares of Series E Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series E Preferred Stock unless a dividend is paid simultaneously to each holder of Series E Preferred Stock, pro rata in accordance with the Original Issue Price of the Series E Preferred Stock or (ii) the Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(d) above on the Series E Preferred Stock shall have been paid or declared and set apart for payment.

**(n)** So long as any shares of Series D Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series D Preferred Stock unless a dividend is paid simultaneously to each holder of Series D Preferred Stock, pro rata in accordance with the Original Issue Price of the Series D Preferred Stock or (ii) the Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(e) above on the Series D Preferred Stock shall have been paid or declared and set apart for payment.

**(o)** So long as any shares of Series C Preferred Stock are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series C Preferred Stock unless a dividend is paid simultaneously to each holder of Series C Preferred Stock, pro rata in accordance with the Original Issue Price of the Series C Preferred Stock or (ii) the Combined Series B Preferred, Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Combined Series B Preferred, Series A Preferred or Common Stock until all dividends as set forth in Section 1(f) above on the Series C Preferred Stock shall have been paid or declared and set apart for payment.

**(p)** So long as any shares of Combined Series B Preferred are outstanding, the Company shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Combined Series B Preferred unless a dividend is paid simultaneously to each holder of Series B Preferred Stock or Series B-1 Preferred Stock, pro rata in accordance with the relative Original Issue Prices of such series of Combined Series B Preferred or (ii) the Series A Preferred or Common Stock, or purchase, redeem or otherwise acquire for value any shares of Series A Preferred or Common Stock until all dividends as set forth in Section 1(g) above on the Combined Series B Preferred shall have been paid or declared and set apart for payment.

**(q)** So long as any shares of Series A Preferred are outstanding, the Company shall not shall not pay or declare any dividend, whether in cash or property, or make any other distribution on (i) the Series A Preferred unless a dividend is paid simultaneously to each holder of Series A-1 Preferred Stock, Series A-2 Preferred Stock or Series A-3 Preferred Stock, pro rata in accordance with the relative Original Issue Prices of such series of Series A Preferred or (ii) the Common Stock, or purchase, redeem or otherwise acquire for value any shares of Common Stock, until all dividends as set forth in Section 1(h) above on the Series A Preferred shall have been paid or declared and set apart for payment.

**(r)** The restrictions in Sections 1(j), 1(k), 1(l), 1(m), 1(n), 1(o), 1(p) and 1(q) will not apply to:

**(i)** acquisitions of Common Stock by the Company pursuant to agreements which permit the Company to repurchase such shares at cost (or the lesser of cost or fair market value) upon termination of services to the Company;

**(ii)** acquisitions of Common Stock or Preferred Stock in exercise of the Company's right of first refusal to repurchase such shares; or

**(iii)** distributions to holders of Common Stock or Preferred Stock in accordance with Sections 3 and 4.

**(s)** In the event dividends are paid on any share of Series G Preferred Stock, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series G Preferred Stock (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Series F Preferred Stock, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock and Series G Preferred Stock in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series F Preferred Stock (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Series E Preferred Stock, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock, Series G Preferred Stock and Series F Preferred Stock in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series E Preferred Stock (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Series D Preferred Stock, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock, Series G Preferred Stock, Series F Preferred Stock and Series E Preferred Stock in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series D Preferred Stock (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Series C Preferred Stock, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock, Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock and Series D Preferred Stock in a per share amount equal (on an as-if-

converted to Common Stock basis) to the amount paid or set aside for each share of Series C Preferred Stock (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Combined Series B Preferred, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock, Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock and Series C Preferred Stock in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Combined Series B Preferred (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Series A Preferred, the Company shall pay an additional dividend on all outstanding shares of Series H Preferred Stock, Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock and Combined Series B Preferred in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Series A Preferred (on an as-if-converted to Common Stock basis). In the event dividends are paid on any share of Common Stock, the Company shall pay an additional dividend on all outstanding shares of Series Preferred in a per share amount equal (on an as-if-converted to Common Stock basis) to the amount paid or set aside for each share of Common Stock.

**(t)** The provisions of Sections 1(j), 1(k), 1(l), 1(m), 1(n), 1(o), 1(p) and 1(q) shall not apply to a dividend payable solely in Common Stock to which the provisions of Section 5(f) hereof are applicable, or any repurchase of any outstanding securities of the Company.

**2. VOTING RIGHTS**.

**(a) General Rights**. Each holder of shares of the Series Preferred shall be entitled to the number of votes equal to the number of shares of Common Stock into which such shares of Series Preferred could be converted (pursuant to Section 5 hereof) immediately after the close of business on the record date fixed for such meeting or the effective date of such written consent and shall have voting rights and powers equal to the voting rights and powers of the Common Stock and shall be entitled to notice of any stockholders' meeting in accordance with the bylaws of the Company. Except as otherwise provided herein or as required by law, the Series Preferred shall vote together with the Common Stock at any annual or special meeting of the stockholders and not as a separate class, and may act by written consent in the same manner as the Common Stock.

**(b) Separate Vote of Series H Preferred Stock**. For so long as any shares of Series H Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series H Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series H Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(c) Separate Vote of Series G Preferred Stock**. For so long as any shares of Series G Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding

Series G Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series G Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(d) Separate Vote of Series F Preferred Stock**. For so long as any shares of Series F Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series F Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series F Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(e) Separate Vote of Series E Preferred Stock**. For so long as any shares of Series E Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series E Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series E Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(f) Separate Vote of Series D Preferred Stock**. For so long as any shares of Series D Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series D Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series D Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(g) Separate Vote of Series C Preferred Stock**. For so long as any shares of Series C Preferred Stock remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series C Preferred Stock shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series C Preferred Stock so as to affect them adversely and in a manner different than other series of Series Preferred.

**(h) Separate Vote of Combined Series B Preferred**. For so long as any shares of Combined Series B Preferred remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Combined Series B Preferred voting together as a single class on an as-if-converted to Common Stock basis shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Combined Series B Preferred so as to affect them adversely and in a manner different than other series of Series Preferred.

**(i) Separate Vote of Series A Preferred**. For so long as any shares of Series A Preferred remain outstanding, in addition to any other vote or consent required herein or by law, the vote or written consent of the holders of a majority of the outstanding Series A Preferred voting together as a single class on an as-if-converted to Common Stock basis shall be necessary for effecting or validating the following actions (whether by merger, recapitalization or otherwise): any amendment, alteration, or repeal of any provision of the Certificate of Incorporation or the Bylaws of the Company (including any filing of a Certificate of Designation), that alters or changes the voting or other powers, preferences, or other special rights, privileges or restrictions of the Series A Preferred so as to affect them adversely and in a manner different than other series of Series Preferred.

**(j) Election of Board of Directors**.

**(i)** The holders of Common Stock and Series Preferred, voting together as a single class on an as-if-converted to Common Stock basis, shall elect all members of the Board at each meeting or pursuant to each consent of the Company's stockholders for the election of directors, and shall be entitled to remove from office such directors and to fill any vacancy caused by the resignation, death or removal of such directors.

**(ii)** Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the DGCL, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of this Certificate of Incorporation, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or one or more series of stock, the holders of shares of such class or series may override the Board's action to fill such vacancy by voting for their own designee to fill such vacancy (A) at a meeting of the Company's stockholders or (B) by written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders in which all members of such class or series are present and voted. Any director may be removed during his or her term of office without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at

the meeting or pursuant to written consent. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director.

**3. LIQUIDATION RIGHTS**.

**(a)** Upon any liquidation, dissolution, or winding up of the Company, whether voluntary or involuntary (a "***Liquidation Event***"), before any distribution or payment shall be made to the holders of any Series G Preferred Stock, Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series H Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series H Preferred Stock held by them, an amount per share of Series H Preferred Stock equal to the Original Issue Price of the Series H Preferred Stock plus all declared and unpaid dividends on such Series H Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series H Preferred Stock of the liquidation preference set forth in this Section 3(a), then such assets (or consideration) shall be distributed among the holders of Series H Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(b)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, before any distribution or payment shall be made to the holders of any Series F Preferred Stock, Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series G Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series G Preferred Stock held by them, an amount per share of Series G Preferred Stock equal to the Original Issue Price of the Series G Preferred Stock plus all declared and unpaid dividends on such Series G Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series G Preferred Stock of the liquidation preference set forth in this Section 3(b), then such assets (or consideration) shall be distributed among the holders of Series G Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(c)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock and payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock, before any distribution or payment shall be made to the holders of any Series E Preferred Stock, Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series F Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series F Preferred Stock held by them, an amount per share of Series F Preferred Stock equal to the Original Issue Price of the Series F Preferred Stock plus all declared and unpaid dividends on such Series F Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series F Preferred Stock of the liquidation preference set forth in this Section 3(c), then such assets (or consideration) shall be distributed among the holders of Series F Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(d)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock and payment of the amounts required by Section 3(c) to the holders of Series F Preferred Stock, before any distribution or payment shall be made to the holders of any Series D Preferred Stock, Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series E Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series E Preferred Stock held by them, an amount per share of Series E Preferred Stock equal to the Original Issue Price of the Series E Preferred Stock plus all declared and unpaid dividends on such Series E Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series E Preferred Stock of the liquidation preference set forth in this Section 3(d), then such assets (or consideration) shall be distributed among the holders of Series E Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(e)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock, payment of the amounts required by Section 3(c) to the holders of Series F Preferred Stock and payment of the amounts required by Section 3(d) to the holders of Series E Preferred Stock, before any distribution or payment shall be made to the holders of any Series C Preferred Stock, Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series D Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series D Preferred Stock held by them, an amount per share of Series D Preferred Stock equal to the Original Issue Price of the Series D Preferred Stock plus all declared and unpaid dividends on such Series D Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series D Preferred Stock of the liquidation preference set forth in this Section 3(e), then such assets (or consideration) shall be distributed among the holders of Series D Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(f)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock, payment of the amounts required by Section 3(c) to the holders of Series F Preferred Stock, payment of the amounts required by Section 3(d) to the holders of Series E Preferred Stock and payment of the amounts required by Section 3(e) to the holders of Series D Preferred Stock, before any distribution or payment shall be made to the holders of any Combined Series B Preferred, Series A Preferred or Common Stock, the holders of Series C Preferred Stock shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series C Preferred Stock held by them, an amount per share of Series C Preferred Stock equal to the Original Issue Price of the Series C Preferred Stock plus all declared and unpaid dividends on such Series C Preferred Stock. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series C Preferred Stock of the liquidation preference set forth in this

Section 3(f), then such assets (or consideration) shall be distributed among the holders of Series C Preferred Stock at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(g)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock, payment of the amounts required by Section 3(c) to the holders of Series F Preferred Stock, payment of the amounts required by Section 3(d) to the holders of Series E Preferred Stock, payment of the amounts required by Section 3(e) to the holders of Series D Preferred Stock and payment of the amounts required by Section 3(f) to the holders of Series C Preferred Stock, before any distribution or payment shall be made to the holders of any Series A Preferred or Common Stock, the holders of Combined Series B Preferred shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Combined Series B Preferred held by them, an amount per share of Combined Series B Preferred equal to the applicable Original Issue Price of the Combined Series B Preferred plus all declared and unpaid dividends on such Combined Series B Preferred. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Combined Series B Preferred of the liquidation preference set forth in this Section 3(g), then such assets (or consideration) shall be distributed among the holders of Combined Series B Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(h)** Upon any Liquidation Event, after payment of the amounts required by Section 3(a) to the holders of Series H Preferred Stock, payment of the amounts required by Section 3(b) to the holders of Series G Preferred Stock, payment of the amounts required by Section 3(c) to the holders of Series F Preferred Stock, payment of the amounts required by Section 3(d) to the holders of Series E Preferred Stock, payment of the amounts required by Section 3(e) to the holders of Series D Preferred Stock, payment of the amounts required by Section 3(f) to the holders of Series C Preferred Stock and payment of the amounts required by Section 3(g) to the holders of Combined Series B Preferred, before any distribution or payment shall be made to the holders of any Common Stock, the holders of Series A Preferred shall be entitled to be paid out of the assets of the Company legally available for distribution for each share of Series A Preferred held by them, an amount per share of Series A Preferred equal to the applicable Original Issue Price of the Series A Preferred, plus all declared and unpaid dividends on such Series A Preferred. If, upon any such Liquidation Event, the assets of the Company shall be insufficient to make payment in full to all holders of Series A Preferred of the liquidation preference set forth in this Section 3(h), then such assets (or consideration) shall be distributed among the holders of Series A Preferred at the time outstanding, ratably in proportion to the full amounts to which they would otherwise be respectively entitled.

**(i)** After the payment of the full liquidation preference of the Series Preferred as set forth in Sections 3(a), (b), (c), (d), (e), (f), (g) and (h) above, the assets of the Company legally available for distribution in such Liquidation Event (or the consideration received by the Company or its stockholders in such Acquisition or Asset Transfer), if any, shall be distributed ratably to the holders of the Common Stock and Series Preferred on an as-if-converted to Common Stock basis.

**4. ASSET TRANSFER OR ACQUISITION RIGHTS**.

**(a)** In the event that the Company is a party to an Acquisition or Asset Transfer (as hereinafter defined), then each holder of Series Preferred shall be entitled to receive, for each share of Series Preferred then held, out of the proceeds of such Acquisition or Asset Transfer, the amount of cash, securities or other property to which such holder would be entitled to receive in a Liquidation Event pursuant to Sections 3(a), 3(b), 3(c), 3(d), 3(e), 3(f), 3(g), 3(h) or 3(i) above.

**(b)** For the purposes of this Section 4: (i) "***Acquisition***" shall mean (A) any consolidation or merger of the Company with or into any other corporation or other entity or person, or any other corporate reorganization, other than any such consolidation, merger or reorganization in which the stockholders of the Company immediately prior to such consolidation, merger or reorganization, continue to hold at least a majority of the voting power of the surviving entity in substantially the same proportions (or, if the surviving entity is a wholly owned subsidiary, its parent) immediately after such consolidation, merger or reorganization; or (B) any transaction or series of related transactions to which the Company is a party in which in excess of fifty percent (50%) of the Company's voting power is transferred; provided that an Acquisition shall not include any transaction or series of transactions principally for bona fide equity financing purposes in which cash is received by the Company or any successor or indebtedness of the Company is cancelled or converted or a combination thereof; and (ii) "***Asset Transfer***" shall mean a sale, lease, exclusive license or other disposition of all or substantially all of the assets of the Company.

**(c)** In any Acquisition or Asset Transfer, if the consideration to be received is securities of a corporation or other property other than cash, its value will be deemed its fair market value as determined in good faith by the Board on the date such determination is made.

**5. CONVERSION RIGHTS**.

The holders of the Series Preferred shall have the following rights with respect to the conversion of the Series Preferred into shares of Common Stock (the "***Conversion Rights***"):

**(a) Optional Conversion**. Subject to and in compliance with the provisions of this Section 5, any shares of Series Preferred may, at the option of the holder, be converted at any time into fully-paid and nonassessable shares of Common Stock. The number of shares of Common Stock to which a holder of Series Preferred shall be entitled upon conversion shall be the product obtained by multiplying the "Series Preferred Conversion Rate" then in effect for the applicable series of Series Preferred (determined as provided in Section 5(b)) by the number of shares of Series Preferred being converted.

**(b) Series Preferred Conversion Rate**. The conversion rate in effect at any time for conversion of any series of Series Preferred (the "***Series Preferred Conversion Rate***") shall be the quotient obtained by dividing the Original Issue Price of such series of Series Preferred by the "Series Preferred Conversion Price," calculated as provided in Section 5(c).

**(c) Series Preferred Conversion Price**. The conversion price (the "***Series Preferred Conversion Price***") for (i) each series of Series A Preferred shall initially be the Original Issue Price of such series of Series A Preferred, (ii) the Series B Preferred Stock shall initially be the Original Issue Price for the Series B Preferred Stock, (iii) the Series B-1 Preferred Stock shall initially be $2.75, (iv) the Series C Preferred Stock shall be the Original Issue Price for the Series C Preferred Stock, (v) the Series D Preferred Stock shall be the Original Issue Price for the Series D Preferred Stock, (vi) the Series E Preferred Stock shall be the Original Issue Price for the Series E Preferred Stock, (vii) the Series F Preferred Stock shall be the Original Issue Price for the Series F Preferred Stock, (viii) the Series G Preferred Stock shall be the Original Issue Price for the Series G Preferred Stock and (ix) the Series H Preferred Stock shall be the Original Issue Price for the Series H Preferred Stock. Such initial Series Preferred Conversion Price for each series of Series Preferred shall be adjusted from time to time in accordance with this Section 5. All references to the Series Preferred Conversion Price with respect to any series of Series Preferred herein shall mean the Series Preferred Conversion Price for such series of Series Preferred as so adjusted.

**(d) Mechanics of Conversion**. Each holder of Series Preferred who desires to convert the same into shares of Common Stock pursuant to this Section 5 shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Company or any transfer agent for the Series Preferred, and shall give written notice to the Company at such office that such holder elects to convert the same. Such notice shall state the series and number of shares of Series Preferred being converted. Thereupon, the Company shall promptly issue and deliver at such office to such holder a certificate or certificates for the number of shares of Common Stock to which such holder is entitled and shall promptly pay (i) in cash or, to the extent sufficient funds are not then legally available therefor, in Common Stock (at the Common Stock's fair market value determined by the Board as of the date of such conversion), any declared and unpaid dividends on the shares of Series Preferred being converted and (ii) in cash (at the holder's then existing Series Preferred Conversion Price) the value of any fractional share of Common Stock otherwise issuable to any holder of Series Preferred. Such conversion shall be deemed to have been made at the close of business on the date of such surrender of the certificates representing the shares of Series Preferred to be converted, and the person entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder of such shares of Common Stock on such date.

**(e) Adjustment for Stock Splits and Combinations**. If at any time or from time to time on or after the date of original filing of this Fifteenth Amended and Restated Certificate of Incorporation (the "***Original Measurement Date***") the Company effects a subdivision of the outstanding Common Stock, the Series Preferred Conversion Price in effect immediately before that subdivision for each series of Series Preferred shall be proportionately decreased. Conversely, if at any time or from time to time after the Original Measurement Date the Company combines the outstanding shares of Common Stock into a smaller number of shares, the Series Preferred Conversion Price for each series of Series Preferred in effect immediately before the combination shall be proportionately increased. Any adjustment under this Section 5(e) shall become effective at the close of business on the date the subdivision or combination becomes effective.

**(f) Adjustment for Common Stock Dividends and Distributions**. If at any time or from time to time on or after the Original Measurement Date the Company pays to holders of Common Stock a dividend or other distribution in additional shares of Common Stock, the Series Preferred Conversion Price for each series of Series Preferred then in effect shall be decreased as of the time of such issuance, as provided below:

**(i)** The Series Preferred Conversion Price for each series of Series Preferred shall be adjusted by multiplying each such Series Preferred Conversion Price then in effect by a fraction equal to:

**(A)** the numerator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance, and

**(B)** the denominator of which is the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance plus the number of shares of Common Stock issuable in payment of such dividend or distribution;

**(ii)** If the Company fixes a record date to determine which holders of Common Stock are entitled to receive such dividend or other distribution, the Series Preferred Conversion Price for each series of Series Preferred shall be fixed as of the close of business on such record date and the number of shares of Common Stock shall be calculated immediately prior to the close of business on such record date; and

**(iii)** If such record date is fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series Preferred Conversion Price for each series of Series Preferred shall be recomputed accordingly as of the close of business on such record date and thereafter such Series Preferred Conversion Price shall be adjusted pursuant to this Section 5(f) to reflect the actual payment of such dividend or distribution.

**(g) Adjustment for Reclassification, Exchange, Substitution, Reorganization, Merger or Consolidation**. If at any time or from time to time on or after the Original Measurement Date the Common Stock issuable upon the conversion of the Series Preferred is changed into the same or a different number of shares of any class or classes of stock, whether by recapitalization, reclassification, merger, consolidation or otherwise (other than an Acquisition or Asset Transfer as defined in Section 4 or a subdivision or combination of shares or stock dividend provided for elsewhere in this Section 5), in any such event each holder of Series Preferred shall then have the right to convert such stock into the kind and amount of stock and other securities and property receivable upon such recapitalization, reclassification, merger, consolidation or other change by holders of the maximum number of shares of Common Stock into which such holder's shares of Series Preferred could have been converted immediately prior to such recapitalization, reclassification, merger, consolidation or change, all subject to further adjustment as provided herein or with respect to such other securities or property by the terms thereof. In any such case, appropriate adjustment shall be made in the application of the provisions of this Section 5 with respect to the rights of the holders of Series Preferred after the capital reorganization to the end that the provisions of this Section 5 (including adjustment of the each Series Preferred Conversion Price then in effect and the number of shares issuable upon conversion of the Series Preferred) shall be applicable after that event and be as nearly equivalent as practicable.

**(h) Certificate of Adjustment**. In each case of an adjustment or readjustment of any Series Preferred Conversion Price for the number of shares of Common Stock or other securities issuable upon conversion of the Series Preferred, if any series of Series Preferred is then convertible pursuant to this Section 5, the Company, at its expense, shall compute such adjustment or readjustment in accordance with the provisions hereof and shall, upon request, prepare a certificate showing such adjustment or readjustment, and shall mail such certificate, by first class mail, postage prepaid, to each registered holder of such series of Series Preferred so requesting at the holder's address as shown in the Company's books. The certificate shall set forth such adjustment or readjustment, showing in detail the facts upon which such adjustment or readjustment is based, including a statement of (i) the consideration received or deemed to be received by the Company for any additional shares of Common Stock issued or sold or deemed to have been issued or sold, (ii) the Series Preferred Conversion Price for such series of Series Preferred at the time in effect, (iii) the number of additional shares of Common Stock and (iv) the type and amount, if any, of other property which at the time would be received upon conversion of such series of Series Preferred. Failure to request or provide such notice shall have no effect on any such adjustment.

**(i) Notices of Record Date**. Upon (i) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend or other distribution, or (ii) any Acquisition (as defined in Section 4) or other capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company, any merger or consolidation of the Company with or into any other corporation, or any Asset Transfer (as defined in Section 4), or any voluntary or involuntary dissolution, liquidation or winding up of the Company, the Company shall mail to each holder of Series Preferred at least ten (10) days prior to (x) the record date, if any, specified therein; or (y) if no record date is specified, the date upon which such action is to take effect (or, in either case, such shorter period approved by the holders of at least 65% of the outstanding Series Preferred) a notice specifying (A) the date on which any such record is to be taken for the purpose of such dividend or distribution and a description of such dividend or distribution, (B) the date on which any such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up is expected to become effective, and (C) the date, if any, that is to be fixed as to when the holders of record of Common Stock (or other securities) shall be entitled to exchange their shares of Common Stock (or other securities) for securities or other property deliverable upon such Acquisition, reorganization, reclassification, transfer, consolidation, merger, Asset Transfer, dissolution, liquidation or winding up.

**(j) Automatic Conversion**.

**(i)** Each share of Series Preferred shall automatically be converted into shares of Common Stock, based on the applicable then-effective Series Preferred Conversion Price, (A) at any time upon the affirmative election of the holders of at least 65% of the outstanding shares of the Series Preferred voting together as a single class on an as-if-converted to Common Stock basis, or (B) immediately upon the closing of a firmly underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as

amended, covering the offer and sale of Common Stock for the account of the Company in which (i) the per share price is at least $2.00 (as adjusted for stock splits, dividends, recapitalizations and the like after the filing date hereof), and (ii) the gross cash proceeds to the Company (before underwriting discounts, commissions and fees) are at least $40,000,000. Upon such automatic conversion, any declared and unpaid dividends shall be paid in accordance with the provisions of Section 5(d).

**(ii)** Upon the occurrence of the events specified in Section 5(j)(i) above, the outstanding shares of the applicable series of Series Preferred shall be converted automatically without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Company or its transfer agent; provided, however, that the Company shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such conversion unless the certificates evidencing such shares of Series Preferred are either delivered to the Company or its transfer agent as provided below, or the holder notifies the Company or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement satisfactory to the Company to indemnify the Company from any loss incurred by it in connection with such certificates. Upon the occurrence of such automatic conversion of the Series Preferred, the holders of such Series Preferred shall surrender the certificates representing such shares at the office of the Company or any transfer agent for the Series Preferred. Thereupon, there shall be issued and delivered to such holder promptly at such office and in its name as shown on such surrendered certificate or certificates, a certificate or certificates for the number of shares of Common Stock into which the shares of Series Preferred surrendered were convertible on the date on which such automatic conversion occurred, and any declared and unpaid dividends shall be paid in accordance with the provisions of Section 5(d).

**(k) Special Mandatory Conversion**.

**(i)** At any time following the Original Measurement Date, if any holder of Series H Preferred Stock (a) is obligated to purchase additional shares of Series H Preferred Stock in a Mandatory Closing (as defined in the Series H Preferred Stock Purchase Agreement, dated on or about the Original Measurement Date, by and among the Company and the other parties thereto, as such agreement may be amended from time to time (the "***Purchase Agreement***")), and (b) such holder does not purchase all of the shares of Series H Preferred Stock that such holder (a "***Non-Participating Holder***") is obligated to purchase in such Mandatory Closing pursuant to the Purchase Agreement within four weeks of such Mandatory Closing, then all shares of Series H Preferred Stock held by such Non-Participating Holder shall automatically and without further action on the part of such holder be converted effective upon the business day following the date four weeks after the consummation of such Mandatory Closing (the "***Special Mandatory Conversion Date***"), into Common Stock at the then effective Series Preferred Conversion Price applicable to the Series H Preferred Stock (the "***Special Mandatory Conversion***"). Upon conversion pursuant to this subsection 5(k)(i), the shares of Series H Preferred Stock so converted shall be cancelled and not subject to reissuance. Notwithstanding anything to the contrary in this subsection 5(k)(i), no such conversion with respect to the Non-Participating Holder(s) shall occur in connection with the applicable Mandatory Closing if the Board approves the waiver of the effects of this subsection 5(k)(i) with respect to all Non-Participating Holders in such Mandatory Closing.

**(ii)** The holder of any shares of Series H Preferred Stock converted pursuant to subsection 5(k)(i) above shall deliver to the Company during regular business hours at its corporate office, or at such other place as may be designated by the Company, the certificate or certificates for the shares so converted, duly endorsed or assigned in blank or to the Company. As promptly as practicable thereafter, the Company shall issue and deliver to such holder, at the place designated by such holder, a certificate or certificates for the number of full shares of the Common Stock to be issued pursuant to subsection 5(k)(i) above and such holder shall be deemed to have become the stockholder of record of the shares of Common Stock issuable upon conversion pursuant to subsection 5(k)(i) above on the Special Mandatory Conversion Date.

**(l) Fractional Shares**. No fractional shares of Common Stock shall be issued upon conversion of Series Preferred. All shares of Common Stock (including fractions thereof) issuable upon conversion of more than one share of Series Preferred by a holder thereof shall be aggregated for purposes of determining whether the conversion would result in the issuance of any fractional share. If, after the aforementioned aggregation, the conversion would result in the issuance of any fractional share, the Company shall, in lieu of issuing any fractional share, pay cash equal to the product of such fraction multiplied by the fair market value of one share of Common Stock (as determined by the Board) on the date of conversion.

**(m) Reservation of Stock Issuable Upon Conversion**. The Company shall at all times reserve and keep available out of its authorized but unissued shares of Common Stock, solely for the purpose of effecting the conversion of the shares of the Series Preferred, such number of its shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding shares of the Series Preferred. If at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series Preferred, the Company will take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purpose.

**(n) Notices**. Any notice required by the provisions of this Section 5 shall be in writing and shall be deemed effectively given: (i) upon personal delivery to the party to be notified, (ii) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (iii) five days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one day after deposit with a nationally recognized overnight courier, specifying next day delivery, with verification of receipt. All notices shall be addressed to each holder of record at the address of such holder appearing on the books of the Company.

**(o) Payment of Taxes**. The Company will pay all taxes (other than taxes based upon income) and other governmental charges that may be imposed with respect to the issue or delivery of shares of Common Stock upon conversion of shares of Series Preferred, excluding any tax or other charge imposed in connection with any transfer involved in the issue and delivery of shares of Common Stock in a name other than that in which the shares of Series Preferred so converted were registered.

**6. NO REISSUANCE OF SERIES PREFERRED**.

No share or shares of Series Preferred acquired by the Company by reason of redemption, purchase, conversion or otherwise shall be reissued.

**V.**

**A.** The liability of the directors of the Company for monetary damages shall be eliminated to the fullest extent under applicable law. If the DGCL is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Company shall be eliminated or limited to the fullest extent permitted by the DGCL, as so amended.

**B.** Any repeal or modification of this Article V shall only be prospective and shall not affect the rights under this Article V in effect at the time of the alleged occurrence of any action or omission to act giving rise to liability or indemnification.

**VI.**

For the management of the business and for the conduct of the affairs of the Company, and in further definition, limitation and regulation of the powers of the Company, of its directors and of its stockholders or any class thereof, as the case may be, it is further provided that:

**A.** The management of the business and the conduct of the affairs of the Company shall be vested in its Board. The number of directors which shall constitute the whole Board shall be fixed by the Board in the manner provided in the Bylaws, subject to any restrictions which may be set forth in this Certificate of Incorporation.

**B.** The Board of Directors is expressly empowered to adopt, amend or repeal the Bylaws of the Company. The stockholders shall also have the power to adopt, amend or repeal the Bylaws of the Company; provided however, that, in addition to any vote of the holders of any class or series of stock of the Company required by law or by this Certificate of Incorporation, the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the Company entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws of the Company.

**C.** The directors of the Company need not be elected by written ballot unless the Bylaws so provide.

**VII.**

**A.** The Company shall, to the fullest extent permitted by the provisions of Section 145 of the DGCL, as the same may be amended and supplemented, indemnify its directors and officers that it has power to indemnify under said section from and against any and all of the expenses, liabilities, or other matters referred to in or covered by said section, and the indemnification provided for herein shall not be deemed exclusive of any other rights to which those indemnified may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or

otherwise, both as to action in his or her official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director or officer and shall inure to the benefit of the heirs, executors, and administrators of such person.

**B.** Any repeal or modification of this Article VII shall be prospective and shall not affect the rights under this Article VII in effect at the time of the alleged occurrence of any act or omission to act giving rise to liability or indemnification.

* * * *

**FOUR:** This Amended and Restated Certificate of Incorporation has been duly approved by the Board of Directors of the Company.

**FIVE:** This Amended and Restated Certificate of Incorporation was approved by the holders of the requisite number of shares of the Company in accordance with Section 228 of the DGCL. This Amended and Restated Certificate of Incorporation has been duly adopted in accordance with the provisions of Sections 242 and 245 of the DGCL by the stockholders of the Company.

**[SIGNATURE PAGE FOLLOWS]**

**BIODESIX, INC.** has caused this Amended and Restated Certificate of Incorporation to be signed by its Chief Executive Officer this 29th day of August, 2018**.**

**BIODESIX, INC.**

Signature: /s/ David Brunel

David Brunel
Chief Executive Officer

SIGNATURE PAGE TO FIFTEENTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

**Exhibit 3.3**

# AMENDED AND RESTATED BYLAWS

# OF

# BIODESIX, INC.
# (A DELAWARE CORPORATION)

**TABLE OF CONTENTS**

**AMENDED AND RESTATED BYLAWS**

**OF**

**BIODESIX, INC.**
**(A DELAWARE CORPORATION)**

## ARTICLE I

## OFFICES

**Section 1. Registered Office**. The registered office of the corporation in the State of Delaware shall be in the City of Wilmington, County of New Castle.

**Section 2. Other Offices**. The corporation shall also have and maintain an office or principal place of business at such place as may be fixed by the Board of Directors, and may also have offices at such other places, both within and without the State of Delaware, as the Board of Directors may from time to time determine or the business of the corporation may require.

## ARTICLE II

## CORPORATE SEAL

**Section 3. Corporate Seal**. The Board of Directors may adopt a corporate seal. The corporate seal shall consist of a die bearing the name of the corporation and the inscription, "Corporate Seal-Delaware." Said seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

## ARTICLE III

## STOCKHOLDERS' MEETINGS

**Section 4. Place of Meetings**. Meetings of the stockholders of the corporation may be held at such place, either within or without the State of Delaware, as may be determined from time to time by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as provided under the Delaware General Corporation Law ("DGCL").

**Section 5. Annual Meeting**.

**(a)** The annual meeting of the stockholders of the corporation, for the purpose of election of directors and for such other business as may lawfully come before it, shall be held on such date and at such time as may be designated from time to time by the Board of Directors. Nominations of persons for election to the Board of Directors of the corporation and the proposal of business to be considered by the stockholders may be made at an annual meeting of stockholders: (i) pursuant to the corporation's notice of meeting of stockholders; (ii) by or at the direction of the Board of Directors; or (iii) by any stockholder of the corporation who was a stockholder of record at the time of giving of notice provided for in the following paragraph, who is entitled to vote at the meeting and who complied with the notice procedures set forth in Section 5.

**(b)** At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of Section 5(a) of these Bylaws, (i) the stockholder must have given timely notice thereof in writing to the Secretary of the corporation, (ii) such other business must be a proper matter for stockholder action under the DGCL, (iii) if the stockholder, or the beneficial owner on whose behalf any such proposal or nomination is made, has provided the corporation with a Solicitation Notice (as defined in this Section 5(b)), such stockholder or beneficial owner must, in the case of a proposal, have delivered a proxy statement and form of proxy to holders of at least the percentage of the corporation's voting shares required under applicable law to carry any such proposal, or, in the case of a nomination or nominations, have delivered a proxy statement and form of proxy to holders of a percentage of the corporation's voting shares reasonably believed by such stockholder or beneficial owner to be sufficient to elect the nominee or nominees proposed to be nominated by such stockholder, and must, in either case, have included in such materials the Solicitation Notice, and (iv) if no Solicitation Notice relating thereto has been timely provided pursuant to this section, the stockholder or beneficial owner proposing such business or nomination must not have solicited a number of proxies sufficient to have required the delivery of such a Solicitation Notice under this Section 5. To be timely, a stockholder's notice shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the ninetieth (90th) day nor earlier than the close of business on the one hundred twentieth (120th) day prior to the first anniversary of the preceding year's annual meeting; *provided, however,* that in the event that the date of the annual meeting is advanced more than thirty (30) days prior to or delayed by more than thirty (30) days after the anniversary of the preceding year's annual meeting, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the one hundred twentieth (120th) day prior to such annual meeting and not later than the close of business on the later of the ninetieth (90th) day prior to such annual meeting or the tenth (10th) day following the day on which public announcement of the date of such meeting is first made. In no event shall the public announcement of an adjournment of an annual meeting commence a new time period for the giving of a stockholder's notice as described above. Such stockholder's notice shall set forth: (A) as to each person whom the stockholder proposed to nominate for election or reelection as a director all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (the "1934 Act") and Rule 14a-4(d) thereunder (including such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected); (B) as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest in such business of such stockholder and the beneficial owner, if any, on whose behalf the proposal is made; and (C) as to the stockholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made (i) the name and address of such stockholder, as they appear on the corporation's books, and of such beneficial owner, (ii) the class and number of shares of the corporation which are owned beneficially and of record by such stockholder and such beneficial

owner, and (iii) whether either such stockholder or beneficial owner intends to deliver a proxy statement and form of proxy to holders of, in the case of the proposal, at least the percentage of the corporation's voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the corporation's voting shares to elect such nominee or nominees (an affirmative statement of such intent, a "Solicitation Notice").

**(c)** Notwithstanding anything in the second sentence of Section 5(b) of these Bylaws to the contrary, in the event that the number of directors to be elected to the Board of Directors of the Corporation is increased and there is no public announcement naming all of the nominees for director or specifying the size of the increased Board of Directors made by the corporation at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section 5 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the corporation.

**(d)** Only such persons who are nominated in accordance with the procedures set forth in this Section 5 shall be eligible to serve as directors and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 5. Except as otherwise provided by law, the Chairman of the meeting shall have the power and duty to determine whether a nomination or any business proposed to be brought before the meeting was made, or proposed, as the case may be, in accordance with the procedures set forth in these Bylaws and, if any proposed nomination or business is not in compliance with these Bylaws, to declare that such defective proposal or nomination shall not be presented for stockholder action at the meeting and shall be disregarded.

**(e)** Notwithstanding the foregoing provisions of this Section 5, in order to include information with respect to a stockholder proposal in the proxy statement and form of proxy for a stockholders' meeting, stockholders must provide notice as required by the regulations promulgated under the 1934 Act. Nothing in these Bylaws shall be deemed to affect any rights of stockholders to request inclusion of proposals in the corporation proxy statement pursuant to Rule 14a-8 under the 1934 Act.

**(f)** For purposes of this Section 5, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the 1934 Act.

**Section 6. Special Meetings**.

**(a)** Special meetings of the stockholders of the corporation may be called, for any purpose or purposes, by (i) the Chairman of the Board of Directors, (ii) the Chief Executive Officer, or (iii) the Board of Directors pursuant to a resolution adopted by a majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board of Directors for adoption)**,** or (iv) by the holders of shares entitled to cast not less than twenty percent (20%) of the votes at the meeting, and shall be held at such place, on such date, and at such time as the Board of Directors shall fix.

**(b)** If a special meeting is properly called by any person or persons other than the Board of Directors, the request shall be in writing, specifying the general nature of the business proposed to be transacted, and shall be delivered personally or sent by certified or registered mail, return receipt requested, or by telegraphic or other facsimile transmission to the Chairman of the Board of Directors, the Chief Executive Officer, or the Secretary of the corporation. No business may be transacted at such special meeting otherwise than specified in such notice. The Board of Directors shall determine the time and place of such special meeting, which shall be held not less than thirty-five (35) nor more than one hundred twenty (120) days after the date of the receipt of the request. Upon determination of the time and place of the meeting, the officer receiving the request shall cause notice to be given to the stockholders entitled to vote, in accordance with the provisions of Section 7 of these Bylaws. Nothing contained in this paragraph (b) shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board of Directors may be held.

**Section 7. Notice of Meetings**. Except as otherwise provided by law, notice, given in writing or by electronic transmission, of each meeting of stockholders shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting, such notice to specify the place, if any, date and hour, in the case of special meetings, the purpose or purposes of the meeting, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at any such meeting. If mailed, notice is given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the records of the corporation. Notice of the time, place, if any, and purpose of any meeting of stockholders may be waived in writing, signed by the person entitled to notice thereof or by electronic transmission by such person, either before or after such meeting, and will be waived by any stockholder by such stockholder's attendance thereat in person, by remote communication, if applicable, or by proxy, except when the stockholder attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Any stockholder so waiving notice of such meeting shall be bound by the proceedings of any such meeting in all respects as if due notice thereof had been given.

**Section 8. Quorum**. At all meetings of stockholders, except where otherwise provided by statute or by the Certificate of Incorporation, or by these Bylaws, the presence, in person, by remote communication, if applicable, or by proxy duly authorized, of the holders of a majority of the outstanding shares of stock entitled to vote shall constitute a quorum for the transaction of business. In the absence of a quorum, any meeting of stockholders may be adjourned, from time to time, either by the chairman of the meeting or by vote of the holders of a majority of the shares represented thereat, but no other business shall be transacted at such meeting. The stockholders present at a duly called or convened meeting, at which a quorum is present, may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum. Except as otherwise provided by statute, or by the Certificate of Incorporation or these Bylaws, in all matters other than the election of directors, the affirmative vote of a majority of shares present in person, by remote communication, if applicable,

or represented by proxy duly authorized at the meeting and entitled to vote generally on the subject matter shall be the act of the stockholders. Except as otherwise provided by statute, the Certificate of Incorporation or these Bylaws, directors shall be elected by a plurality of the votes of the shares present in person, by remote communication, if applicable, or represented by proxy duly authorized at the meeting and entitled to vote generally on the election of directors. Where a separate vote by a class or classes or series is required, except where otherwise provided by the statute or by the Certificate of Incorporation or these Bylaws, a majority of the outstanding shares of such class or classes or series, present in person, by remote communication, if applicable, or represented by proxy duly authorized, shall constitute a quorum entitled to take action with respect to that vote on that matter. Except where otherwise provided by statute or by the Certificate of Incorporation or these Bylaws, the affirmative vote of the majority (plurality, in the case of the election of directors) of shares of such class or classes or series present in person, by remote communication, if applicable, or represented by proxy at the meeting shall be the act of such class or classes or series.

**Section 9. Adjournment and Notice of Adjourned Meetings**. Any meeting of stockholders, whether annual or special, may be adjourned from time to time either by the chairman of the meeting or by the vote of a majority of the shares present in person, by remote communication, if applicable, or represented by proxy. When a meeting is adjourned to another time or place, if any, notice need not be given of the adjourned meeting if the time and place, if any, thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

**Section 10. Voting Rights**. For the purpose of determining those stockholders entitled to vote at any meeting of the stockholders, except as otherwise provided by law, only persons in whose names shares stand on the stock records of the corporation on the record date, as provided in Section 12 of these Bylaws, shall be entitled to vote at any meeting of stockholders. Every person entitled to vote or execute consents shall have the right to do so either in person, by remote communication, if applicable, or by an agent or agents authorized by a proxy granted in accordance with Delaware law. An agent so appointed need not be a stockholder. No proxy shall be voted after three (3) years from its date of creation unless the proxy provides for a longer period.

**Section 11. Joint Owners of Stock**. If shares or other securities having voting power stand of record in the names of two (2) or more persons, whether fiduciaries, members of a partnership, joint tenants, tenants in common, tenants by the entirety, or otherwise, or if two (2) or more persons have the same fiduciary relationship respecting the same shares, unless the Secretary is given written notice to the contrary and is furnished with a copy of the instrument or order appointing them or creating the relationship wherein it is so provided, their acts with respect to voting shall have the following effect: (a) if only one (1) votes, such voting person’s act binds all; (b) if more than one (1) votes, the act of the majority so voting binds all; (c) if more than one (1) votes, but the vote is evenly split on any particular matter, each faction may vote the securities in question proportionally, or may apply to the Delaware Court of Chancery for relief as provided in the DGCL, Section 217(b). If the instrument filed with the Secretary shows that any such tenancy is held in unequal interests, a majority or even-split for the purpose of subsection (c) shall be a majority or even-split in interest.

**Section 12. List of Stockholders**. The Secretary shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at said meeting, arranged in alphabetical order, showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, on a reasonably accessible electronic network, *provided* that the information required to gain access to such list is provided with the notice of the meeting, or during ordinary business hours, at the principal place of business of the corporation. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. The list shall be open to examination of any stockholder during the time of the meeting as provided by law.

**Section 13. Action Without Meeting**.

**(a)** Unless otherwise provided in the Certificate of Incorporation, any action required by statute to be taken at any annual or special meeting of the stockholders, or any action which may be taken at any annual or special meeting of the stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, or by electronic transmission setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

**(b)** Every written consent or electronic transmission shall bear the date of signature of each stockholder who signs the consent, and no written consent or electronic transmission shall be effective to take the corporate action referred to therein unless, within sixty (60) days of the earliest dated consent delivered to the corporation in the manner herein required, written consents or electronic transmissions signed by a sufficient number of stockholders to take action are delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be by hand or by certified or registered mail, return receipt requested.

**(c)** Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing or by electronic transmission and who, if the action had been taken at a meeting, would have been entitled to notice of the meeting if the record date for such meeting had been the date that written consents signed by a sufficient number of stockholders to take action were delivered to the corporation as provided in Section 228(c) of the DGCL. If the action which is consented to is such as would have required the filing of a certificate under any section of the DGCL if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section shall state, in lieu of any statement required by such section concerning any vote of stockholders, that written consent has been given in accordance with Section 228 of the DGCL.

**(d)** A telegram, cablegram or other electronic transmission consenting to an action to be taken and transmitted by a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, *provided* that any such telegram, cablegram or other electronic transmission sets forth or is delivered with information from which the corporation can determine (i) that the telegram, cablegram or other electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder and (ii) the date on which such stockholder or proxyholder or authorized person or persons transmitted such telegram, cablegram or electronic transmission. The date on which such telegram, cablegram or electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by telegram, cablegram or other electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the corporation by delivery to its registered office in the state of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by telegram, cablegram or other electronic transmission may be otherwise delivered to the principal place of business of the corporation or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded if, to the extent and in the manner provided by resolution of the board of directors of the corporation. Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, *provided* that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

**Section 14. Organization**.

**(a)** At every meeting of stockholders, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the President, or, if the President is absent, a chairman of the meeting chosen by a majority in interest of the stockholders entitled to vote, present in person or by proxy, shall act as chairman. The Secretary, or, in the Secretary's absence, an Assistant Secretary directed to do so by the President, shall act as secretary of the meeting.

**(b)** The Board of Directors of the corporation shall be entitled to make such rules or regulations for the conduct of meetings of stockholders as it shall deem necessary, appropriate or convenient. Subject to such rules and regulations of the Board of Directors, if any, the chairman of the meeting shall have the right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chairman, are necessary, appropriate or convenient for the proper conduct of the meeting, including, without limitation, establishing an agenda or order of business for the meeting, rules and procedures for maintaining order at the meeting and the safety of those present, limitations on participation in such meeting to stockholders of record of the corporation and their duly authorized and constituted proxies and such other persons as the chairman shall permit, restrictions on entry to the meeting after the time fixed for the commencement thereof, limitations on the time allotted to questions or comments by participants and regulation of the opening and closing of the polls for balloting on matters which are to be voted on by ballot. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting. Unless and to the extent determined by the Board of Directors or the chairman of the meeting, meetings of stockholders shall not be required to be held in accordance with rules of parliamentary procedure.

## ARTICLE IV

## DIRECTORS

**Section 15. Number and Term of Office**. The authorized number of directors of the corporation shall be fixed by the Board of Directors from time to time. Directors need not be stockholders unless so required by the Certificate of Incorporation. If for any cause, the directors shall not have been elected at an annual meeting, they may be elected as soon thereafter as convenient.

**Section 16. Powers**. The powers of the corporation shall be exercised, its business conducted and its property controlled by the Board of Directors, except as may be otherwise provided by statute or by the Certificate of Incorporation.

**Section 17. Term of Directors**. Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, directors shall be elected at each annual meeting of stockholders for a term of one year. Each director shall serve until the director's successor is duly elected and qualified or until the director's death, resignation or removal. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

**Section 18. Vacancies**. Unless otherwise provided in the Certificate of Incorporation, and subject to the rights of the holders of any series of Preferred Stock, any vacancies on the Board of Directors resulting from death, resignation, disqualification, removal or other causes and any newly created directorships resulting from any increase in the number of directors shall, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships shall be filled by stockholders, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board of Directors, or by a sole remaining director, *provided, however,* that whenever the holders of any class or classes of stock or series thereof are entitled to elect one or more directors by the provisions of the Certificate of Incorporation, vacancies and newly created directorships of such class or classes or series shall, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships shall be filled by stockholders, be filled by a majority of the directors elected by such class or classes or series thereof then in office, or by a sole remaining director so elected. Any director elected in accordance with the preceding sentence shall hold office for the remainder of the full term of the director for which the vacancy was created or occurred and until such director's successor shall have been elected and qualified. A vacancy in the Board of Directors shall be deemed to exist under this Bylaw in the case of the death, removal or resignation of any director.

**Section 19. Resignation**. Any director may resign at any time by delivering his or her notice in writing or by electronic transmission to the Secretary, such resignation to specify whether it will be effective at a particular time, upon receipt by the Secretary or at the pleasure of the Board of Directors. If no such specification is made, it shall be deemed effective at the pleasure of the Board of Directors. When one or more directors shall resign from the Board of Directors, effective

at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each Director so chosen shall hold office for the unexpired portion of the term of the Director whose place shall be vacated and until the Director's successor shall have been duly elected and qualified.

**Section 20. Removal**. Subject to any limitations imposed by applicable law, any director may be removed from office at any time (i) with cause by the affirmative vote of the holders of a majority of the voting power of all then-outstanding shares of capital stock of the corporation entitled to vote generally at an election of directors or (ii) unless otherwise provided in the Certificate of Incorporation, and subject to the rights of the holders of any series of Preferred Stock, without cause by the affirmative vote of the holders of a majority of the voting power of all then-outstanding shares of capital stock of the corporation entitled to elect such director.

**Section 21. Meetings**.

**(a) Regular Meetings**. Unless otherwise restricted by the Certificate of Incorporation, regular meetings of the Board of Directors may be held at any time or date and at any place within or without the State of Delaware which has been designated by the Board of Directors and publicized among all directors, either orally or in writing, including a voice-messaging system or other system designated to record and communicate messages, facsimile, telegraph or telex, or by electronic mail or other electronic means. No further notice shall be required for a regular meeting of the Board of Directors.

**(b) Special Meetings**. Unless otherwise restricted by the Certificate of Incorporation, special meetings of the Board of Directors may be held at any time and place within or without the State of Delaware whenever called by the Chairman of the Board, the President or any two of the directors.

**(c) Meetings by Electronic Communications Equipment**. Any member of the Board of Directors, or of any committee thereof, may participate in a meeting by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting by such means shall constitute presence in person at such meeting.

**(d) Notice of Special Meetings**. Notice of the time and place of all special meetings of the Board of Directors shall be orally or in writing, by telephone, including a voice messaging system or other system or technology designed to record and communicate messages, facsimile, telegraph or telex, or by electronic mail or other electronic means, during normal business hours, at least twenty-four (24) hours before the date and time of the meeting. If notice is sent by US mail, it shall be sent by first class mail, postage prepaid at least three (3) days before the date of the meeting. Notice of any meeting may be waived in writing or by electronic transmission at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends the meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

**(e) Waiver of Notice**. The transaction of all business at any meeting of the Board of Directors, or any committee thereof, however called or noticed, or wherever held, shall be as valid as though had at a meeting duly held after regular call and notice, if a quorum be present and if, either before or after the meeting, each of the directors not present who did not receive notice shall sign a written waiver of notice or shall waive notice by electronic transmission. All such waivers shall be filed with the corporate records or made a part of the minutes of the meeting.

**Section 22. Quorum and Voting**.

**(a)** Unless the Certificate of Incorporation requires a greater number, a quorum of the Board of Directors shall consist of a majority of the exact number of directors fixed from time to time by the Board of Directors in accordance with the Certificate of Incorporation; *provided*, *however*, at any meeting, whether a quorum be present or otherwise, a majority of the directors present may adjourn from time to time until the time fixed for the next regular meeting of the Board of Directors, without notice other than by announcement at the meeting.

**(b)** At each meeting of the Board of Directors at which a quorum is present, all questions and business shall be determined by the affirmative vote of a majority of the directors present, unless a different vote be required by law, the Certificate of Incorporation or these Bylaws.

**Section 23. Action Without Meeting**. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and such writing or writings or transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

**Section 24. Fees and Compensation**. Directors shall be entitled to such compensation for their services as may be approved by the Board of Directors, including, if so approved, by resolution of the Board of Directors, a fixed sum and expenses of attendance, if any, for attendance at each regular or special meeting of the Board of Directors and at any meeting of a committee of the Board of Directors. Nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity as an officer, agent, employee, or otherwise and receiving compensation therefor.

**Section 25. Committees**.

**(a) Executive Committee**. The Board of Directors may appoint an Executive Committee to consist of one (1) or more members of the Board of Directors. The Executive Committee, to the extent permitted by law and provided in the resolution of the Board of Directors shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to (i) approving or adopting, or recommending to the stockholders, any action or matter expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopting, amending or repealing any bylaw of the corporation.

**(b) Other Committees**. The Board of Directors may, from time to time, appoint such other committees as may be permitted by law. Such other committees appointed by the Board of Directors shall consist of one (1) or more members of the Board of Directors and shall have such powers and perform such duties as may be prescribed by the resolution or resolutions creating such committees, but in no event shall any such committee have the powers denied to the Executive Committee in these Bylaws.

**(c) Term**. The Board of Directors, subject to any requirements of any outstanding series of Preferred Stock and the provisions of subsections (a) or (b) of this Bylaw may at any time increase or decrease the number of members of a committee or terminate the existence of a committee. The membership of a committee member shall terminate on the date of member's death or voluntary resignation from the committee or from the Board of Directors. The Board of Directors may at any time for any reason remove any individual committee member and the Board of Directors may fill any committee vacancy created by death, resignation, removal or increase in the number of members of the committee. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee, and, in addition, in the absence or disqualification of any member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such person or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

**(d) Meetings**. Unless the Board of Directors shall otherwise provide, regular meetings of the Executive Committee or any other committee appointed pursuant to this Section 25 shall be held at such times and places as are determined by the Board of Directors, or by any such committee, and when notice thereof has been given to each member of such committee, no further notice of such regular meetings need be given thereafter. Special meetings of any such committee may be held at any place which has been determined from time to time by such committee, and may be called by any director who is a member of such committee, upon notice to the members of such committee of the time and place of such special meeting given in the manner provided for the giving of notice to members of the Board of Directors of the time and place of special meetings of the Board of Directors. Notice of any special meeting of any committee may be waived in writing at any time before or after the meeting and will be waived by any director by attendance thereat, except when the director attends such special meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Unless otherwise provided by the Board of Directors in the resolutions authorizing the creation of the committee, a majority of the authorized number of members of any such committee shall constitute a quorum for the transaction of business, and the act of a majority of those present at any meeting at which a quorum is present shall be the act of such committee.

**Section 26. Organization**. At every meeting of the directors, the Chairman of the Board of Directors, or, if a Chairman has not been appointed or is absent, the President, or if the President is absent, the most senior Vice President, (if a director) or, in the absence of any such

person, a chairman of the meeting chosen by a majority of the directors present, shall preside over the meeting. The Secretary, or in the Secretary's absence, any Assistant Secretary directed to do so by the President, shall act as secretary of the meeting.

## ARTICLE V

## OFFICERS

**Section 27. Officers Designated**. The officers of the corporation shall include, if and when designated by the Board of Directors, the Chief Executive Officer, the President, one or more Vice Presidents, the Secretary, the Chief Financial Officer, the Treasurer and the Controller, all of whom shall be elected at the annual organizational meeting of the Board of Directors. The Board of Directors may also appoint one or more Assistant Secretaries, Assistant Treasurers, Assistant Controllers and such other officers and agents with such powers and duties as it shall deem necessary. The Board of Directors may assign such additional titles to one or more of the officers as it shall deem appropriate. Any one person may hold any number of offices of the corporation at any one time unless specifically prohibited therefrom by law. The salaries and other compensation of the officers of the corporation shall be fixed by or in the manner designated by the Board of Directors.

**Section 28. Tenure and Duties of Officers**.

**(a) General**. All officers shall hold office at the pleasure of the Board of Directors and until their successors shall have been duly elected and qualified, unless sooner removed. Any officer elected or appointed by the Board of Directors may be removed at any time by the Board of Directors. If the office of any officer becomes vacant for any reason, the vacancy may be filled by the Board of Directors.

**(b) Duties of Chairman of the Board of Directors**. The Chairman of the Board of Directors, when present, shall preside at all meetings of the stockholders and the Board of Directors. The Chairman of the Board of Directors shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors shall designate from time to time. If there is no President, then the Chairman of the Board of Directors shall also serve as the Chief Executive Officer of the corporation and shall have the powers and duties prescribed in paragraph (c) of this Section 28.

**(c) Duties of President**. The President shall preside at all meetings of the stockholders and at all meetings of the Board of Directors, unless the Chairman of the Board of Directors has been appointed and is present. Unless some other officer has been elected Chief Executive Officer of the corporation, the President shall be the chief executive officer of the corporation and shall, subject to the control of the Board of Directors, have general supervision, direction and control of the business and officers of the corporation. The President shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors shall designate from time to time.

**(d) Duties of Vice Presidents**. The Vice Presidents may assume and perform the duties of the President in the absence or disability of the President or whenever the office of

President is vacant. The Vice Presidents shall perform other duties commonly incident to their office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

**(e) Duties of Secretary**. The Secretary shall attend all meetings of the stockholders and of the Board of Directors and shall record all acts and proceedings thereof in the minute book of the corporation. The Secretary shall give notice in conformity with these Bylaws of all meetings of the stockholders and of all meetings of the Board of Directors and any committee thereof requiring notice. The Secretary shall perform all other duties provided for in these Bylaws and other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors shall designate from time to time. The President may direct any Assistant Secretary to assume and perform the duties of the Secretary in the absence or disability of the Secretary, and each Assistant Secretary shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

**(f) Duties of Chief Financial Officer**. The Chief Financial Officer shall keep or cause to be kept the books of account of the corporation in a thorough and proper manner and shall render statements of the financial affairs of the corporation in such form and as often as required by the Board of Directors or the President. The Chief Financial Officer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the corporation. The Chief Financial Officer shall perform other duties commonly incident to such office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time. The President may direct the Treasurer or any Assistant Treasurer, or the Controller or any Assistant Controller to assume and perform the duties of the Chief Financial Officer in the absence or disability of the Chief Financial Officer, and each Treasurer and Assistant Treasurer and each Controller and Assistant Controller shall perform other duties commonly incident to the office and shall also perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

**Section 29. Delegation of Authority**. The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

**Section 30. Resignations**. Any officer may resign at any time by giving notice in writing or by electronic transmission notice to the Board of Directors or to the President or to the Secretary. Any such resignation shall be effective when received by the person or persons to whom such notice is given, unless a later time is specified therein, in which event the resignation shall become effective at such later time. Unless otherwise specified in such notice, the acceptance of any such resignation shall not be necessary to make it effective. Any resignation shall be without prejudice to the rights, if any, of the corporation under any contract with the resigning officer.

**Section 31. Removal**. Any officer may be removed from office at any time, either with or without cause, by the affirmative vote of a majority of the directors in office at the time, or by the unanimous written consent of the directors in office at the time, or by any committee or superior officers upon whom such power of removal may have been conferred by the Board of Directors.

## ARTICLE VI

## EXECUTION OF CORPORATE INSTRUMENTS AND VOTING OF SECURITIES OWNED BY THE CORPORATION

**Section 32. Execution of Corporate Instruments**. The Board of Directors may, in its discretion, determine the method and designate the signatory officer or officers, or other person or persons, to execute on behalf of the corporation any corporate instrument or document, or to sign on behalf of the corporation the corporate name without limitation, or to enter into contracts on behalf of the corporation, except where otherwise provided by law or these Bylaws, and such execution or signature shall be binding upon the corporation.

All checks and drafts drawn on banks or other depositaries on funds to the credit of the corporation or in special accounts of the corporation shall be signed by such person or persons as the Board of Directors shall authorize so to do.

Unless authorized or ratified by the Board of Directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

**Section 33. Voting of Securities Owned by the Corporation**. All stock and other securities of other corporations owned or held by the corporation for itself, or for other parties in any capacity, shall be voted, and all proxies with respect thereto shall be executed, by the person authorized so to do by resolution of the Board of Directors, or, in the absence of such authorization, by the Chairman of the Board of Directors, the Chief Executive Officer, the President, or any Vice President.

## ARTICLE VII

## SHARES OF STOCK

**Section 34. Form and Execution of Certificates**. The shares of the corporation shall be represented by certificates, or shall be uncertificated. Certificates for the shares of stock, if any, shall be in such form as is consistent with the Certificate of Incorporation and applicable law. Every holder of stock in the corporation represented by certificate shall be entitled to have a certificate signed by or in the name of the corporation by the Chairman of the Board of Directors, or the President or any Vice President and by the Treasurer or Assistant Treasurer or the Secretary or Assistant Secretary, certifying the number of shares owned by such stockholder in the corporation. Any or all of the signatures on the certificate may be facsimiles. In case any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued with the same effect as if such person were such officer, transfer agent, or registrar at the date of issue.

**Section 35. Lost Certificates**. A new certificate or certificates shall be issued in place of any certificate or certificates theretofore issued by the corporation alleged to have been lost,

stolen, or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen, or destroyed. The corporation may require, as a condition precedent to the issuance of a new certificate or certificates, the owner of such lost, stolen, or destroyed certificate or certificates, or the owner's legal representative, to agree to indemnify the corporation in such manner as it shall require or to give the corporation a surety bond in such form and amount as it may direct as indemnity against any claim that may be made against the corporation with respect to the certificate alleged to have been lost, stolen, or destroyed.

**Section 36. Transfers**.

**(a)** Transfers of record of shares of stock of the corporation shall be made only upon its books by the holders thereof, in person or by attorney duly authorized, and, in the case of stock represented by certificate, upon the surrender of a properly endorsed certificate or certificates for a like number of shares.

**(b)** The corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

**Section 37. Fixing Record Dates**.

**(a)** In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix, in advance, a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, subject to applicable law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided*, *however*, that the Board of Directors may fix a new record date for the adjourned meeting.

**(b)** In order that the corporation may determine the stockholders entitled to consent to corporate action in writing without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date shall not be more than ten (10) days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. Any stockholder of record seeking to have the stockholders authorize or take corporate action by written consent shall, by written notice to the Secretary, request the Board of Directors to fix a record date. The Board of Directors shall promptly, but in all events within ten (10) days after the date on which such a request is received, adopt a resolution fixing the record date. If no record date has been fixed by the Board of Directors within ten (10) days of the date on which such a request is received, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting, when no prior action by the Board of Directors is required by applicable law,

shall be the first date on which a signed written consent setting forth the action taken or proposed to be taken is delivered to the corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to the corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by law, the record date for determining stockholders entitled to consent to corporate action in writing without a meeting shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

**(c)** In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty (60) days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

**Section 38. Registered Stockholders**. The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

## ARTICLE VIII

## OTHER SECURITIES OF THE CORPORATION

**Section 39. Execution of Other Securities**. All bonds, debentures and other corporate securities of the corporation, other than stock certificates (covered in Section 34), may be signed by the Chairman of the Board of Directors, the President or any Vice President, or such other person as may be authorized by the Board of Directors, and the corporate seal impressed thereon or a facsimile of such seal imprinted thereon and attested by the signature of the Secretary or an Assistant Secretary, or the Chief Financial Officer or Treasurer or an Assistant Treasurer; *provided, however,* that where any such bond, debenture or other corporate security shall be authenticated by the manual signature, or where permissible facsimile signature, of a trustee under an indenture pursuant to which such bond, debenture or other corporate security shall be issued, the signatures of the persons signing and attesting the corporate seal on such bond, debenture or other corporate security may be the imprinted facsimile of the signatures of such persons. Interest coupons appertaining to any such bond, debenture or other corporate security, authenticated by a trustee as aforesaid, shall be signed by the Treasurer or an Assistant Treasurer of the corporation or such other person as may be authorized by the Board of Directors, or bear imprinted thereon the facsimile signature of such person. In case any officer who shall have signed or attested any bond, debenture or other corporate security, or whose facsimile signature shall appear thereon or on any such interest coupon, shall have ceased to be such officer before the bond, debenture or other

corporate security so signed or attested shall have been delivered, such bond, debenture or other corporate security nevertheless may be adopted by the corporation and issued and delivered as though the person who signed the same or whose facsimile signature shall have been used thereon had not ceased to be such officer of the corporation.

## ARTICLE IX

## DIVIDENDS

**Section 40. Declaration of Dividends**. Dividends upon the capital stock of the corporation, subject to the provisions of the Certificate of Incorporation and applicable law, if any, may be declared by the Board of Directors pursuant to law at any regular or special meeting. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Certificate of Incorporation and applicable law.

**Section 41. Dividend Reserve**. Before payment of any dividend, there may be set aside out of any funds of the corporation available for dividends such sum or sums as the Board of Directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the corporation, or for such other purpose as the Board of Directors shall think conducive to the interests of the corporation, and the Board of Directors may modify or abolish any such reserve in the manner in which it was created.

## ARTICLE X

## FISCAL YEAR

**Section 42. Fiscal Year**. The fiscal year of the corporation shall be fixed by resolution of the Board of Directors.

## ARTICLE XI

## INDEMNIFICATION

**Section 43. Indemnification of Directors, Executive Officers, Other Officers, Employees and Other Agents**.

**(a) Directors and Officers**. The corporation shall indemnify its directors and officers to the fullest extent not prohibited by the DGCL or any other applicable law; *provided*, *however,* that the corporation may modify the extent of such indemnification by individual contracts with its directors and officers; and, *provided*, *further,* that the corporation shall not be required to indemnify any director or officer in connection with any proceeding (or part thereof) initiated by such person unless (i) such indemnification is expressly required to be made by law, (ii) the proceeding was authorized by the Board of Directors of the corporation, (iii) such indemnification is provided by the corporation, in its sole discretion, pursuant to the powers vested in the corporation under the Delaware General Corporation Law or any other applicable law or (iv) such indemnification is required to be made under subsection (d).

**(b) Employees and Other Agents**. The corporation shall have power to indemnify its employees and other agents as set forth in the DGCL or any other applicable law. The Board of Directors shall have the power to delegate the determination of whether indemnification shall be given to any such person to such officers or other persons as the Board of Directors shall determine.

**(c) Expenses**. The corporation shall advance to any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or officer, of the corporation, or is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, prior to the final disposition of the proceeding, promptly following request therefor, all expenses incurred by any director or officer in connection with such proceeding, *provided, however,* that, if the DGCL requires, an advancement of expenses incurred by a director or officer in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such indemnitee, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the corporation of an undertaking, by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such indemnitee is not entitled to be indemnified for such expenses under this Section 43 or otherwise.

Notwithstanding the foregoing, unless otherwise determined pursuant to paragraph (e) of this Bylaw, no advance shall be made by the corporation to an officer of the corporation (except by reason of the fact that such officer is or was a director of the corporation, in which event this paragraph shall not apply) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, if a determination is reasonably and promptly made (i) by a majority vote of a quorum consisting of directors who were not parties to the proceeding, even if not a quorum, or (ii) by a committee of such directors designated by a majority of such directors, even though less than a quorum, or (iii) if there are no such directors, or such directors so direct, by independent legal counsel in a written opinion, that the facts known to the decision-making party at the time such determination is made demonstrate clearly and convincingly that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the corporation.

**(d) Enforcement**. Without the necessity of entering into an express contract, all rights to indemnification and advances to directors and officers under this Bylaw shall be deemed to be contractual rights and be effective to the same extent and as if provided for in a contract between the corporation and the director or officer. Any right to indemnification or advances granted by this Bylaw to a director or officer shall be enforceable by or on behalf of the person holding such right in any court of competent jurisdiction if (i) the claim for indemnification or advances is denied, in whole or in part, or (ii) no disposition of such claim is made within ninety (90) days of request therefor. The claimant in such enforcement action, if successful in whole or in part, shall be entitled to be paid also the expense of prosecuting the claim. In connection with any claim for indemnification, the corporation shall be entitled to raise as a defense to any such action that the claimant has not met the standards of conduct that make it permissible under the DGCL or any other applicable law for the corporation to indemnify the claimant for the amount claimed. In connection with any claim by an officer of the corporation

(except in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such officer is or was a director of the corporation) for advances, the corporation shall be entitled to raise a defense as to any such action clear and convincing evidence that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of the corporation, or with respect to any criminal action or proceeding that such person acted without reasonable cause to believe that such person's conduct was lawful. Neither the failure of the corporation (including its Board of Directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such action that indemnification of the claimant is proper in the circumstances because such person has met the applicable standard of conduct set forth in the DGCL or any other applicable law, nor an actual determination by the corporation (including its Board of Directors, independent legal counsel or its stockholders) that the claimant has not met such applicable standard of conduct, shall be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct. In any suit brought by a director or officer to enforce a right to indemnification or to an advancement of expenses hereunder, the burden of proving that the director or officer is not entitled to be indemnified, or to such advancement of expenses, under this Article XI or otherwise shall be on the corporation.

**(e) Non-Exclusivity of Rights**. The rights conferred on any person by this Bylaw shall not be exclusive of any other right which such person may have or hereafter acquire under any applicable statute, provision of the Certificate of Incorporation, Bylaws, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding office. The corporation is specifically authorized to enter into individual contracts with any or all of its directors, officers, employees or agents respecting indemnification and advances, to the fullest extent not prohibited by the DGCL or any other applicable law.

**(f) Survival of Rights**. The rights conferred on any person by this Bylaw shall continue as to a person who has ceased to be a director, officer, employee or other agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

**(g) Insurance**. To the fullest extent permitted by the DGCL, or any other applicable law, the corporation, upon approval by the Board of Directors, may purchase insurance on behalf of any person required or permitted to be indemnified pursuant to this Bylaw.

**(h) Amendments**. Any repeal or modification of this Bylaw shall only be prospective and shall not affect the rights under this Bylaw in effect at the time of the alleged occurrence of any action or omission to act that is the cause of any proceeding against any agent of the corporation.

**(i) Saving Clause**. If this Bylaw or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the corporation shall nevertheless indemnify each director and officer to the full extent not prohibited by any applicable portion of this Bylaw that shall not have been invalidated, or by any other applicable law. If this Section 43 shall be invalid due to the application of the indemnification provisions of another jurisdiction, then the corporation shall indemnify each director and officer to the full extent under applicable law.

**(j) Certain Definitions**. For the purposes of this Bylaw, the following definitions shall apply:

**(1)** The term "proceeding" shall be broadly construed and shall include, without limitation, the investigation, preparation, prosecution, defense, settlement, arbitration and appeal of, and the giving of testimony in, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative.

**(2)** The term "expenses" shall be broadly construed and shall include, without limitation, court costs, attorneys' fees, witness fees, fines, amounts paid in settlement or judgment and any other costs and expenses of any nature or kind incurred in connection with any proceeding.

**(3)** The term the "corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under the provisions of this Bylaw with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued.

**(4)** References to a "director," "executive officer," "officer," "employee," or "agent" of the corporation shall include, without limitation, situations where such person is serving at the request of the corporation as, respectively, a director, executive officer, officer, employee, trustee or agent of another corporation, partnership, joint venture, trust or other enterprise.

**(5)** References to "other enterprises" shall include employee benefit plans; references to "fines" shall include any excise taxes assessed on a person with respect to an employee benefit plan; and references to "serving at the request of the corporation" shall include any service as a director, officer, employee or agent of the corporation which imposes duties on, or involves services by, such director, officer, employee, or agent with respect to an employee benefit plan, its participants, or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the corporation" as referred to in this Bylaw.

## ARTICLE XII

## NOTICES

**Section 44. Notices**.

**(a) Notice to Stockholders**. Written notice to stockholders of stockholder meetings shall be given as provided in Section 7 herein. Without limiting the manner by which

notice may otherwise be given effectively to stockholders under any agreement or contract with such stockholder, and except as otherwise required by law, written notice to stockholders for purposes other than stockholder meetings may be sent by United States mail or nationally recognized overnight courier, or by facsimile, telegraph or telex or by electronic mail or other electronic means.

**(b) Notice to Directors**. Any notice required to be given to any director may be given by the method stated in subsection (a), or as provided for in Section 21 of these Bylaws. If such notice is not delivered personally, it shall be sent to such address as such director shall have filed in writing with the Secretary, or, in the absence of such filing, to the last known post office address of such director.

**(c) Affidavit of Mailing**. An affidavit of mailing, executed by a duly authorized and competent employee of the corporation or its transfer agent appointed with respect to the class of stock affected or other agent, specifying the name and address or the names and addresses of the stockholder or stockholders, or director or directors, to whom any such notice or notices was or were given, and the time and method of giving the same, shall in the absence of fraud, be prima facie evidence of the facts therein contained.

**(d) Methods of Notice**. It shall not be necessary that the same method of giving notice be employed in respect of all recipients of notice, but one permissible method may be employed in respect of any one or more, and any other permissible method or methods may be employed in respect of any other or others.

**(e) Notice to Person with Whom Communication Is Unlawful**. Whenever notice is required to be given, under any provision of law or of the Certificate of Incorporation or Bylaws of the corporation, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given. In the event that the action taken by the corporation is such as to require the filing of a certificate under any provision of the DGCL, the certificate shall state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

**(f) Notice to Stockholders Sharing an Address**. Except as otherwise prohibited under DGCL, any notice given under the provisions of DGCL, the Certificate of Incorporation or the Bylaws shall be effective if given by a single written notice to stockholders who share an address if consented to by the stockholders at that address to whom such notice is given. Such consent shall have been deemed to have been given if such stockholder fails to object in writing to the corporation within 60 days of having been given notice by the corporation of its intention to send the single notice. Any consent shall be revocable by the stockholder by written notice to the corporation.

## ARTICLE XIII

## AMENDMENTS

**Section 45. Amendments**. The Board of Directors is expressly empowered to adopt, amend or repeal Bylaws of the corporation. The stockholders shall also have power to adopt, amend or repeal the Bylaws of the corporation; *provided, however,* that, in addition to any vote of the holders of any class or series of stock of the corporation required by law or by the Certificate of Incorporation, such action by stockholders shall require the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the corporation entitled to vote generally in the election of directors, voting together as a single class.

## ARTICLE XIV

## LOANS TO OFFICERS

**Section 46. Loans to Officers**. Except as otherwise prohibited under applicable law, the corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiaries, including any officer or employee who is a Director of the corporation or its subsidiaries, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the corporation. The loan, guarantee or other assistance may be with or without interest and may be unsecured, or secured in such manner as the Board of Directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing in these Bylaws shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

## ARTICLE XV

## RIGHT OF FIRST REFUSAL

**Section 47. Right of First Refusal**. No stockholder shall sell, assign, pledge, or in any manner transfer any of the shares of stock of the corporation or any right or interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the requirements hereinafter set forth in this bylaw:

**(a)** If the stockholder desires to sell or otherwise transfer any of such stockholder's shares of stock, then the stockholder shall first give written notice thereof to the corporation. The notice shall name the proposed transferee and state the number of shares to be transferred, the proposed consideration, and all other terms and conditions of the proposed transfer.

**(b)** For thirty (30) days following receipt of such notice, the corporation shall have the option to purchase all or a portion of the shares specified in the notice at the price and upon the terms set forth in such notice; *provided, however,* that, with the consent of the stockholder, the corporation shall have the option to purchase a lesser portion of the shares specified in said notice at the price and upon the terms set forth therein. In the event of a gift, property settlement or other transfer in which the proposed transferee is not paying the full price

for the shares, and that is not otherwise exempted from the provisions of this Section 47, the price shall be deemed to be the fair market value of the stock at such time as determined in good faith by the Board of Directors. In the event the corporation elects to purchase all of the shares or, with consent of the stockholder, a lesser portion of the shares, it shall give written notice to the transferring stockholder of its election and settlement for said shares shall be made as provided below in paragraph (d).

**(c)** The corporation may assign its rights hereunder.

**(d)** In the event the corporation and/or its assignee(s) elect to acquire any of the shares of the transferring stockholder as specified in said transferring stockholder's notice, the Secretary of the corporation shall so notify the transferring stockholder and settlement thereof shall be made in cash within thirty (30) days after the Secretary of the corporation receives said transferring stockholder's notice; *provided* that if the terms of payment set forth in said transferring stockholder's notice were other than cash against delivery, the corporation and/or its assignee(s) shall pay for said shares on the same terms and conditions set forth in said transferring stockholder's notice.

**(e)** In the event the corporation and/or its assignees(s) do not elect to acquire all of the shares specified in the transferring stockholder's notice, said transferring stockholder may, within the sixty-day period following the expiration of the option rights granted to the corporation and/or its assignees(s) herein, transfer the shares specified in said transferring stockholder's notice which were not acquired by the corporation and/or its assignees(s) as specified in said transferring stockholder's notice. All shares so sold by said transferring stockholder shall continue to be subject to the provisions of this bylaw in the same manner as before said transfer.

**(f)** Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the provisions of this bylaw:

**(1)** A stockholder's transfer of any or all shares held either during such stockholder's lifetime or on death by will or intestacy to such stockholder's immediate family or to any custodian or trustee for the account of such stockholder or such stockholder's immediate family or to any limited partnership or limited liability company of which the stockholder, members of such stockholder's immediate family or any trust for the account of such stockholder or such stockholder's immediate family (a "family trust") will be the general of limited partner(s) of such partnership or the members of such limited liability company, *provided* that such partnership or limited liability company, as applicable, is controlled by such stockholder, such stockholder's immediate family or a family trust of such stockholder. "Immediate family" as used herein shall mean spouse, lineal descendant, father, mother, brother, or sister of the stockholder making such transfer.

**(2)** A stockholder's bona fide pledge or mortgage of any shares with a commercial lending institution, *provided* that any subsequent transfer of said shares by said institution shall be conducted in the manner set forth in this bylaw.

**(3)** A stockholder's transfer of any or all of such stockholder's shares to the corporation or to any other stockholder of the corporation.

**(4)** A stockholder's transfer of any or all of such stockholder's shares to a person who, at the time of such transfer, is an officer or director of the corporation.

**(5)** A corporate stockholder's transfer of any or all of its shares pursuant to and in accordance with the terms of any merger, consolidation, reclassification of shares or capital reorganization of the corporate stockholder, or pursuant to a sale of all or substantially all of the stock or assets of a corporate stockholder.

**(6)** A corporate stockholder's transfer of any or all of its shares to any or all of its stockholders.

**(7)** A transfer by a stockholder which is a limited or general partnership to any or all of its partners or former partners.

**(8)** A transfer by a stockholder that is a limited liability company to any or all of its members or former members.

**(9)** A transfer by a stockholder to any entity that is controlled by, controls or is under common control with the stockholder, members of such stockholder's immediate family or any trust for the account or benefit of such stockholder or such stockholder's immediate family. As used in this subsection (9), "control" (including, with correlative meanings, "controlled by" and "under common control with") shall mean possession, directly or indirectly, of the power to direct or cause the direction of management or policies (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise).

In any such case, the transferee, assignee, or other recipient shall receive and hold such stock subject to the provisions of this bylaw, and there shall be no further transfer of such stock except in accord with this bylaw.

**(g)** The provisions of this bylaw may be waived with respect to any transfer either by the corporation, upon duly authorized action of its Board of Directors, or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the corporation (excluding the votes represented by those shares to be transferred by the transferring stockholder). This bylaw may be amended or repealed either by a duly authorized action of the Board of Directors or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the corporation.

**(h)** Any sale or transfer, or purported sale or transfer, of securities of the corporation shall be null and void unless the terms, conditions, and provisions of this bylaw are strictly observed and followed.

**(i)** The foregoing right of first refusal shall terminate upon the date securities of the corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the United States Securities and Exchange Commission under the Securities Act of 1933, as amended.

**(j)** The certificates representing shares of stock of the corporation shall bear on their face the following legend so long as the foregoing right of first refusal remains in effect:

"THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A RIGHT OF FIRST REFUSAL OPTION IN FAVOR OF THE CORPORATION AND/OR ITS ASSIGNEE(S), AS PROVIDED IN THE BYLAWS OF THE CORPORATION."

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

**BIODESIX, INC.**

**ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT**

**THIS ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** (this "***Agreement***") is entered into as of October 10, 2018, by and among **BIODESIX, INC.**, a Delaware corporation (the "***Company***") and the investors listed on Exhibit A hereto, referred to hereinafter as the "***Investors***" and each individually as an "***Investor***."

**RECITALS**

**WHEREAS,** certain of the Investors are purchasing shares of the Company's Series H Preferred Stock (the "***Series H Stock***"), pursuant to that certain Series H Preferred Stock Purchase Agreement (the "***Purchase Agreement***") of even date herewith (the "***Financing***");

**WHEREAS,** the obligations in the Purchase Agreement are conditioned upon the execution and delivery of this Agreement;

**WHEREAS,** certain of the Investors (the "***Prior Investors***") are holders of (a) the Company's Series A-1 Preferred Stock, Series A-2 Preferred Stock or Series A-3 Preferred Stock (collectively, the "***Series A Stock***"), (b) the Company's Series B Preferred Stock (the "***Series B Stock***") or Series B-1 Preferred Stock (the "***Series B-1 Stock***"), (c) the Company's Series C Preferred Stock (the "***Series C Stock***"), (d) the Company's Series D Preferred Stock (the "***Series D Stock***"), (e) the Company's Series E Preferred Stock (the "***Series E Stock***"), (f) the Company's Series F Preferred Stock (the "***Series F Stock***"), (g) the Company's Series G Preferred Stock (the "***Series G Stock***" and, together with the Series A Stock, the Series B Stock, the Series B-1 Stock, the Series C Stock, the Series D Stock, the Series E Stock, the Series F Stock and the Series H Stock, the "***Preferred Stock***"), or (h) the Company's Common Stock;

**WHEREAS,** certain of the Prior Investors and the Company are parties to a Tenth Amended and Restated Investor Rights Agreement, dated April 12, 2017 (the "***Prior Agreement***");

**WHEREAS,** the undersigned desire to amend and restate the Prior Agreement and accept on behalf of the Prior Investors and the Company the rights and covenants hereof in lieu of their rights and covenants under the Prior Agreement; and

**WHEREAS,** in connection with consummation of the Financing, the Company and the Investors have agreed to the registration rights, information rights, and other rights as set forth below.

**NOW, THEREFORE,** in consideration of these premises and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**SECTION 1. GENERAL.**

**1.1 Amendment and Restatement of Prior Agreement**. The Prior Agreement is hereby amended in its entirety and restated herein. Such amendment and restatement is effective upon the execution of this Agreement by the Company and the holders of sixty-five percent (65%) of the "Registrable Securities" (as that term is defined in the Prior Agreement) outstanding as of the date of this Agreement. Upon such execution, all provisions of, rights granted and covenants made in the Prior Agreement are hereby waived, released and superseded in their entirety and shall have no further force or effect, including, without limitation, all rights of first refusal and any notice period associated therewith otherwise applicable to the transactions contemplated by the Purchase Agreement.

**1.2 Definitions.** As used in this Agreement the following terms shall have the following respective meanings:

**(a)** "***Exchange Act***" means the Securities Exchange Act of 1934, as amended.

**(b)** "***Form S-3***" means such form under the Securities Act as in effect on the date hereof or any successor or similar registration form under the Securities Act subsequently adopted by the SEC which permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the SEC.

**(c)** "***Holder***" means any person owning of record Registrable Securities that have not been sold to the public or any assignee of record of such Registrable Securities in accordance with Section 2.9 hereof.

**(d)** "***Initial Offering***" means the Company's first firm commitment underwritten public offering of its Common Stock registered under the Securities Act.

**(e)** "***Register,***" "***registered,***" and "***registration***" refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act, and the declaration or ordering of effectiveness of such registration statement or document.

**(f)** "***Registrable Securities***" means (a) Common Stock of the Company issuable or issued upon conversion of the Shares and (b) any Common Stock of the Company issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, such above-described securities. Notwithstanding the foregoing, Registrable Securities shall not include any securities (i) sold by a person to the public either pursuant to a registration statement or Rule 144 promulgated under the Securities Act ("***Rule 144***") or (ii) sold in a private transaction in which the transferor's rights under Section 2 of this Agreement are not assigned.

**(g)** "***Registrable Securities then outstanding***" shall be the number of shares of the Company's Common Stock that are Registrable Securities and either (a) are then issued and outstanding or (b) are issuable pursuant to then exercisable or convertible securities.

**(h)** "***Registration Expenses***" shall mean all expenses incurred by the Company in complying with Sections 2.2, 2.3 and 2.4 hereof, including, without limitation, all registration and filing fees, printing expenses, fees and disbursements of counsel for the Company, reasonable fees and disbursements not to exceed seventy-five thousand dollars ($75,000) of a single special counsel for the Holders, blue sky fees and expenses and the expense of any special audits incident to or required by any such registration (but excluding the compensation of regular employees of the Company, which shall be paid in any event by the Company).

**(i)** "***SEC***" or "***Commission***" means the Securities and Exchange Commission.

**(j)** "***Securities Act***" shall mean the Securities Act of 1933, as amended.

**(k)** "***Selling Expenses***" shall mean all underwriting discounts and selling commissions applicable to the sale.

**(l)** "***Shares***" shall mean the shares of Preferred Stock held from time to time by the Investors listed on Exhibit A hereto and their permitted assigns, including without limitation the Preferred Stock issuable upon exercise of the Warrants.

**(m)** "***Special Registration Statement***" shall mean (i) a registration statement relating to any employee benefit plan or (ii) with respect to any corporate reorganization or transaction under Rule 145 of the Securities Act, any registration statements related to the issuance or resale of securities issued in such a transaction or (iii) a registration related to stock issued upon conversion of debt securities.

**(n)** "***Warrants***" shall mean those certain warrants to purchase (i) Series E Stock issued pursuant to the Series E Preferred Stock and Warrant Purchase Agreement dated June 9, 2015 or the Series E Preferred Stock and Warrant Purchase Agreement dated December 31, 2014 and (ii) Series G Stock issued pursuant to that certain Warrant to Purchase Stock dated February 23, 2018.

**SECTION 2. REGISTRATION; RESTRICTIONS ON TRANSFER.**

**2.1 Restrictions on Transfer.**

**(a)** Each Holder agrees not to make any disposition of all or any portion of the Shares or Registrable Securities unless and until:

**(i)** there is then in effect a registration statement under the Securities Act covering such proposed disposition and such disposition is made in accordance with such registration statement; or

**(ii)** (A) The transferee has agreed in writing to be bound by the terms of this Agreement, (B) such Holder shall have notified the Company of the proposed disposition and shall have furnished the Company with a detailed statement of the circumstances surrounding the proposed disposition, and (C) if reasonably requested by the Company, such Holder shall have furnished the Company with an opinion of counsel, reasonably satisfactory to the Company, that such disposition will not require registration of such shares under the Securities Act. It is agreed that the Company will not require opinions of counsel for transactions made pursuant to Rule 144, except in unusual circumstances. After its Initial Offering, the Company will not require any transferee pursuant to Rule 144 to be bound by the terms of this Agreement if the shares so transferred do not remain Registrable Securities hereunder following such transfer.

**(b)** Notwithstanding the provisions of subsection (a) above, no such restriction shall apply to a transfer by a Holder that is (A) a partnership transferring to its partners or former partners in accordance with partnership interests, (B) a corporation transferring to a wholly-owned subsidiary or a parent corporation that owns all of the capital stock of the Holder, (C) a limited liability company transferring to its members or former members in accordance with their interest in the limited liability company, or (D) an individual transferring to the Holder's family member or trust for the benefit of an individual Holder; *provided* that in each case the transferee will agree in writing to be subject to the terms of this Agreement to the same extent as if he were an original Holder hereunder.

**(c)** Each certificate representing Shares or Registrable Securities shall be stamped or otherwise imprinted with legends substantially similar to the following (in addition to any legend required under applicable state securities laws):

> THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 (THE "***ACT***") AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, ASSIGNED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL REGISTERED UNDER THE ACT OR UNLESS THE COMPANY HAS RECEIVED AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY AND ITS COUNSEL THAT SUCH REGISTRATION IS NOT REQUIRED.
>
> THE SALE, PLEDGE, HYPOTHECATION OR TRANSFER OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE IS SUBJECT TO THE TERMS AND CONDITIONS OF A CERTAIN INVESTOR RIGHTS AGREEMENT BY AND BETWEEN THE STOCKHOLDER AND THE COMPANY. COPIES OF SUCH AGREEMENT MAY BE OBTAINED UPON WRITTEN REQUEST TO THE SECRETARY OF THE COMPANY.

**(d)** The Company shall be obligated to reissue promptly unlegended certificates at the request of any Holder thereof if the Company has completed its Initial Offering and the Holder shall have obtained an opinion of counsel (which counsel may be counsel to the Company) reasonably acceptable to the Company to the effect that the securities proposed to be disposed of may lawfully be so disposed of without registration, qualification and legend, *provided* that the second legend listed above shall be removed only at such time as the Holder of such certificate is no longer subject to any restrictions hereunder.

**(e)** Any legend endorsed on an instrument pursuant to applicable state securities laws and the stop-transfer instructions with respect to such securities shall be removed upon receipt by the Company of an order of the appropriate blue sky authority authorizing such removal.

**2.2 Demand Registration**.

**(a)** Subject to the conditions of this Section 2.2, if the Company shall receive a written request from the Holders of a majority of the Registrable Securities (the "***Initiating Holders***") that the Company file a registration statement under the Securities Act covering the registration of at least a majority of the Registrable Securities then outstanding (or a lesser percent if the anticipated aggregate offering price, net of underwriting discounts and commissions, would exceed $5,000,000 (a "***Qualified Public Offering***")), then the Company shall, within thirty (30) days of the receipt thereof, give written notice of such request to all Holders, and subject to the limitations of this Section 2.2, effect, as expeditiously as reasonably possible, the registration under the Securities Act of all Registrable Securities that all Holders request to be registered.

**(b)** If the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to this Section 2.2 or any request pursuant to Section 2.4 and the Company shall include such information in the written notice referred to in Section 2.2(a) or Section 2.4(a), as applicable. In such event, the right of any Holder to include its Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall enter into an underwriting agreement in customary form with the underwriter or underwriters selected for such underwriting by the Holders of a majority of the Registrable Securities held by all Initiating Holders (which underwriter or underwriters shall be reasonably acceptable to the Company). Notwithstanding any other provision of this Section 2.2 or Section 2.4, if the underwriter advises the Company that marketing factors require a limitation of the number of securities to be underwritten (including Registrable Securities) then the Company shall so advise all Holders of Registrable Securities that would otherwise be underwritten pursuant hereto, and the number of shares that may be included in the underwriting shall be allocated to the Holders of such Registrable Securities on a *pro rata* basis based on the number of Registrable Securities held by all such Holders (including the Initiating Holders**)**; *provided*, *however*, that the number of shares of Registrable Securities to be included in such underwriting and registration shall not be reduced unless all other securities of the Company are first entirely excluded from the underwriting and registration. Any Registrable Securities excluded or withdrawn from such underwriting shall be withdrawn from the registration.

**(c)** The Company shall not be required to effect a registration pursuant to this Section 2.2:

**(i)** prior to six (6) months after the Initial Offering;

**(ii)** after the Company has effected two (2) registrations pursuant to this Section 2.2 in which all of the Registrable Shares requested to be included were included, and such registrations have been declared or ordered effective;

**(iii)** during the period starting with the date of filing of, and ending on the date one hundred eighty (180) days following the effective date of the registration statement pertaining to a public offering, other than pursuant to a Special Registration Statement; *provided* that the Company makes reasonable good faith efforts to cause such registration statement to become effective;

**(iv)** if within thirty (30) days of receipt of a written request from Initiating Holders pursuant to Section 2.2(a), the Company gives notice to the Holders of the Company's intention to file a registration statement for a public offering, other than pursuant to a Special Registration Statement within ninety (90) days;

**(v)** if the Company shall furnish to Holders requesting a registration statement pursuant to this Section 2.2 a certificate signed by the Chairman of the Board stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such registration statement to be effected at such time, in which event the Company shall have the right to defer such filing for a period of not more than one hundred twenty (120) days after receipt of the request of the Initiating Holders; *provided* that such right to delay a request shall be exercised by the Company not more than once in any twelve (12) month period;

**(vi)** if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.4 below; or

**(vii)** in any particular jurisdiction in which the Company would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance.

**2.3 Piggyback Registrations**. The Company shall notify all Holders of Registrable Securities in writing at least fifteen (15) days prior to the filing of any registration statement under the Securities Act for purposes of a public offering of securities of the Company (including, but not limited to, registration statements relating to secondary offerings of securities of the Company, but excluding Special Registration Statements) and will afford each such Holder an opportunity to include in such registration statement all or part of such Registrable Securities held by such Holder. Each Holder desiring to include in any such registration statement all or any part of the Registrable Securities held by it shall, within fifteen (15) days after the above-described notice from the Company, so notify the Company in writing. Such notice shall state the intended method of disposition of the Registrable Securities by such Holder. If a Holder decides not to include all of its Registrable Securities in any registration statement thereafter filed by the Company, such Holder shall nevertheless continue to have the right to include any Registrable Securities in any subsequent registration statement or registration statements as may be filed by the Company with respect to offerings of its securities, all upon the terms and conditions set forth herein.

**(a) Underwriting**. If the registration statement of which the Company gives notice under this Section 2.3 is for an underwritten offering, the Company shall so advise the Holders of Registrable Securities. In such event, the right of any such Holder to include Registrable Securities in a registration pursuant to this Section 2.3 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their Registrable Securities through such underwriting shall enter into an underwriting agreement

in customary form with the underwriter or underwriters selected for such underwriting by the Company. Notwithstanding any other provision of this Agreement, if the underwriter determines in good faith that marketing factors require a limitation of the number of shares to be underwritten, the number of shares that may be included in the underwriting shall be allocated, first, to the Company; second, to the Holders on a *pro rata* basis based on the total number of Registrable Securities held by the Holders; and third, to any stockholder of the Company (other than a Holder) on a *pro rata* basis; *provided, however*, that no such reduction shall reduce the amount of securities of the selling Holders included in the registration below thirty percent (30%) of the total amount of securities included in such registration, unless such offering is the Initial Offering and such registration does not include shares of any other selling stockholders, in which event any or all of the Registrable Securities of the Holders may be excluded in accordance with the immediately preceding clause. In no event will shares of any other selling stockholder be included in such registration that would reduce the number of shares which may be included by Holders without the written consent of Holders of not less than sixty-five percent (65%) of the Registrable Securities proposed to be sold in the offering. If any Holder disapproves of the terms of any such underwriting, such Holder may elect to withdraw therefrom by written notice to the Company and the underwriter, delivered at least ten (10) business days prior to the effective date of the registration statement. Any Registrable Securities excluded or withdrawn from such underwriting shall be excluded and withdrawn from the registration. For any Holder which is a partnership, limited liability company or corporation, the partners, retired partners, members, retired members and stockholders of such Holder, or the estates and family members of any such partners, retired partners, members and retired members and any trusts for the benefit of any of the foregoing person shall be deemed to be a single "Holder," and any *pro rata* reduction with respect to such "Holder" shall be based upon the aggregate amount of shares carrying registration rights owned by all entities and individuals included in such "Holder," as defined in this sentence.

**(b) Right to Terminate Registration**. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.3 whether or not any Holder has elected to include securities in such registration, and shall promptly notify any Holder that has elected to include shares in such registration of such termination or withdrawal. The Registration Expenses of such withdrawn registration shall be borne by the Company in accordance with Section 2.5 hereof.

**2.4 Form S-3 Registration**. In case the Company shall receive from any Holder or Holders of at least ten percent (10%) of the Registrable Securities a written request or requests that the Company effect a registration on Form S-3 (or any successor to Form S-3) or any similar short-form registration statement and any related qualification or compliance with respect to all or a part of the Registrable Securities owned by such Holder or Holders, the Company will:

**(a)** promptly give written notice of the proposed registration, and any related qualification or compliance, to all other Holders of Registrable Securities; and

**(b)** as soon as practicable, effect such registration and all such qualifications and compliances as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Holder's or Holders' Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any other Holder or Holders joining in such request as are specified in a written request given within fifteen (15) days after receipt of such written notice from the Company; *provided*, *however*, that the Company shall not be obligated to effect any such registration, qualification or compliance pursuant to this Section 2.4:

**(i)** if Form S-3 is not available for such offering by the Holders, or

**(ii)** if the Holders, together with the holders of any other securities of the Company entitled to inclusion in such registration, propose to sell Registrable Securities and such other securities (if any) at an aggregate price to the public of less than five million dollars ($5,000,000), or

**(iii)** if within thirty (30) days of receipt of a written request from any Holder or Holders pursuant to this Section 2.4, the Company gives notice to such Holder or Holders of the Company's intention to make a public offering within ninety (90) days, other than pursuant to a Special Registration Statement;

**(iv)** if the Company shall furnish to the Holders a certificate signed by the Chairman of the Board of Directors of the Company stating that in the good faith judgment of the Board of Directors of the Company, it would be seriously detrimental to the Company and its stockholders for such Form S-3 registration to be effected at such time, in which event the Company shall have the right to defer the filing of the Form S-3 registration statement for a period of not more than one hundred twenty (120) days after receipt of the request of the Holder or Holders under this Section 2.4; *provided*, that such right to delay a request shall be exercised by the Company not more than once in any twelve (12) month period, or

**(v)** if the Company has, within the twelve (12) month period preceding the date of such request, already effected two (2) registrations on Form S-3 for the Holders pursuant to this Section 2.4, or

**(vi)** in any particular jurisdiction in which the Company would be required to qualify to do business or to execute a general consent to service of process in effecting such registration, qualification or compliance.

**(c)** Subject to the foregoing, the Company shall file a Form S-3 registration statement covering the Registrable Securities and other securities so requested to be registered as soon as practicable after receipt of the requests of the Holders. Registrations effected pursuant to this Section 2.4 shall not be counted as demands for registration or registrations effected pursuant to Section 2.2.

**2.5 Expenses of Registration**. Except as specifically provided herein, all Registration Expenses incurred in connection with any registration, qualification or compliance pursuant to Section 2.2, 2.3 or 2.4 herein shall be borne by the Company. All Selling Expenses incurred in connection with any registrations hereunder, shall be borne by the holders of the securities so registered *pro rata* on the basis of the number of shares so registered. The Company shall not, however, be required to pay for expenses of any registration proceeding begun pursuant to Section 2.2 or 2.4, the request of which has been subsequently withdrawn by the Initiating Holders unless (a) the withdrawal is based upon material adverse information concerning the Company of which the Initiating Holders were not aware at the time of such request or (b) the Holders of a

majority of Registrable Securities agree to deem such registration to have been effected as of the date of such withdrawal for purposes of determining whether the Company shall be obligated pursuant to Section 2.2(c) or 2.4(b)(5), as applicable, to undertake any subsequent registration, in which event such right shall be forfeited by all Holders. If the Holders are required to pay the Registration Expenses, such expenses shall be borne by the holders of securities (including Registrable Securities) requesting such registration in proportion to the number of shares for which registration was requested. If the Company is required to pay the Registration Expenses of a withdrawn offering pursuant to clause (a) above, then such registration shall not be deemed to have been effected for purposes of determining whether the Company shall be obligated pursuant to Section 2.2(c) or 2.4(b)(5), as applicable, to undertake any subsequent registration.

**2.6 Obligations of the Company**. Whenever required to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

**(a)** prepare and file with the SEC a registration statement with respect to such Registrable Securities and use all reasonable efforts to cause such registration statement to become effective, and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for up to thirty (30) days or, if earlier, until the Holder or Holders have completed the distribution related thereto; *provided, however*, that at any time, upon written notice to the participating Holders and for a period not to exceed sixty (60) days thereafter (the "***Suspension Period***"), the Company may delay the filing or effectiveness of any registration statement or suspend the use or effectiveness of any registration statement (and the Initiating Holders hereby agree not to offer or sell any Registrable Securities pursuant to such registration statement during the Suspension Period) if the Company reasonably believes that there is or may be in existence material nonpublic information or events involving the Company, the failure of which to be disclosed in the prospectus included in the registration statement could result in a Violation (as defined below). In the event that the Company shall exercise its right to delay or suspend the filing or effectiveness of a registration hereunder, the applicable time period during which the registration statement is to remain effective shall be extended by a period of time equal to the duration of the Suspension Period. The Company may extend the Suspension Period for an additional consecutive sixty (60) days with the consent of the holders of sixty-five percent (65%) of the Registrable Securities registered under the applicable registration statement, which consent shall not be unreasonably withheld. No more than two (2) such Suspension Periods shall occur in any twelve (12) month period. If so directed by the Company, all Holders registering shares under such registration statement shall (i) not offer to sell any Registrable Securities pursuant to the registration statement during the period in which the delay or suspension is in effect after receiving notice of such delay or suspension; and (ii) use their best efforts to deliver to the Company (at the Company's expense) all copies, other than permanent file copies then in such Holders' possession, of the prospectus relating to such Registrable Securities current at the time of receipt of such notice. Notwithstanding the foregoing, the Company shall not be required to file, cause to become effective or maintain the effectiveness of any registration statement other than a registration statement on Form S-3 that contemplates a distribution of securities on a delayed or continuous basis pursuant to Rule 415 under the Securities Act.

**(b)** Prepare and file with the SEC such amendments and supplements to such registration statement and the prospectus used in connection with such registration statement as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement for the period set forth in subsection (a) above.

**(c)** Furnish to the Holders such number of copies of a prospectus, including a preliminary prospectus, in conformity with the requirements of the Securities Act, and such other documents as they may reasonably request in order to facilitate the disposition of Registrable Securities owned by them.

**(d)** Use its reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or Blue Sky laws of such jurisdictions as shall be reasonably requested by the Holders; *provided* that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions.

**(e)** In the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter(s) of such offering. Each Holder participating in such underwriting shall also enter into and perform its obligations under such an agreement.

**(f)** Notify each Holder of Registrable Securities covered by such registration statement at any time when a prospectus relating thereto is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such registration statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing. The Company will use reasonable efforts to amend or supplement such prospectus in order to cause such prospectus not to include any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing.

**(g)** Use its reasonable efforts to furnish, on the date that such Registrable Securities are delivered to the underwriters for sale, if such securities are being sold through underwriters, (i) an opinion, dated as of such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering, addressed to the underwriters, if any, and (ii) a letter, dated as of such date, from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering addressed to the underwriters.

**2.7 Delay of Registration; Furnishing Information**.

**(a)** No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any such registration as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

**(b)** It shall be a condition precedent to the obligations of the Company to take any action pursuant to Section 2.2, 2.3 or 2.4 that the selling Holders shall furnish to the Company such information regarding themselves, the Registrable Securities held by them and the intended method of disposition of such securities as shall be required to effect the registration of their Registrable Securities.

**(c)** The Company shall have no obligation with respect to any registration requested pursuant to Section 2.2 or Section 2.4 if the number of shares or the anticipated aggregate offering price of the Registrable Securities to be included in the registration does not equal or exceed the number of shares or the anticipated aggregate offering price required to originally trigger the Company's obligation to initiate such registration as specified in Section 2.2 or Section 2.4, whichever is applicable.

**2.8 Indemnification**. In the event any Registrable Securities are included in a registration statement under Sections 2.2, 2.3 or 2.4:

**(a)** To the extent permitted by law, the Company will indemnify and hold harmless each Holder, the partners, members, officers and directors of each Holder, any underwriter (as defined in the Securities Act) for such Holder and each person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any losses, claims, damages, or liabilities (joint or several) to which they may become subject under the Securities Act, the Exchange Act or other federal or state law, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon any of the following statements, omissions or violations (collectively a "***Violation***") by the Company: (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement or incorporated reference therein, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any state securities law or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law in connection with the offering covered by such registration statement; and the Company will reimburse each such Holder, partner, member, officer, director, underwriter or controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; *provided however*, that the indemnity agreement contained in this Section 2.8(a) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable in any such case for any such loss, claim, damage, liability or action to the extent that it arises out of or is based upon a Violation which occurs in reliance upon and in conformity with written information furnished expressly for use in connection with such registration by such Holder, partner, member, officer, director, underwriter or controlling person of such Holder.

**(b)** To the extent permitted by law, each Holder will, if Registrable Securities held by such Holder are included in the securities as to which such registration qualifications or compliance is being effected, indemnify and hold harmless the Company, each of its directors, its officers and each person, if any, who controls the Company within the meaning of the Securities Act, any underwriter and any other Holder selling securities under such registration statement or any of such other Holder's partners, directors or officers or any person who controls such Holder, against any losses, claims, damages or liabilities (joint or several) to which the Company or any

such director, officer, controlling person, underwriter or other such Holder, or partner, director, officer or controlling person of such other Holder may become subject under the Securities Act, the Exchange Act or other federal or state law, insofar as such losses, claims, damages or liabilities (or actions in respect thereto) arise out of or are based upon any of the following statements: (i) any untrue statement or alleged untrue statement of a material fact contained in such registration statement or incorporated reference therein, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto, (ii) the omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Securities Act (collectively, a "***Holder Violation***"), in each case to the extent (and only to the extent) that such Holder Violation occurs in reliance upon and in conformity with written information furnished by such Holder under an instrument duly executed by such Holder and stated to be specifically for use in connection with such registration; and each such Holder will reimburse any legal or other expenses reasonably incurred by the Company or any such director, officer, controlling person, underwriter or other Holder, or partner, officer, director or controlling person of such other Holder in connection with investigating or defending any such loss, claim, damage, liability or action if it is judicially determined that there was such a Holder Violation; *provided, however*, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such loss, claim, damage, liability or action if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; *provided further*, that in no event shall any indemnity under this Section 2.8 exceed the net proceeds from the offering received by such Holder.

**(c)** Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action), such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, deliver to the indemnifying party a written notice of the commencement thereof and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume the defense thereof with counsel mutually satisfactory to the parties; *provided, however*, that an indemnified party shall have the right to retain its own counsel, with the fees and expenses thereof to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such proceeding. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8 to the extent, and only to the extent, prejudicial to its ability to defend such action, but the omission so to deliver written notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

**(d)** If the indemnification provided for in this Section 2.8 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any losses, claims, damages or liabilities referred to herein, the indemnifying party, in lieu of indemnifying such indemnified party thereunder, shall to the extent permitted by applicable law contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability in such proportion as is appropriate to reflect the relative fault of the indemnifying party

on the one hand and of the indemnified party on the other in connection with the Violation(s) or Holder Violation(s) that resulted in such loss, claim, damage or liability, as well as any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by a court of law by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission; *provided*, that in no event shall any contribution by a Holder hereunder exceed the proceeds from the offering received by such Holder.

**(e)** The obligations of the Company and Holders under this Section 2.8 shall survive completion of any offering of Registrable Securities in a registration statement and, with respect to liability arising from an offering to which this Section 2.8 would apply that is covered by a registration filed before termination of this Agreement, such termination. No indemnifying party, in the defense of any such claim or litigation, shall, except with the consent of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party of a release from all liability in respect to such claim or litigation.

**2.9 Assignment of Registration Rights**. The rights to cause the Company to register Registrable Securities pursuant to this Section 2 may be assigned by a Holder to a transferee or assignee of Registrable Securities (for so long as such shares remain Registrable Securities) that (a) is a subsidiary, parent, general partner, limited partner, retired partner, member or retired member of a Holder that is a corporation, partnership or limited liability company, (b) is a Holder's family member or trust for the benefit of an individual Holder, or (c) acquires at least one hundred thousand (100,000) shares of Registrable Securities (as adjusted for stock splits and combinations); *provided*, *however*, (i) the transferor shall, within ten (10) days after such transfer, furnish to the Company written notice of the name and address of such transferee or assignee and the securities with respect to which such registration rights are being assigned and (ii) such transferee shall agree to be subject to all restrictions set forth in this Agreement.

**2.10 Limitation on Subsequent Registration Rights**. Other than as provided in Section 5.10, after the date of this Agreement, the Company shall not, without the consent of the holders of a majority of the Registrable Securities, enter into any agreement with any holder or prospective holder of any securities of the Company that would grant such holder rights to demand the registration of shares of the Company's capital stock, or to include such shares in a registration statement that would reduce the number of shares includable by the Holders.

**2.11 "Market Stand-Off" Agreement**. Each Holder hereby agrees that such Holder shall not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale, any Common Stock (or other securities) of the Company held by such Holder (other than those included in the registration) during the 180-day period following the effective date of the Initial Offering (or such longer period, not to exceed 17 days after the expiration of the 180-day period, as the underwriters or the Company shall request in order to facilitate compliance with NASD Rule 2711 or NYSE Member Rule 472 or any successor or similar rule or regulation); *provided*, that, all officers and directors of the Company and holders of at least one percent (1%) of the Company's voting

securities are bound by and have entered into similar agreements. Such lock-up agreement shall provide that any discretionary waiver or termination of the restrictions of such agreements shall apply to all Major Investors (as defined below) in the same proportion, based on the number of shares held. The obligations described in this Section 2.11 shall not apply to a registration relating solely to employee benefit plans on Form S-1 or Form S-8 or similar forms that may be promulgated in the future, or a registration relating solely to a transaction on Form S-4 or similar forms that may be promulgated in the future.

**2.12 Agreement to Furnish Information**. Each Holder agrees to execute and deliver such other agreements as may be reasonably requested by the Company or the underwriter that are consistent with the Holder's obligations under Section 2.11 or that are necessary to give further effect thereto. In addition, if requested by the Company or the representative of the underwriters of Common Stock (or other securities) of the Company, each Holder shall provide, within ten (10) days of such request, such information as may be required by the Company or such representative in connection with the completion of any public offering of the Company's securities pursuant to a registration statement filed under the Securities Act. The obligations described in Section 2.11 and this Section 2.12 shall not apply to a Special Registration Statement. The Company may impose stop-transfer instructions with respect to the shares of Common Stock (or other securities) subject to the foregoing restriction until the end of said day period. Each Holder agrees that any transferee of any shares of Registrable Securities shall be bound by Sections 2.11 and 2.12. The underwriters of the Company's stock are intended third party beneficiaries of Sections 2.11 and 2.12 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto.

**2.13 Rule 144 Reporting**. With a view to making available to the Holders the benefits of certain rules and regulations of the SEC which may permit the sale of the Registrable Securities to the public without registration, the Company agrees to use its best efforts to:

**(a)** Make and keep public information available, as those terms are understood and defined in Rule 144 or any similar or analogous rule promulgated under the Securities Act, at all times after the effective date of the first registration filed by the Company for an offering of its securities to the general public;

**(b)** File with the SEC, in a timely manner, all reports and other documents required of the Company under the Exchange Act; and

**(c)** So long as a Holder owns any Registrable Securities, furnish to such Holder forthwith upon request: a written statement by the Company as to its compliance with the reporting requirements of Rule 144, and of the Exchange Act (at any time after it has become subject to such reporting requirements); a copy of the most recent annual or quarterly report of the Company filed with the Commission; and such other reports and documents as a Holder may reasonably request in connection with availing itself of any rule or regulation of the SEC allowing it to sell any such securities without registration.

**2.14 Termination of Registration Rights**. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Section 2.2, Section 2.3, or Section 2.4 hereof shall terminate upon the earlier of: (i) the date five (5) years following an initial public offering that results in the conversion of all outstanding shares of Preferred Stock; (ii) upon an "***Asset Transfer***" or "***Acquisition***" (each as defined in the Company's Certificate of Incorporation, as the same may be amended, restated or modified from time to time) or (iii) such time as all Registrable Securities of the Company issuable or issued upon conversion of the Shares held by and issuable to such Holder (and its affiliates) may be sold pursuant to Rule 144 during any ninety (90) day period. Upon such termination, such shares shall cease to be "Registrable Securities" hereunder for all purposes.

**SECTION 3. COVENANTS OF THE COMPANY**.

**3.1 Basic Financial Information and Reporting**.

**(a)** The Company will maintain true books and records of account in which full and correct entries will be made of all its business transactions pursuant to a system of accounting established and administered in accordance with generally accepted accounting principles consistently applied (except as noted therein), and will set aside on its books all such proper accruals and reserves as shall be required under generally accepted accounting principles consistently applied.

**(b)** To the extent requested by an Investor that holds (together with its affiliates) not less than 50,000 shares of Registrable Securities (as adjusted for stock splits and combinations) (a "***Major Investor***"), as soon as practicable after the end of each fiscal year of the Company, and in any event within one hundred eighty (180) days thereafter, the Company will furnish such Major Investor a balance sheet of the Company, as at the end of such fiscal year, and a statement of income and a statement of cash flows of the Company, for such year, all prepared in accordance with generally accepted accounting principles consistently applied (except as noted therein) and setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail. Such financial statements shall be accompanied by a report and opinion thereon by independent public accountants selected by the Company's Board of Directors.

**(c)** To the extent requested by a Major Investor, the Company will furnish such Major Investor, as soon as practicable after the end of the first, second and third quarterly accounting periods in each fiscal year of the Company, and in any event within forty-five (45) days thereafter, a balance sheet of the Company as of the end of each such quarterly period, and a statement of income and a statement of cash flows of the Company for such period and for the current fiscal year to date, prepared in accordance with generally accepted accounting principles consistently applied (except as noted therein), with the exception that no notes need be attached to such statements and year-end audit adjustments may not have been made.

**3.2 Confidentiality of Records**. Each Investor agrees to use the same degree of care as such Investor uses to protect its own confidential information to keep confidential any information furnished to such Investor that the Company identifies as being confidential or proprietary (so long as such information is not in the public domain), except that such Investor may disclose such proprietary or confidential information (i) to any partner, subsidiary or parent of such Investor as long as such partner, subsidiary or parent is advised of and agrees or has agreed to be bound by the confidentiality provisions of this Section 3.2 or comparable restrictions; (ii) at such time as it enters the public domain through no fault of such Investor; (iii) that is communicated to it free of any obligation of confidentiality; (iv) that is developed by Investor or its agents independently of and without reference to any confidential information communicated by the Company; or (v) as required by applicable law.

**3.3 Reservation of Common Stock**. The Company will at all times reserve and keep available, solely for issuance and delivery upon the conversion of the Preferred Stock, all Common Stock issuable from time to time upon such conversion.

**3.4 Proprietary Information and Inventions Agreement**. The Company shall require all employees and consultants to execute and deliver a Proprietary Information and Inventions Agreement substantially in a form approved by the Company's counsel or the Company's Board of Directors.

**3.5 Termination of Covenants**. All covenants of the Company contained in Section 3 of this Agreement (other than the provisions of Section 3.2) shall expire and terminate as to each Investor upon the earlier of (i) the effective date of the registration statement pertaining to an Initial Offering that results in the Preferred Stock being converted into Common Stock or (ii) upon an Asset Transfer or Acquisition.

**SECTION 4. RIGHTS OF FIRST REFUSAL**.

**4.1 Subsequent Offerings**. Subject to applicable securities laws, each Major Investor shall have a right of first refusal to purchase its *pro rata* share of all Equity Securities, as defined below, that the Company may, from time to time, propose to sell and issue after the date of this Agreement, other than the Equity Securities excluded by Section 4.7 hereof. Each Investor's *pro rata* share is equal to the ratio of (a) the number of shares of the Company's Common Stock (including all shares of Common Stock issuable or issued upon conversion of the Shares or upon the exercise of outstanding warrants or options) of which such Investor is deemed to be a holder immediately prior to the issuance of such Equity Securities to (b) the total number of shares of the Company's outstanding Common Stock (including all shares of Common Stock issued or issuable upon conversion of the Shares or upon the exercise of any outstanding warrants or options) immediately prior to the issuance of the Equity Securities. The term "***Equity Securities***" shall mean (i) any Common Stock, Preferred Stock or other equity security of the Company, (ii) any security convertible into or exercisable or exchangeable for, with or without consideration, any Common Stock, Preferred Stock or other equity security (including any option to purchase such a convertible security), (iii) any security carrying any warrant or right to subscribe to or purchase any Common Stock, Preferred Stock or other equity security or (iv) any such warrant or right.

**4.2 Exercise of Rights**. If the Company proposes to issue any Equity Securities, it shall give each Major Investor written notice of its intention, describing the Equity Securities, the price and the terms and conditions upon which the Company proposes to issue the same. Each Major Investor shall have fifteen (15) days from the giving of such notice to agree to purchase its *pro rata* share of the Equity Securities for the price and upon the terms and conditions specified in the notice by giving written notice to the Company and stating therein the quantity of Equity Securities to be purchased. Notwithstanding the foregoing, the Company shall not be required to offer or sell such Equity Securities to any Major Investor who would cause the Company to be in violation of applicable federal securities laws by virtue of such offer or sale.

**4.3 Issuance of Equity Securities to Other Persons**. If not all of the Major Investors elect to purchase their *pro rata* share of the Equity Securities, then the Company shall promptly notify in writing the Major Investors who do so elect and shall offer such Major Investors the right to acquire such unsubscribed shares on a *pro rata* basis. The Major Investors shall have five (5) days after receipt of such notice to notify the Company of its election to purchase all or a portion thereof of the unsubscribed shares. The Company shall have ninety (90) days thereafter to sell the Equity Securities in respect of which the Major Investor's rights were not exercised, at a price not lower and upon general terms and conditions not materially more favorable to the purchasers thereof than specified in the Company's notice to the Major Investors pursuant to Section 4.2 hereof. If the Company has not sold such Equity Securities within ninety (90) days of the notice provided pursuant to Section 4.2, the Company shall not thereafter issue or sell any Equity Securities, without first offering such securities to the Major Investors in the manner provided above.

**4.4 Sale Without Notice**. In lieu of giving notice to the Major Investors prior to the issuance of Equity Securities as provided in Section 4.2, the Company may elect to give notice to the Major Investors within thirty (30) days after the issuance of Equity Securities. Such notice shall describe the type, price and terms of the Equity Securities. Each Major Investor shall have twenty (20) days from the date of receipt of such notice to elect to purchase up to the number of shares that would, if purchased by such Major Investor, maintain such Major Investor's *pro rata* share (as set forth in Section 4.1) of the Company's equity securities after giving effect to all such purchases. The closing of such sale shall occur within sixty (60) days of the date of notice to the Major Investors.

**4.5 Termination and Waiver of Rights of First Refusal**. The rights of first refusal established by this Section 4 shall not apply to, and shall terminate upon the earlier of (i) the effective date of the registration statement pertaining to the Company's Initial Offering or (ii) an Asset Transfer or Acquisition. Notwithstanding Section 5.5 hereof, the rights of first refusal established by this Section 4 may be amended, or any provision waived with the written consent of the Company and the Major Investors holding a majority of the Registrable Securities held by all Major Investors, or as permitted by Section 5.5.

**4.6 Assignment of Rights of First Refusal**. The rights of first refusal of each Major Investor under this Section 4 may be assigned to the same parties, subject to the same restrictions, as any transfer of registration rights pursuant to Section 2.9.

**4.7 Excluded Securities**. The rights of first refusal established by this Section 4 shall have no application to any of the following Equity Securities:

**(a)** shares of Common Stock and/or options, warrants or other Common Stock purchase rights and the Common Stock issued pursuant to such options, warrants or other rights issued or to be issued after the date hereof to employees, officers or directors of, or consultants or advisors to the Company or any subsidiary, pursuant to stock purchase or stock option plans or other arrangements that are approved by the Board of Directors;

**(b)** stock issued or issuable pursuant to any rights or agreements, options, warrants or convertible securities outstanding as of the date of this Agreement; and stock issued pursuant to any such rights or agreements granted after the date of this Agreement, so long as the rights of first refusal established by this Section 4 were complied with, waived, or were inapplicable pursuant to any provision of this Section 4.7 with respect to the initial sale or grant by the Company of such rights or agreements;

**(c)** any Equity Securities issued for consideration other than cash pursuant to a merger, consolidation, acquisition or similar business combination approved by the Board of Directors;

**(d)** any Equity Securities issued in connection with any stock split, stock dividend or recapitalization by the Company;

**(e)** any Equity Securities issued pursuant to any equipment loan or leasing arrangement, real property leasing arrangement, or debt financing from a bank or similar financial or lending institution approved by the Board of Directors;

**(f)** any Equity Securities that are issued by the Company pursuant to a registration statement filed under the Securities Act;

**(g)** any Equity Securities that are issued pursuant to the Purchase Agreement (as the same may be amended, modified or restated from time to time); and

**(h)** any Equity Securities issued in connection with strategic transactions involving the Company and other entities, including (i) joint ventures, manufacturing, marketing or distribution arrangements or (ii) technology transfer or development arrangements; *provided* that the issuance of shares therein has been approved by the Company's Board of Directors.

**SECTION 5. MISCELLANEOUS**.

**5.1 Governing Law**. This Agreement shall be governed by and construed under the laws of the State of Colorado in all respects as such laws are applied to agreements among Colorado residents entered into and to be performed entirely within Colorado, without reference to conflicts of laws or principles thereof.

**5.2 Successors and Assigns**. Except as otherwise expressly provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the parties hereto and their respective successors, assigns, heirs, executors, and administrators and shall inure to the benefit of and be enforceable by each person who shall be a holder of Registrable Securities from time to time; *provided, however*, that prior to the receipt by the Company of adequate written notice of the transfer of any Registrable Securities specifying the full name and address of the transferee, the Company may deem and treat the person listed as the holder of such shares in its records as the absolute owner and holder of such shares for all purposes, including the payment of dividends or any redemption price.

**5.3 Entire Agreement**. This Agreement and the Exhibits and Schedules hereto constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and no party shall be liable or bound to any other in any manner by any oral or written representations, warranties, covenants and agreements except as specifically set forth herein. Each party expressly represents and warrants that it is not relying on any oral or written representations, warranties, covenants or agreements outside of this Agreement.

**5.4 Severability**. In the event one or more of the provisions of this Agreement should, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

**5.5 Amendment and Waiver**.

**(a)** Except as otherwise expressly provided, this Agreement may be amended or modified, and the obligations of the Company and the rights of the Holders under this Agreement may be waived, only upon the written consent of the Company and the holders of at least sixty-five percent (65%) of the then-outstanding Registrable Securities.

**(b)** For the purposes of determining the number of Holders or Investors entitled to vote or exercise any rights hereunder, the Company shall be entitled to rely solely on the list of record holders of its stock as maintained by or on behalf of the Company.

**5.6 Delays or Omissions**. It is agreed that no delay or omission to exercise any right, power, or remedy accruing to any party, upon any breach, default or noncompliance by another party under this Agreement shall impair any such right, power, or remedy, nor shall it be construed to be a waiver of any such breach, default or noncompliance, or any acquiescence therein, or of any similar breach, default or noncompliance thereafter occurring. It is further agreed that any waiver, permit, consent, or approval of any kind or character on any party's part of any breach, default or noncompliance under the Agreement or any waiver on such party's part of any provisions or conditions of this Agreement must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, by law, or otherwise afforded to any party, shall be cumulative and not alternative.

**5.7 Notices**. All notices required or permitted hereunder shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by confirmed electronic mail or facsimile if sent during normal business hours of the recipient; if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. All communications shall be sent to the Company at the address set forth on the signature pages hereof and to any other party hereto at the address appearing on the books of the Company, or, in each case, at such other address or electronic mail address as such party may designate by ten (10) days advance written notice to the other parties hereto.

**5.8 Attorneys' Fees**. In the event that any suit or action is instituted under or in relation to this Agreement, including without limitation to enforce any provision in this Agreement, the prevailing party in such dispute shall be entitled to recover from the losing party all fees, costs and expenses of enforcing any right of such prevailing party under or with respect to this Agreement, including without limitation, such reasonable fees and expenses of attorneys and accountants, which shall include, without limitation, all fees, costs and expenses of appeals.

**5.9 Titles and Subtitles**. The titles of the sections and subsections of this Agreement are for convenience of reference only and are not to be considered in construing this Agreement.

**5.10 Additional Investors**. Notwithstanding anything to the contrary contained herein, if the Company shall issue additional shares of its Preferred Stock pursuant to the Purchase Agreement, any purchaser of such shares of Preferred Stock shall become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement and shall be deemed an "***Investor***," a "***Holder***" and a party hereunder.

**5.11 Counterparts**. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

**5.12 Aggregation of Stock**. All shares of Registrable Securities held or acquired by affiliated entities or persons or persons or entities under common management or control shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

**5.13 Pronouns**. All pronouns contained herein, and any variations thereof, shall be deemed to refer to the masculine, feminine or neutral, singular or plural, as to the identity of the parties hereto may require.

**5.14 Termination**. This Agreement shall terminate and be of no further force or effect upon the earlier of (i) an Asset Transfer or Acquisition; or (ii) the date five (5) years following the closing of the Initial Offering.

[THIS SPACE INTENTIONALLY LEFT BLANK]

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**COMPANY:**

**BIODESIX, INC,**

By: /s/ David Brunel
Name: David Brunel
Title: President and Chief Executive Officer

Address: 2970 Wilderness Place, Suite 100
Boulder, CO 80301

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**JOHN PATIENCE TRUST, DATED JULY 23, 1993**

By: /s/ John Patience
John Patience, Trustee

**PATIENCE ENTERPRISES LP**

By: /s/ John Patience
John Patience, General Partner

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Jack Schuler
JACK SCHULER

**TANYA EVA SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**THERESE HEIDI SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**TINO HANS SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**SCHULER GRANDCHILDREN LLC**

By: /s/ Jack Schuler
Jack Schuler, Manager

**SCHULER GC 2010 CONTINUATION TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**MANLIA LIMITED**

By: _____
Name:
Title:

By: _____
Name:
Title:

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Larry N. Feinberg
LARRY N. FEINBERG

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Matthew Strobeck
MATTHEW STROBECK

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**DRD FAMILY PARTNERSHIP**

By: /s/ Rod Dammeyer
Rod Dammeyer, General Partner

**CAC, LLC**

By: /s/ Rod Dammeyer
Rod Dammeyer, Managing Member

**THOMAS M. DAMMEYER 2001 TRUST**

By: /s/ Tom Dammeyer
Tom Dammeyer, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**MARK C. MILLER TRUST**

By: /s/ Mark Miller
Mark Miller, Authorized Signatory

**TIGER'S FAMILY LLC**

By: /s/ Mark Miller
Mark Miller, Manager

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**OMNIVEST (BERMUDA) LTD**

By: /s/ Frits Besselaar
Frits Besselaar, President

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**EDWARD M. GILES REVOCABLE TRUST**

By: /s/ Edward M Giles
Edward M Giles, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**MARY PATRICIA VENABLE GILES REVOCABLE TRUST**

By: /s/ Mary Patricia Venable Giles
Mary Patricia Venable Giles, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Vaughn D. Bryson
VAUGHN D. BRYSON

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**DAVID V. MILLIGAN TRUST DATED 10/19/91**

By: /s/ David V. Milligan
David V. Milligan, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Kenneth J. Novack
KENNETH J. NOVACK

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**FRED GROOTHUIS AND SARAH LEE GROSS, TENANTS IN COMMON**

/s/ Fred Groothuis

FRED GROOTHUIS

/s/ Sarah Lee Gross

SARAH LEE GROSS

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Jeffrey Leerink
JEFFREY LEERINK

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Herbert H. Jacobi
HERBERT H. JACOBI

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**GILES FAMILY 2015 TRUST**

By: /s/ Zachary A. Wydra
Zachary A. Wydra, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**PNC INVESTMENTS LLC**

By: _____

Name: _____

Title: _____

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ George F. Ohrstrom
GEORGE F. OHRSTROM

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

/s/ Elaine Strecker
ELAINE STRECKER

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTORS:**

**LAURENCE O. BOOTH REVOCABLE TRUST**

By: /s/ Laurence O. Booth
Laurence O. Booth, Trustee

**IN WITNESS WHEREOF,** the parties hereto have executed this **ELEVENTH AMENDED AND RESTATED INVESTOR RIGHTS AGREEMENT** as of the date first above written.

**INVESTOR:**

_____

(*Print investor name*)

_____

(*Signature*)

_____

(*Print name of signatory, if signing for an entity*)

_____

(*Print title of signatory, if signing for an entity*)

**EXHIBIT A**

[***]

A-1
SCHEDULE OF INVESTORS

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED (I) UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR (II) WITHOUT AN OPINION OF COUNSEL, IN FORM AND SUBSTANCE REASONABLY SATISFACTORY TO THE COMPANY, THAT SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

**WARRANT TO PURCHASE STOCK**

| | |
|---|---|
| *Company* | BIODESIX, INC. |
| *Number of Shares* | 613,333 |
| *Type/Series of Stock* | Series G Preferred Stock |
| *Warrant Price* | $0.75 per share |
| *Issue Date* | February 23, 2018 |
| *Expiration Date* | February 23, 2028 (See also Section 5.1(b)) |
| *Credit Facility* | This Warrant to Purchase Stock ("Warrant") is issued in connection with that certain Loan and Security Agreement of even date herewith among Innovatus Life Sciences Lending Fund I, LP, as Lender and Collateral Agent, the Lenders from time to time party thereto, and the Company (as modified, amended and/or restated from time to time, the "Loan Agreement"). |

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, INNOVATUS LIFE SCIENCES LENDING FUND I, LP ("Innovatus"), a Delaware limited partnership with an office located at 777 Third Avenue, 25th Floor, New York, NY 10017 (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "Holder") is entitled to purchase the number of fully paid and non-assessable shares (the "Shares") of the above-stated Type/Series of Stock (the "Class") of the above-named company (the "Company") at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise his Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other form of payment acceptable to the Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If the Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "Trading Market") and the Class is common stock, the fair market value of a Share shall be the closing price or last sale price of a share of common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's common stock is then traded in a Trading Market and the Class is a series of the Company's convertible preferred stock, the fair market value of a Share shall be the closing price or last sale price of a share of the Company's common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company multiplied by the number of shares of the Company's common stock into which a Share is then convertible. If the Company's common stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Promptly after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form,

substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "Acquisition" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license or other disposition of all or substantially all of the assets of the Company; (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; or (iii) any sale or other transfer by the stockholders of the Company of shares representing a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "Cash/Public Acquisition"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Cash/Public Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Cash/Public Acquisition.

(c) The Company shall provide Holder with written notice of its request relating to the Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice), which is to be delivered to Holder not less than seven (7) Business Days prior to the closing of the proposed Cash/Public Acquisition. Notwithstanding the foregoing, if, immediately prior to the Cash/Public Acquisition, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon such exercise to the Holder.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(e) As used in this Warrant, "Marketable Securities" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in a Trading Market; and (iii) Holder would be able to publicly re-sell, within six (6) months following the closing of such Acquisition, all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise this Warrant in full on or prior to the closing of such Acquisition.

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Class payable in common stock or other securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Class by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 Conversion of Preferred Stock. If the Class is a class and series of the Company's convertible preferred stock, in the event that all outstanding shares of the Class are converted, automatically or by action of the holders thereof, into common stock pursuant to the provisions of the Company's Certificate of Incorporation, including, without limitation, in connection with the Company's initial, underwritten public offering and sale of its common stock pursuant to an effective registration statement under the Act (the "IPO"), then from and after the date on which all outstanding shares of the Class have been so converted, this Warrant shall be exercisable for such number of shares of common stock into which the Shares would have been converted had the Shares been outstanding on the date of such conversion, and the Warrant Price shall equal the Warrant Price in effect as of immediately prior to such conversion divided by the number of shares of common stock into which one Share would have been converted, all subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant.

2.4 Adjustments for Diluting Issuances. Without duplication of any adjustment otherwise provided for in this Section 2, the number of shares of common stock issuable upon conversion of the Shares shall be subject to anti-dilution adjustment from time to time in the manner set forth in the Company's Certificate of Incorporation as if the Shares were issued and outstanding on and as of the date of any such required adjustment.

2.5 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (a) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (b) the then-effective Warrant Price.

2.6 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is not greater than the price per share at which shares of the Class were last sold and issued prior to the Issue Date hereof in an arms-length transaction in which at least $500,000 of such shares were sold.

(b) All Shares which may be issued upon the exercise of this Warrant, and all securities, if any, issuable upon conversion of the Shares, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of the Class, common stock and other securities as will be sufficient to permit the exercise in full of this Warrant and the conversion of the Shares into common stock or such other securities.

(c) The Company's capitalization table attached hereto as Schedule 1 is true and complete, in all material respects, as of the Issue Date.

3.2 Notice of Certain Events. If the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(b) offer for subscription or sale pro rata to the holders of the outstanding shares of the Class any additional shares of any class or series of the Company's stock (other than pursuant to contractual pre-emptive rights);

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class;

(d) effect an Acquisition or to liquidate, dissolve or wind up; or

(e) effect an IPO;

then, in connection with each such event, the Company shall give Holder:

(1) at least seven (7) Business Days prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date on which the holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any, in respect of the matters referred to in (a) and (b) above;

(2) in the case of the matters referred to in (c) and (d) above at least seven (7) Business Days prior written notice of the date when the same will take place (and specifying the date on which the holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event); and

(3) with respect to the IPO, at least seven (7) Business Days prior written notice of the date on which the Company proposes to file its registration statement in connection therewith.

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if the Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

3.3 Registration Rights. The Company agrees that the Holder shall have the "Piggyback" and S-3 registration rights pursuant to and as set forth in the Company's Tenth Amended and Restated Investor Rights Agreement, dated as of April 12, 2017 (the "Rights Agreement"), on a pari passu basis with the holders of outstanding shares of the Company's convertible preferred stock who are parties thereto. The provisions set forth in the Rights Agreement or similar agreement relating to such registration rights in effect as of the Issue Date may not be amended, modified or waived without the prior written consent of the Holder unless such amendment, modification or waiver affects the rights associated with the Shares issued and issuable upon exercise hereof (and the shares of the Company's common stock issued and issuable

upon conversion of the Shares) in the same manner as such amendment, modification or waiver affects the rights associated with all outstanding shares of the Company's convertible preferred stock whose holders are parties thereto.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 P.M., Eastern time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) shall be imprinted with a legend in substantially the following form:

> THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO INNOVATUS LIFE SCIENCES LENDING FUND I, LP DATED FEBRUARY 23, 2018, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED (I) UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR (II) WITHOUT AN OPINION OF COUNSEL, IN FORM AND SUBSTANCE REASONABLY SATISFACTORY TO THE ISSUER, THAT SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company). The Company shall not require Holder to provide an opinion of counsel if the transfer is to an affiliate of Holder.

5.4 Transfer Procedure. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable directly or indirectly, upon

conversion of the Shares, if any) to any transferee, provided, however, in connection with any such transfer, Holder will give the Company notice of the portion of the Warrant being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

INNOVATUS LIFE SCIENCES LENDING FUND I, LP
777 Third Avenue, 25th Floor
New York, NY 10017
Attention: [***]
Email: [***]

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

BIODESIX, INC.
2970 Wilderness Place, Suite 100
Boulder, CO 80301
Attn: Chief Financial Officer
Facsimile
No.:
Email: robin.cowie@biodesix.com

With a copy (which shall not constitute notice) to:

Greenberg Traurig
1200 17th Street, Suite 2400
Denver, CO 80202
Attn: [***]
Facsimile No.:
Email: [***]

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorneys' Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically or by facsimile shall be binding to the same extent as an original signature page with regards to any agreement subject to the terms hereof or any amendment thereto.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

5.11 Business Days. "Business Day" is any day that is not a Saturday, Sunday or a day on which banks in New York, New York are closed.

*[Signature page follows]*

IN WITNESS WHEREOF, the parties have caused This Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

**BIODESIX, INC.**

By: /s/ Robin Harper Cowie

Name: Robin Harper Cowie
(Print)
Title: Chief Financial Officer

"HOLDER"

**INNOVATUS LIFE SCIENCES LENDING FUND I, LP**

By: Innovatus Life Sciences GP, LP
Its: General Partner

By: /s/ Andrew Hobson

Name: Andrew Hobson
(Print)
Title: Authorized Signatory

**[*Signature Page to Warrant to Purchase Stock*]**

**APPENDIX 1**
**NOTICE OF EXERCISE**

1. The undersigned Holder hereby exercises its right purchase _____ shares of the Common/Series G Preferred [circle one] Stock of BIODESIX, INC. (the "Company") in accordance with the attached Warrant To Purchase Stock, and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $__ payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account

[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant

[ ] Other [Describe] _____

2. Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3. By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By: _____
Name: _____
Title: _____
(Date): _____

**SECURED PROMISSORY NOTE**
**(Term Loan)**

$23,000,000.00 Dated: February 23, 2018

FOR VALUE RECEIVED, the undersigned, BIODESIX, INC., a Delaware corporation ("**Borrower**") HEREBY PROMISES TO PAY to the order of INNOVATUS LIFE SCIENCES LENDING FUND I, LP ("**Lender**") the principal amount of TWENTY-THREE MILLION DOLLARS ($23,000,000.00) or such lesser amount as shall equal the outstanding principal balance of the Term Loan made to Borrower by Lender, plus interest on the aggregate unpaid principal amount of such Term Loan, at the rates and in accordance with the terms of the Loan and Security Agreement dated February 23, 2018 by and among Borrower, Lender, INNOVATUS LIFE SCIENCES LENDING FUND I, LP, as Collateral Agent, and the other Lenders from time to time party thereto (as amended, restated, supplemented or otherwise modified from time to time, the "**Loan Agreement**"). If not sooner paid, the entire principal amount and all accrued and unpaid interest hereunder shall be due and payable on the Maturity Date as set forth in the Loan Agreement. Any capitalized term not otherwise defined herein shall have the meaning attributed to such term in the Loan Agreement.

Principal, interest and all other amounts due with respect to the Term Loan, are payable in lawful money of the United States of America to Lender as set forth in the Loan Agreement and this Secured Promissory Note (this "**Note**"). The principal amount of this Note and the interest rate applicable thereto, and all payments made with respect thereto, shall be recorded by Lender and, prior to any transfer hereof, endorsed on the grid attached hereto, which is part of this Note.

The Loan Agreement, among other things, (a) provides for the making of a secured Term Loan by Lender to Borrower, and (b) contains provisions for acceleration of the maturity hereof upon the happening of certain stated events.

This Note may not be prepaid except as set forth in Section 2.2 (c) and Section 2.2(d) of the Loan Agreement.

This Note and the obligation of Borrower to repay the unpaid principal amount of the Term Loan, interest on the Term Loan and all other amounts due Lender under the Loan Agreement is secured under the Loan Agreement.

Presentment for payment, demand, notice of protest and all other demands and notices of any kind in connection with the execution, delivery, performance and enforcement of this Note are hereby waived.

Borrower shall pay all reasonable fees and expenses, including, without limitation, reasonable attorneys' fees and costs, incurred by Lender in the enforcement or attempt to enforce any of Borrower's obligations hereunder not performed when due.

This Note shall be governed by, and construed and interpreted in accordance with, the internal laws of the State of Delaware.

The ownership of an interest in this Note shall be registered on a record of ownership maintained by Lender or its agent. Notwithstanding anything else in this Note to the contrary, the right to the principal of, and stated interest on, this Note may be transferred only if the transfer is registered on such record of ownership and the transferee is identified as the owner of an interest in the obligation. Borrower shall be entitled to treat the registered holder of this Note (as recorded on such record of ownership) as the owner in fact thereof for all purposes and shall not be bound to recognize any equitable or other claim to or interest in this Note on the part of any other person or entity.

***[Balance of Page Intentionally Left Blank]***

IN WITNESS WHEREOF, Borrower has caused this Note to be duly executed by one of its officers thereunto duly authorized on the date hereof.

**BORROWER:**

BIODESIX, INC.

By: /s/ Robin Harper Cowie
Name: Robin Harper Cowie
Title: Chief Financial Officer

[*Signature Page to Secured Promissory Note*]

**LOAN INTEREST RATE AND PAYMENTS OF PRINCIPAL**

| Date | Principal Amount | Interest Rate | Scheduled Payment Amount | Notation By |
|---|---|---|---|---|

**BIODESIX, INC.**

**2016 EQUITY INCENTIVE PLAN**

**ADOPTED BY THE BOARD OF DIRECTORS: FEBRUARY 17, 2016**
**APPROVED BY THE STOCKHOLDERS: FEBRUARY 17, 2016**
**TERMINATION DATE: FEBRUARY 16, 2026**

## 1. GENERAL.

**(a) Successor to and Continuation of Prior Plan.** The Plan is intended as the successor to and continuation of the Biodesix, Inc. Amended and Restated 2006 Employee, Director and Consultant Stock Plan (the ***"Prior Plan"***). Following the Effective Date, no additional stock awards may be granted under the Prior Plan. Any unallocated shares remaining available for issuance pursuant to the exercise of options or issuance or settlement of stock awards not previously granted under the Prior Plan as of 12:01 a.m. Mountain time on the Effective Date (the ***"Prior Plan's Available Reserve"***) will cease to be available under the Prior Plan at such time and will be added to the Share Reserve (as further described in Section 3(a) below) and be then immediately available for issuance pursuant to Stock Awards granted hereunder. In addition, from and after 12:01 a.m. Mountain time on the Effective Date, all outstanding stock awards granted under the Prior Plan will remain subject to the terms of the Prior Plan; *provided*, *however*, that any shares subject to outstanding stock awards granted under the Prior Plan that (i) expire or terminate for any reason prior to exercise or settlement; (ii) are forfeited, cancelled or otherwise returned to the Company because of the failure to meet a contingency or condition required to vest such shares; or (iii) are reacquired, withheld (or not issued) to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock award (the ***"Returning Shares"***) will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Returning Shares, and become available for issuance pursuant to Stock Awards granted hereunder. All Stock Awards granted on or after 12:01 a.m. Mountain time on the Effective Date will be subject to the terms of this Plan.

**(b) Eligible Stock Award Recipients.** Employees, Directors and Consultants are eligible to receive Stock Awards.

**(c) Available Stock Awards.** The Plan provides for the grant of the following types of Stock Awards: (i) Incentive Stock Options, (ii) Nonstatutory Stock Options, (iii) Stock Appreciation Rights, (iv) Restricted Stock Awards, (v) Restricted Stock Unit Awards and (vi) Other Stock Awards.

**(d) Purpose.** The Plan, through the granting of Stock Awards, is intended to help the Company secure and retain the services of eligible award recipients, provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate and provide a means by which the eligible recipients may benefit from increases in value of the Common Stock.

## 2. ADMINISTRATION.

**(a) Administration by Board.** The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

**(b) Powers of Board.** The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

**(i)** To determine (A) who will be granted Stock Awards; (B) when and how each Stock Award will be granted; (C) what type of Stock Award will be granted; (D) the provisions of each Stock Award (which need not be identical), including when a person will be permitted to exercise or otherwise receive cash or Common Stock under the Stock Award; (E) the number of shares of Common Stock subject to a Stock Award; and (F) the Fair Market Value applicable to a Stock Award.

**(ii)** To construe and interpret the Plan and Stock Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Stock Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it will deem necessary or expedient to make the Plan or Stock Award fully effective.

**(iii)** To settle all controversies regarding the Plan and Stock Awards granted under it.

**(iv)** To accelerate, in whole or in part, the time at which a Stock Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

**(v)** To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or a Stock Award Agreement, suspension or termination of the Plan will not impair a Participant's rights under his or her then-outstanding Stock Award without his or her written consent except as provided in subsection (viii) below.

**(vi)** To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, by adopting amendments relating to Incentive Stock Options and certain nonqualified deferred compensation under Section 409A of the Code and/or to make the Plan or Stock Awards granted under the Plan compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A of the Code, subject to the limitations, if any, of applicable law. However, if required by applicable law, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Stock Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Stock Awards available for issuance under the Plan. Except as provided in the Plan (including subsection (viii) below) or a Stock Award Agreement, no amendment of the Plan will impair a Participant's rights under an outstanding Stock Award unless (1) the Company requests the consent of the affected Participant, and (2) such Participant consents in writing.

**(vii)** To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 422 of the Code regarding Incentive Stock Options.

**(viii)** To approve forms of Stock Award Agreements for use under the Plan and to amend the terms of any one or more Stock Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Stock Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided however,* that a Participant's rights under any Stock Award will not be impaired by any such amendment unless (A) the Company requests the consent of the affected Participant, and (B) such Participant consents in writing. Notwithstanding the foregoing, (1) a Participant's rights will not be deemed to have been impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights, and (2) subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Stock Awards without the affected Participant's consent (A) to maintain the qualified status of the Stock Award as an Incentive Stock Option under Section 422 of the Code; (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code; (C) to clarify the manner of exemption from, or to bring the Stock Award into compliance with, Section 409A of the Code; or (D) to comply with other applicable laws.

**(ix)** Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan or Stock Awards.

**(x)** To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Stock Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

**(xi)** To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award; (B) the cancellation of any outstanding Stock Award and the grant in substitution therefor of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash and/or (6) other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

**(c) Delegation to Committee.** The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the

Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or revest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

**(d) Delegation to an Officer.** The Board may delegate to one or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Stock Awards, and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; provided, however, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value pursuant to Section 13(u) below.

**(e) Effect of Board's Decision.** All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

## 3. SHARES SUBJECT TO THE PLAN.

**(a) Share Reserve.**

**(i)** Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards from and after the Effective Date will not exceed (A) 4,301,585 shares, which number is the sum of (i) the number of shares (801,585) subject to the Prior Plan's Available Reserve and (ii) an additional 3,500,000 new shares plus (B) the Returning Shares, if any, which become available for grant under this Plan from time to time (such aggregate number of shares described in (A) and (B) above, the **"*Share Reserve*"**).

**(ii)** For clarity, the Share Reserve in this Section 3(a) is a limitation on the number of shares of Common Stock that may be issued pursuant to the Plan. Accordingly, this Section 3(a) does not limit the granting of Stock Awards except as provided in Section 7(a).

**(b) Reversion of Shares to the Share Reserve.** If a Stock Award or any portion thereof (i) expires or otherwise terminates without all of the shares covered by such Stock Award having been issued or (ii) is settled in cash (*i.e.*, the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that may be available for issuance under the Plan. If any shares of

Common Stock issued pursuant to a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

**(c) Incentive Stock Option Limit.** Subject to the Share Reserve and Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued pursuant to the exercise of Incentive Stock Options will be [23,073,645] shares of Common Stock.

**(d) Source of Shares.** The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

## 4. ELIGIBILITY.

**(a) Eligibility for Specific Stock Awards.** Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; *provided, however*, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A of the Code (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or alternatively comply with the distribution requirements of Section 409A of the Code.

**(b) Ten Percent Stockholders.** A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five years from the date of grant.

**(c) Consultants.** A Consultant will not be eligible for the grant of a Stock Award if, at the time of grant, either the offer or sale of the Company's securities to such Consultant is not exempt under Rule 701 because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of any other provision of Rule 701, unless the Company determines that such grant need not comply with the requirements of Rule 701 and will satisfy another exemption under the Securities Act as well as comply with the securities laws of all other relevant jurisdictions.

## 5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate

certificate or certificates will be issued for shares of Common Stock purchased on exercise of each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; *provided, however*, that each Stock Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Stock Award Agreement or otherwise) the substance of each of the following provisions:

**(a) Term.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of 10 years from the date of its grant or such shorter period specified in the Stock Award Agreement.

**(b) Exercise Price.** Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than one 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Stock Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Stock Award if such Stock Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A of the Code and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in shares of Common Stock equivalents.

**(c) Purchase Price for Options.** The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

**(i)** by cash, check, bank draft or money order payable to the Company;

**(ii)** pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

**(iii)** by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

**(iv)** if an Option is a Nonstatutory Stock Option, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; provided, however, that the Company will accept a cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares

of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations;

**(v)** according to a deferred payment or similar arrangement with the Optionholder; *provided*, *however*, that interest will compound at least annually and will be charged at the minimum rate of interest necessary to avoid (A) the imputation of interest income to the Company and compensation income to the Optionholder under any applicable provisions of the Code, and (B) the classification of the Option as a liability for financial accounting purposes; or

**(vi)** in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Stock Award Agreement.

**(d) Exercise and Payment of a SAR.** To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Award Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR, and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate strike price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Award Agreement evidencing such SAR.

**(e) Transferability of Options and SARs.** The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of such a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

**(i) Restrictions on Transfer.** An Option or SAR will not be transferable except by will or by the laws of descent and distribution (and pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

**(ii) Domestic Relations Orders.** Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulation 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

**(iii) Beneficiary Designation.** Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form

approved by the Company (or the designated broker), designate a third party who, upon the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, upon the death of the Participant, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

**(f) Vesting Generally.** The total number of shares of Common Stock subject to an Option or SAR may vest and become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of performance goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary. The provisions of this Section 5(f) are subject to any Option or SAR provisions governing the minimum number of shares of Common Stock as to which an Option or SAR may be exercised.

**(g) Termination of Continuous Service.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Stock Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date three months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the applicable Stock Award Agreement, which period will not be less than 30 days if necessary to comply with applicable laws unless such termination is for Cause) and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(h) Extension of Termination Date.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of time (that need not be consecutive) equal to the applicable post termination exercise period after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement. In addition, unless otherwise provided in a Participant's Stock Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of time (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service

during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Stock Award Agreement.

**(i) Disability of Participant.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date 12 months following such termination of Continuous Service (or such longer or shorter period specified in the Stock Award Agreement, which period will not be less than six months if necessary to comply with applicable laws), and (ii) the expiration of the term of the Option or SAR as set forth in the Stock Award Agreement. If, after termination of Continuous Service, the Participant does not exercise his or her Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(j) Death of Participant.** Except as otherwise provided in the applicable Stock Award Agreement or other agreement between the Participant and the Company, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the Stock Award Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date 18 months following the date of death (or such longer or shorter period specified in the Stock Award Agreement, which period will not be less than six months if necessary to comply with applicable laws), and (ii) the expiration of the term of such Option or SAR as set forth in the Stock Award Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR (as applicable) will terminate.

**(k) Termination for Cause.** Except as explicitly provided otherwise in a Participant's Stock Award Agreement or other individual written agreement between the Company or any Affiliate and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate immediately upon such Participant's termination of Continuous Service, and the Participant will be prohibited from exercising his or her Option or SAR from and after the time of such termination of Continuous Service.

**(l) Non-Exempt Employees.** If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the Option or SAR will not be first exercisable for any shares of Common Stock until at least six months following the date of grant of the Option or SAR (although the Stock Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's retirement (as such term may be defined in the Participant's Stock Award Agreement, in another agreement between the Participant and the Company, or, if no such

definition, in accordance with the Company's then current employment policies and guidelines), the vested portion of any Options and SARs may be exercised earlier than six months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from his or her regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this Section 5(l) will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

**(m) Early Exercise of Options.** An Option may, but need not, include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Subject to the "Repurchase Limitation" in Section 8(l), any unvested shares of Common Stock so purchased may be subject to a repurchase right in favor of the Company or to any other restriction the Board determines to be appropriate. Provided that the "Repurchase Limitation" in Section 8(l) is not violated, the Company will not be required to exercise its repurchase right until at least six months (or such longer or shorter period of time required to avoid classification of the Option as a liability for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option Agreement.

**(n) Right of Repurchase.** Subject to the "Repurchase Limitation" in Section 8(l), the Option or SAR may include a provision whereby the Company may elect to repurchase all or any part of the vested shares of Common Stock acquired by the Participant pursuant to the exercise of the Option or SAR.

**(o) Right of First Refusal.** The Option or SAR may include a provision whereby the Company may elect to exercise a right of first refusal following receipt of notice from the Participant of the intent to transfer all or any part of the shares of Common Stock received upon the exercise of the Option or SAR. Such right of first refusal will be subject to the "Repurchase Limitation" in Section 8(l). Except as expressly provided in this Section 5(o) or in the Stock Award Agreement, such right of first refusal will otherwise comply with any applicable provisions of the bylaws of the Company.

## 6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.

**(a) Restricted Stock Awards.** Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock underlying a Restricted Stock Award may be (i) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse; or (ii) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

**(i) Consideration.** A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

**(ii) Vesting.** Subject to the "Repurchase Limitation" in Section 8(l), shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board.

**(iii) Termination of Participant's Continuous Service.** If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

**(iv) Transferability.** Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

**(v) Dividends.** A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

**(b) Restricted Stock Unit Awards.** Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the Agreement or otherwise) the substance of each of the following provisions:

**(i) Consideration.** At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

**(ii) Vesting.** At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate.

**(iii) Payment.** A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and contained in the Restricted Stock Unit Award Agreement.

**(iv) Additional Restrictions.** At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

**(v) Dividend Equivalents.** Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and contained in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

**(vi) Termination of Participant's Continuous Service.** Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

**(vii) Compliance with Section 409A of the Code.** Notwithstanding anything to the contrary set forth herein, any Restricted Stock Unit Award granted under the Plan that is not exempt from the requirements of Section 409A of the Code shall contain such provisions so that such Restricted Stock Unit Award will comply with the requirements of Section 409A of the Code. Such restrictions, if any, shall be determined by the Board and contained in the Restricted Stock Unit Award Agreement evidencing such Restricted Stock Unit Award. For example, such restrictions may include, without limitation, a requirement that any Common Stock that is to be issued in a year following the year in which the Restricted Stock Unit Award vests must be issued in accordance with a fixed pre-determined schedule.

**(c) Other Stock Awards.** Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof (e.g., options or stock rights with an exercise price or strike price less than 100% of the Fair Market Value of the Common Stock at the time of grant) may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

**7. COVENANTS OF THE COMPANY.**

**(a) Availability of Shares.** The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

**(b) Securities Law Compliance.** The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of a Stock Award or the subsequent issuance of cash or Common Stock pursuant to the Stock Award if such grant or issuance would be in violation of any applicable securities law.

**(c) No Obligation to Notify or Minimize Taxes.** The Company will have no duty or obligation to any Participant to advise such holder as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise such holder of a pending termination or expiration of a Stock Award or a possible period in which the Stock Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of a Stock Award to the holder of such Stock Award.

**8. MISCELLANEOUS.**

**(a) Use of Proceeds from Sales of Common Stock.** Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

**(b) Corporate Action Constituting Grant of Stock Awards.** Corporate action constituting a grant by the Company of a Stock Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Stock Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Stock Award Agreement as a result of a clerical error in the papering of the Stock Award Agreement, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Stock Award Agreement.

**(c) Stockholder Rights.** No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to a Stock Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Stock Award pursuant to its terms, and (ii) the issuance of the Common Stock subject to the Stock Award has been entered into the books and records of the Company.

**(d) No Employment or Other Service Rights.** Nothing in the Plan, any Stock Award Agreement or any other instrument executed thereunder or in connection with any Stock Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Stock Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

**(e) Change in Time Commitment.** In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee) after the date of grant of any Stock Award to the Participant, the Board has the right in its sole discretion to (x) make a corresponding reduction in the number of shares subject to any portion of such Stock Award that is scheduled to vest or become payable after the date of such change in time commitment, and (y) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Stock Award. In the event of any such reduction, the Participant will have no right with respect to any portion of the Stock Award that is so reduced or extended.

**(f) Incentive Stock Option Limitations.** To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

**(g) Investment Assurances.** The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (A) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective

registration statement under the Securities Act, or (B) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

**(h) Withholding Obligations.** Unless prohibited by the terms of a Stock Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to a Stock Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Stock Award; *provided*, *however*, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from a Stock Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Stock Award Agreement.

**(i) Electronic Delivery.** Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically or posted on the Company's intranet (or other shared electronic medium controlled by the Company to which the Participant has access).

**(j) Deferrals.** To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Stock Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Stock Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

**(k) Compliance with Section 409A of the Code.** To the extent that the Board determines that any Stock Award granted hereunder is subject to Section 409A of the Code, the Stock Award Agreement evidencing such Stock Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, the Plan and Stock Award Agreements shall be interpreted in accordance with Section 409A of the Code.

**(l) Repurchase Limitation.** The terms of any repurchase right will be specified in the Stock Award Agreement. The repurchase price for vested shares of Common Stock will be the Fair Market Value of the shares of Common Stock on the date of repurchase. The repurchase price for unvested shares of Common Stock will be the lower of (i) the Fair Market Value of the shares

of Common Stock on the date of repurchase or (ii) their original purchase price. However, the Company will not exercise its repurchase right until at least six months (or such longer or shorter period of time necessary to avoid classification of the Stock Award as a liability for financial accounting purposes) have elapsed following delivery of shares of Common Stock subject to the Stock Award, unless otherwise specifically provided by the Board.

**9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.**

**(a) Capitalization Adjustments.** In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c), and (iii) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

**(b) Dissolution.** Except as otherwise provided in the Stock Award Agreement, in the event of a Dissolution of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such Dissolution, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service, *provided*, *however*, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the Dissolution is completed but contingent on its completion.

**(c) Transactions.** The following provisions will apply to Stock Awards in the event of a Transaction unless otherwise provided in the Stock Award Agreement or any other written agreement between the Company or any Affiliate and the Participant or unless otherwise expressly provided by the Board at the time of grant of a Stock Award. In the event of a Transaction, then, notwithstanding any other provision of the Plan, the Board may take one or more of the following actions with respect to Stock Awards, contingent upon the closing or completion of the Transaction:

**(i)** arrange for the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) to assume or continue the Stock Award or to substitute a similar stock award for the Stock Award (including, but not limited to, an award to acquire the same consideration paid to the stockholders of the Company pursuant to the Transaction);

**(ii)** arrange for the assignment of any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to the Stock Award to the surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company);

**(iii)** accelerate the vesting, in whole or in part, of the Stock Award (and, if applicable, the time at which the Stock Award may be exercised) to a date prior to the effective time of such Transaction as the Board determines (or, if the Board does not determine such a date, to the date that is five days prior to the effective date of the Transaction), with such Stock Award terminating if not exercised (if applicable) at or prior to the effective time of the Transaction; provided, however, that the Board may require Participants to complete and deliver to the Company a notice of exercise before the effective date of a Transaction, which exercise is contingent upon the effectiveness of such Transaction;

**(iv)** arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by the Company with respect to the Stock Award;

**(v)** cancel or arrange for the cancellation of the Stock Award, to the extent not vested or not exercised prior to the effective time of the Transaction, in exchange for such cash consideration or no consideration as the Board, in its sole discretion, may consider appropriate; and

**(vi)** make a payment, in such form as may be determined by the Board equal to the excess, if any, of (A) the value of the property the Participant would have received upon the exercise of the Stock Award immediately prior to the effective time of the Transaction, over (B) any exercise price payable by such holder in connection with such exercise. For clarity, this payment may be zero ($0) if the value of the property is equal to or less than the exercise price. Payments under this provision may be delayed to the same extent that payment of consideration to the holders of the Company's Common Stock in connection with the Transaction is delayed as a result of escrows, earn outs, holdbacks or any other contingencies.

The Board need not take the same action or actions with respect to all Stock Awards or portions thereof or with respect to all Participants. The Board may take different actions with respect to the vested and unvested portions of a Stock Award.

**(d) Change in Control.** A Stock Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur.

## 10. PLAN TERM; EARLIER TERMINATION OR SUSPENSION OF THE PLAN.

**(a) Plan Term.** The Board may suspend or terminate the Plan at any time. Unless terminated sooner by the Board, the Plan will automatically terminate on the day before the 10th anniversary of the earlier of (i) the date the Plan is adopted by the Board, or (ii) the date the Plan is approved by the stockholders of the Company. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

**(b) No Impairment of Rights.** Suspension or termination of the Plan will not impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the affected Participant or as otherwise permitted in the Plan.

**11. EFFECTIVE DATE OF PLAN.**

This Plan will become effective on the Effective Date.

**12. CHOICE OF LAW.**

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

**13. DEFINITIONS.**

As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

**(a) *"Affiliate"*** means, at the time of determination, any "parent" or "majority-owned subsidiary" of the Company, as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "majority-owned subsidiary" status is determined within the foregoing definition.

**(b) *"Board"*** means the Board of Directors of the Company.

**(c) *"Capitalization Adjustment"*** means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, stock split, reverse stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

**(d) *"Cause"*** means, with respect to a Participant, the occurrence of any of the following events: (i) such Participant's attempted commission of, or participation in, a felony, fraud or act of dishonesty against the Company; (ii) such Participant's intentional, material violation of any contract or agreement between the Participant and the Company or of any statutory duty owed to the Company; (iii) such Participant's unauthorized use or disclosure of the Company's confidential information or trade secrets; or (iv) such Participant's gross misconduct. The determination that a termination of the Participant's Continuous Service is either for Cause or without Cause shall be made by the Company in its sole discretion. Any determination by the Company that the Continuous Service of a Participant was terminated by reason of dismissal without Cause for the purposes of outstanding Stock Awards held by such Participant shall have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

**(e) *"Change in Control"*** means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

**(i)** any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur (A) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (B) solely because the level of Ownership held by any Exchange Act Person (the ***"Subject Person"***) exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

**(ii)** there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, either (A) outstanding voting securities representing more than 50% of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or (B) more than 50% of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction, in each case in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such transaction; provided that a Change in Control pursuant to this paragraph shall not include any transaction or series of transactions principally for bona fide equity financing purposes in which cash is received by the Company or any successor or indebtedness of the Company is cancelled or converted or a combination thereof;

**(iii)** there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than 50% of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

**(iv)** individuals who, on the date this Plan is adopted by the Board, are members of the Board (the ***"Incumbent Board"***) cease for any reason to constitute at least a majority of the members of the Board; *provided, however,* that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of this Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the

purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Stock Awards subject to such agreement; *provided, however,* that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

**(f) "*Code*"** means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

**(g) "*Committee*"** means a committee of one or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

**(h) "*Common Stock*"** means the common stock of the Company.

**(i) "*Company*"** means Biodesix, Inc., a Delaware corporation.

**(j) "*Consultant*"** means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan.

**(k) "*Continuous Service*"** means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Director or Consultant or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service; *provided*, *however*, that if the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the Company, an Affiliate, or their successors. Notwithstanding the foregoing, a leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

**(l) "*Corporate Transaction*"** means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

**(i)** the consummation of a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

**(ii)** the consummation of a sale or other disposition of at least 90% of the outstanding securities of the Company;

**(iii)** the consummation of a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

**(iv)** the consummation of a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

**(m) "*Director*"** means a member of the Board.

**(n) "*Disability*"** means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months as provided in Sections 22(e)(3) and 409A(a)(2)(c)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

**(o) "*Dissolution*"** means when the Company, after having executed a certificate of dissolution with the State of Delaware, has completely wound up its affairs. Conversion of the Company into a Limited Liability Company will not be considered a "Dissolution" for purposes of the Plan.

**(p) "*Effective Date*"** means the effective date of this Plan, which is the earlier of (i) the date that this Plan is first approved by the Company's stockholders, and (ii) the date this Plan is adopted by the Board.

**(q) "*Employee*"** means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

**(r) "*Entity*"** means a corporation, partnership, limited liability company or other entity.

**(s)** "***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

**(t) "*Exchange Act Person*"** means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company; or (v) any natural person, Entity or

"group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than 50% of the combined voting power of the Company's then outstanding securities.

**(u) "*Fair Market Value*"** means, as of any date, the value of the Common Stock determined by the Board in compliance with Section 409A of the Code or, in the case of an Incentive Stock Option, in compliance with Section 422 of the Code.

**(v) "*Incentive Stock Option*"** means an option granted pursuant to Section 5 of the Plan that is intended to be, and that qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

**(w) "*Nonstatutory Stock Option*"** means any option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

**(x) "*Officer*"** means any person designated by the Company as an officer.

**(y) "*Option*"** means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

**(z) "*Option Agreement*"** means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

**(aa) "*Optionholder*"** means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

**(bb) "*Other Stock Award*"** means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(c).

**(cc) "*Other Stock Award Agreement*"** means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

**(dd) "*Own*," "*Owned*,"** "***Owner*," "*Ownership*"** A person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

**(ee) "*Participant*"** means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

**(ff) "*Plan*"** means this 2016 Equity Incentive Plan.

**(gg) "*Restricted Stock Award*"** means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

**(hh) *"Restricted Stock Award Agreement"*** means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

**(ii) *"Restricted Stock Unit Award"*** means a right to receive shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(b).

**(jj) *"Restricted Stock Unit Award Agreement"*** means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

**(kk) *"Rule 405"*** means Rule 405 promulgated under the Securities Act.

**(ll) *"Rule 701"*** means Rule 701 promulgated under the Securities Act.

**(mm) *"Securities Act"*** means the Securities Act of 1933, as amended.

**(nn) *"Stock Appreciation Right"*** or **"*SAR*"** means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

**(oo) *"Stock Appreciation Right Agreement"*** means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

**(pp) *"Stock Award"*** means any right to receive Common Stock granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right or any Other Stock Award.

**(qq) *"Stock Award Agreement"*** means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

**(rr) *"Subsidiary"*** means, with respect to the Company, (i) any corporation of which more than 50% of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than 50%.

**(ss) *"Ten Percent Stockholder"*** means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company or any Affiliate.

**(tt) *"Transaction"*** means a Corporate Transaction or a Change in Control.

# Biodesix, Inc. Amended and Restated Bonus-to-Options Program

Adopted by the Board of Directors on October 15, 2010

This program is only available to the Chief Executive Officer and direct reports to the CEO. This policy will be incorporated into the overall Equity Incentive Policy and may be included in the document describing that policy. This program amends and restates in its entirety the prior "bonus to options program" initially adopted by the board of directors of the company on August 6, 2008, as corrected on April 26, 2010.

1. Participation in this program is limited to the Chief Executive Officer and direct reports to the CEO.

2. The program allows executives to convert some or all (depending on availability) of their annual cash bonus into options on the company's common stock.

3. Executives must declare their intent to participate in this program not later than the last day of the calendar year prior to the taxable year for which bonuses will be awarded. For example, an election must be made not later than December 31, 2008 to participate in the program with respect to the bonus paid for calendar year 2009, even though any bonus for calendar year 2009 may actually be paid in 2010. For the first year in which an executive first becomes eligible to participate (upon initial implementation of this plan or for newly-hired executives), the executive has 30 days to declare his or her intent to participate in the program. Such election only applies to that portion of bonus payable for services remaining to be performed in that year. Notwithstanding the foregoing, executives hired after September 30 are not eligible for the current year.

4. Participating executives will declare their intent to convert a percentage of their bonus, up to 100%, into options on the common shares of the company. A participating executive may, at his or her option, also designate a maximum dollar amount of bonus to be converted under this program.

5. The amount of options awarded will be the result of a formula calculated as follows:

    a. The amount of the cash bonus to be converted;

    b. Times four;

    c. Divided by the Deemed Preferred Price. The "Deemed Preferred Price" shall mean the price determined by dividing (i) the sum of the products of (A) each of the most recent sales (counting such sales as are necessary to provide for 12 months under part (B) of this clause) of preferred stock of the company having a price different than the immediately preceding sale and (B) with respect to each such sale, the number of months (counting only those months completely within the calendar year for which the bonus is awarded) elapsed between such sale and earlier to occur of the next subsequent sale of preferred stock of the company or the final day of the calendar year by (ii) 12, rounded down to the nearest whole cent.

d. Example: The executive is awarded a bonus of $20,000 and has previously elected to take 75% of the bonus as options. The Deemed Preferred Price was $3.31. $20,000 times 75% equals $15,000. Times four equals $60,000. Divided by $3.31 equals 18,126 options. So, the executive would receive a cash bonus of $5,000 (the remaining 25%) and 18,126 options on common.

6. The options will have the following characteristics:

   a. Type:Non-qualified Stock Options (NSOs). A condition to the exercise of any options hereunder will be the optionee's agreement to become a party to and be bound by the provisions set forth in the Company's Voting Agreement, dated as of June 23, 2008, as may be amended from time to time.

   b. Vesting: Fully vested on issuance.

   c. Strike Price: The Deemed Preferred Price, or the then current price for common shares, whichever is higher.

   d. Term: Must be exercised within 10 years of issuance.

   e. Cashless exercise: Allowed upon a liquidity event that values the common.

7. A maximum of 2% of the fully-diluted equity, as of December 31 of the year for which the bonus was awarded, may be issued in any one year to the executive team as a whole (the "Plan Allotment"). If the executive team has elected to receive options that, in the aggregate, would total more than the Plan Allotment, then a maximum percentage of each person's bonus to be converted to options will be set such that the 2% threshold is not exceeded. The highest election or elections, by percentage, shall be reduced first to the amount necessary so that all elections in the aggregate do not exceed the Plan Allotment.

# Biodesix, Inc. Second Amended and Restated Bonus-to-Options Program

Adopted by the Board of Directors on June 21, 2011

This program is only available to the Chief Executive Officer and direct reports to the CEO. This policy will be incorporated into the overall Equity Incentive Policy and may be included in the document describing that policy. Effective beginning as of the company's 2012 fiscal year, this program amends and restates in its entirety the prior "bonus to options program" adopted by the board of directors of the company on October 15, 2010.

1. Participation in this program is limited to the Chief Executive Officer and direct reports to the CEO.

2. The program allows executives to convert some or all (depending on availability) of their annual cash bonus into options on the company's common stock.

3. Executives must declare their intent to participate in this program not later than the last day of the calendar year prior to the taxable year for which bonuses will be awarded. For example, an election must be made not later than December 31, 2008 to participate in the program with respect to the bonus paid for calendar year 2009, even though any bonus for calendar year 2009 may actually be paid in 2010. For the first year in which an executive first becomes eligible to participate (upon initial implementation of this plan or for newly-hired executives), the executive has 30 days to declare his or her intent to participate in the program. Such election only applies to that portion of bonus payable for services remaining to be performed in that year. Notwithstanding the foregoing, executives hired after September 30 are not eligible for the current year.

4. Participating executives will declare their intent to convert a percentage of their bonus, up to 100%, into options on the common shares of the company. A participating executive may, at his or her option, also designate a maximum dollar amount of bonus to be converted under this program.

5. The amount of options awarded will be the result of a formula calculated as follows:

    a. The amount of the cash bonus to be converted;

    b. Times four;

    c. Divided by the Deemed Preferred Price. The "Deemed Preferred Price" shall mean the price determined by dividing (i) the sum of the products of (A) the share price in each of the most recent sales (counting such sales as are necessary to provide for 12 months under part (B) of this clause) of preferred stock of the company and (B) with respect to each such sale, the number of months (counting only those months completely within the calendar year for which the bonus is awarded) elapsed between such sale and earlier to occur of the next subsequent sale of preferred stock of the company or the final day of the calendar year by (ii) 12, rounded down to the nearest whole cent.

    d. Example: The executive is awarded a bonus of $20,000 and has previously elected to take 75% of the bonus as options. The Deemed Preferred Price was

$3.31. $20,000 times 75% equals $15,000. Times four equals $60,000. Divided by $3.31 equals 18,126 options. So, the executive would receive a cash bonus of $5,000 (the remaining 25%) and 18,126 options on common.

6. The options will have the following characteristics:

    a. Type: Non-qualified Stock Options (NSOs). A condition to the exercise of any options hereunder will be the optionee's agreement to become a party to and be bound by the provisions set forth in the Company's Voting Agreement, dated as of June 23, 2008, as may be amended from time to time.

    b. Vesting: Fully vested on issuance.

    c. Strike Price: The Deemed Preferred Price, or the then current price for common shares, whichever is higher.

    d. Term: Must be exercised within 10 years of issuance.

    e. Cashless exercise: Allowed upon a liquidity event that values the common.

7. A maximum of 1% of the fully-diluted equity, as of December 31 of the year for which the bonus was awarded, may be issued in any one year to the executive team as a whole (the "Plan Allotment"). If the executive team has elected to receive options that, in the aggregate, would total more than the Plan Allotment, then a maximum percentage of each person's bonus to be converted to options will be set such that the 1% threshold is not exceeded. The highest election or elections, by percentage, shall be reduced first to the amount necessary so that all elections in the aggregate do not exceed the Plan Allotment.

**Biodesix, Inc. Third Amended and Restated Bonus-to-Options Program**

Adopted by the Board of Directors on December 31, 2015

This program is only available to the Chief Executive Officer, direct reports to the Chief Executive Officer and vice presidents of Biodesix, Inc. (the "company"). This policy will be incorporated into the company's overall equity incentive policy and may be included in the document describing that policy. Effective beginning as of the company's 2016 fiscal year, this program amends and restates in its entirety the prior "bonus to options program" adopted by the board of directors of the company on June 21, 2011.

1. Participation in this program is limited to the Chief Executive Officer, direct reports to the Chief Executive Officer and vice presidents (collectively, the "executives").

2. The program allows executives to convert some or all (depending on availability) of their annual cash bonus into options on the company's common stock.

3. Executives must declare their intent to participate in this program not later than the last day of the calendar year prior to the taxable year for which bonuses will be awarded. For example, an election must be made not later than December 31, 2008 to participate in the program with respect to the bonus paid for calendar year 2009, even though any bonus for calendar year 2009 may actually be paid in 201For the first year in which an executive first becomes eligible to participate (upon initial implementation of this plan or for newly-hired executives), the executive has 30 days to declare his or her intent to participate in the program. Such election only applies to that portion of bonus payable for services remaining to be performed in that year. Notwithstanding the foregoing, executives hired after September 30 are not eligible for the current year.

4. Participating executives will declare their intent to convert a percentage of their bonus, up to 100%, into options on the common shares of the company. A participating executive may, at his or her option, also designate a maximum dollar amount of bonus to be converted under this program.

5. The amount of options awarded will be the result of a formula calculated as follows:

    a. The amount of the cash bonus to be converted;

    b. Times four;

    c. Divided by the Deemed Preferred Price. The "Deemed Preferred Price" shall mean the price determined by dividing (i) the sum of the products of (A) the share price in each of the most recent sales (counting such sales as are necessary to provide for 12 months under part (B) of this clause) of preferred stock of the company and (B) with respect to each such sale, the number of months (counting only those months completely within the

calendar year for which the bonus is awarded) elapsed between such sale and earlier to occur of the next subsequent sale of preferred stock of the company or the final day of the calendar year by (ii) 12, rounded down to the nearest whole cent.

d. Example: The executive is awarded a bonus of $20,000 and has previously elected to take 75% of the bonus as options. The Deemed Preferred Price was $3.3$20,000 times 75% equals $15,00 Times four equals $60,00 Divided by $3.31 equals 18,126 options. So, the executive would receive a cash bonus of $5,000 (the remaining 25%) and 18,126 options on common.

6. The options will have the following characteristics:

a. Type: Non-qualified Stock Options (NSOs). A condition to the exercise of any options hereunder will be the optionee's agreement to become a party to and be bound by the provisions set forth in the Company's Fourth Amended and Restated Voting Agreement, dated as of November 21, 2013, as may be amended from time to time.

b. Vesting: Fully vested on issuance.

c. Strike Price: The Deemed Preferred Price, or the then current price for common shares, whichever is higher.

d. Term: Must be exercised within 10 years of issuance.

e. Cashless exercise: Allowed upon a liquidity event that values the common.

7. A maximum of 1% of the fully-diluted equity, as of December 31 of the year for which the bonus was awarded, may be issued in any one year to the executive team as a whole (the "Plan Allotment"). If the executive team has elected to receive options that, in the aggregate, would total more than the Plan Allotment, then a maximum percentage of each person's bonus to be converted to options will be set such that the 1% threshold is not exceeded. The highest election or elections, by percentage, shall be reduced first to the amount necessary so that all elections in the aggregate do not exceed the Plan Allotment.

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

February 8, 2018 (revised February 16, 2018)

Mr. Scott Hutton
[***]
[***]

Dear Scott:

It is my pleasure to offer you the position of Chief Operating Officer at Biodesix, Inc. ("Biodesix" or the "Company") beginning on March 1, 2018. As Chief Operating Officer you will be reporting to David Brunel, Chief Executive Officer, who will be primarily responsible for evaluating your performance. In this position you will be overseeing our organization's ongoing operations and procedures with the goal of securing the functionality of business to drive extensive and sustainable growth. You will work primarily from our Boulder facility. The Company may change your position, title, duties, and place of employment from time to time as it deems necessary.

This letter and the accompanying enclosures state the complete terms and conditions of your offer. This offer will expire if not accepted within two weeks of the date of this letter, shown above.

Our benefits, payroll, and other human resource management services are provided through TriNet Employer Group, Inc., a professional employer organization. As a result of Biodesix's arrangement with TriNet, TriNet will be considered your employer of record for these purposes, and your managers at Biodesix will be responsible for directing your work, reviewing your performance, and setting your schedule at Biodesix.

Compensation: Your base salary will be $22,916.67 per month, or $275,000 annualized, less all deductions and withholdings. Salaries are paid twice per month. The Company may modify your compensation from time to time in its sole discretion.

Mobile Phone Allowance: In addition to the salary above, you will receive a taxable mobile phone allowance of $125 per month. This allowance is intended to cover business use of your personal cell phone.

Equity: Subject to the approval of the Board of Directors of the Company, you may be eligible to receive an option to purchase 500,000 shares of common stock at an exercise price per share equal to the fair market value of the Company's common stock as determined by the Board on the date

the Board approves and grants such option ("Option"). The vesting schedule and all terms, conditions, and limitations of the Option will be set forth in a stock option grant notice, the Company's standard stock option agreement and the Company's 2016 Equity Incentive Plan. You must be employed by the Company on the date the Options are approved.

Bonus: You have the potential of achieving a bonus of up to 50% of your base salary (as actually paid in a given year) if you achieve certain milestones and objectives determined by the Company. Such bonus, if any, will be paid after the close of the Company's financial year, after validation and approval from the Company's Board of Directors that relevant objectives have been achieved, and provided the Company has the financial wherewithal to pay. To be eligible for any Bonus, you must have begun your employment with the Company on or before September 30 of the year for which the Bonus is awarded, and you must be employed by the Company at the time any Bonus amount is to be paid. Bonuses are not earned until they are approved in writing by the Board of Directors of the Company.

Benefits: Upon acceptance of full-time employment, you will also be eligible to receive the same benefits available to all US employees of the Company which include vacation and sick leave, health insurance, dental insurance, a vision plan, and any other benefit plans offered by the Company. Full-time employees are entitled to 8 days of sick leave per year, which you will be eligible to use commencing with your first day of employment at the Company. Your annual vacation will be 20 days per year, which will accrue upon commencement of employment. If any sick days are unused at the end of the year they will not carry over to the following year. Vacations must be scheduled in consultation with your supervisor in order to minimize the disruption to the Company's business. In general, one week's notice should be provided for each day off requested. The Company may modify your benefits from time to time in its sole discretion.

Confidentiality and Inventions Assignment Agreement: One of the conditions of your employment with the Company is the maintenance of the confidentiality of the Company's proprietary and confidential information. In your work for the Company, you will be expected not to use or disclose any confidential information, including trade secrets, of any former employer or other person to whom you have an obligation of confidentiality. Rather, you will be expected to use only that information that is generally known and used by persons with training and experience comparable to your own, which is common knowledge in the industry or otherwise legally in the public domain or which is otherwise provided or developed by the Company. You also should not bring onto the Company premises any unpublished documents or property belonging to any former employer or other person to whom you have an obligation of confidentiality. During our discussions about your proposed job duties, you assured us that you would be able to perform those duties within the guidelines described above. Before your start date, you must therefore execute the Company's Confidentiality and Inventions Assignment Agreement ("CIIA"), which you will find attached hereto as Attachment A. However, your commencement of employment shall constitute acceptance of all the terms and conditions in the Company's Confidentiality and Inventions Assignment Agreement.

Expenses: The Company will reimburse you for reasonable and necessary expenses incurred by you in furtherance of Biodesix' business. All expenses claimed are subject to the review and

approval of your supervisor. Records must be maintained and submitted for any expenses to be reimbursed, including destination for auto mileage totals and receipts for all other items. Use of a personal automobile for company business will be reimbursed at the applicable IRS per-mile rate in effect.

Termination of Employment: You and Biodesix each acknowledge that either party has the right to terminate your employment with Biodesix at any time for any reason whatsoever, with or without cause or advance notice, subject only to the following:

a. Resignation, Termination for Cause or due to Death or Disability. In the event you resign your employment with Biodesix, or your employment is terminated by Biodesix for Cause or due to death or disability, the Company's obligation to make payments hereunder shall cease, except that the Company shall pay you or, as applicable, your heirs or assigns, any salary earned but unpaid prior to such termination, any reimbursable business expenses that were incurred but not reimbursed as of the date of your last day of employment, and, if applicable, all accrued but unused vacation. Vesting of any unvested stock options or other equity securities shall cease on your last date of employment.

b. Termination by the Company without Cause. If your employment with the Company is terminated by the Company without Cause, including but not limited to a termination following a Change in Control (as defined in the Company's 2016 Equity Incentive Plan) or, following a Change in Control, a successor's failure to assume the terms and conditions of this letter Agreement as it relates to your salary, duties and responsibilities or severance provisions, and subject to your compliance with the obligations set forth below, you will receive the following Severance Benefits: (i) Severance Payments. Base salary continuation for a period of twelve months following the effective date of the Release (the "Severance Payments"), less standard deductions and withholdings; and (ii) COBRA Reimbursement. If you timely elect continued coverage under COBRA, the Company will pay your COBRA premiums to continue your coverage (including coverage for your eligible dependents, if applicable) ("COBRA Premiums") through the period starting on the termination date and ending twelve months after the termination date (the "COBRA Premium Period"); provided, however, that the Company's provision of such COBRA Premium benefits will immediately cease if during the COBRA Premium Period you become eligible for group health insurance coverage through a new employer or you cease to be eligible for COBRA continuation coverage for any reason, including plan termination.

c. Release Requirement. The Severance Benefits are conditional upon (a) you delivering to the Company and making effective an irrevocable a general release of all claims in favor of the Company, in a form reasonably acceptable to the Company (the "Release"), which release shall be effective not later than 45 days following the date of the applicable termination or resignation; and (b) your continued compliance with the Release including any cooperation, non-disparagement or confidentiality provisions contained therein and continuing to comply with your obligations under the CIIA, including non-solicit provisions thereof.

d. Cause. As used in this Agreement, "Cause" means the occurrence of one or more of the following: (a) failure to perform your assigned duties or responsibilities as a service

provider which continues beyond thirty (30) days after a written demand for substantial performance is delivered to you by the Company; (b) engaging in any act of dishonesty, fraud or misrepresentation that has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company, including material reputational harm to the Company; (c) violation of any federal or state law or regulation applicable to the business of the Company or its affiliates and such violation has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company; (d) material breach of any confidentiality agreement or invention assignment agreement between you and the Company (or any affiliate of the Company); or (e) being charged by a law enforcement agency with any felony.

Code 409A Compliance. To the extent any payments or benefits pursuant to this offer letter Agreement are paid from the date of termination of your employment through March 15 of the calendar year following such termination, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and thus payable pursuant to the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations, (b) are paid following said March 15, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations made upon an involuntary separation from service and payable pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations, to the maximum extent permitted by said provision, (c) represent the reimbursement or payment of costs for outplacement services, such payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and to qualify for the exception from deferred compensation pursuant to Section 1.409A-1(b)(9)(v)(A), and (d) are in excess of the amounts specified above, such Severance Payments shall (unless otherwise exempt under Treasury Regulations) be considered separate payments subject to the distribution requirements of Section 409A(a)(2)(A) of the Internal Revenue Code of 1986, as amended (the "Code"), including the requirement of Section 409A(a)(2)(B)(i) of the Code that payments or benefits be delayed until 6 months after your separation from service if you are a "specified employee" within the meaning of such section of the Code at the time of such separation from service. In the event that a six month delay of any such separation payments or benefits is required, on the first regularly scheduled pay date following the conclusion of the delay period, you shall receive a lump sum payment or benefit in an amount equal to the separation payments and benefits that were so delayed, and any remaining separation payments or benefits shall be paid on the same basis and at the same time as otherwise specified pursuant to this Agreement (subject to applicable tax withholdings and deductions).

Company Property: During and after your employment, you will not use any Company Property (defined below) for any purpose other than for the benefit of the Company. In the event of your termination of employment, or at any time at the request of the Company, you will return all Company Property. You will also return all copies of Company Property and any work product derived from Company Property.

"Company Property" means trade secrets of Biodesix, work product, customer lists, prospect lists, forms, manuals, records, correspondence, contracts, notes, memoranda, notebooks and other

documents of the Company, software media, equipment, and other intangible and tangible property owned by the Company.

Name & Likeness Rights: You hereby authorize the Company to use, reuse, and to grant others the right to use and reuse your name, Company-originated photograph, Company-originated voice recording, biographical information relevant to your professional status, and any reproduction or simulation thereof, in any media now known or hereafter developed (including but not limited to film, video, and digital, or other electronic media), both during and after your employment.

At-Will Employment: As Biodesix is the company for which you will perform service, we will retain the right to control and direct your work, its results, and the manner and means by which your work is accomplished. Your employment with the Company is at will, and therefore, may be terminated by you or the Company at any time and for any reason, with or without cause, and with or without notice. Any contrary representations or agreements, which may have been made to you, are superseded by this offer. The "at will" nature of your employment described in this offer letter shall constitute the entire agreement between you and the Company concerning the nature and duration of your employment. In addition, the fact that the rate of your salary or other compensation is stated in units of years or months and that your vacation and sick leave accrue annually or monthly does not alter the at-will nature of the employment, and does not mean and should not be interpreted to mean that you are guaranteed employment to the end of any period of time or for any period of time. The "at will" term of your employment with the Company can only be changed in writing and signed by you and the Chief Executive Officer of the Company.

Exempt Employment: As an exempt, salaried employee, you will be expected to work additional hours as required by the nature of your work assignments.

Additional Benefits: As stated above, Biodesix has contracted with TriNet to provide payroll, benefits, and HR administration services on behalf of Biodesix. Information about these benefits will be available on-line over the web on the terms and conditions included in the End User License Agreement (EULA) each new employee must accept in order to access TriNet's on-line self-service portal, HR Passport.

Miscellaneous: This letter states the complete and exclusive terms and conditions of your employment and supersedes any and all prior agreements, whether written or oral. By joining the Company, you are agreeing to abide by all laws and regulations, all Company policies and procedures, to acknowledge in writing that you have read the Company's Employee Handbook and that you are bound by the terms and conditions of the Company's Confidentiality and Inventions Assignment Agreement. Violations of these policies may lead to immediate termination of employment. As required by law, this offer is subject to satisfactory proof of your right to work in the United States. Further, this offer is contingent upon the completion of a background and security check. By accepting this offer below, you are hereby providing your approval of the Company's efforts and activities in this regard.

We look forward to having you join us at Biodesix. If you wish to accept this offer under the terms and conditions described above, please sign and date this letter and the attached Confidentiality

and Inventions Assignment Agreement and return them to me. In addition, please bring the necessary documents required to verify your identity and eligibility to work in the United States on your reporting date. A list of acceptable documents is described on the enclosed *1-9* form. Also, if you have not already done so, please complete the enclosed Application for Employment, New Employee Information, and Sterling Authorization for Background Check for our files and submit it prior to your first day of work.

We are all excited about the opportunity to work with you. On behalf of all our team members, let me extend a sincere Welcome Aboard!

Sincerely,

/s/ Jim Purvis
Jim Purvis
Vice President of Human Resources

Enclosures: I-9 Form, Application for Employment, Sterling Authorization for Background Check, New Employee Information, Business Card Order Form, Instructions

I accept the above terms of employment as stated:

| | |
|---|---|
| /s/ Scott Hutton | 2/16/2018 |
| Scott Hutton | Date |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

February 23, 2020

Mr. Scott Hutton
[***]
[***]

Dear Scott:

This letter updates and revises your offer letter of February 16, 2018.

This confirms that effective January 1, 2020 you were appointed as the Chief Executive Officer of the Company and were also added to the Board of Directors.

Compensation: Your base salary was raised on January 1, 2020 to $29,166.66 per month, or $350,000 annualized, less all deductions and withholdings. Pursuant to recent discussions, effective the beginning of the first month after a successful IPO, your salary will be further adjusted to $35,416.66 per month or $425,000 annually. The Company may modify your compensation from time to time in its sole discretion.

Bonus: Also, effective with the raise in the base salary, and pro-rated for the period through the end of the year, following the afore mentioned IPO your bonus potential, as outlined in the original agreement, will be raised to 100% of your base salary from the current level of 50%. Consistent with the previous offer letter, such bonus, if any, will be paid after the close of the Company's financial year, after validation and approval from the Company's Compensation Committee and Board of Directors that relevant objectives have been achieved, and provided the Company has the financial wherewithal to pay. To be eligible for any Bonus, you must be employed by the Company at the time any Bonus amount is to be paid. Bonuses are not earned until they are approved in writing by the Board of Directors of the Company.

Termination of Employment: You and Biodesix each acknowledge that either party has the right to terminate your employment with Biodesix at any time for any reason whatsoever, with or without cause or advance notice, subject only to the following:

a. Resignation, Termination for Cause or due to Death or Disability. In the event you resign your employment with Biodesix, or your employment is terminated by Biodesix for Cause or due to death or disability, the Company's obligation to make payments hereunder shall cease, except that the Company shall pay you or, as applicable, your heirs or assigns, any salary earned but unpaid prior to such termination, any reimbursable business expenses that were incurred but not reimbursed as of the date of your last day of employment, and, if applicable, all accrued but unused vacation. Vesting of any unvested stock options or other equity securities shall cease on your last date of employment.

b. Termination by the Company without Cause. If your employment with the Company is terminated by the Company without Cause, including but not limited to a termination following a Change in Control (as defined in the Company's 2016 Equity Incentive Plan) or, following a Change in Control, subject to your compliance with the obligations set forth below, you will receive the following Severance Benefits: (i) Severance Payments. Base salary continuation for a period of twelve months following the effective date of the Release (the "Severance Payments"), less standard deductions and withholdings; and (ii) Annual Bonus Paid at Target Level (100% of Base) as established by the Compensation Committee of the Board of Directors in the variable compensation plan for the year in which the termination occurs less applicable withholdings. Such amount will be paid in a single lump-sum on the Company's first regular payroll date following the effective date of the Release. (iii) COBRA Reimbursement. If you timely elect continued coverage under COBRA, the Company will pay your COBRA premiums to continue your coverage (including coverage for your eligible dependents, if applicable) ("COBRA Premiums") through the period starting on the termination date and ending twelve months after the termination date (the "COBRA Premium Period"); provided, however, that the Company's provision of such COBRA Premium benefits will immediately cease if during the COBRA Premium Period you become eligible for group health insurance coverage through a new employer or you cease to be eligible for COBRA continuation coverage for any reason, including plan termination. Furthermore, any Change of Control which results in a change of position will trigger the accelerated vesting of 100% of the options then granted to you.

c. Release Requirement. The Severance Benefits are conditional upon (a) you delivering to the Company and making effective an irrevocable a general release of all claims in favor of the Company, in a form reasonably acceptable to the Company (the "Release"), which release shall be effective not later than 45 days following the date of the applicable termination or resignation; and (b) your continued compliance with the Release including any cooperation, non-disparagement or confidentiality provisions contained therein and continuing to comply with your obligations under the CIIA, including non-solicit provisions thereof.

d. Cause. As used in this Agreement, "Cause" means the occurrence of one or more of the following: (a) failure to perform your assigned duties or responsibilities as a service provider which continues beyond thirty (30) days after a written demand for substantial performance is delivered to you by the Company; (b) engaging in any act of dishonesty, fraud or misrepresentation that has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company, including material reputational harm to the Company; (c) violation of any federal or state law or regulation applicable to the business of the Company or its affiliates and such violation has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company; (d) material breach of any confidentiality agreement or invention assignment agreement between you and the Company (or any affiliate of the Company); or (e) being charged by a law enforcement agency with any felony.

Code 409A Compliance. To the extent any payments or benefits pursuant to this offer letter Agreement are paid from the date of termination of your employment through March 15 of the

calendar year following such termination, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and thus payable pursuant to the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations, (b) are paid following said March 15, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations made upon an involuntary separation from service and payable pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations, to the maximum extent permitted by said provision, (c) represent the reimbursement or payment of costs for outplacement services, such payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and to qualify for the exception from deferred compensation pursuant to Section 1.409A-1(b)(9)(v)(A), and (d) are in excess of the amounts specified above, such Severance Payments shall (unless otherwise exempt under Treasury Regulations) be considered separate payments subject to the distribution requirements of Section 409A(a)(2)(A) of the Internal Revenue Code of 1986, as amended (the "Code"), including the requirement of Section 409A(a)(2)(B)(i) of the Code that payments or benefits be delayed until 6 months after your separation from service if you are a "specified employee" within the meaning of such section of the Code at the time of such separation from service. In the event that a six month delay of any such separation payments or benefits is required, on the first regularly scheduled pay date following the conclusion of the delay period, you shall receive a lump sum payment or benefit in an amount equal to the separation payments and benefits that were so delayed, and any remaining separation payments or benefits shall be paid on the same basis and at the same time as otherwise specified pursuant to this Agreement (subject to applicable tax withholdings and deductions).

Miscellaneous: This letter states updates the terms and conditions of your employment and modifies the initial offer letter dated February 16, 2018 and attached here as Attachment A. All terms from the previous Letter not otherwise modified herein (or in the normal course pursuant to the terms) remain in full force and effect. In the event of any disagreement between the two letters, this letter will prevail.

Sincerely,

/s/ David Brunel

David Brunel
Chairman

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

March 11, 2011

Robin Cowie

[***]
[***]

Dear Robin:

It is my pleasure to offer you the position of Director of Reimbursement at Biodesix, Inc. ("Biodesix" or the "Company") beginning on March 28, 2011. As Director of Reimbursement you will be reporting to Doug Swan, who will be primarily responsible for evaluating your performance. The Director of Reimbursement ensures payer coverage and payment policies are established with third party payers, including commercial, federal and state programs. This director will negotiate coverage policies and appropriate payment levels for all products directly with medical directors/key decision makers at Medicare, BCBS, other MCO's and other commercial payers. The Director will assist in the development and refinement of reimbursement strategies and tactics to attain these goals and will also manage a Hot Line and billing Collections service which is currently outsourced. You will work primarily from our Broomfield facility. The Company may change your position, title, duties, and place of employment from time to time as it deems necessary.

This letter and the accompanying enclosures state the complete terms and conditions of your offer. This offer will expire if not accepted within two weeks of the date of this letter, shown above.

Our benefits, payroll, and other human resource management services are provided through TriNet Employer Group. Inc., a professional employer organization. As a result of Biodesix's arrangement with TriNet, TriNet will be considered your employer of record for these purposes, and your managers at Biodesix will be responsible for directing your work, reviewing your performance. and setting your schedule at Biodesix.

Compensation: Your base salary will be $14,583.33 per month, or $175,000 annualized, less all deductions and withholdings. Salaries are paid twice per month. The Company may modify your compensation from time to time in its sole discretion.

Subject to the approval of the Board of Directors of the Company, you may be eligible to receive an option to purchase 15,000 shares of common stock at an exercise price per share equal to the

fair market value of the Company's common stock as determined by the Board on the date the Board approves and grants such option ("Option"). The vesting schedule and all terms, conditions, and limitations of the Option will be set forth in a stock option grant notice, the Company's standard stock option agreement and the Company's 2006 Employee, Director and Consultant Stock Plan, as amended.

Bonus: You have the potential of achieving a bonus of up to 15% of your base salary (as actually paid in a given year) if you achieve certain milestones and objectives determined by the Company. Such bonus, if any, will be paid after the close of the Company's financial year, after validation and approval from the Company's Board of Directors that relevant objectives have been achieved, and provided the Company has the financial wherewithal to pay. To be eligible for any Bonus, you must have begun your employment with the Company on or before September 30 of the year for which the Bonus is awarded, and you must be employed by the Company at the time any Bonus amount is to be paid. Bonuses are not earned until they are approved in writing by the Board of Directors of the Company.

Benefits: Upon acceptance of full-time employment, you will also be eligible to receive the same benefits available to all US employees of the Company which include vacation and sick leave, health insurance, dental insurance, a vision plan, and any other benefit plans offered by the Company. Full-time employees are entitled to 8 days of sick leave per year, which you will be eligible to use commencing with your first day of employment at the Company. Your annual vacation will be 15 days per year, which will accrue upon commencement of employment. If any sick days are unused at the end of the year they will not carry over to the following year. Vacations must be scheduled in consultation with your supervisor in order to minimize the disruption to the Company's business. In general, one week's notice should be provided for each day off requested. The Company may modify your benefits from time to time in its sole discretion.

Confidentiality and Inventions Assignment Agreement: One of the conditions of your employment with the Company is the maintenance of the confidentiality of the Company's proprietary and confidential information. In your work for the Company, you will be expected not to use or disclose any confidential information, including trade secrets, of any former employer or other person to whom you have an obligation of confidentiality. Rather, you will be expected to use only that information that is generally known and used by persons with training and experience comparable to your own, which is common knowledge in the industry or otherwise legally in the public domain or which is otherwise provided or developed by the Company. You also should not bring onto the Company premises any unpublished documents or property belonging to any former employer or other person to whom you have an obligation of confidentiality. During our discussions about your proposed job duties, you assured us that you would be able to perform those duties within the guidelines described above. Before your start date, you must therefore execute the Company's Confidentiality and Inventions Assignment Agreement, which you will find attached hereto as Attachment A. However, your commencement of employment shall constitute acceptance of all the terms and conditions in the Company's Confidentiality and Inventions Assignment Agreement.

Expenses. The company will reimburse you for reasonable and necessary expenses incurred by you in furtherance of Biodesix's business. All expenses claimed are subject to the review and approval of your supervisor. Records must be maintained and submitted for any expenses to be reimbursed, including destination for auto mileage totals and receipts for all other items. Use of a personal automobile for company business will be reimbursed at the applicable IRS per-mile rate in effect.

Company Property. During and after your employment, you will not use any Company Property (defined below) for any purpose other than for the benefit of the Company. In the event of your termination of employment, or at any time at the request of the Company, you will return all Company Property. You will also return all copies of Company Property, and any work product derived from Company Property.

"Company Property" means trade secrets of Biodesix, work product, customer lists, prospect lists. forms, manuals, records, correspondence, contracts, notes, memoranda, notebooks and other documents of the Company, software media, equipment, and other intangible and tangible property owned by the Company.

Name & Likeness Rights. You hereby authorize the Company to use, reuse, and to grant others the right to use and reuse your name, Company-originated photograph, Company-originated voice recording, biographical information relevant to your professional status, and any reproduction or simulation thereof, in any media now known or hereafter developed (including but not limited to film, video, and digital, or other electronic media), both during and after your employment.

At-Will Employment. As Biodesix is the company for which you will perform service, we will retain the right to control and direct your work, its results, and the manner and means by which your work is accomplished. Your employment with the Company is at will, and therefore, may be terminated by you or the Company at any time and for any reason, with or without cause, and with or without notice. Any contrary representations or agreements, which may have been made to you, are superseded by this offer. The "at will" nature of your employment described in this offer letter shall constitute the entire agreement between you and the Company concerning the nature and duration of your employment. In addition, the fact that the rate of your salary or other compensation is stated in units of years or months and that your vacation and sick leave accrue annually or monthly does not alter the at-will nature of the employment, and does not mean and should not be interpreted to mean that you are guaranteed employment to the end of any period of time or for any period time. The "at will" term of your employment with the Company can only be changed in writing and signed by you and the Chief Executive Officer of the Company.

Exempt Employment. Normal working hours are from 8 a.m. to 5 p.m., Monday through Friday. As an exempt, salaried employee, you will be expected to work additional hours as required by the nature of your work assignments.

Additional Benefits. As stated above, Biodesix has contracted with TriNet to provide payroll, benefits and HR administration services on behalf of Biodesix. Information about these benefits will be available on-line over the web on the terms and conditions included in the End User License

Agreement (EULA) each new employee must accept in order to access TriNet's on-line self-service portal, HR Passport.

Miscellaneous. This letter states the complete and exclusive terms and conditions of your employment and supersedes any and all prior agreements, whether written or oral. By joining the Company, you are agreeing to abide by all laws and regulations, all Company policies and procedures, to acknowledge in writing that you have read the Company's Employee Handbook and that you are bound by the terms and conditions of the Company's Confidentiality and Inventions Assignment Agreement. Violations of these policies may lead to immediate termination of employment. As required by law, this offer is subject to satisfactory proof of your right to work in the United States. Further, this offer is contingent upon the completion of a background and security check. By accepting this offer below, you are hereby providing your approval of the Company's efforts and activities in this regard.

We look forward to having you join us at Biodesix. If you wish to accept this offer under the terms and conditions described above please sign and date this letter and the attached Confidentiality and Inventions Assignment Agreement and return them to me. In addition, please bring the necessary documents required to verify your identity and eligibility to work in the United States on your reporting date. A list of acceptable documents is described on the enclosed *1-9* form. Also, if you have not already done so, please complete the enclosed Application for Employment for our files and submit it prior to your first day of work.

We are all excited about the opportunity to work with you. On behalf of all our team members, let me extend a sincere Welcome Aboard!

Sincerely,

/s/ Frank Ronchelli

Frank Ronchelli
Chief Financial Officer

Enclosures: 1-9 Form, Application for Employment

I accept the above terms of employment as stated:

| /s/ Robin Harper Cowie | 03/11/11 |
| --- | --- |
| Addressee's Signature | Date |

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February 23, 2020

Robin Harper Cowie
[***]
[***]

Dear Robin:

This letter updates and revises your offer letter of March 11, 2011.

This confirms that effective April 1, 2017 you were appointed as the Chief Financial Officer of the Company.

Compensation: Your base salary was raised on April 1, 2017 to $20,000 per month, or $240,000 annualized, less all deductions and withholdings. Your base salary was raised February 16, 2019 to $22,083.33 per month, or $265,000 annualized, less all deductions and withholdings. Pursuant to recent discussions, effective the beginning of the first month after a successful IPO, your salary will be further adjusted to $24,166.66 per month or $290,000 annually. The Company may modify your compensation from time to time in its sole discretion.

Bonus: Effective with the raise in the base salary on February 16, 2019 your bonus potential, as outlined in the original agreement will remain at 50% of your base salary. Consistent with the previous offer letter, such bonus, if any, will be paid after the close of the Company's financial year, after validation and approval from the Company's Compensation Committee and Board of Directors that relevant objectives have been achieved, and provided the Company has the financial wherewithal to pay. To be eligible for any Bonus, you must be employed by the Company at the time any Bonus amount is to be paid. Bonuses are not earned until they are approved in writing by the Board of Directors of the Company.

Termination of Employment: You and Biodesix each acknowledge that either party has the right to terminate your employment with Biodesix at any time for any reason whatsoever, with or without cause or advance notice, subject only to the following:

a. Resignation, Termination for Cause or due to Death or Disability. In the event you resign your employment with Biodesix, or your employment is terminated by Biodesix for Cause or due to death or disability, the Company's obligation to make payments hereunder shall cease, except that the Company shall pay you or, as applicable, your heirs or assigns, any salary earned

but unpaid prior to such termination, any reimbursable business expenses that were incurred but not reimbursed as of the date of your last day of employment, and, if applicable, all accrued but unused vacation. Vesting of any unvested stock options or other equity securities shall cease on your last date of employment.

b. Termination by the Company without Cause. If your employment with the Company is terminated by the Company without Cause, including but not limited to a termination following a Change in Control (as defined in the Company's 2016 Equity Incentive Plan) or, following a Change in Control, subject to your compliance with the obligations set forth below, you will receive the following Severance Benefits: (i) Severance Payments. Base salary continuation for a period of six (6) months following the effective date of the Release (the "Severance Payments"), less standard deductions and withholdings; and (ii) COBRA Reimbursement. If you timely elect continued coverage under COBRA, the Company will pay your COBRA premiums to continue your coverage (including coverage for your eligible dependents, if applicable) ("COBRA Premiums") through the period starting on the termination date and ending twelve (12) months after the termination date (the "COBRA Premium Period"); provided, however, that the Company's provision of such COBRA Premium benefits will immediately cease if during the COBRA Premium Period you become eligible for group health insurance coverage through a new employer or you cease to be eligible for COBRA continuation coverage for any reason, including plan termination. Furthermore, any Change of Control which results in a change of position will trigger the accelerated vesting of 100% of the options then granted to you.

c. Release Requirement. The Severance Benefits are conditional upon (a) you delivering to the Company and making effective an irrevocable a general release of all claims in favor of the Company, in a form reasonably acceptable to the Company (the "Release"), which release shall be effective not later than 45 days following the date of the applicable termination or resignation; and (b) your continued compliance with the Release including any cooperation, non-disparagement or confidentiality provisions contained therein and continuing to comply with your obligations under the CIIA, including non-solicit provisions thereof.

d. Cause. As used in this Agreement, "Cause" means the occurrence of one or more of the following: (a) failure to perform your assigned duties or responsibilities as a service provider which continues beyond thirty (30) days after a written demand for substantial performance is delivered to you by the Company; (b) engaging in any act of dishonesty, fraud or misrepresentation that has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company, including material reputational harm to the Company; (c) violation of any federal or state law or regulation applicable to the business of the Company or its affiliates and such violation has caused, might reasonably have been expected to cause, or is reasonably likely to cause in the future, material harm to the Company; (d) material breach of any confidentiality agreement or invention assignment agreement between you and the Company (or any affiliate of the Company); or (e) being charged by a law enforcement agency with any felony.

Code 409A Compliance. To the extent any payments or benefits pursuant to this offer letter Agreement are paid from the date of termination of your employment through March 15 of the calendar year following such termination, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and thus payable pursuant to the "short-term deferral" rule set forth in Section 1.409A-1(b)(4) of the Treasury Regulations, (b) are paid following said March 15, such Severance Payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations made upon an involuntary separation from service and payable pursuant to Section 1.409A-1(b)(9)(iii) of the Treasury Regulations, to the maximum extent permitted by said provision, (c) represent the reimbursement or payment of costs for outplacement services, such payments are intended to constitute separate payments for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations and to qualify for the exception from deferred compensation pursuant to Section 1.409A-1(b)(9)(v)(A), and (d) are in excess of the amounts specified above, such Severance Payments shall (unless otherwise exempt under Treasury Regulations) be considered separate payments subject to the distribution requirements of Section 409A(a)(2)(A) of the Internal Revenue Code of 1986, as amended (the "Code"), including the requirement of Section 409A(a)(2)(B)(i) of the Code that payments or benefits be delayed until 6 months after your separation from service if you are a "specified employee" within the meaning of such section of the Code at the time of such separation from service. In the event that a six month delay of any such separation payments or benefits is required, on the first regularly scheduled pay date following the conclusion of the delay period, you shall receive a lump sum payment or benefit in an amount equal to the separation payments and benefits that were so delayed, and any remaining separation payments or benefits shall be paid on the same basis and at the same time as otherwise specified pursuant to this Agreement (subject to applicable tax withholdings and deductions).

Miscellaneous: This letter states updates the terms and conditions of your employment and modifies the initial offer letter dated March 11, 2011 and attached here as Attachment A. All terms from the previous Letter not otherwise modified herein (or in the normal course pursuant to the terms) remain in full force and effect. In the event of any disagreement between the two letters, this letter will prevail.

Sincerely,

/s/ David Brunel

David Brunel

**CONSULTING AGREEMENT**

David Brunel and Biodesix, Inc. ("Company") (together, the "Parties") hereby enter into this Consulting Agreement ("Agreement") dated and effective as of September 19, 2020 (the "Effective Date") and agree as follows:

1. **Board Resignation**. The Parties hereby acknowledge that Mr. Brunel ceased to be Company's Chief Executive Officer on December 31, 2019. Since January 1, 2020, Mr. Brunel has served as the Chairman of Company's board of directors (the "Board") and has provided certain executive-level services as an employee to Company. Company and Mr. Brunel have agreed that Mr. Brunel will resign his position as Chairman of the Board and will resign from any committees of the Board of which he is a part, as of September 14, 2020. Mr. Brunel will cease providing services to Company as an employee and a member of the Board on December 31, 2020, and will no longer be entitled to a salary for services to Company, except as provided herein. Mr. Brunel will be appointed as a Director Emeritus, as further described below in Section 2(d), effective upon his resignation as Chairman of the Board, and will serve in that role at the pleasure of the Board or until such time as he resigns as a Director Emeritus.

2. **Consulting Period**.

a. Company and Mr. Brunel agree that in his positions as former Chief Executive Officer and Chairman of the Board, he has developed detailed knowledge of Company's business, strategies, and legal affairs. Company desires that Mr. Brunel provide consulting services to Company to assist it with such matters during 2021. Accordingly, subject to the terms and conditions of this Agreement, and provided that Mr. Brunel signs and returns this Agreement to Company within 21 days of his receipt thereof, complies with the terms of this Agreement, and does not revoke this Agreement in accordance with Section 16 below, Mr. Brunel will provide to Company consulting services as Company requests from time to time in its sole discretion (the "Consulting Services"), up to 10 hours per calendar month, on a non-exclusive basis as an independent contractor for a period (the "Consulting Period") beginning on January 1, 2021 and ending on December 31, 2021 (the "Consulting End Date," unless (i) Company terminates the Consulting Period prior to December 31, 2021 pursuant to Section 2(c) below or (ii) Mr. Brunel terminates the Consulting Period prior to December 31, 2021 as set forth in this Section 2(a), in which case the Consulting End Date will be the effective date of such termination). Mr. Brunel shall have the right to terminate the Consulting Period prior to December 31, 2021 by providing the Company with at least fifteen (15) days prior written notice. Mr. Brunel will perform all Consulting Services diligently, in the best interests of Company and to the best of his professional ability and judgment. Mr. Brunel will not enter into any agreement or other obligations on behalf of Company without the express prior written consent of Company's Chief Executive Officer. Notwithstanding anything to the contrary in this Agreement, if Mr. Brunel ceases providing services to the Company prior to December 31, 2020, and therefore does not commence providing services to the Company on January 1, 2021 (or such other date as the parties may mutually agree), then this Agreement shall immediately and automatically be voided, with no liability on the part of the Company for any rights or benefits contained herein; provided, however, that the Options listed on Exhibit A attached hereto shall continue vesting through December 31, 2020 regardless of any termination of Mr. Brunel's employment prior to December 31, 2020 other than a termination for Cause.

b. Subject to the terms of this Agreement, Company will pay Mr. Brunel a consulting fee during the Consulting Period of $5,000 per quarter on and after January 1, 2021 and through the end of the Consulting Period (the "Consulting Fee"), payable quarterly without any deductions or withholdings, which Mr. Brunel agrees is the total amount of compensation to which he is entitled for the Consulting Services. Mr. Brunel acknowledges and agrees that he is performing Consulting Services for Company solely as an independent contractor, he will not be considered a Company employee for any purpose, and he hereby acknowledges that he will not participate in and will not receive any employee benefits, including without limitation any

participation in any Company health insurance, executive or management incentive bonus plans, equity incentive plans, or other compensation or benefit plans for Company employees or service providers. Mr. Brunel further acknowledges and agrees that Company and the other Released Parties do not owe him any other amounts, including without limitation any salary, bonus, profit-sharing or incentive compensation of any kind, notice or severance pay, equity-based compensation (other than as set forth in Section 3 of this Agreement), or other payments or benefits of any kind. As further described in Section 18(a) hereof, Mr. Brunel further acknowledges and agrees that he shall be solely responsible for the payment of any and all applicable taxes in respect of such Consulting Fee, whether federal, state or local.

c. Notwithstanding any other provision of this Agreement, Company may immediately terminate the Consulting Period and the Consulting Services if Mr. Brunel (i) engages in any conduct that harms or is reasonably expected to harm the business or reputation of Company, and, (ii) fails to perform the Consulting Services diligently, in the best interests of Company and to the best of his professional ability and judgment, to Company's reasonable satisfaction, or (iii) otherwise breaches any provision of this Agreement or the Existing Agreements (as defined in Section 7 below). In the event Company elects to terminate the Consulting Period pursuant to this Section 2(c), Company will pay Mr. Brunel a pro rata payment for any Consulting Services rendered prior to the termination date, and no other amount.

d. Company shall invite Mr. Brunel, as Director Emeritus, to attend meetings of the Board in a nonvoting observer capacity. All confidential non-public information provided to, or otherwise earned by, Mr. Brunel in such capacity will be held in strict confidence. Company reserves the right to withhold any information and to exclude Mr. Brunel from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between Company and its counsel or result in disclosure of trade secrets or a conflict of interest. Mr. Brunel shall similarly recuse himself from any discussions or access to information that could result in a conflict of interest.

3. **Treatment of Outstanding Equity Arrangements**. Company previously granted to Mr. Brunel those certain stock options to purchase common stock of Company ("Common Stock") set forth on Exhibit A to this Agreement (the "Options"). The Parties agree that as of the date hereof the number of shares of Common Stock subject to each Option shall be as set forth on Exhibit A and the vesting schedule of each such Option shall be as reflected on Exhibit A. The Parties further agree that the term of each Base Option (as defined in Exhibit A) shall be amended to expire on the earlier of (a) December 31, 2021, (b) thirty (30) days after the Consulting End Date, and (c) the expiration date of such term as set forth at the time the Option was granted and set forth on Exhibit A. There shall be no changes to the term of each Option granted under the "Bonus to Options Program" as indicated in column (b) of the table in Exhibit A. Except as explicitly modified herein, the existing terms of the Options shall remain in full force and effect (including any terms thereof that relate to the treatment of an Option, including the cancellation thereof, on certain terminations of service, including a termination of service for Cause (as defined in the applicable plan or agreement)).

4. **Requirement of Supplemental Release and Compliance with this Agreement**. Mr. Brunel expressly acknowledges and agrees that the benefits and compensation set forth in this Agreement are conditioned on him signing and returning to Company the Supplemental Release attached as Exhibit B to this Agreement (the "Supplemental Release") within 21 days after (but not before) the Consulting End Date (without revoking it).

5. **Released Parties**. "Released Parties" as used in this Agreement includes: (a) Company and its past, present, and future parents, divisions, subsidiaries, partnerships, affiliates, and other related entities, and (b) each of the foregoing entities' and persons' past, present, and future owners, trustees, fiduciaries, administrators, shareholders, directors, officers,

partners, members, associates, agents, employees, and attorneys, and (c) the predecessors, successors and assigns of each of the foregoing persons and entities.

6. **Release of Claims**.

a. **Mr. Brunel Release of Claims**.

i. Mr. Brunel, and anyone claiming through Mr. Brunel or on Mr. Brunel's behalf, hereby waives and releases Company and the other Released Parties with respect to any and all claims, whether currently known or unknown, that Mr. Brunel now has or has ever had against Company or any of the other Released Parties arising from or related to any act, omission, or thing occurring or existing at any time prior to or on the date on which Mr. Brunel signs this Agreement. Without limiting the foregoing, the claims waived and released by Mr. Brunel hereunder include, but are not limited to: (1) all claims arising out of or related in any way to Mr. Brunel's employment or services, compensation and payments in respect of consulting services, other terms and conditions of employment or engagement, or termination from employment with Company, including without limitation all claims for any compensation payments, bonus, severance pay, equity, or any other compensation or benefit; (2) all claims that were or could have been asserted by Mr. Brunel or on Mr. Brunel's behalf in any federal, state, or local court, commission, or agency, or under any contract, tort or other common law theory; and (3) all claims that were or could have been asserted by Mr. Brunel or on his behalf under: (x) the Age Discrimination in Employment Act; and (y) any other federal, state, local, employment, services or other law, regulation, ordinance, constitutional provision, executive order or other source of law, including without limitation under any of the following laws, as amended from time to time: Title VII of the Civil Rights Act of 1964, 42 U.S.C. §§ 1981 & 1981a, the Americans with Disabilities Act, the Equal Pay Act, the Employee Retirement Income Security Act, the Lilly Ledbetter Fair Pay Act of 2009, the Family and Medical Leave Act, the Genetic Information Nondiscrimination Act, and the Fair Credit Reporting Act. Notwithstanding the foregoing, the releases and waivers in this Section 6 will not apply to any claim for unemployment or workers' compensation, any claim, if any, to indemnification under any applicable law, any Company by-laws, or any director and officer insurance (it being understood and agreed that this Agreement does not create or expand upon any such rights (if any) to indemnification), or any claim that by law is non-waivable.

ii. Notwithstanding anything to the contrary in this Agreement, Mr. Brunel understands that nothing contained in this Agreement or the Supplemental Release limits Mr. Brunel's ability to report possible violations of law or regulation to, or file a charge or complaint with, the Securities and Exchange Commission, the Equal Employment Opportunity Commission, the National Labor Relations Board, or any other federal, state or local governmental agency or commission ("Government Agencies"). Mr. Brunel further understands that this Agreement does not limit his ability to communicate with any Government Agencies or otherwise participate in any investigation or proceeding that may be conducted by any Government Agency, including providing documents or other information, without notice to Company. Nothing in this Agreement waives or releases Mr. Brunel from any obligations that he has as a fiduciary to Company or for any and all of its affiliates under applicable laws, codes, rules and canons of professional conduct and/or responsibility (as may be amended from time to time).

iii. Mr. Brunel confirms that he has not filed any legal or other proceeding(s) against any of the Released Parties (provided, however, that Mr. Brunel need not disclose to Company, and the foregoing confirmation does not apply to, conduct or matters described in Section 6(a)(ii) above), is the sole owner of the claims released herein, has not transferred any such claims to anyone else, and has the full right to grant the releases and agreements in this Agreement. Mr. Brunel further agrees that he will not at any time become a party to, or otherwise become a class- or collective-member or other similar claimant in, any class, collective, representative, multiple-plaintiff, or other consolidated or similar action in any court or

arbitration against any of the Released Parties that involves or is based upon any claim waived and released by Mr. Brunel in Section 6(i) above, and will take all steps necessary to opt out of any such actions. In the event of any complaint, charge, proceeding or other claim (collectively, "Claims") filed with any court, other tribunal, or governmental or regulatory entity that involves or is based upon any claim waived and released in Section 6(i) above, Mr. Brunel hereby waives and agrees not to accept any money or other personal relief on account of any such Claims for any actual or alleged personal injury or damages to Mr. Brunel, including without limitation any costs, expenses and attorneys' fees incurred by or on behalf of Mr. Brunel, except that nothing herein shall prevent Mr. Brunel from receiving any award or bounty in connection with providing information to any governmental authority concerning suspected violations of law.

b. **Company Release of Claims**.

i. In exchange for the mutual consideration provided by the Parties under this Agreement, Company hereby generally and completely releases Mr. Brunel and his agents, employees, heirs, executors, administrators, trustees, legal representatives, successors and assigns and their respective trustees, agents, attorneys, and insurers, past and present (collectively, the "Brunel Released Parties") from any and all claims, liabilities and obligations, both known and unknown, that arise out of or are in any way related to events, acts, conduct, or omissions (collectively, the "Brunel Released Claims") occurring prior to or on the date that Mr. Brunel executes this Agreement.

ii. Except as set forth in Section 6(b)(iii), below, the Brunel Released Claims include, but are not limited to: (1) all claims arising out of or in any way related to Mr. Brunel's employment with the Company, or the termination of that employment; (2) all claims for breach of contract and breach of the implied covenant of good faith and fair dealing; and (3) all tort claims, including claims for defamation, emotional distress, and discharge in violation of public policy.

iii. Notwithstanding the foregoing, the following are not included in the Brunel Released Claims (the "Brunel Excluded Claims"): (1) any rights which are not waivable as a matter of law; (2) any rights Company has under this Agreement or the Existing Agreements and any claims for breach of this Agreement or the Existing Agreements, including any breach of the restrictive covenants set forth in Sections 9-13 hereof and in any Existing Agreement; and (3) claims arising at any time from Mr. Brunel's breach of fiduciary duty, gross negligence or willful misconduct, including but not limited to claims of fraud.

7. **Acknowledgements, Representations, and Warranties**.

a. Mr. Brunel hereby acknowledges and agrees that he remains subject to (i) the Eleventh Amended and Restated Investor Rights Agreement, dated as of October 10, 2018, (ii) the Seventh Amended and Restated Voting Agreement, dated as of October 10, 2018, (iii) the Biodesix, Inc. Amended and Restated 2006 Employee, Director, and Consultant Stock Plan, effective March 28, 2013, and any awards granted to Mr. Brunel thereunder, (iv) the Biodesix, Inc. 2016 Equity Incentive Plan, effective February 17, 2016, and any awards granted to Mr. Brunel thereunder, (v) the Biodesix, Inc. Third Amended and Restated Bonus-to-Options Program, effective December 31, 2015, and any awards granted to Mr. Brunel thereunder, and (vi) that certain Confidentiality, Non-Competition, and Intellectual Property Agreement, dated as of January 2, 2008 by and between Company and Mr. Brunel (the "Existing Agreements"). Mr. Brunel represents and confirms that he has not engaged in any conduct with respect to Company or his duties for Company that violates or has violated any laws, regulations, or obligations to Company. Mr. Brunel also acknowledges and agrees that at all times, he will remain bound by, and will comply with, in all material respects with any and all applicable laws and regulations that are applicable to him and/or his prior professional relationship with Company and any and all of its affiliates. Further, during the Consulting Period, Mr. Brunel will not perform

services for or enter into an engagement with any entity that could create a conflict of interest for Mr. Brunel or could result in the breach of any of this Agreement, the Existing Agreements, or any other prior obligation Mr. Brunel has to Company without Company's express prior written consent. Mr. Brunel agrees that he has no present or future right to employment with Company or any of the other Released Parties.

b. Except as provided in Section 6(a)(ii) above, and without limiting or otherwise affecting Mr. Brunel's obligations under Section 2 of this Agreement, Mr. Brunel will reasonably cooperate in any administrative, investigative, litigation or other legal matter(s) involving Company or any of the other Released Parties and which in any way relate to or involve Mr. Brunel's employment with or other services to Company. Mr. Brunel's obligation to cooperate hereunder will include, without limitation, meeting and conferring with such persons at such times and in such places as Company and the other Released Parties may reasonably require (including without limitation by telephone, video conference, or other remote means of communication), and giving truthful evidence and truthful testimony and executing and delivering to Company and any of the other Released Parties any truthful papers reasonably requested by any of them. Mr. Brunel will be reimbursed for reasonable out-of-pocket expenses that he incurs in rendering cooperation pursuant to this Agreement, in accordance with Company's business expense policies then in effect.

c. Mr. Brunel hereby represents and warrants that: (i) any subsequent employment he has with, or responsibilities for, any other employer or other entity after the date hereof will not violate any of his obligations to Company in the Existing Agreements, this Agreement, or otherwise; (ii) he will not use or disclose to Company or its affiliates any confidential or proprietary information of any other person or entity (including, but not limited to any subsequent employer) in the provision of the Consulting Services; and (iii) his provision of the Consulting Services will not violate, and is not otherwise restricted by, any obligation he may have to any other person or entity, including any subsequent employer.

8. **Return of Property**. Mr. Brunel acknowledges and confirms that he has returned or will promptly return all property of Company and the other Released Parties that is in his possession, custody, or control, including without limitation any and all documents and other information that reflect or contain any Company confidential or proprietary information, cell phones and other mobile devices, computers, credit cards, and other equipment and materials furnished to him by Company; provided, however that Mr. Brunel will be entitled to retain during the Consulting Period such property and/or equipment as Company deems necessary for his performance of the Consulting Services but will return all such property upon the earlier of Company's request and the Consulting End Date.

9. **Mutual Non-Disparagement**. Except as otherwise provided in Section 6(a)(ii), Mr. Brunel will refrain from all conduct, verbal or otherwise, that disparages or damages the reputation, goodwill, or standing in the community of Company, any of the other Released Parties, clients, customers, or any of Company's past, present, or prospective products, services, or other lines of business, and represents that he has not engaged in any such conduct; provided that nothing herein will prohibit Mr. Brunel from giving truthful testimony or evidence to a governmental entity, or if properly subpoenaed or otherwise required to do so under applicable law. Company agrees that it will instruct members of the Board and senior management to refrain from all conduct, verbal or otherwise, that disparages or damages the reputation, goodwill, or standing in the community of Mr. Brunel; provided that nothing herein will prohibit such individuals from giving truthful testimony or evidence to a governmental entity, or if properly subpoenaed or otherwise required to do so under applicable law.

10. **Non-Competition**. During the Restricted Period (as defined below), Mr. Brunel shall not, whether as employee, agent, consultant, director, equity holder, member, manager, general or limited partner or in any other capacity (other than as required in Mr. Brunel's capacity

as consultant to Company or one or more of its subsidiaries), and whether directly or indirectly, engage in, provide services to, or otherwise become associated with, any Competing Business (as defined below) anywhere in the world, it being understood that Company offers its products and services worldwide. Notwithstanding the foregoing, Mr. Brunel's passive ownership of less than two percent (2%) of the outstanding stock of any publicly-traded corporation listed on a national stock exchange will not be deemed to be in breach of this Section solely by reason of such ownership. The "Restricted Period" shall mean the period commencing on the Effective Date and expiring on December 31, 2021, and notwithstanding any earlier termination of this Agreement for any reason. As used in this Agreement, "Competing Business" means any business that is competitive with the business of Company related to diagnostic tests and/or testing solutions and services intended for the identification of and/or treatment of lung cancer, including, without limitation, lung nodule management and/or diagnostics that provide clinical treatment guidance.

11. **No Interference with Customers and Suppliers**. During the Restricted Period, Mr. Brunel shall not, whether as employee, agent, consultant, director, equity holder, member, manager, general or limited partner or in any other capacity (other than as required in Mr. Brunel's capacity as a consultant to Company or one or more of its subsidiaries), and whether directly or indirectly: (a) solicit or knowingly encourage any person or entity who has been an actual customer, supplier, vendor, client, distributor, licensor, or licensee of Company (each a "Business Relation") at any time during Mr. Brunel's engagement to terminate or diminish its, his or her relationship with Company or any of its affiliates; (b) seek to solicit or persuade any Business Relation to conduct business with any person engaged in a Competing Business; or (c) accept business from any such Business Relation on behalf of a Competing Business.

12. **Non-Solicitation; No-Hire**. During the Restricted Period, Mr. Brunel shall not, whether as employee, agent, consultant, director, equity holder, member, manager, general or limited partner or in any other capacity (other than as required in Mr. Brunel's capacity as a consultant to Company or one or more of its subsidiaries), and whether directly or indirectly: (a) solicit, recruit, encourage or induce or attempt to solicit, recruit, encourage or induce any person who is or was an employee or independent contractor of Company during the Restricted Period or at any time during the 12 month period prior to the Effective Date and other than any former employee that was terminated by the Company and did not voluntarily resign (the "Service Providers"), to leave the service of the Company or otherwise diminish such person's relationship with Company; or (b) hire, employ, engage, attempt to hire, employ or engage, or assist any person in hiring, employing or engaging any Service Provider (whether as an employee, consultant, agent, independent contractor or otherwise). Notwithstanding the foregoing, it shall not constitute a violation of this Section if Mr. Brunel, merely makes a general job advertisement that is not specifically directed at any Service Provider.

13. **Confidentiality**.

a. Subject to the exceptions set forth herein, for the duration of Mr. Brunel's employment with, or services to, Company and thereafter, he shall keep secret and retain in strictest confidence, and shall not use for his benefit or the benefit of others, except in connection with the business and affairs of Company, all non-public confidential matters relating to Company or any of its affiliates learned by Mr. Brunel heretofore or hereafter directly or indirectly from Company or any of its affiliates (including any such information learned as a result of participating in Board meetings, whether as a director, observer or otherwise) (the "Confidential Company Information"), and shall not disclose such Confidential Company Information to anyone outside of Company or its applicable affiliate except (i) in the course of his consulting services or with the Board's express written consent, (ii) for Confidential Company Information which is, at the time of the disclosure, already publicly known through no wrongful act of Mr. Brunel or is received from a third party not under an obligation to keep such information confidential and without breach of this Agreement, and (iii) as may be necessary in protected filings or submissions to the arbitrator

during a proceeding pursuant to Section 19. Notwithstanding any policy or agreement that could be read to the contrary, nothing in any agreement or policy prohibits, limits or otherwise restricts Mr. Brunel or his counsel from initiating communications directly with, responding to any inquiry from, volunteering information (including confidential or proprietary information of Company or its affiliates) to, or providing testimony before, the U.S. Securities and Exchange Commission, the Department of Justice, the Financial Industry Regulatory Authority, any other self-regulatory organization or any other governmental authority, in connection with any reporting of, investigation into or proceeding regarding suspected violations of law. Mr. Brunel further acknowledges that he is not required to advise or seek permission from Company before engaging in any such activity with any such governmental authority, but that, in connection with any such activity, he must inform such governmental authority that the information he is providing is confidential. Despite the foregoing, Mr. Brunel is not permitted to reveal to any third party, including any governmental, law enforcement or regulatory authority, information that he came to learn during the course of employment with Company or providing services to Company, including as a member of the Board, that is protected from disclosure by any applicable privilege, including, but not limited to, the attorney-client privilege or the attorney work product doctrine, and Company does not waive any applicable privileges or the right to continue to protect its privileged attorney-client information, attorney work product and other privileged information. Mr. Brunel is further advised that U.S. federal law provides that an individual shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that is made (i) in confidence to a federal, state or local government official (either directly or indirectly) or to an attorney, solely for the purpose of reporting or investigating a suspected violation of law, or (ii) in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal. Further, notwithstanding anything in this Agreement to the contrary, Mr. Brunel may disclose Confidential Company Information where he is required to do so by law, regulation, court order, subpoena, summons or other valid legal process; provided that he first (i) promptly notifies Company (if it is lawful to do so), (ii) uses commercially reasonable efforts to consult with Company with respect to and in advance of the disclosure thereof, and (iii) reasonably cooperates with Company to narrow the scope of the disclosure required to be made, in each case, solely at Company's expense.

b. Mr. Brunel will keep confidential and not disclose to any other person the existence or terms of this Agreement; provided, that Mr. Brunel may disclose the terms of this Agreement (i) to the extent required to enforce or comply with the terms of this Agreement (including the restrictive covenants), ii) to the extent required to be disclosed by any law or order (provided that as soon as practicable before such disclosure, Mr. Brunel will give Company prompt written notice of such disclosure to enable Company to seek a protective order or otherwise preserve the confidentiality of such information), (iii) to Mr. Brunel's immediate family members and representatives (such as tax advisors and attorneys) who need to know such information for legitimate business purposes and (iv) in the course of filing a charge with a government agency or participating in its investigation.

14. **No Admission**. Nothing in this Agreement is intended to or will be construed as an admission by Company or any of the other Released Parties that any of them violated any law, breached any obligation or otherwise engaged in any improper or illegal conduct with respect to Mr. Brunel or otherwise. The Released Parties expressly deny any such illegal or wrongful conduct.

15. **Remedies**. Mr. Brunel and Company agree that a breach of Section 6(a)(i) or (ii), or Sections 8-13 of this Agreement by Mr. Brunel will result in irreparable damages and harm to Company and that Company will be without an adequate remedy at law in the event of such breach. As a result, Mr. Brunel agrees that Company may, in addition to any other remedies available to it, institute and prosecute proceedings in any court of competent jurisdiction in the state of Colorado (except that enforcement of any award or remedy may be instituted and pursued in any relevant jurisdiction) to enjoin him from violating such provisions of this Agreement and

that, in any such proceedings, he will not assert that Company has an adequate remedy at law for the breach by Mr. Brunel of such provisions.

16. **ADEA Waiver. Mr. Brunel understands and agrees that: (a) this is the full and final release of all claims, including claims under the Age Discrimination in Employment Act, against the Released Parties through the date he signs this Agreement; (b) he knowingly and voluntarily releases claims hereunder for valuable consideration; (c) he hereby is and has been advised of his right to have his attorney review this Agreement (at his cost) before signing it; (d) he has 21 days to consider whether to sign this Agreement; (e) his release of claims herein does not waive or release any rights or claims that may arise after the date he signs this Agreement and (f) he may, at his sole option, revoke this Agreement upon written notice delivered to John Patience, Company's director, within 7 days after signing it. This Agreement will not become effective or enforceable until this 7-day period has expired and will be void if Mr. Brunel revokes it.**

17. **Additional Provisions**. This Agreement embodies the entire agreement of the Parties regarding the matters described herein and supersedes any and all prior and/or contemporaneous agreements, oral or written, between the Parties regarding such matters**,** provided that the Existing Agreements will continue in full force and effect in accordance with their terms. Mr. Brunel acknowledges that no promises or representations other than those set forth in this Agreement have been made to him to induce him to sign this Agreement, and that Mr. Brunel only has relied on promises expressly stated herein. This Agreement may be modified only by a writing signed by all Parties. The waiver by either party of a breach of any term or provision of this Agreement must be in writing signed by such party in order to be binding and, further, will not operate or be construed as a waiver of a subsequent breach of the same provision by any party or of the breach of any other term or provision of this Agreement. This Agreement is enforceable by Company and its affiliates and may be assigned or transferred by Company to, and will be binding upon and inure to the benefit of, any parent or other affiliate of Company or any person which at any time, whether by merger, purchase, or otherwise, acquires all or substantially all of the assets, stock or business of Company or of any division thereof. Mr. Brunel may not assign any of his rights or obligations under this Agreement. If any restriction herein is found to be unenforceable by a court of competent jurisdiction, the Parties agree that any such restriction may be modified or limited so that it or they may then be enforced to the fullest extent possible. The provisions of this Agreement are severable if a court of competent jurisdiction finds any of them unenforceable (after any modification or limitation under the foregoing).

18. **Tax Matters**.

a. Mr. Brunel and Company agree that any Consulting Fees will be reported on an IRS Form 1099. Mr. Brunel acknowledges and agrees that he is and will be solely responsible for the payment of any and all applicable federal, state, local, and other taxes relating to any Consulting Fees. Mr. Brunel further agrees to indemnify, defend, and hold harmless Company and the other Released Parties for and against any and all federal, state, local, or other tax liability (including without limitation, liability for back withholding, penalties, interest, and attorneys' fees) incurred by any of them relating in any way to the Consulting Fees.

b. It is intended that any amounts payable under this Agreement will be exempt from or comply with Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), and treasury regulations relating thereto, so as not to subject Mr. Brunel to the payment of any interest and tax penalty which may be imposed under Section 409A of the Code, and this Agreement will be interpreted and construed accordingly; provided, however, that Company and the other Released Parties will not be responsible for any taxes, penalties, interest or other losses or expenses incurred by Mr. Brunel due to any failure to comply with Section 409A of the Code. The timing of the payments or benefits provided herein may be modified to so comply

with Section 409A of the Code. All references in this Agreement to Mr. Brunel's termination of services will mean a separation from service within the meaning of Section 409A of the Code. Each payment under this Agreement as a result of the separation of Mr. Brunel's service will be considered a separate payment for purposes of Section 409A of the Code. Notwithstanding any other provision in this Agreement, if on the date of Mr. Brunel's separation from service (as defined in Section 409A of the Code) (i) Company is a publicly traded corporation and (ii) Mr. Brunel is a "specified employee," as defined in Section 409A of the Code, then to the extent any amount payable under this Agreement upon Mr. Brunel's separation from service constitutes the payment of nonqualified deferred compensation, within the meaning of Section 409A of the Code, that under the terms of this Agreement would be payable prior to the six (6) month anniversary of Mr. Brunel's separation from service, such payment will be delayed until the earlier to occur of (x) the first day of the seventh month following such separation from service or (y) the date of Mr. Brunel's death. Any reimbursement payable to Mr. Brunel pursuant to this Agreement will be conditioned on the submission by him of all expense reports reasonably required by Company under any applicable expense reimbursement policy, and will be paid to Mr. Brunel within thirty (30) days following receipt of such expense reports, but in no event later than the last day of the calendar year following the calendar year in which he incurred the reimbursable expense. Any amount of expenses eligible for reimbursement or in-kind benefit provided during a calendar year will not affect the amount of expenses eligible for reimbursement or in-kind benefit to be provided during any other calendar year. The right to reimbursement or to an in-kind benefit pursuant to this Agreement will not be subject to liquidation or exchange for any other benefit.

19. **Choice of Law; Arbitration**. This Agreement is made in the United States and shall be subject to the laws of the United States and the State of Delaware (without regard to any conflicts of law rule that would require the application of the law of any other jurisdiction). Any controversy or claim arising out of or relating to this Agreement (other than to the extent necessary for Company to avail itself of the remedies set forth in Section 15 of this Agreement) that is not resolved by Mr. Brunel and Company (or its affiliates, where applicable) shall be submitted to arbitration in Denver, Colorado in accordance with Delaware law and the employment arbitration rules and procedures of the American Arbitration Association, before an arbitrator experienced in employment disputes who is licensed to practice law in the State of Colorado. The determination of the arbitrator shall be conclusive and binding on Company (or its affiliates, where applicable) and Mr. Brunel, and judgment may be entered on the arbitrator's award in any court having jurisdiction. The arbitration shall be held in Denver.

20. **Counterparts**. This Agreement may be executed in one or more counterparts, each of which will be considered an original, and all of which taken together will be considered one and the same instrument. This Agreement may be executed by .pdf signatures and a .pdf signature will constitute an original for all purposes.

**THE PARTIES STATE THAT THEY HAVE READ THE FOREGOING, UNDERSTAND EACH OF ITS TERMS, AND INTEND TO BE BOUND THEREBY:**

**DAVID BRUNEL**

/s/ David Brunel

Date: 9/20/2020

**BIODESIX, INC.**

By: /s/ John Patience

Title: Chairman of the Board of Directors

Date: 9/20/20

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

Oncimmune (USA) LLC
8960 Commerce Drive, Building 6
De Soto, KS 66018, USA

Tel +1 913 583 9000
Fax +1 913 583 9001

August 22, 2019

De Soto Investments, L.L.C.
8997 Commerce Drive
De Soto, KS 66018

***Re:*** ***Commercial and Industrial Lease Agreement (the "Lease"), between Fish Development, LLC and Oncimmune (USA) LLC ("Oncimmune"), dated November 29, 2007, as amended and as assigned to De Soto Investments, L.L.G ("Landlord") over premises situated at 8960 Commerce Drive, Building 6, De Soto Kansas, 66018, USA***

Dear Ladies and Gentlemen:

As you may be aware, an affiliate of Oncimmune has entered into an asset purchase agreement to sell substantially all of Oncimmune's assets as a going concern to Biodesix, Inc. ("**Biodesix**"), dated June 27, 2019 (the "**Sale**"). Oncimmune intends to assign its rights and obligations under the Lease to Biodesix in connection with the Sale. Pursuant to the terms of Paragraph 9 the Lease, Oncimmune hereby notifies Landlord of its intention to assign the Lease to Biodesix as of and subject to the consummation of the Sale. Also pursuant to Paragraph 9 of the Lease, by its signature hereto Biodesix acknowledges and agrees that it will assume all obligations of Oncimmune as "Tenant" under the Lease.

To ensure no interruption of the continued contractual relationship under the Lease, Oncimmune requests that you countersign this letter in the space provided below to indicate (i) your receipt of this notice of the Sale and your acknowledgement that this notice complies with the requirements of the Lease, including, without limitation, those under Paragraph 9 of the Lease, and (ii) your acknowledgment and consent, to the extent required under the Lease, that the Sale and associated assignment of the Lease to Biodesix shall not constitute a violation, breach or default under any provision of the Lease or result in any rights of acceleration or payment of any kind.

Subject to the satisfaction of customary closing conditions, we expect to consummate the Sale on or about November 1, 2019.

Please return a countersigned copy of this letter by email to [***]. Your prompt response would be greatly appreciated.

[Remainder of Page Intentionally Left Blank]

[*Signature Page to Notice Letter*]

Very truly yours,

**ONCIMMUNE (USA) LLC**

/s/ Marco G. Casarin
Marco G. Casarin
General Manager

ACKNOWLEDGED AND AGREED TO:

**BIODESIX, INC.**

By: /s/ Robin Harper Cowie

Name: Robin Harper Cowie

Title: Chief Financial Officer

Date:

ACKNOWLEDGED AND AGREED TO:

**DE SOTO INVESTMENTS, LLC**

By: /s/ Farrellynn A. Wolf

Name: Farrellynn A. Wolf

Title: CFO

Date: 9/9/19

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# LIMITED CONSENT AGREEMENT AND SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT

This LIMITED CONSENT AGREEMENT AND SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT (this "**Consent**") is made as of this 30th day of June, 2018, by and among BIODESIX, INC., a Delaware corporation ("**Borrower**") and INNOVATUS LIFE SCIENCES LENDING FUND I, LP, a Delaware limited partnership in its capacity as Collateral Agent ("**Collateral Agent**") for the Lenders and as a Lender (in such capacity, the "**Required Lenders**").

## RECITALS

A. Collateral Agent, Lenders, and Borrower have entered into that certain Loan and Security Agreement, dated as of February 23, 2018 (as amended, restated, supplemented or otherwise modified from time to time, the "**Loan Agreement**"), pursuant to which the Lenders have agreed to make certain advances of money and to extend certain financial accommodations to Borrower and certain of its Affiliates in the amounts and manner set forth in the Loan Agreement.

B. Borrower desires to enter into that certain Asset Purchase Agreement and Plan of Reorganization, dated as of June 30, 2018 (in form and content reasonably acceptable to Collateral Agent and the Lenders, the "**Asset Purchase Agreement**"), by and between Borrower and Integrated Diagnostics, Inc., a Delaware corporation ("**Seller**") pursuant to which Borrower intends to acquire substantially all of the assets of Seller in exchange for the issuance by Borrower of shares of its Series G Preferred Stock.

C. The transactions contemplated by the Asset Purchase Agreement are prohibited under the Loan Agreement.

D. Borrower has requested that Collateral Agent and the Required Lenders consent (subject to the terms and conditions set forth herein) to the execution of the Asset Purchase Agreement attached hereto as Exhibit A, and the consummation of the transactions described therein.

## AGREEMENT

NOW, THEREFORE, in consideration of the foregoing, the terms and conditions set forth in this Consent, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Collateral Agent, the Required Lenders and Borrower hereby agree as follows:

1. **Recitals; Construction**. This Consent shall constitute a Loan Document and the Recitals and each reference to the Loan Agreement, unless otherwise expressly noted, will be deemed to reference the Loan Agreement as modified hereby. The Recitals set forth above shall be construed as part of this Consent as if set forth fully in the body of this Consent. Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Loan Agreement (including those capitalized terms used in the Recitals hereto).

2. **Limited Consent**. Subject to the terms and conditions set forth herein, Collateral Agent and the Required Lenders hereby consent to the execution of the Asset Purchase Agreement and the performance by Borrower of its obligations thereunder in accordance with the terms thereof and the consummation of the transactions described therein and agrees that in each case, that the execution and, as applicable, the performance of the Borrower's obligations under and in accordance with the terms of such

agreements shall not, in and of itself, constitute an "Event of Default" under the Loan Agreement. The consent set forth in this Section 2 and the amendments set forth in Section 3 below, are effective solely for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (i) be a consent to any other amendment, waiver or modification of any other term or condition of the Loan Agreement or of any other Loan Document; (ii) prejudice any right that Collateral Agent or Lenders have or may have in the future under or in connection with the Loan Agreement or any other Loan Document; (iii) constitute a consent to or waiver of any past, present or future Default or Event of Default or other violation of any provisions of the Loan Agreement or any other Loan Documents, (iv) create any obligation to forbear from taking any enforcement action, or to make any further extensions of credit or (vi) establish a custom or course of dealing among any of the Borrower, on the one hand, and Collateral Agent or any Lender, on the other hand.

3. **Amendments to Loan Agreement**. The Loan Agreement hereby is amended as follows:

(a) The following defined term hereby is added to Section 13 of the Loan Agreement to read as follows:

"Second Amendment Effective Date" means June 30, 2018.

(b) Section 6.12 of the Loan Agreement hereby is amended and restated in its entirety to read as follows:

"**6.12 New Equity**. Borrower shall receive net proceeds from the issue and sale of Borrower's equity securities (or convertible Subordinated Debt, provided there is no cash payments of principal or interest (or otherwise) thereon during the term of this Agreement), from and after the Effective Date (but excluding the proceeds of any such sale to Collateral Agent (or any Affiliate of Collateral Agent) on or about the Effective Date) of at least [***], or such lesser amount as may be approved by Borrower's board of directors, based upon revised financial projections reviewed and approved by Borrower's board of directors, and subject to Collateral Agent's prior written consent; provided that (i) not less than [***] of such proceeds shall be received by Borrower no later than December 31, 2018; (ii) not less than [***] of such proceeds shall be received by Borrower no later than March 31, 2019; and (iii) not less than the remaining [***] of such proceeds received by Borrower no later than September 30, 2019."

(c) Annex X to the Loan Agreement hereby is replaced in its entirety with Annex X attached hereto; provided that column 2 and, as a result of any such changes, column 3, of such Annex X may be revised no later than March 31, 2019 based upon the revenue plan as approved by Borrower's board of directors in the first quarter of 2019, as such revenue plan may be approved by Collateral Agent in its reasonable discretion.

4. **Representations and Warranties; Reaffirmation of Security Interest**. Borrower hereby confirms that all of the representations and warranties set forth in the Loan Agreement are true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) with respect to Borrower as of the date hereof except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct in all material respects as of such earlier date. Nothing herein is intended to impair or limit the validity, priority or extent of Collateral Agent's security interests in and Liens on the Collateral. Borrower acknowledges and agrees that the Loan Agreement, the other Loan Documents and this Consent constitute the legal, valid and binding obligation of Borrower, and are enforceable against Borrower in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws relating to the enforcement of creditors' rights generally and by general equitable principles.

5. **Conditions to Effectiveness.** This Consent shall become effective as of the date on which each of the following conditions has been satisfied, as determined by Agent in its sole discretion:

(a) Borrower shall have delivered to Collateral Agent this Consent, duly executed by an authorized officer of Borrower;

(b) all representations and warranties of Borrower contained herein shall be true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) as of the date hereof except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct in all material respects as of such earlier date (and such parties' delivery of their respective signatures hereto shall be deemed to be its certification thereof);

(c) prior to and after giving effect to the agreements set forth herein, no Default or Event of Default shall exist under any of the Loan Documents or shall exist after giving effect to the transactions contemplated by the Asset Purchase Agreement;

(d) Collateral Agent shall have received copies of the fully executed and delivered Asset Purchase Agreement in form and substance reasonably satisfactory to Collateral Agent;

(e) Collateral Agent shall have received a duly executed Subordination Agreement from each holder of Subordinated Debt, including with respect to the Sellers under (and as defined in) the Asset Purchase Agreement;

(f) Collateral Agent shall have received all Lender Expenses incurred to date, which may be debited from any of Borrower's accounts; and

(g) Borrower shall have delivered such other documents, information, certificates, records, permits, and filings as Collateral Agent may reasonably request.

6. **No Waiver or Novation.** The execution, delivery and effectiveness of this Consent shall not, except as expressly provided in this Consent, operate as a waiver of any right, power or remedy of Collateral Agent, nor constitute a waiver of any provision of the Loan Agreement, the Loan Documents or any other documents, instruments and agreements executed or delivered in connection with any of the foregoing. Nothing herein is intended or shall be construed as a waiver of any existing Defaults or Events of Default under the Loan Agreement or other Loan Documents or any of Collateral Agent's rights and remedies in respect of such Defaults or Events of Default. This Consent (together with any other document executed in connection herewith) is not intended to be, nor shall it be construed as, a novation of the Loan Agreement.

7. **Affirmation.** Borrower hereby acknowledges and agrees that the Loan Agreement and all other Loan Documents (and all covenants, terms, conditions and agreements therein) shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrower. Borrower covenants and agrees to comply with all of the terms, covenants and conditions of the Loan Agreement and the Loan Documents, notwithstanding any prior course of conduct, waivers, releases or other actions or inactions on Agent's or any Lender's part which might otherwise constitute or be construed as a waiver of or amendment to such terms, covenants and conditions.

8. **Miscellaneous**.

(a) Reference to the Effect on the Loan Agreement. Upon the effectiveness of this Consent, each reference in the Loan Agreement to "this Agreement," "hereunder," "hereof," "herein," or words of similar import shall mean and be a reference to the Loan Agreement, as modified by this Consent. Except as specifically set forth above, the Loan Agreement, and all other Loan Documents (and all covenants, terms, conditions and agreements therein), shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrower.

(b) THIS CONSENT AND THE RIGHTS, REMEDIES AND OBLIGATIONS OF THE PARTIES HERETO AND HERETO, AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS CONSENT, THE RELATIONSHIP OF THE PARTIES,

AND/OR THE INTERPRETATION AND ENFORCEMENT OF THE RIGHTS AND DUTIES OF THE PARTIES AND ALL OTHER MATTERS RELATING HERETO, HERETO OR ARISING THEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF DELAWARE, WITHOUT REFERENCE TO ITS CONFLICT OF LAW PROVISIONS. NOTWITHSTANDING THE FOREGOING, COLLATERAL AGENT AND LENDERS SHALL HAVE THE RIGHT TO BRING ANY ACTION OR PROCEEDING AGAINST BORROWER OR ITS PROPERTY IN THE COURTS OF ANY OTHER JURISDICTION WHICH COLLATERAL AGENT AND LENDERS (IN ACCORDANCE WITH THE PROVISIONS OF SECTION 11.2(b) OF THE LOAN AGREEMENT) DEEM NECESSARY OR APPROPRIATE TO REALIZE ON THE COLLATERAL OR TO OTHERWISE ENFORCE COLLATERAL AGENT'S AND LENDERS' RIGHTS AGAINST BORROWER OR ITS PROPERTY. BORROWER EXPRESSLY SUBMITS AND CONSENTS IN ADVANCE TO THE JURISDICTION OF THE FEDERAL AND STATE COURTS LOCATED IN THE STATE OF NEW YORK AND ANY SUCH OTHER JURISDICTION IN ANY ACTION OR SUIT COMMENCED IN ANY SUCH COURT, AND BORROWER HEREBY WAIVES ANY OBJECTION THAT IT MAY HAVE BASED UPON LACK OF PERSONAL JURISDICTION, IMPROPER VENUE, OR FORUM NON CONVENIENS AND HEREBY CONSENTS TO THE GRANTING OF SUCH LEGAL OR EQUITABLE RELIEF AS IS DEEMED APPROPRIATE BY SUCH COURT. BORROWER HEREBY WAIVES PERSONAL SERVICE OF THE SUMMONS, COMPLAINTS, AND OTHER PROCESS ISSUED IN SUCH ACTION OR SUIT AND AGREES THAT SERVICE OF SUCH SUMMONS, COMPLAINTS, AND OTHER PROCESS MAY BE MADE BY REGISTERED OR CERTIFIED MAIL ADDRESSED TO BORROWER AT THE ADDRESS SET FORTH IN SECTION 10 OF THE LOAN AGREEMENT AND THAT SERVICE SO MADE SHALL BE DEEMED COMPLETED UPON THE EARLIER TO OCCUR OF BORROWER'S ACTUAL RECEIPT THEREOF OR [***] BUSINESS DAYS AFTER DEPOSIT IN THE U.S. MAIL, PROPER POSTAGE PREPAID.

(c) Incorporation of Loan Agreement Provisions. The provisions contained in Section 12.2 (Indemnification) and Section 11.1 (Waiver of Jury Trial) of the Loan Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

(d) Headings. Section headings in this Consent are included for convenience of reference only and shall not constitute a part of this Consent for any other purpose.

(e) Counterparts. This Consent may be signed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed counterpart of this Consent by facsimile or by electronic mail delivery of an electronic version (e.g., .pdf or .tif file) of an executed signature page shall be effective as delivery of an original executed counterpart hereof and shall bind the parties hereto.

(f) Entire Agreement. This Consent constitutes the entire agreement and understanding among the parties hereto and supersedes any and all prior agreements and understandings, oral or written, relating to the subject matter hereof.

(g) Severability. In case any provision of or obligation under this Consent shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

(h) Successors/Assigns. This Consent shall bind, and the rights hereunder shall inure to, the respective successors and assigns of the parties hereto, subject to the provisions of the Loan Agreement and the other Loan Documents.

[SIGNATURES APPEAR ON FOLLOWING PAGES]

IN WITNESS WHEREOF, intending to be legally bound, and intending that this document constitute an agreement executed under seal, the undersigned have executed this Consent under seal as of the day and year first hereinabove set forth.

**BORROWER**

**BIODESIX, INC.**

By: /s/ David Brunel
Name: David Brunel
Title: CEO

**COLLATERAL AGENT AND LENDER**

**INNOVATUS LIFE SCIENCES LENDING FUND I, LP**

By: Innovatus Life Sciences GP, LP
Its: General Partner

By: /s/ Andrew W. Hobson
Name: Andrew W. Hobson
Title: Authorized Signatory

# PATENT ASSIGNMENT

This Patent Assignment ("**Assignment**") is made and entered into as of June 30, 2018 by and between **Integrated Diagnostics, Inc.**, a corporation organized and existing under the laws of Delaware, having a place of business at 219 Terry Avenue North, Suite 100, Seattle, Washington 98109 USA ("**Integrated Diagnostics**") and **Biodesix, Inc.**, a corporation organized and existing under the laws of Delaware, having a place of business at 2970 Wilderness Place, Suite 100, Boulder, Colorado 80301 USA ("**Biodesix**").

WHEREAS, Integrated Diagnostics has agreed to assign and transfer to Biodesix and Biodesix has agreed to acquire and accept from Integrated Diagnostics the patent applications and patents set forth on Annex 2.7(b)(i) of the Asset Purchase Agreement and Plan of Reorganization (collectively, the "**Patents**") attached hereto.

NOW, THEREFORE, in consideration of the premises, mutual covenants and provisions herein contained, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the parties hereto agree to execute this Assignment, as follows:

**1.0 Assignment**. Integrated Diagnostics has assigned and/or by these presents does hereby assign, transfer and convey unto Biodesix, Integrated Diagnostics' whole, partial, and entire right, title and interest (i) in and to the inventions claimed in the Patents, including all patents granting from said applications on said Patents or any continuation, continuation-in-part, division, renewal, substitute, reexamination, or reissue thereof, including any patents or any patent applications obtained based upon a claim of priority to any patent or patent application on said Patents and (ii) in and to all rights to sue for and collect damages resulting from past, present and future infringement of said patents and patent applications in (i).

**2.0 Enjoyment**. The patents and patent applications subject to Paragraph 1 shall be held and enjoyed by Biodesix, for Biodesix's use and benefit, and for Biodesix's legal representatives and assigns, to the full end of the term or terms for which same may be granted, as fully and entirely as the same would have been held by Integrated Diagnostics had this assignment and transfer not been made.

**3.0 Assistance and Recordation**. The parties to this Assignment shall use commercially reasonable efforts to take, or cause to be taken, all actions, and to do, or cause to be done, all things, necessary or advisable to consummate the transactions contemplated by this Assignment. Without limiting the foregoing, each of Integrated Diagnostics and Biodesix shall cooperate with the other without any further consideration to execute and deliver, or use commercially reasonable efforts to cause to be executed and delivered, all documents as may reasonably be necessary to effect, evidence or perfect the assignment of the Patents to Biodesix, including without limitation any documents required to record this Assignment with local patent offices. Integrated Diagnostics hereby authorizes the Commissioner for Patents in the United States Patent and Trademark Office (and the officials of corresponding entities or agencies in any applicable jurisdictions) to record and register this Patent Assignment upon request by Biodesix.

(Signature page follows)

IN WITNESS WHEREOF, each of the parties hereto has executed this Patent Assignment, or has caused this Patent Assignment to be executed on its behalf by a representative duly authorized, all as of the date first above set forth.

**Integrated Diagnostics, Inc.**

By: /s/ Albert A. Luderer
Name: Albert A. Luderer
Title: CEO

**Biodesix. Inc.**

By: /s/ David Brunel
Name: David Brunel
Title: CEO

**Witness**

By: /s/ Margaret A. Luderer
Name: Margaret A. Luderer
Title:

**Witness**

By: _____
Name:
Title:

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# CONTINGENT VALUE RIGHTS AGREEMENT

**THIS CONTINGENT VALUE RIGHTS AGREEMENT** (this "***Agreement***"), dated as of February 22, 2016 (the "***Effective Date***"), is entered into by and among Biodesix, Inc., a Delaware corporation (the "***Company***") and each of the holders set forth on Exhibit A hereto (each a "***Holder***"). Certain terms used herein are defined in Section 1.1 hereof.

## Preamble

The Company and certain investors ("***Investors***"), including the Holders, entered into a Series F Preferred Stock and CVR Purchase Agreement, dated as of January 29, 2016, pursuant to which such investors acquired shares of the Company's Series F Preferred Stock and contingent value rights as set forth in this Agreement (such financing being the "***Financing***").

As an incentive to invest in the Financing, the Company has offered Investors the right to participate in the contingent value rights described in this Agreement if such Investors purchased more than their pro-rata amount in the Financing, but only to the extent the total amount raised in the Financing exceeded $20,202,323 (including conversion or cancellation of indebtedness).

The parties have done all things necessary to make the CVRs, when issued, the valid obligations of the Company and to make this Agreement a valid and binding agreement of the Company, enforceable against the Company in accordance with its terms.

Pursuant to and subject to the terms of this Agreement, one CVR will represent 0.00375% of the Company's interest in the drug ficlatuzumab.

## Agreement

NOW, THEREFORE, for and in consideration of the premises and the consummation of the transactions referred to above, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders, as follows:

## ARTICLE I
## DEFINITIONS

**Section 1.1 Definitions**.

(a) For all purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(i) the terms defined in this Article have the meanings assigned to them in this Article, and include the plural as well as the singular;

(ii) all accounting terms used herein and not expressly defined herein shall have the meanings assigned to such terms in accordance with United States generally accepted accounting principles, as in effect on the date hereof;

(iii) the words "herein," "hereof" and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular Article, Section or other subdivision;

(iv) unless the context otherwise requires, words describing the singular number shall include the plural and vice versa, words denoting any gender shall include all genders and words denoting natural Persons shall include corporations, partnerships and other Persons and vice versa; and

(v) all references to "including" shall be deemed to mean including without limitation.

(b) The following terms shall have the meanings ascribed to them as follows:

"**Affiliate**" means (i) with respect to any person, any member of the immediate family of such person or any entity controlled, directly or indirectly, by such person and/or members of the immediate family of such person, and (ii) with respect to any entity, (a) any Person that, directly or indirectly, controls, is controlled by or is under common control with, such entity.

"**Board of Directors**" means the board of directors of the Company.

"**Board Resolution**" means a resolution duly adopted by the Board of Directors.

"**Business Day**" means any day other than a Saturday, Sunday or a day on which the banks in New York are authorized or obligated by law or executive order to close.

"**CVR Payment Amount**" means [***]

"**CVR Payment Date**" means [***]

"**CVR Payment Event**" means [***]

"**CVRs**" means the contingent value rights issued by the Company pursuant to this Agreement.

"**Ficla Amount**" means, for any given calendar year, the proceeds to the Company of all CVR Payment Events in such year, less all of the Company's costs and expenses associated with development, marketing, sale, production, manufacture, licensing of ficlatuzumab or of rights relating to ficlatuzumab since the last CVR Payment Event (excluding the costs of the FOCAL clinical trial), and less any amount determined by the Company to be necessary to maintain adequate reserves to cover potential future negative cash flows resulting from the Company's ownership rights in the drug ficlatuzumab; provided that any negative Ficla Amount from a previous calendar year shall carry forward to the following year's Ficla Amount. For the purposes of clarity, the Company's interest in the diagnostic test that identifies patients likely to respond to ficlatuzumab, BDX004, shall not be included in the definition of Ficla Amount.

"**Holder**" has the meaning set forth in the preamble hereto.

"**Internal Revenue Code**" means the Internal Revenue Code of 1986, as amended, and any applicable successor statute.

"**Majority of CVR Holders**" means the Holders of a majority of the outstanding CVRs; for this purpose, CVRs beneficially owned by the Company or by any Affiliate of the Company, shall be considered as though not outstanding.

"**Person**" shall mean any individual, firm, corporation, limited liability company, partnership, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

"**Royalty Percentage**" shall mean 15% such other percentage as amended pursuant to Section 4.1(a)(v).

"**Surviving Person**" has the meaning set forth in Section 5.1(a).

## ARTICLE II
## CONTINGENT VALUE RIGHTS

**Section 2.1 CVRs**. On the Effective Date, each Holder shall hold the number of CVRs set forth next to such Holder's name on Exhibit A hereto. Exhibit A may set forth fractional CVRs to one decimal place.

**Section 2.2 Restrictions on Transfer**.

(a) No CVR shall be Transferred, and the Company shall not recognize any such Transfer, except upon the conditions specified in this Section 2.2, which conditions are intended to ensure compliance with the provisions of the Securities Act of 1933, as amended (the "***Securities Act***"), and Section 2.6. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of a CVR held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement. For purposes of this Agreement, the term "***Transfer***" shall include any sale, assignment, encumbrance, hypothecation, pledge, conveyance in trust, gift, transfer by request, devise or descent, or other transfer or disposition of any kind, including, but not limited to, transfers to receivers, levying creditors, trustees or receivers in bankruptcy proceedings or general assignees for the benefit of creditors, whether voluntary or by operation of law, directly or indirectly, of any CVR.

(b) Each Holder hereby agrees that the following legend may be placed upon any counterpart of this Agreement or any other document or instrument evidencing ownership of a CVR:

The CVRs represented by this document have not been registered under any securities laws and the transferability of such CVRs are

restricted pursuant to the terms and conditions of the Contingent Value Rights Agreement between the holder of this CVR and the issuer. CVRs may not be sold, assigned or transferred, nor will any assignee, vendee, transferee or endorsee thereof be recognized as having acquired any such CVR by the issuer for any purposes, unless sold, assigned or transferred in accordance with the terms of the Contingent Value Rights Agreement between the holder of this CVR and the issuer and (1) a registration statement under the Securities Act with respect to such CVR will then be in effect and such transfer has been qualified to the extent required under any applicable state securities laws, or (2) an exemption from such registration and qualification will be available.

(c) The holder of each CVR, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2.2 and Section 2.6. Before any Transfer of any CVR, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such Transfer. Each such notice shall describe the manner and circumstances of the Transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the Securities and Exchange Commission (the "***SEC***") to the effect that the proposed Transfer of such CVR without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed Transfer of the CVR may be effected without registration under the Securities Act, whereupon, subject to Section 2.6, the Holder of such CVR shall be entitled to Transfer such CVR in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes CVRs to an Affiliate of such Holder for no consideration; *provided* that each transferee agrees in writing to be a party to this Agreement as a "Holder."

**Section 2.3 No Certificate; Registration; Registration of Transfer; Change of Address**.

(a) The CVRs and each Holder thereof shall be listed on Exhibit A hereto, and the CVRs shall not be evidenced by a certificate or any other instrument. The Company shall maintain Exhibit A and make updates and changes to Exhibit A as set forth in this Agreement.

(b) Upon receipt of the information required by Section 2.2 and Section 2.6 and the completion of all processes required by those sections, the Company shall reflect the transfer of the CVRs on Exhibit A hereto. All duly transferred CVRs shall be the valid obligations of the Company, evidencing the same right and shall entitle the transferee to the same benefits and rights under this Agreement, as those previously held by the transferor. No Transfer of a CVR shall be valid until reflected on Exhibit A hereto, and any Transfer not duly reflected on Exhibit A hereto

will not be honored by the Company until it is so reflected, and then it will be honored only prospectively. The Company shall have no duty or obligation under any Section of this Agreement that requires the payment of taxes or charges unless and until it is satisfied that such taxes and/or charges have been or will be paid.

(c) A Holder may make a written request to the Company to change such Holder's address as set forth on Exhibit A hereto. The written request must be duly executed by the Holder and conform to such other reasonable requirements as the Company may from time to time establish. Upon receipt of such proper written request, the Company shall promptly record the change of address on Exhibit A hereto.

**Section 2.4 Payment Procedures**.

(a) Promptly following the occurrence of a CVR Payment Event, the Company shall set aside the CVR Payment Amount relating to such CVR Payment Event and reserve such amount for future payments pursuant to this Agreement. Such cash amount shall, pending its disbursement to the Holders, be invested by the Company in (i) direct obligations of the United States of America, (ii) obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest, or (iii) money market funds investing solely in a combination of the foregoing. Any interest and other income resulting from such investments shall be applied first to the satisfaction of any fees the Company incurs in holding such amounts, and any remainder (the "***Remainder***") shall be paid to the Holders as set forth in Section 2.4(b) below.

(b) The Company shall establish a CVR Payment Date on each April 30 in the year following a year that a CVR Payment Amount accrues and is payable by the Company to the Holders. On each such CVR Payment Date, the Company shall distribute the CVR Payment Amount, as well as the Remainder, for the prior calendar year to the Holders (each Holder being entitled to receive its *pro rata* share of such CVR Payment Amount and the Remainder based on (x) the number of CVRs held (as of the third Business Day before the CVR Payment Date) by such Holder as reflected on Exhibit A hereto divided by (y) the total number of CVRs outstanding as of the third Business Day before the CVR Payment Date) by check mailed to the address of each such Holder as then reflected on Exhibit A hereto or as otherwise specified by such Holder.

(c) The Company shall be entitled to deduct and withhold, or cause to be deducted or withheld, from each CVR Payment Amount otherwise payable pursuant to this Agreement, such amounts as the Company is required to deduct and withhold with respect to the making of such payment under the Internal Revenue Code, or any provision of state, local or foreign tax law. To the extent that amounts are so withheld or paid over to or deposited with the relevant governmental entity, such withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Holder in respect of which such deduction and withholding was made.

(d) Subject to the confidentiality obligations of this Agreement, the Company shall promptly furnish to each Holder who so requests all information and documentation in connection with this Agreement and the CVRs that such Holder may reasonably request, but the Company shall not be required to provide any such information or documentation to any Holder who (i) is a competitor of the Company as reasonably determined by the Board of Directors or (ii) holds fewer than [***] of the total number of CVRs.

**Section 2.5 No Voting, Dividends or Interest; No Equity or Ownership Interest in the Company**.

(a) The CVRs shall not have any voting or dividend rights, and interest shall not accrue on any amounts payable on the CVRs to any Holder.

(b) The CVRs shall not represent any equity or ownership interest in the Company. The rights of the holders of CVRs are limited to those expressly set forth in this Agreement, and such holders' sole right to receive property hereunder is the right to receive cash from the Company in accordance with the terms hereof.

**Section 2.6 Right of First Refusal**.

(a) **Notice of Transfer**. Other than in connection with a Transfer excluded by Section 2.7, if a Holder proposes to Transfer any CVRs then the Holder shall promptly give written notice (the "***Notice***") to the Company at least thirty (30) days prior to the closing of such Transfer. The Notice shall describe in reasonable detail the proposed Transfer including, without limitation, the number of CVRs to be transferred, the nature of such Transfer, the consideration to be paid, and the name and address of each prospective purchaser or transferee.

(b) **Company Right of First Refusal**. For a period of [***] days (the "***Company ROFR Period***") following receipt of any Notice described in Section 2.6(a), the Company shall have the right to purchase all or a portion of the total number of CVRs subject to such Notice on the same terms and conditions as set forth therein. The Company's purchase right shall be exercised by written notice signed by an officer of the Company (the "***Company Notice***") and delivered to the Holder within the Company ROFR Period. The Company shall effect the purchase of the CVRs, including payment of the purchase price, not more than [***] business days after delivery of the Company Notice.

**Section 2.7 Exempt Transfers**. Notwithstanding the foregoing, the notice, first refusal rights of the Company set forth in Section 2.6 above shall not apply to:

(a) Any transfer or transfers by a Holder to its members, former members, partners, former partners or stockholders;

(b) Any transfer to (i) the Holder's immediate family, (ii) any custodian or trustee for the account or benefit of such Holder or such Holder's immediate family, (iii) any limited partnership or limited liability company of which the Holder, members of such Holder's immediate family, or any trust for the account or benefit of such Holder or such Holder's immediate family (a "***family trust***") will be will be the general of limited partner(s) of such partnership or the members of such limited liability company, provided that such partnership or limited liability company, as applicable, is controlled by such Holder, such Holder's immediate family or a family trust of such Holder or (iv) any entity that is controlled by, controls or is under common control with the Holder, members of such Holder's immediate family or any trust for the account or benefit of such Holder or such Holder's immediate family. "***Immediate family***" as used

herein shall mean spouse, lineal descendant, father, mother, brother, or sister of the Holder making such transfer, and "***control***" (including, with correlative meanings, "***controlled by***" and "***under common control with***") shall mean possession, directly or indirectly, of the power to direct or cause the direction of management or policies (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise); or

(c) Any *bona fide* gift;

*provided* that in the event of any transfer made pursuant to one of the exemptions provided by clauses (a), (b), or (c), (i) the Holder shall give written notice to the Company prior to the closing of such transfer, which notice shall state under which clause of Section 2.7 the transfer is being made, and (ii) as a condition to the effectiveness of such transfer, the transferee or donee shall enter into a written agreement to be bound by and comply with all provisions of this Agreement, as if it were an original Holder hereunder. Such transferee or donee shall be treated as the "Holder" for purposes of this Agreement.

**Section 2.8 Subordination**. The Company agrees, and each Holder by accepting a CVR hereunder agrees, that all obligations under this Agreement and any rights or claims relating thereto are subordinated in right of payment, to the extent and in the manner provided in this Section 2.8 to the prior payment in full in money or money's worth of all Senior Obligations of the Company (whether outstanding on the date hereof or hereafter created, incurred, assumed or guaranteed), and that the subordination is for the benefit of the holders of such Senior Obligations. "***Senior Obligations***" means the principal of, premium (if any), interest (including, without limitation, any interest accruing subsequent to the filing of a petition of bankruptcy at the rate provided for in the documentation with respect thereto, whether or not such interest is an allowed claim under applicable law) on the following existing or future obligations of the Company, and all other amounts owing thereon, (i) with respect to borrowed money, (ii) evidenced by notes, debentures, bonds or other similar debt instruments, (iii) with respect to the net obligations owed under interest rate swaps or similar agreements or currency exchange transactions, (iv) reimbursement obligations in respect of letters of credit and similar obligations, (v) in respect of capital leases, or (vi) guarantees in respect of obligations referred to in clauses (i) through (v) above; unless, in any case, the instrument creating or evidencing the same or pursuant to which the same is outstanding provides that such obligations are pari passu to or subordinate in right of payment to the CVRs. By acceptance of this Agreement, Holder agrees to execute and deliver customary forms of subordination agreement requested from time to time by the holders of Senior Obligations and, as a condition to Holder's rights hereunder, the Company may require that Holder execute such forms of subordination agreement.

## ARTICLE III
## COVENANTS

**Section 3.1 Assignments**. The Company shall not, in whole or in part, assign any of its obligations under this Agreement other than in accordance with the terms of Section 5.1 hereof.

**Section 3.2 Sale by a Majority of CVR Holders**. In the event that a Majority of CVR Holders approve a sale of all CVRs held by such Holders, each other Holder hereby agrees to sell all such Holder's CVRs on the on the terms and conditions approved by the Majority of CVR Holders. The rights and restrictions set forth in Section 2.6 shall not apply to such sale.

**Section 3.3 Confidentiality**.

(a) The Company may make available to the Holders from time to time certain information about the Company. Each Holder hereby agrees that any Confidential Information (as defined below), whether prepared by the Company, its Agents (as defined below) or otherwise and irrespective of the form of communication, which is furnished to a Holder or to a Holder's Agents now or in the future by or on behalf of the Company shall be governed by this Section 3.3, and each Holder further agrees to treat any Confidential Information in accordance with the provisions of this Agreement, and to take or abstain from taking certain other actions as hereinafter set forth. A party's "***Agents***" shall include the directors, officers, employees, agents, partners or advisors of such party (including, without limitation, attorneys, accountants, consultants and financial advisors). The term "***Confidential Information***" shall mean any financial, technical, commercial or other information, verbal, visual or written, disclosed to such Holder or its Agents, that relates to the Company (including information concerning any business or assets of any third party), and is not generally available to others. Confidential Information shall include any notes, analyses, compilations, studies, interpretations or other documents prepared by such Holder or its Agents (as defined below) based upon, containing or otherwise reflecting, in whole or in part, the Confidential Information described in the immediately preceding sentence. Confidential Information shall not include any information which (a) such Holder can demonstrate was already known to it before such disclosure; (b) such Holder can demonstrate was independently developed by it without use of or reference to the Confidential Information; (c) is now or hereafter becomes generally available to the public other than as a result of a disclosure by a Holder or a Holder's Agents; or (d) is or becomes available to such Holder on a nonconfidential basis from a source (other than the Company) which, to the best of such Holder's knowledge, is not prohibited from so disclosing such information to such Holder by a legal, contractual or fiduciary obligation.

(b) Each Holder hereby agrees that it and its Agents shall use the Confidential Information solely for the purposes specified in this Agreement (the "***Purpose***") and for no other purpose, that the Confidential Information will be kept confidential and that such Holder and its Agents will not disclose any of the Confidential Information in any manner whatsoever; *provided*, *however*, that (i) such Holder may make any disclosure of the Confidential Information which is expressly allowed by the Agreement or to which the Company gives its prior written consent, and (ii) any of the Confidential Information may be disclosed to such Holder's Agents who need to know such information for the sole purpose of the Purpose, who are provided with a copy of this letter agreement and are bound by terms substantially similar to the confidentiality restrictions set forth herein. In any event, each Holder hereby agrees to undertake reasonable precautions to safeguard and protect the confidentiality of the Confidential Information, to accept responsibility for any breach of this letter agreement by any of its Agents, and at its sole expense to take all reasonable measures (including but not limited to court proceedings) to restrain its Agents from prohibited or unauthorized disclosure or uses of the Confidential Information.

(c) In the event that a Holder or any of its Agents are requested or required (by oral questions, interrogatories, requests for information or documents in legal proceedings, subpoena, civil investigative demand or other similar process) to disclose any of the Confidential

Information, such Holder shall provide the Company with reasonably prompt written notice, if permitted by applicable laws, of any such request or requirement so that the Company may seek a protective order or other appropriate remedy and/or waive compliance with the provisions of this Agreement. If, in the absence of a protective order or other remedy or the receipt of a waiver by the Company, a Holder or any of its Agents are nonetheless, in the written opinion of counsel, legally compelled to disclose Confidential Information to any tribunal or else stand liable for contempt or suffer other penalty, such Holder or its Agents may, without liability hereunder, disclose to such tribunal only that portion of the Confidential Information which such counsel advises such Holder is legally required to be disclosed, provided that such Holder exercise reasonable efforts to preserve the confidentiality of the Confidential Information, including, without limitation, by cooperating with the Company, if permitted by applicable laws, to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information by such tribunal.

(d) If a Holder no longer holds CVRs, if requested by the Company, such Holder will promptly return to the Company all physical originals and copies of the Confidential Information in its possession or in the possession of its Agents, and such Holder will destroy all other originals and copies (in every medium) of the Confidential Information in its possession or in the possession of its Agents, and such Holder will destroy all originals and copies (in every medium) of any notes, analyses, compilations, studies, interpretations or other documents prepared by it or its Agents based upon, containing or otherwise reflecting, in whole or in part, the Confidential Information; and such Holder shall provide the Company with a certificate of compliance with this sentence; provided, however, the foregoing obligations shall not require such Holder to destroy the hard drives of any computers that contain(ed) Confidential Information. Notwithstanding the return or destruction of the Confidential Information, such Holder and its Agents will continue to be bound by their obligations of confidentiality and nonuse and other obligations hereunder.

## ARTICLE IV
## AMENDMENTS

**Section 4.1 Amendments without Consent of Holders**.

(a) Without the consent of the Holders, the Company, when authorized by a Board Resolution, at any time and from time to time, may enter into one or more amendments hereto:

(i) to evidence the succession of another Person to the Company and the assumption by any such successor of the covenants of the Company herein in a transaction contemplated by Section 5.1 hereof;

(ii) to add to the covenants of the Company such further covenants, restrictions, conditions or provisions as the Board of Directors shall consider to be for the protection of the Holders; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iii) to cure any ambiguity, to correct or supplement any provision herein that may be defective or inconsistent with any other provision herein, or to make any other provisions with respect to matters or questions arising under this Agreement; provided, that in each case, such provisions shall not adversely affect the interests of the Holders;

(iv) to add, eliminate or change any provision of this Agreement unless such addition, elimination or change is adverse to the interests of the Holders; or

(v) to add CVRs and Holders thereof to Exhibit A and to amend the Royalty Percentage, provided that such amendments, taken together, shall not reduce or decrease any Holder's right to payments under this Agreement.

(b) Promptly after the execution by the Company of any amendment pursuant to the provisions of this Section 4.1, the Company shall notify each Holder in writing, setting forth in general terms the substance of such amendment.

**Section 4.2 Amendments with Consent of Majority of CVR Holders**.

(a) Subject to Section 4.1 (which amendments pursuant to Section 4.1 may be made without the consent of the Holders), with the consent of Majority of CVR Holders, the Company may enter into one or more amendments hereto for the purpose of adding, eliminating or changing any provisions of this Agreement, even if such addition, elimination or change is in any way adverse to the interests of the Holders. Any such amendment shall be fully valid even if such amendment is signed only by the Company, provided a Majority of CVR Holders have consented thereto.

(b) Promptly after the execution by the Company of any amendment pursuant to the provisions of this Section 4.2, the Company shall provide notice to the Holders setting forth in general terms the substance of such amendment.

**Section 4.3 Effect of Amendments**. Upon the execution of any amendment under this Article IV, this Agreement shall be modified in accordance therewith, such amendment shall form a part of this Agreement for all purposes every Holder shall be bound thereby.

**Section 4.4 Waivers**. A Majority of CVR Holders may waive any of the rights set forth in this Agreement on behalf of all Holders.

## ARTICLE V
## CONSOLIDATION, MERGER, SALE OR CONVEYANCE

**Section 5.1 The Company May Consolidate, Etc.**

(a) The Company shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, unless the Person formed by such consolidation or into which the Company is merged or the Person that acquires by conveyance or transfer, or that leases, the properties and assets of the Company substantially as an entirety (the "***Surviving Person***") shall expressly assume payment (if and to the extent required hereunder) of amounts on all the CVRs and the performance of every duty and covenant of this Agreement on the part of the Company to be performed or observed.

(b) In the event the Company conveys, transfers or leases its properties and assets substantially as an entirety in accordance with the terms and conditions of this Section 5.1, the Company and the Surviving Person shall be jointly and severally liable for the payment of the CVR Payment Amount and the performance of every duty and covenant of this Agreement on the part of the Company to be performed or observed.

**Section 5.2 Successor Substituted**. Upon any consolidation of or merger by the Company with or into any other Person, or any conveyance, transfer or lease of the properties and assets substantially as an entirety to any Person in accordance with Section 5.1, the Surviving Person shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Agreement with the same effect as if the Surviving Person had been named as the Company herein, and thereafter the predecessor Person shall be relieved of all obligations and covenants under this Agreement and the CVRs.

**Section 5.3 Transfer of Underlying Rights**. Notwithstanding anything to the contrary, so long as the CVRs remain outstanding, the Company and its Affiliates may, directly or indirectly, by a sale or swap of assets, merger, reorganization, joint venture, lease, license or any other transaction or arrangement, sell, transfer, convey or otherwise dispose of their respective rights in and to the drug ficlatuzumab to any Person without the consent of any Holder. Pursuant to Section 2.4, Holders shall have a right to the proceeds of such transaction, including without limitation any ongoing royalty rights, stock payments or cash payments. At such time as no other proceeds are potentially payable, then this Agreement shall terminate following the final disbursement of any CVR Payment Amount as a result of such transaction.

## ARTICLE VI
## OTHER PROVISIONS OF GENERAL APPLICATION

**Section 6.1 Notices to the Company**. Any request, demand, authorization, direction, notice, consent, waiver or other document provided or permitted by this Agreement shall be sufficient for every purpose hereunder if in writing and delivered personally, or sent by email or sent by certified or registered mail (return receipt requested and first-class postage prepaid) or sent by a nationally recognized overnight courier (with proof of service), addressed as follows, and shall be deemed to have been given upon receipt, if to the Company, addressed to it at 2970 Wilderness Place, Suite 100, Boulder, CO 80301, or at any other address furnished in writing to the Holders by the Company in accordance with this Article VI.

**Section 6.2 Notice to Holders**. Where this Agreement provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and emailed or mailed, first-class postage prepaid, to each Holder affected by such event, at his, her or its address as it appears in on Exhibit A hereto, not later than the latest date, and not earlier than the earliest date, prescribed for the giving of such notice. In any case where notice to Holders is given by email or mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders.

**Section 6.3 Effect of Headings**. The Article and Section headings herein are for convenience only and shall not affect the construction hereof.

**Section 6.4 Successors and Assigns**. All covenants and agreements in this Agreement by the Company shall bind its successors and assigns, whether so expressed or not.

**Section 6.5 Benefits of Agreement**. Nothing in this Agreement, express or implied, shall give to any Person (other than the parties hereto, the Holders and their permitted successors and assigns hereunder) any benefit or any legal or equitable right, remedy or claim under this Agreement or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto, the Holders and their permitted successors and assigns. The Holders shall have no rights or remedies hereunder except as expressly set forth herein.

**Section 6.6 Governing Law**. This Agreement and the CVRs shall be governed by and construed in accordance with the laws of the State of Delaware without regards to its rules of conflicts of laws.

**Section 6.7 Legal Holidays**. In the event that a CVR Payment Date shall not be a Business Day, then, notwithstanding any provision of this Agreement to the contrary, any payment required to be made in respect of the CVRs on such date need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the CVR Payment Date.

**Section 6.8 Severability Clause**. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

**Section 6.9 Counterparts**. This Agreement may be signed in any number of counterparts (which may be effectively delivered by facsimile or other electronic means), each of which shall be deemed to constitute but one and the same instrument.

**Section 6.10 Entire Agreement**. This Agreement and represents the entire understanding of the parties hereto with reference to the CVRs and this Agreement supersedes any and all other oral or written agreements made with respect to the CVRs.

**Section 6.11 Negotiation; Arbitration**.

(a) Before any arbitration pursuant to Section 6.11(b), the Company and the Holder(s) shall negotiate in good faith for a period of [***] days to resolve any controversy or claim arising out of or relating to this Agreement or the breach thereof.

(b) After expiration of the [***] period contemplated by Section 6.11(a), such controversy or claim, including any claims for breach of this Agreement, shall be settled by arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. The Company and/or any Holder (or Holders) of more than [***] of the outstanding CVRs may initiate an arbitration for any matter relating to this Agreement. The number of arbitrators shall be three. Within [***] days after the commencement of arbitration, each party shall select one person to act as arbitrator, and the two selected shall select a third arbitrator within [***] days of their appointment. If the arbitrators selected by the parties are unable or fail to agree upon the third arbitrator, the third arbitrator shall be selected by the American Arbitration Association. The place of the arbitration shall be Denver, Colorado. The arbitrators shall be lawyers or retired judges with experience in the life sciences industry and with mergers and acquisitions. Except as may be required by law, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of both parties. Any award payable in favor of the Holders as a result of arbitration shall be paid by the Company to the Holders to be distributed on the next CVR Payment Date in the manner provided in Section 2.4 and in accordance with the terms of this Agreement. The Company and the Holder bringing the claim shall pay in equal halves all fees and expenses of the arbitration forum, including the costs and expenses billed by the arbitrators in connection with the performance of their duties described herein; provided, however, that if the arbitrators rule in favor of the Company, an amount equal to the half of the arbitrators' fees and expenses paid by the Company shall be offset against the soonest CVR Payment Amount, if any, and if the arbitrators rule in favor of the Holder, an amount equal to the half of the arbitrators' fees and expenses paid by the Holder shall be paid by the Company to the Holders to be distributed on the next CVR Payment Date, in the manner provided in Section 2.4 and in accordance with the terms of this Agreement. Each party to the arbitration shall be responsible for its own attorney fees, expenses and costs of investigation.

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CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

**IN WITNESS WHEREOF**, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

**COMPANY:**

**BIODESIX, INC.**

By: /s/ David Brunel
Name: David Brunel
Title: President and Chief Executive Officer

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**HOLDERS:**

**MANLIA LIMITED**

By: /s/ Paul Ingrouille
Name: Paul Ingrouille
Title: Authorized Signatory

By: /s/ Nicola Mauger
Name: Nicola Mauger
Title: Authorized Signatory

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**HOLDERS:**

**EDWARD M. GILES REVOCABLE TRUST**

By: /s/ Edward M. Giles
Name: Edward M. Giles
Title: Trustee

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**HOLDERS:**

**OMNIVEST BERMUDA LTD**

By: /s/ Frits Besselaar
Name: Frits Besselaar
Title: President

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**HOLDERS:**

/s/ Matthew Strobeck

**MATTHEW STROBECK**

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**HOLDERS:**

/s/ George F. Ohrstrom

**GEORGE F. OHRSTROM**

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**HOLDERS:**

**DRD FAMILY PARTNERSHIP**

By: /s/ Rod Dammeyer
Rod Dammeyer, General Partner

**CAC, LLC**

By: /s/ Rod Dammeyer
Rod Dammeyer, Managing Member

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**IN WITNESS WHEREOF**, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

**HOLDERS:**

/s/ Jack Schuler
**JACK SCHULER**

**TANYA EVA SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**THERESA HEIDI SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**TINO HANS SCHULER, TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**SCHULER GRANDCHILDREN LLC:**

By: /s/ Jack Schuler
Jack Schuler, Manager

**SCHULER GC 2010 CONTINUATION TRUST**

By: /s/ Jack Schuler
Jack Schuler, Authorized Signatory

**IN WITNESS WHEREOF**, each of the parties has caused this Agreement to be executed on its behalf by its duly authorized officers as of the day and year first above written.

**HOLDERS:**

**JOHN-PATIENCE TRUST, DATED JULY 23, 1993**

By: /s/ John Patience
John Patience, Trustee

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

***Execution Version***

# ASSET PURCHASE AGREEMENT AND PLAN OF REORGANIZATION

**THIS ASSET PURCHASE AGREEMENT AND PLAN OF REORGANIZATION** (the "**Agreement**") is made and entered into as of June 30, 2018, by and between: **BIODESIX, INC.**, a Delaware corporation ("**Purchaser**"); **INTEGRATED DIAGNOSTICS, INC.**, a Delaware corporation ("**Seller**"); and the stockholders of Seller set forth on Exhibit A (each a "**Stockholder**"). Certain capitalized terms used in this Agreement are defined in Exhibit B.

## RECITALS

Seller and Purchaser wish to provide for the sale of the Transferred Assets (as defined in Section 1.1) to Purchaser on the terms, and subject to the conditions, set forth in this Agreement.

Seller and Purchaser intend for the Transactions to constitute a "reorganization" within the meaning of Section 368(a) of the Code, and for this Agreement to constitute a "plan of reorganization" within the meaning of Treasury Regulations Sections 1.368-2(g) and 1.368-3(a).

## AGREEMENT

The parties to this Agreement, intending to be legally bound, agree as follows:

### SECTION 1. SALE OF TRANSFERRED ASSETS; RELATED TRANSACTIONS; CLOSING.

**1.1 Sale of Transferred Assets.** At the Closing (as defined in Section 1.6), Seller shall cause to be sold, assigned, transferred, conveyed and delivered to Purchaser all of the Transferred Assets (as defined below), free of any Encumbrances (other than Permitted Encumbrances), on the terms and subject to the conditions set forth in this Agreement. For purposes of this Agreement, "**Transferred Assets**" shall mean and include all of the properties, rights, interests and other tangible and intangible assets of Seller (other than the Excluded Assets). Without limiting the generality of the foregoing, the Transferred Assets shall include:

**(a)** all of the Intellectual Property and Intellectual Property Rights that are owned by Seller, together with the goodwill associated with the Transferred Assets;

**(b)** all machinery, equipment, furniture, fixtures, improvements, computer equipment, servers and other tangible or fixed assets that are owned or controlled by Seller;

**(c)** all books, records, information, files, data, customer lists, records, mailing lists, correspondence, research and development reports and advertising and promotional materials;

**(d)** all rights of Seller under the Seller Contracts identified on Schedule 1.1(d) (the Seller Contracts referred to in this Section 1.1(d) being referred to as the "**Transferred Contracts**");

**(e)** all claims of Seller against other Persons relating to the Transferred Assets and all rights of indemnity, warranty rights, rights of contribution, rights to refunds, rights of reimbursement and other rights of recovery possessed by Seller relating to the Transferred Assets; and

**(f)** all accounts receivable, notes receivable and other receivables of Seller; and

**(g)** all deposits, advances, prepaid expenses, accrued rebates and credits.

**1.2 Excluded Assets**. Notwithstanding anything to the contrary contained in this Agreement, the parties agree that Seller is not selling, assigning, transferring, conveying or delivering to Purchaser, and the Transferred Assets shall not include, any of Seller's rights under this Agreement and the Ancillary Agreements and any of the assets specifically identified on Schedule 1.2 (the "**Excluded Assets**").

**1.3 Purchase Price**. As consideration for the sale, assignment, transfer, conveyance and delivery of the Transferred Assets to Purchaser, at the Closing (a) Purchaser shall issue to Seller at the Closing an aggregate of 10,649,904 shares of Series G Preferred Stock (the "**Closing Shares**"), of which 2,219,981 shares of Series G Preferred Stock will be held by Purchaser pursuant to Section 1.4 and Section 7 hereof (the "**Holdback Shares**"); (b) when and if the Milestone Event is achieved prior to the seventh anniversary of the date hereof, Purchaser shall issue to Seller (or if Seller has been dissolved at such time, to the Stockholders who have executed a Stockholder Package) an aggregate of 14,959,114 shares of Series G Preferred Stock (as adjusted for share splits, share dividends, recapitalizations and the like) (as adjusted, the "**Milestone Shares**", and together with the Closing Shares, the "**Securities**"), or if an Acquisition of Purchaser has occurred prior to the date the Milestone Event is achieved prior to the seventh anniversary of the date hereof, in lieu of the Milestone Shares, Purchaser (or its successor-in-interest) shall issue to Seller (or if Seller has been dissolved at such time, to the Stockholders who have executed a Stockholder Package) the same consideration received by the other holders of Series G Preferred Stock in such Acquisition equivalent to the number of Milestone Shares otherwise receivable pursuant to this clause (b), (c) Purchaser shall assume the Assumed Liabilities; and (d) Purchaser shall assume all other liabilities of Seller (other than the Assumed Liabilities) up to an amount equal to the amount of Accrued Wages (subject to adjustment pursuant to Section 5.11) (the "**Additional Liabilities**"), provided, however, that if the Additional Liabilities assumed by Purchaser are less than the amount of Accrued Wages, then Purchaser shall pay to Seller the difference in cash no later than December 31,

2018 ((a), (b), (c) and (d) collectively, the "**Purchase Price**"). The Closing Shares (including, for the avoidance of doubt, the Holdback Shares except to the extent forfeited pursuant to Section 7.8) shall be reflected on Purchaser's books and records as issued at Closing to Seller (and Seller shall have the rights to vote and dividends, if any, paid with respect to such Securities), for which stock certificates will be delivered by Purchaser after Closing (subject to the provisions of this Agreement in the case of the Holdback Shares).

**1.4 Holdback Shares**. At Closing, Purchaser shall issue the Holdback Shares to the Seller, provided, however, that the Holdback Shares shall be subject to forfeiture to Purchaser in accordance with Section 7.8, for no consideration payable to the applicable holder of such Holdback Shares (the "**Holdback Forfeiture Condition**"). On the date [***] days after the Survival Date (the "**Release Date**"), the Holdback Forfeiture Condition shall expire with respect to the number of Holdback Shares equal to the then remaining Holdback Shares as of the Release Date and shall be, to the extent such number of shares exceeds the aggregate value of all Unresolved Claims as of the Release Date, issued to Seller (or if Seller has been dissolved at such time, to the Stockholders who have executed a Stockholder Package). Any portion of the Holdback Shares that is retained to satisfy such Unresolved Claims shall be referred to as the "**Retained Amount**." Following the Release Date, once an Unresolved Claim is finally resolved, then, promptly upon the final resolutions of such Unresolved Claim, the Holdback Forfeiture Condition shall expire with respect to the number of Holdback Shares equal to the amount not required to satisfy such claim, if any, to the extent that the portion of the Retained Amount not permanently withheld by Purchaser as of such time exceeds the aggregate of all amounts then subject to Unresolved Claims, issued to Seller (or if Seller has been dissolved at such time, to the Stockholders who have executed a Stockholder Package).

**1.5 Assumption of Certain Liabilities**. Purchaser will not assume any Liabilities of Seller (whether or not related to the Transferred Assets), including any Liabilities (including costs and expenses) incurred as a result of Legal Proceedings relating to any such Liabilities. As the sole exception to the foregoing, effective as of the close of business on the Closing Date, Purchaser will assume, discharge and perform as and when due all of the obligations of Seller (a) under the Transferred Contracts, but in any case only to the extent that such obligations: (i) arise after the Closing Date; (ii) do not arise from or relate to any breach by Seller of any provision of any of such Transferred Contracts prior to the Closing; (iii) do not arise from or relate to any event, circumstance or condition occurring or existing on or prior to the Closing Date that, with notice or lapse of time, would constitute or result in a breach of any of such Transferred Contracts; and (iv) are ascertainable solely by reference to the express terms of such Transferred Contracts; *provided*, *however*, Purchaser shall not be obligated to assume, discharge or perform any Liability under any Transferred Contract, if Seller shall not have obtained any Consent required to be obtained from any Person with respect to the assignment or delegation to Purchaser of any rights or obligations under such Transferred Contract; and (b) those Liabilities expressly set forth on Schedule 1.5 (collectively, the "**Assumed Liabilities**").

**1.6 Closing**. The closing of the sale of the Transferred Assets to Purchaser and the other Transactions contemplated by this Agreement (the "**Closing**") shall take place concurrently with the execution and delivery of this Agreement. The date on which the Closing is held is herein referred to as the "**Closing Date**."

**1.7 Transaction Taxes**.

**(a)** Seller shall be liable for any stamp, documentary, sales, use, value added, registration, property, excise, transfer or similar Taxes, charges or fees ("**Transfer Taxes**") that may become payable in connection with the conveyance and transfer of the Transferred Assets to Purchaser or otherwise in connection with the Transactions, and Seller will make all filings, returns, reports and forms as may be required to comply with the provisions of all applicable Legal Requirements relating to Transfer Taxes. Purchaser and Seller will cooperate to the extent reasonably necessary to prepare and file all necessary documents relating to Transfer Taxes as may be required.

**(b)** Each of Purchaser and Seller shall reasonably cooperate, and shall cause their respective Affiliates to reasonably cooperate, with each other to lawfully minimize any Transfer Taxes. At Purchaser's discretion, any such Transfer Taxes incurred by Purchaser may be withheld from payments otherwise due pursuant to this Agreement.

**1.8 Withholding**. Purchaser shall be entitled to deduct and withhold from all amounts payable pursuant to this Agreement all amounts that Purchaser is required to deduct and withhold under any provision of applicable Legal Requirements. To the extent such amounts are withheld or deducted and paid over to the applicable Governmental Body, such amounts shall be treated for all purposes under this Agreement as having been paid to the Person to whom such amounts would otherwise have been paid.

**1.9 Seller Put Option**.

**(a)** ***General***. Subject to the terms and conditions of this Section 1.9, if the Milestone Event is achieved prior to the seventh anniversary of the date hereof, Seller shall have the option (the "***Put Option***") to cause Purchaser to redeem the Milestone Shares from Seller and the Stockholders at a price equal to [***] per share (as adjusted for share splits, share dividends, recapitalizations, conversions and the like) (as adjusted, the "***Redemption Price***") after receipt by Purchaser of Seller's election to exercise the Put Option (the "***Redemption Request***"). The Put Option shall expire six months after the date the Milestone Event is achieved. Upon receipt of a Redemption Request, Purchaser shall redeem the Put Option over up to eight calendar quarters in equal quarterly installments, plus interest as described below, with redemption payments commencing in the calendar quarter following the calendar quarter when Purchaser receives the Redemption Request. The date of each such installment shall be referred to as a "***Redemption Date.***" On each Redemption Date, Purchaser shall redeem, on a pro rata basis in accordance with the number of Milestone Shares owned by Seller or a Stockholder, that number of outstanding Milestone Shares determined by dividing (i) the total number of Milestone Shares outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies). This Section 1.9 shall be interpreted to conform, to the greatest extent possible, with the provisions of Delaware law governing distributions to stockholders. If

on any Redemption Date Delaware law governing distributions to stockholders prevents Purchaser from redeeming all Milestone Shares to be redeemed, Purchaser shall ratably redeem the maximum number of Milestone Shares that it may redeem consistent with such law, and shall redeem the remaining Milestone Shares as soon as it may lawfully do so under such law. Following a Redemption Request, Purchaser may elect to redeem all remaining Milestone Shares outstanding at any time.

**(b)** ***Surrender of Certificates; Payment***. On or before the applicable Redemption Date, each holder of Milestone Shares to be redeemed on such Redemption Date shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to Purchaser to indemnify Purchaser against any claim that may be made against Purchaser on account of the alleged loss, theft or destruction of such certificate) to Purchaser, in the manner and at the place designated by Purchaser, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the Milestone Shares represented by a certificate are redeemed, a new certificate, instrument, or book entry representing the unredeemed Milestone Shares shall promptly be issued to such holder.

**(c)** ***Interest***. If any Milestone Shares are not redeemed for any reason on any Redemption Date, all such unredeemed shares shall remain outstanding and entitled to all the rights and preferences provided herein, and Purchaser shall pay interest on the Redemption Price applicable to such unredeemed shares at an aggregate per annum rate equal to [***] (increased to [***] if Purchaser is more than [***] business days late in making a payment on a Redemption Date beginning on the date such payment was due and lasting until the late redemption payment and any interest thereon has been paid in full), with such interest to accrue daily in arrears beginning on the first day of the calendar quarter following the calendar quarter in which Purchaser receives the Redemption Request; *provided*, *however*, that in no event shall such interest exceed the maximum permitted rate of interest under applicable law (the "***Maximum Permitted Rate***"), *provided*, *however*, that Purchaser shall take all such actions as may be necessary, including without limitation, making any applicable governmental filings, to cause the Maximum Permitted Rate to be the highest possible rate. In the event any provision hereof would result in the rate of interest payable hereunder being in excess of the Maximum Permitted Rate, the amount of interest required to be paid hereunder shall automatically be reduced to eliminate such excess; *provided*, *however*, that any subsequent increase in the Maximum Permitted Rate shall be retroactively effective to the applicable Redemption Date to the extent permitted by law. For the avoidance of doubt, there is no prepayment penalty (and no interest shall be due) if any redemption payments or Redemption Prices are paid prior to a required Redemption Date.

**(d)** ***Nature of Redemption Payments***. The redemption payments set forth in this Section 1.9 shall be general, unsecured obligations of Purchaser.

**1.10 Purchaser Call Option**.

**(a)** ***General***. Subject to the terms and conditions of this Section 1.10, if the Milestone Event is achieved prior to the seventh anniversary of the date hereof, Purchaser shall have the option (the "***Call Option***") to repurchase the Milestone Shares from Seller and the Stockholders at a price equal to [***] per share (as adjusted for share splits, share dividends, recapitalizations, conversions and the like) (as adjusted, the "***Repurchase Price***"). The Call Option shall be exercisable during the twelve month period starting thirty (30) days following the expiration of the Put Option as described in Section 1.9.

**(b)** ***Exercise of Call Option***. Purchaser, or any assignee or assignees of Purchaser, may exercise the Call Option with respect to all or a portion of the Milestone Shares by giving notice to the holder of the Milestone Shares during the period of the Call Option in writing. Upon exercise of the Call Option, Purchaser will pay to the holder of the Milestone Shares the Repurchase Price for the Milestone Shares being repurchased. Purchaser may pay the Repurchase Price in two equal quarterly installments, plus interest at an aggregate per annum rate equal to [***], with such interest to accrue daily in arrears beginning on the first day of the calendar quarter following the calendar quarter in which Purchaser exercises the Call Option; *provided*, *however*, that in no event shall such interest exceed the Maximum Permitted Rate, *provided*, *however*, that Purchaser shall take all such actions as may be necessary, including without limitation, making any applicable governmental filings, to cause the Maximum Permitted Rate to be the highest possible rate. In the event any provision hereof would result in the rate of interest payable hereunder being in excess of the Maximum Permitted Rate, the amount of interest required to be paid hereunder shall automatically be reduced to eliminate such excess *provided*, *however*, that any subsequent increase in the Maximum Permitted Rate shall be retroactively effective to the applicable Redemption Date to the extent permitted by law. Purchaser is entitled to pay for any Milestone Shares purchased pursuant to its Repurchase Option at Purchaser's option in cash or by offset against any indebtedness owing to Purchaser, or by a combination of both. Upon exercise of the Repurchase Option and payment of the purchase price in any of the ways described above, Purchaser will become the legal and beneficial owner of the Milestone Shares being repurchased and all rights and interest in or related to the Milestone Shares, and Purchaser will have the right to transfer to its own name the Milestone Shares being repurchased by Purchaser, without further action by Purchaser. The certificate(s) representing the Milestone Shares that have been repurchased by Purchaser will be delivered to Purchaser. It is expressly agreed between the parties that money damages are inadequate to compensate Purchaser for the Milestone Shares and that Purchaser will, upon proper exercise of the Repurchase Option, be entitled to specific enforcement of its rights to purchase and receive said Milestone Shares.

**(c)** ***Nature of Repurchase Payments***. The repurchase payments set forth in this Section 1.10 shall be general, unsecured obligations of Purchaser.

**1.11 Block of Payments**. Notwithstanding anything in Section 1.9 and Section 1.10 to the contrary, no payments to Seller in connection with the Put Option or the Call Option may be made until the [***] day after the payment in full in cash of all obligations (other than inchoate indemnity obligations or other obligations that specifically survive termination) under that certain Loan and Security Agreement dated as of February 23, 2018 (as amended, restated or modified from time to time) between Purchaser, the other parties

thereto from time to time, and Innovatus Life Sciences Lending Fund I, LP, a Delaware limited partnership, and its permitted successors and assigns (the "**Senior Lender**"). For the avoidance of doubt, any amounts owed but not paid under Section 1.9 or 1.10 shall be considered owed and accruing until paid in full, but shall not be permitted to be paid until the conditions specified in the immediately preceding sentence are satisfied. Sections 1.9, 1.10 and 1.11 cannot be amended or modified without the written consent of the Senior Lender. The Purchaser and Seller hereby agree that (x) the Senior Lender is an express third party beneficiary of this Section 1.11 and can enforce its rights as such express third-party beneficiary to the fullest extent of the law and (y) this Section 1.11 may not be amended without the Senior Lender's prior written consent, which may be granted or withheld in its sole discretion.

**1.12 No Distributions.** Purchaser hereby covenants to Seller that until all amounts owed and owing to Seller under Section 1.9 and 1.10 (which include, for the avoidance of doubt, all amounts that are owed and accruing but not payable due to the effect of Section 1.11) have been paid in full in cash, Purchaser, either directly or indirectly, will not pay any dividends or make any distribution or payment on account of, or redeem, retire or purchase any capital stock, except that (i) Purchaser may convert any of its convertible securities into other securities pursuant to the terms of such convertible securities or otherwise in exchange thereof, and (ii) Purchaser may pay dividends or distributions solely in its common stock, in each case of (i) and (ii) of this paragraph, as long as no payments in cash are made in connection thereto.

## SECTION 2. REPRESENTATIONS AND WARRANTIES OF SELLER

Seller represents and warrants to and for the benefit of the Purchaser Indemnitees, subject to such exceptions as are specifically disclosed in the disclosure schedule (referencing the appropriate section and subsection numbers) supplied by Seller to Purchaser (the "**Disclosure Schedule**") (it being understood that the disclosure set forth in each section and subsection of the Disclosure Schedule shall qualify (a) the representations and warranties set forth in the corresponding section or subsection of this Section 2, (b) any exception or disclosure explicitly cross-referenced to such part or subpart of the Disclosure Schedule by reference from another part or subpart of the Disclosure Schedule and (c) any other representations and warranties set forth in this Section 2 if it is readily apparent based on the substance of such disclosure that the disclosure applies to such other representations and warranties), as follows:

**2.1 Corporate Status; Subsidiaries**.

**(a)** Seller (a) is a corporation duly organized, validly existing and in good standing under the laws of the state of Delaware, (b) has all requisite corporate power and authority to carry on its Business and (c) is duly qualified to do business and is in good standing in each of the jurisdictions in which the ownership, operation or leasing of its properties and assets and the conduct of its business requires it to be so qualified, licensed or authorized, except, in each case, as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect. True and complete copies of (a) the certificate of incorporation, bylaws and other charter and organizational documents of Seller, each as amended and in effect as of the date of this Agreement (the

"**Organizational Documents**"), (b) the stock records of Seller and (c) the minutes and other records of the meetings and other proceedings (including any actions taken by written consent or otherwise without a meeting) of the stockholders of Seller, the board of directors of Seller and all committees thereof have been delivered to Purchaser. Seller is not in violation in any material respect of any of the provisions of the Organizational Documents and Seller has not taken any action that is inconsistent with any resolution adopted by the stockholders of Seller, the board of directors of Seller or any committees thereof, except, in each case, as would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

**(b)** Seller has no Subsidiaries, and other than Common Stock, Series Seed Preferred Stock and Series A Preferred Stock of Indi Molecular, Inc., and Seller does not own any capital stock of, or any equity interest of any nature in, any other Entity. Seller has not agreed and is not obligated to make, nor is it bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity.

**2.2 Authorization and Enforceability; No Conflict**

**(a)** Seller has all necessary corporate power and authority to enter into this Agreement, to perform its obligations hereunder and to consummate the transactions contemplated by this Agreement. The execution and delivery of this Agreement by Seller, the performance by Seller of its obligations hereunder, and the consummation by Seller of the transactions contemplated by this Agreement, have been duly authorized by the board of directors of Seller, and no other corporate action on the part of Seller is necessary to authorize the execution and delivery of this Agreement by Seller, the performance by Seller of its obligations hereunder or the consummation by Seller of the Transactions, other than the approval of the stockholders of Seller. This Agreement has been duly executed and delivered by Seller and (assuming due authorization, execution and delivery by the other parties to this Agreement) constitutes a valid and binding obligation of Seller, enforceable against Seller in accordance with its terms, except as enforceability may be limited by or subject to (i) bankruptcy, insolvency, reorganization, moratorium and other similar Laws relating to or affecting creditors' rights generally or (ii) the effect of rules of Legal Requirements and general principles of equity, including those governing specific performance, injunctive relief and other equitable remedies (regardless of whether such enforceability is considered in a proceeding in equity or at law) (the "**Enforceability Exception**").

**(b)** The board of directors of Seller (at a meeting duly called and held) has (i) unanimously determined that the Agreement is advisable and fair and in the best interests of Seller and the Stockholders, (ii) unanimously authorized and approved the execution, delivery and performance of this Agreement by Seller and (iii) unanimously resolved to recommend adoption of this Agreement and approval of the Transactions by the Stockholders.

**(c)** The execution and delivery of this Agreement, the performance by Seller of its obligations hereunder and the Ancillary Documents to which Seller is a party,

and the consummation by Seller of the Transactions or the Ancillary Documents to which Seller is a party, do not (i) conflict with, or result in any violation of the Organizational Documents; (ii) conflict with or result in a violation of any material permit or Legal Requirement applicable to Seller or its assets; or (iii) result in a material breach of, or constitute a material default (or event which with the giving of notice or lapse of time, or both, would become a default) under, or give rise to any rights of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Encumbrance (excluding Permitted Encumbrances) upon any of the Transferred Assets.

**(d)** No consent of, or registration, declaration, notice or filing with, any Governmental Authority is required to be obtained or made by Seller in connection with the execution, delivery and performance of this Agreement and the Ancillary Documents to which Seller is a party or the consummation of the Transactions, except for such consents, registrations, declarations, notices or filings which, if not obtained, would not reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.

**2.3 Capitalization**.

**(a)** The outstanding capital stock of Seller is held by the stockholders identified on Exhibit C hereto. Such stockholders collectively own all the outstanding capital stock of Seller (the "**Capital Stock**").

**(b)** There are outstanding Seller Options to purchase [***] shares of Company Common Stock, all of which Seller Options were granted pursuant to the Seller Equity Plan (and the per share exercise price for each outstanding Seller Option is below the fair market value per share of the Seller's Common Stock).

**(c)** Seller's capitalization table attached hereto as Exhibit C is true and complete, in all material respects, as of the Closing Date.

**(d)** Except as set forth in Section 2.3(b) or in Part 2.3(c) of the Disclosure Schedule, there is no: (A) outstanding Seller Stock Awards or any subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any shares of the capital stock or other securities of Seller; (B) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of Seller; (C) Contract under which Seller is or may become obligated to sell or otherwise issue any shares of its capital stock or any other securities; or (D) condition or circumstance that would reasonably be expected to give rise to or provide a reasonable basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any shares of capital stock or other securities of Seller or any portion of the consideration payable in connection with the Transactions. Except for the Seller Equity Plan, Seller has never adopted, sponsored or maintained any stock option plan or any other plan or agreement providing for equity compensation to any Person.

**(e)** None of the provisions of this Agreement will violate the terms of the Seller Equity Plan or any agreement pursuant to which stock options or other compensatory equity awards have been issued under the Seller Equity Plan.

**(f)** All outstanding shares of Capital Stock, and all outstanding Seller Options and Seller Stock Awards, have been issued and granted in compliance with (i) all applicable securities laws and other applicable Legal Requirements and (ii) all requirements set forth in applicable Contracts governing the issuance of such Seller Options and Seller Stock Awards, as applicable.

**2.4 Financial Statements; Undisclosed Liabilities**.

**(a)** Seller has delivered to Purchaser the following financial statements (collectively, the "**Seller Financial Statements**"): (a) the audited financial statements of Seller as of and for the years ended December 31, 2014 and December 31, 2015, and (b) the unaudited financial statements of Seller as of and for the years ended December 31, 2016 and December 31, 2017 and for the five months ended May 31, 2018 (the "**Balance Sheet Date**").

**(b)** The Seller Financial Statements are accurate and complete in all material respects and fairly present in all material respects the financial position of Seller as of the respective dates thereof and the results of operations and cash flows of Seller for the periods covered thereby in accordance with GAAP. Seller Financial Statements have been prepared in accordance with GAAP applied on a consistent basis throughout the periods covered; *provided, however*, that the unaudited Seller Financial Statements are subject to normal recurring year-end audit adjustments (none of which individually or in the aggregate will be material in amount) and do not contain all footnotes required under GAAP.

**(c)** Seller does not have any Liability which is material and required by GAAP to be shown on a balance sheet, except for (a) Liabilities shown on the most recent balance sheet included in Seller Financial Statements (the "**Balance Sheet**") and (b) liabilities which have been incurred by Seller since the Balance Sheet Date in the ordinary course of business and consistent with Seller's past practices.

**(d)** Except as may be listed on Part 2.4(d) of the Disclosure Schedules, Seller is not now insolvent, nor will it be rendered insolvent by any of the Transactions. As used in this section, "insolvent" means the debts and other probable Liabilities of an Entity exceed the sum of the present fair saleable value of the assets of such Entity. Except as may be listed on Part 2.4(d) of the Disclosure Schedules, immediately after giving effect to the consummation of the Transactions: (i) Seller will be able to pay its Liabilities as they become due in the usual course of its business; and (ii) Seller will have assets (calculated at fair market value) that exceed its Liabilities.

**2.5 Absence of Changes**.

**(a)** Since the Balance Sheet Date, there has not been, occurred or arisen any event, occurrence, development or state of circumstances or facts that has had or would reasonably be expected to have, individually or in the aggregate, any Material Adverse Effect.

**(b)** Since the Balance Sheet Date, (i) there has not been any material loss, damage or destruction to, or any material interruption in the use of, any of the assets of Seller; (ii) Seller has not declared, accrued, set aside or paid any dividend or made any other distribution in respect of any shares of capital stock or other securities or repurchased, redeemed or otherwise reacquired any shares of capital stock or other securities; (iii) Seller has not made any capital expenditure in excess of [***] individually or [***] in the aggregate; (iv) Seller has not leased or licensed any asset (excluding any renewals of previously leased or licensed asset) to or from any other Person with a value in excess of [***]; (v) Seller has not made any loan or advance to any other Person (other than travel advances made to employees in the ordinary course of business); (vi) no Seller Contract has been entered into or amended or terminated; (vii) Seller has not forgiven any debt or otherwise released or waived any right or claim; and (viii) Seller has not agreed, committed or offered (in writing or otherwise) to take any of the actions referred to in clauses "(i)" through "(vii)" above.

**2.6 Title to Assets; Equipment; Leasehold**.

**(a)** Seller owns, and has good and valid title to, or has a valid leasehold in, all of the Transferred Assets. None of such Transferred Assets is subject to any Encumbrances (other than Permitted Encumbrances). The Transferred Assets collectively constitute all of the assets (other than Intellectual Property assets) necessary to enable Seller to conduct its business as currently conducted.

**(b)** The equipment owned by or leased to Seller that is included in the Transferred Assets is in good operating condition and repair and has been reasonably maintained consistent with standards generally followed in the industry (giving due account to the age and length of use of same, ordinary wear and tear excepted) and is adequate and suitable for its present uses.

**(c)** Seller does not own any real property or any interest in real property. All leases of personal property that are included in the Transferred Contracts are valid, binding and enforceable against Seller in accordance with their respective terms and, to the Knowledge of Seller, there does not exist under any such lease any default or any event which with notice or lapse of time or both would constitute a default.

**2.7 Intellectual Property**.

**(a)** Products and Services. Part 2.7(a) of the Disclosure Schedule accurately identifies and describes each Seller Product being designed, developed, manufactured, marketed, distributed, provided, licensed or sold by Seller.

**(b)** Registered IP; Other Seller IP. Part 2.7(b)(i) of the Disclosure Schedule accurately identifies: (i) each item of Registered IP in which Seller has or purports to have an ownership interest of any nature (whether exclusively, jointly with another Person, or otherwise); (ii) the jurisdiction in which such item of Registered IP has

been registered or filed and the applicable registration or serial number; (iii) any other Person that has an ownership interest in such item of Registered IP and the nature of such ownership interest and (iv) to the extent applicable, all inventors of such item of Registered IP. Seller has provided to Purchaser complete and accurate copies of all applications and approvals to or from any Governmental Body. Each item of Registered IP described in Part 2.7(b)(i) of the Disclosure Schedule is and at all times has been in compliance with all Legal Requirements and all filings, payments, and other actions required to be made or taken to maintain such item of Registered IP in full force and effect have been made by the applicable deadline. No application for a patent or a copyright, mask work, or trademark registration or any other type of Registered IP filed by or on behalf of Seller that is material to the Seller's business, including the Registered IP listed in Part 2.7(b)(i) of the Disclosure Schedule, has been abandoned, allowed to lapse, withdrawn, disclaimed, cancelled, forfeited, relinquished or rejected, except in the ordinary course of prosecution. Part 2.7(b)(i) of the Disclosure Schedule accurately identifies and describes each formal action, filing, and payment that must be taken or made on or before the date that is [***] days after the date of this Agreement to maintain such item of Registered IP in full force and effect. No interference, opposition, reissue, reexamination, or other Legal Proceeding is or has been pending or, to Seller's Knowledge, threatened, in which the scope, validity, or enforceability of any Seller IP is being or has been contested or challenged. To Seller's Knowledge, there is no basis for a claim that any Registered IP described in Part 2.7(b)(i) of the Disclosure Schedule is invalid or unenforceable and no Intellectual Property or Intellectual Property Rights of any third party are dominating, interfering or potentially dominating or interfering with the Registered IP described in Part 2.7(b)(i) of the Disclosure Schedule. Seller has taken reasonable measures to record and maintain any and all inventions and discoveries that are, in the reasonable discretion and judgment of the Seller, both material to the Business and reasonably likely to be patentable. To Seller's Knowledge, Seller has not engaged in any inequitable or unlawful conduct, patent or copyright misuse, or fraud, or failed to disclose material prior art, in connection with the prosecution of any Registered IP described in Part 2.7(b)(i) of the Disclosure Schedule or the enforcement or licensing of any such Registered IP, in a manner that would result in the lapse, abandonment, disclaimer, cancellation, forfeiture, relinquishment, invalidity or unenforceability of such Registered IP, and to Seller's Knowledge, no third party has engaged in such activity with respect to such Registered IP. Part 2.7(b)(i) of the Disclosure Schedule accurately identifies all Seller IP specifically including patents and pending patent applications that is material to Seller's business as currently conducted and proposed to be conducted.

**(c)** Inbound Licenses. Schedule 1.1(d) accurately identifies: each Contract entered into by Seller pursuant to which any Intellectual Property Right or Intellectual Property, or any contingent right thereto, is or has been licensed, sold, assigned, optioned or otherwise conveyed, granted or provided to Seller (other than (i) agreements between Seller and its employees in Seller's standard form thereof, which form has been provided to Purchaser, and (ii) non¬exclusive licenses to commercially available, off-the-shelf third-party software, on general commercial terms which continue to be widely available on such commercial terms, that are not incorporated into, or distributed with any Seller Product and that are not otherwise material to Seller's business or constitute a Material Contract) (this clause (ii), the "**OTS Agreements**"). Complete and correct copies

of each such Contract listed in Schedule 1.1(d) (including all amendments, supplements, liens and waivers thereto) have been made available to Purchaser and each such Contract represents the complete agreement and understanding in all material respects between the parties thereto relating to the Seller IP that is the subject of such Contract.

**(d)** Outbound Licenses. Schedule 1.1(d) accurately identifies each Contract pursuant to which any Person has been granted any license under, or otherwise has received or acquired any right (whether or not currently exercisable) or interest in, any Seller IP, other than non-disclosure agreements entered into in the ordinary course of business and user agreements for the use of Seller Products substantially on the form provided to Purchaser. Seller is not bound by, and no Seller IP is subject to, any Contract entered into by Seller containing any covenant or other provision that in any way limits or restricts the ability of Seller to use, exploit, assert, register, prosecute, maintain or enforce any Seller IP anywhere in the world, other than those Contracts to be listed in Schedule 1.1(d). Complete and correct copies of each such Contract listed in Schedule 1.1(d) (including all amendments, supplements, liens and waivers thereto) have been made available to Purchaser and each such Contract represents the complete agreement and understanding in all material respects between the parties thereto relating to the Seller IP that is the subject of such Contract.

**(e)** Royalty Obligations. Schedule 1.1(d) accurately identifies each Contract pursuant to which any royalties, fees, commissions, and other amounts are payable by Seller to any other Person (other than sales commissions payable to employees of Seller and OTS Agreements) upon or for the development, manufacture, sale, or distribution of any Seller Product or the use of any Seller IP.

**(f)** Ownership Free and Clear; Governmental Rights. Seller exclusively owns all right, title, and interest to and in Seller IP (other than Intellectual Property Rights exclusively licensed to Seller, as identified in Schedule 1.1(d)) free and clear of any Encumbrances (other than licenses and rights granted pursuant to the Contracts identified in Schedule 1.1(d)). To Seller's Knowledge, all Seller IP is valid, subsisting, and enforceable and is currently in compliance with all Legal Requirements (other than any requirement that, if not satisfied, would not result in a revocation, cancellation or lapse, or otherwise adversely affect the enforceability, use or priority of such Seller IP). Seller is not and has never been a member or promoter of, or a contributor to, any industry standards body or similar organization that requires or obligates Seller to grant or offer to any other Person any license or right to any Seller IP. No Governmental Body has any right to (including any "step-in" or "march-in" rights with respect to), ownership of, or right to royalties for, or to impose any requirement on the manufacture or commercialization of any Seller Product or any other product incorporating any Seller IP. Without limiting the generality of the foregoing, except to the extent listed in Part 2.7(f) of the Disclosure Schedule, no invention claimed or covered by any patent application, patent or other patent right within the Seller IP (i) was conceived or reduced to practice in connection with any research activities funded, in whole or in part, by the federal government of the United States or any agency thereof, (ii) is a "subject invention" as that term is described in 35 U.S.C. § 201(e) or (iii) is otherwise subject to the provisions of the Bayh-Dole Act or any similar Legal Requirement of any other jurisdiction. No funding, facilities, or personnel of

any educational or research institution were used to develop or create in whole or in part, any of the Seller IP, and, to Seller's Knowledge, no educational or research institution has any right to, or right to royalties for, or to impose any requirement on the manufacture or commercialization of any Seller Product or any other product incorporating any Seller IP.

**(g)** Confidentiality and Data Protection. Seller has taken commercially reasonable steps to maintain the confidentiality of and otherwise protect and enforce their rights in all proprietary information pertaining to Seller, all Seller IP or any Seller Product. To Seller's Knowledge, Seller has not suffered a security breach with respect to such proprietary information since its inception. To Seller's Knowledge, no material trade secret, proprietary know-how, or other proprietary, non-public information of Seller has been disclosed or authorized to be disclosed to any third party not subject to confidentiality obligations to Seller, and no third party to such a nondisclosure agreement with Seller is in breach or default thereof.

**(h)** Sufficiency. Except as listed in Part 2.7(h) of the Disclosure Schedule, to the actual knowledge (without any obligation to conduct additional inquiry) of Seller, Seller owns or otherwise has all Intellectual Property Rights needed to conduct Seller's business as currently conducted.

**(i)** Third-Party Infringement of Seller IP. To Seller's Knowledge, no Person has interfered upon, infringed, misappropriated, or otherwise violated, and no Person is currently interfering upon, infringing, misappropriating, or otherwise violating, any Seller IP. Part 2.7(i) of the Disclosure Schedule accurately identifies (and Seller has provided to Purchaser a complete and accurate copy of) each letter or other written or electronic communication or correspondence that has been sent or otherwise delivered by or to Seller or any representative of Seller regarding any actual, alleged, or suspected infringement or misappropriation of any Seller IP.

**(j)** Effects of This Transaction. Neither the execution, delivery, or performance of this Agreement (or any of the ancillary agreements) nor the consummation of any of the transactions contemplated by this Agreement (or any of the ancillary agreements) will, with or without notice or lapse of time, result in, or give any other Person the right or option to cause or declare, (i) a loss, alternation or impairment of, or Encumbrance on, any Seller IP; (ii) a breach of or default under any Seller IP Contract; (iii) the release, disclosure, or delivery of any Seller IP by or to any escrow agent or other Person; or (iv) the grant, assignment, or transfer to any other Person of any license or other right or interest under, to, or in any of Seller IP. Each Seller IP Contract will continue to be in full force and effect in accordance with its terms immediately following the execution and performance of this Agreement.

**(k)** No Infringement of Third Party IP Rights. To Seller's Knowledge, Seller has never infringed, misappropriated, or otherwise violated or made unlawful use of any Intellectual Property Right of any other Person or engaged in unfair competition. To Seller's Knowledge, the operation of Seller's business does not infringe, misappropriate, violate, or make unlawful use of any Intellectual Property any other Person. No intellectual property infringement, misappropriation, or similar claim or Legal Proceeding is pending

or, to Seller's Knowledge, threatened against Seller or against any other Person who is or may be entitled to be indemnified, defended, held harmless, or reimbursed by Seller with respect to such claim or Legal Proceeding. Seller has never received any written notice or other communication relating to any actual, alleged, or suspected infringement, misappropriation, or violation by Seller, any of their employees or agents, or any Seller Product of any Intellectual Property Rights of another Person.

**(l)** Seller Privacy Policies; Personal Data.

**(i)** Part 2.7(k)(i) of the Disclosure Schedule contains each Seller Privacy Policy and identifies, with respect to each Seller Privacy Policy, (i) the period of time during which such privacy policy was or has been in effect, (ii) whether the terms of a later Seller Privacy Policy apply to the data or information collected under such privacy policy, and (iii) if applicable, the mechanism (such as opt-in, opt-out, or notice only) used to apply a later Seller Privacy Policy to data or information previously collected under such privacy policy.

**(ii)** No breach or violation of any Seller security policy has occurred and, to Seller's Knowledge, there has been no unauthorized or illegal use of or access to any Personal Data maintained by or for Seller, except as would not reasonably be expected to have a Material Adverse Effect.

**(iii)** Seller has complied in all material respects with all of Seller Privacy Policies and with applicable Legal Requirements pertaining to the privacy of User Data or Personal Data.

**(iv)** Neither the execution, delivery, or performance of this Agreement (or any of the ancillary agreements) nor the consummation of any of the transactions contemplated by this Agreement (or any of the ancillary agreements), nor Purchaser's possession or use of the User Data or any data or information in Seller Databases, will result in any violation of any Seller Privacy Policy or any Legal Requirement pertaining to privacy of User Data or Personal Data.

**(m)** No Defects. Each Seller Product: (i) conformed and complied with the terms and requirements of any applicable warranty or other Contract and with all Legal Requirements; and (ii) was free of any design defects or other defects or deficiencies at the time it was used to provide a Seller Product, sold, distributed or made available. Seller has not received any written notice or other communication, and is not otherwise aware of any other information, indicating that any customer of Seller is dissatisfied in any material respect with any Seller Product.

**(n)** Seller is currently evaluating its technology, systems and collection, storage, processing, distribution and use of data for compliance with the General Data Protection Regulation ("**GDPR**") and is taking reasonable steps designed to bring such systems into compliance with the requirements of the GDPR when effective, including protection of data and security requirements, systems that manage the rights of data subjects, and other compliance tools as required under the GDPR, when effective.

**2.8 Contracts**.

**(a)** Part 2.8(a) of the Disclosure Schedule sets forth a complete and accurate list of all Seller Contracts, as follows (each such Seller Contract required to be disclosed in Part 2.8(a) of the Disclosure Schedule, a "**Material Contract**"):

**(i)** any employment or consulting Contract with any employee or consultant, any Contract to grant any severance or termination pay to any Person, other than (A) offer letters in Seller's standard form that do not contain severance, change in control or similar payments and (B) agreements in Seller's standard form relating to acquisition of equity securities of Seller that do not involve any ongoing obligations of Seller thereunder;

**(ii)** any agreement or plan, including any stock option plan, stock appreciation rights plan or stock purchase plan, any of the benefits of which will be increased, or the vesting of benefits of which will be accelerated, by the occurrence of any of the Transactions or the value of any of the benefits of which will be calculated on the basis of any of the Transactions;

**(iii)** any fidelity or surety bond or completion bond;

**(iv)** any lease of personal property;

**(v)** any agreement of indemnification or guaranty;

**(vi)** any Contract relating to capital expenditures;

**(vii)** any Contract relating to the disposition or acquisition of assets or any interest in any business enterprise;

**(viii)** any Contract evidencing Indebtedness;

**(ix)** any Seller Contract granting to any third party any most favored nation pricing, exclusive sales, distribution, marketing, or other exclusive rights, rights of refusal, rights of first negotiation, or similar rights or otherwise restricting the freedom of Seller: (i) to compete with any other Person; (ii) to acquire any product or other asset or any services from any other Person, to sell any product or other asset to or perform any services for any other Person, or to transact business or deal in any other manner with any other Person; or (iii) to develop or distribute any technology;

**(x)** any Contract for the purchase of materials;

**(xi)** any dealer, distribution, joint marketing, strategic alliance, affiliate or development agreement, any sales representative, original equipment manufacturer, manufacturing, value added reseller or independent software vendor or other agreement for use or distribution of the products, technology or services of Seller;

**(xii)** those Contracts listed in Schedule 1.1(d);

**(xiii)** any Contract with a Major Supplier;

**(xiv)** any Contract requiring payments by Seller in excess of [***] in the current fiscal year;

**(xv)** any Contract providing for receipts by Seller in excess of [***] in the current fiscal year; or

**(xvi)** any other Contract that is material to Seller.

**(b)** Each Material Contract that is a Transferred Contract is a valid and binding agreement of Seller, enforceable against Seller, and, to the Knowledge of Seller, each of the other parties thereto in accordance with its terms. Seller is in compliance with and has not breached, violated or defaulted under, or received notice that it has breached, violated or defaulted under, any of the terms or conditions of any such Material Contract that is a Transferred Contract, except for any breach, violation or default as would not have a Material Adverse Effect. To the Knowledge of Seller, no event has occurred that (with or without notice or lapse of time) will, or would reasonably be expected to (i) result in a material violation, breach or penalty under any of the provisions of any Material Contract that is a Transferred Contract, (ii) give any Person the right to declare a material default or exercise any remedy under any Material Contract that is a Transferred Contract, (iii) give any Person the right to accelerate the maturity or performance of any such Material Contract that is a Transferred Contract, or (iv) give any Person the right to cancel, terminate or modify any Material Contract that is a Transferred Contract. True and complete copies of each Material Contract have been delivered to Purchaser.

**2.9 Compliance with Legal Requirements; Governmental Authorizations**.

**(a)** Seller is, and has been since its inception, in compliance, and since December 31, 2015 and prior to such date, to Seller's Knowledge, no event has occurred and no condition or circumstance exists that would reasonably be expected to (with or without notice or lapse of time) cause Seller to fail to be in compliance, with each Legal Requirement or Healthcare Law that is applicable to it or to the conduct of its business as currently conducted or the ownership or use of any of its assets. Seller has not received any written notice or other communication from any Governmental Body regarding any actual, alleged, possible or potential material violation of, or material failure to comply with, any Legal Requirement or Healthcare Law, except in each case where the failure to be in compliance would not have a Material Adverse Effect.

**(b)** Seller holds all of the material Governmental Authorizations it believes necessary to enable Seller to conduct its business in the manner in which such business is currently being conducted, and all such Governmental Authorizations are valid and in full force and effect. Seller is and has been in compliance in all material respects with such Governmental Authorizations and, since December 31, 2015 and prior to such date, to Seller's Knowledge, no event has occurred that would reasonably be expected to (with or without notice or lapse of time) result in the termination or material adverse modification of any such Governmental Authorization.

**(c)** Neither Seller, and (to the Knowledge of Seller) no director, officer, agent or employee of Seller, has (a) used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity, (b) made any unlawful payment to foreign or domestic government officials or employees or to foreign or domestic political parties or campaigns or violated any provision of any anti-corruption law, including the Foreign Corrupt Practices Act of 1977, as amended, or (c) made any other unlawful payment.

**(d)** Seller has not made an untrue statement of a material fact or fraudulent statement to the FDA or any other Governmental Body, failed to disclose a material fact required to be disclosed to the FDA or any other Governmental Body, or committed an act, made a statement, or failed to make a statement that, at the time such disclosure was made, could reasonably be expected to provide a basis for the FDA or any other Governmental Body to invoke its policy respecting "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities", set forth in 56 Fed. Reg. 46191 (September 10, 1991) or any similar policy.

**(e)** None of Seller, or to the Knowledge of Seller, any officer, employee or agent of Seller, has been convicted of any crime or engaged in any conduct for which debarment is mandated by 21 U.S.C. § 335a(a) or any similar Legal Requirement or authorized by 21 U.S.C. § 335a(b) or any similar Legal Requirement by a Governmental Body. To Seller's Knowledge, none of Seller, or any officer, employee or agent of Seller, has been convicted of any crime or engaged in any conduct for which such Person could be excluded from participating in the federal health care programs under Section 1128 or Section 1877 of the Social Security Act of 1935, in each case, as amended, or any similar Legal Requirement. To Seller's Knowledge, none of Seller, or any officer, employee or agent of Seller, has engaged in any conduct that could subject such Person to a civil money penalty or criminal penalty under Sections 1128A or 1128B of the Social Security Act or any similar Legal Requirement. None of Seller, or any officer, employee or agent of Seller, has been disqualified or restricted by the FDA pursuant to 21 C.F.R. 312.70, 21 C.F.R. 812.119, or any similar Legal Requirement. Seller has provided all information to Purchaser necessary to comply with any disclosure requirements mandated by the FDA or other Governmental Body with respect to the Seller Products, including any information required to be disclosed in connection with any financial relationship between the Parties and any other agents or employees.

**(f)** Seller has obtained valid informed consents permitting Seller to transfer any patient samples provided to Purchaser within the Transferred Assets and such patient samples may be used by Seller in the same manner and for the same purposes as were used by Seller as of Closing.

**(g)** To Seller's Knowledge, there are no facts, circumstances or conditions that would reasonably be expected to form the basis for any Legal Proceeding or imposition of any penalties against or affecting Seller in any material respect relating to or arising under a Healthcare Law.

**(h)** Seller has not received any written notice that the FDA or any other Governmental Body has (A) commenced, or threatened to initiate, any action to request the recall of any product, (B) commenced, or threatened to initiate, any action to enjoin reprocessing or distribution of any product, or (C) commenced, or threatened to initiate, any action to enjoin the reprocessing or distribution of any medical device produced at any facility where any product is reprocessed, tested, or held.

**(i)** All Regulatory Approvals owned or controlled by Seller are listed in Part 2.9(l) of the Disclosure Schedule. The Seller's laboratory has valid federal and state licenses, permits, registrations and certificates of compliance as a CLIA-approved laboratory in all jurisdictions listed on Part 2.9(l) of the Disclosure Schedule ("CLIA Certificates"), which are all the licenses, permits, registrations and certificates required for the operation of the Business as a CLIA-approved laboratory. Seller has not received any notification of any dispute or challenge or potential dispute or challenge to the validity of any such CLIA Certificates and the Seller is not aware of any circumstances which may lead to the validity being challenged or disputed or the early termination of any such CLIA Certificates, from any Governmental Body. Except as listed on Part 2.9(l) of the Disclosure Schedule, Seller does not possess any CLIA licenses, permits, registrations or certificates of compliance or any registrations, clearances or approvals issued under the FD&C Act (collectively, "**Laboratory Permits**"). No Laboratory Permits are required for Seller to conduct the Business. As of the date hereof, neither Seller's facilities nor any of its records have been inspected by the FDA. Seller has neither conducted any clinical studies in the United States nor sponsored the conduct of any clinical research in the United States that is subject to FDA regulation since its incorporation.

**2.10 Tax Matters**.

**(a)** Seller has timely filed (taking into account any extensions) with the appropriate Governmental Body all Tax Returns that are required to have been filed with respect to the Transferred Assets or the Business and all such Tax Returns are correct and complete in all material respects. Seller has timely paid all material Taxes required to have been paid by it with respect to the Transferred Assets or the Business, other than Taxes that are not yet due and payable or that are being contested in good faith by any appropriate Legal Proceedings (and for which adequate reserves have been established on the most recent Seller Financial Statements). No deficiency for any material Tax has been asserted or assessed by a Governmental Body against Seller with respect to the Transferred Assets or the Business which deficiency has not been paid or is not being contested in good faith by any appropriate Legal Proceedings (and for which adequate reserves have been established on most recent Seller Financial Statements).

**(b)** Seller has established, in the ordinary course of business and consistent with its past practices, reserves adequate for the payment of all material Taxes for the period through the Balance Sheet Date. No material Taxes, other than as a result of the Transactions, have been incurred since the Balance Sheet Date other than in the ordinary course of business of Seller. The representation in this Section 2.10(b) is made solely with respect to Taxes, or Tax Returns reporting Taxes, in each case: (i) for which Purchaser could bear successor liability, (ii) that could result in a lien for such Taxes being imposed on any Transferred Asset, or (iii) that might otherwise become a liability of Purchaser after the Closing.

**(c)** No written claim has ever been made by a Governmental Body in a jurisdiction where Seller does not file Tax Returns with respect to the Transferred Assets or the Business that Seller is or may be subject to taxation in that jurisdiction with respect to the Transferred Assets or the Business. There are no security interests or other liens on any of the Transferred Assets that arose in connection with any failure (or alleged failure) to pay any material Tax, other than liens for Taxes not yet due and payable.

**(d)** Seller has timely collected, withheld and paid to the appropriate Governmental Body all Taxes required to have been collected, withheld and paid under applicable Legal Requirements, including collections and withholdings with respect to amounts paid or owing to any employee, independent contractor, customer, creditor, stockholder or other third party. The representation in this Section 2.10(d) is made solely with respect to Taxes, or Tax Returns reporting Taxes, in each case: (i) for which Purchaser could bear successor liability, (ii) that could result in a lien for such Taxes being imposed on any Transferred Asset, or (iii) that might otherwise become a liability of Purchaser after the Closing.

**(e)** No Tax Return with respect to the Transferred Assets or the Business is under audit or examination by any Governmental Body, and no written (or, to the Knowledge of Seller, oral) notice of such an audit or examination has been received by Seller. No deficiencies for any material Taxes have been proposed, asserted or assessed against Seller, and no requests for waivers of the time to assess any such Taxes are pending, in each case, with respect to the Transferred Assets or the Business. There are no outstanding waivers of any limitation periods or agreements providing for an extension of time for (i) the filing of any material Tax Return with respect to the Transferred Assets or the Business, (ii) the assessment or collection of any material Tax by any relevant Governmental Body with respect to the Transferred Assets or the Business or (iii) the payment of any material Tax by Seller with respect to the Transferred Assets or the Business. No other procedure, proceeding or contest of any refund or deficiency in respect of material Taxes is pending in or on appeal from any Governmental Body with respect to the Transferred Assets or the Business. No closing agreement, private letter ruling, technical advice memoranda, advance pricing agreement, consent to an extension of time to make an election or consent to a change a method of accounting, has been requested from, entered into with or issued by any Governmental Body with respect to the Transferred Assets or the Business.

**(f)** Seller (1) is not bound by any Tax sharing, allocation or indemnification agreements with respect to the Transferred Assets or the Business (other than ancillary provisions in commercial agreements made in the ordinary course of business, the primary subject matter of which is not Tax), (2) has not been a member of an affiliated group filing a consolidated combined, or unitary income Tax Return (other than a group the common parent of which was Seller) and (3) has no liability for Taxes of another Person (other than members of a group the common parent of which was Seller) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local or

foreign Legal Requirement), by operation of Legal Requirement, as a transferee or successor, by Contract or otherwise. The representations in this Section 2.10(f) are made solely with respect to Taxes, or Tax Returns reporting Taxes, in each case: (i) for which Purchaser could bear successor liability, (ii) that could result in a lien for such Taxes being imposed on any Transferred Asset, or (iii) that might otherwise become a liability of Purchaser after the Closing.

**(g)** Seller is not a "foreign person" as that term is used in Treasury Regulations Section 1.1445-2. Since its formation, Seller has been treated as corporation for U.S. federal and applicable state income Tax purposes.

**(h)** Seller has not been a party to a transaction that, as of the date of this Agreement, constitutes a "listed transaction" for purposes of Section 6011 of the Code and applicable Treasury Regulations thereunder (or a similar provision of state Legal Requirement). The representation in this Section 2.10(h) is made solely with respect to Taxes, or Tax Returns reporting Taxes, in each case: (i) for which Purchaser could bear successor liability, (ii) that could result in a lien for such Taxes being imposed on any Transferred Asset, or (iii) that might otherwise become a liability of Purchaser after the Closing.

**(i)** None of the Transferred Assets represent a direct or indirect interest in any trust, partnership, corporation, limited liability company, or other "business entity" for U.S. federal income Tax purposes. To the Knowledge of Seller, Seller is not subject to any Tax payment obligation or Tax Return filing obligation in any jurisdiction outside the United States with respect to the Transferred Assets or the Business.

**(j)** There is no property or obligation of Seller, including uncashed checks to vendors, customers or employees, non-refunded overpayments, credits or unclaimed amounts or intangibles, that is, or may become, escheatable or reportable as unclaimed property to any Governmental Body under any applicable escheatment, unclaimed property or similar Laws.

**(k)** None of the Transferred Assets are (i) property required to be treated as being owned by another Person pursuant to the provisions of Section 168(f)(8) of the Internal Revenue Code of 1954, as amended and in effect immediately prior to the enactment of the Tax Reform Act of 1986, (ii) "tax-exempt use property" within the meaning of Section 168(h)(1) of the Code, (iii) "tax-exempt bond financed property" within the meaning of Section 168(g) of the Code, (iv) subject to Section 168(g)(1)(A) of the Code, or (v) subject to a "section 467 rental agreement" as defined in Section 467 of the Code.

**(l)** Seller has not taken any action, or has any knowledge of any fact or circumstance, that could reasonably be expected to prevent the Transactions from qualifying as a reorganization within the meaning of Section 368(a) of the Code.

**2.11 Customers and Suppliers**. Part 2.11 of the Disclosure Schedule lists the five largest suppliers (measured by invoiced dollars) of Seller for the fiscal year ended

December 31, 2017 and for the year to date ("**Major Suppliers**") and the dollar amount of business conducted with each Major Supplier in such year and the year to date. Seller is not engaged in any dispute with any Major Supplier, Seller is not in material breach of or in material default of any agreement with any of the Major Suppliers, and to Seller's Knowledge, no Major Supplier intends to cancel or otherwise adversely modify its relationship with Seller or to decrease materially or limit its services, supplies or materials to Seller or its usage or purchase of the services or products of the business.

**2.12 Employee and Labor Matters; Benefit Plans**.

**(a)** Part 2.12(a) of Seller Disclosure Schedule contains a true, correct and complete list of the names and current annual salary rates or current hourly wages, as applicable, bonus opportunity, hire date, accrued vacation and paid time-off, principal work location and leave status of all present employees of Seller and each such employee's status as being exempt or nonexempt from the application of state and federal wage and hour Legal Requirements applicable to employees who do not occupy a managerial, administrative, or professional position.

**(b)** Part 2.12(b) of the Disclosure Schedule contains a list of all independent contractors, consultants, agents or agency employees who are entitled to compensation in excess of [***] per year currently engaged by Seller and its Subsidiaries, along with the position, date of retention and rate of remuneration for each such Person, and any other Persons who have had access to Seller's confidential or proprietary information, or who have contributed in any material respect to the development of the Seller Products. Each such independent Contractor, consultant, agent or agency employee has entered into customary covenants regarding confidentiality and valid and enforceable written assignments of Intellectual Property in such Person's agreement with Seller, a copy of which has been delivered to Purchaser. All of the assignments referred to in the immediately preceding sentence have been timely and properly filed with the United States Patent and Trademark Office ("**USPTO**"), and to the extent applicable and required by applicable Legal Requirements, its foreign equivalents. To the Seller's Knowledge, none of such independent Contractors, consultants, agents or agency employees, are subject to any Order, Contract or other binding obligation from or to any Governmental Body or other third party, that would conflict with such confidentiality or assignment obligations to Seller.

**(c)** Seller has not implemented any employee layoffs in the past three years that would be reasonably likely to implicate the Worker Adjustment Retraining and Notification Act of 1988, as amended, or any similar Legal Requirement. Except as would not reasonably be expected to result in material Liability to Purchaser, Seller is, and has been since inception, in compliance in all material respects with all applicable Legal Requirements relating to employment and employment practices, workers' compensation, terms and conditions of employment, worker classification, wages and hours, discrimination, immigration and collective bargaining. Except as would not reasonably be expected to result in material Liability to Purchaser, Seller has properly classified its Seller Employees as "employees" or "independent contractors" and as "exempt" or "non-exempt" for all purposes and has properly reported all compensation paid to such Persons for all purposes.

**(d)** Part 2.12(d) of the Disclosure Schedule identifies each Seller Employee Plan. Except as would not reasonably be expected to result in material Liability to Purchaser, each Seller Employee Plan is being and has at all times been operated and administered in compliance with the provisions thereof. There are no claims or Legal Proceedings pending, or, to the Knowledge of Seller, threatened or reasonably anticipated, against any Seller Employee Plan or against the assets of any Seller Employee Plan.

**(e)** Except as expressly required or provided by this Agreement, neither the execution or delivery of this Agreement nor the consummation of any of the Transactions will (either alone or upon the occurrence of any additional or subsequent events) constitute an event under any Seller Employee Plan, Seller Employee Agreement, trust or loan, in each case, that will or could reasonably be expected to result (either alone or in connection with any other circumstance or event) in any material payment (whether of severance pay or otherwise), acceleration of any material right, material obligation or benefit, material forgiveness of indebtedness, vesting, distribution, material increase in benefits or obligation to fund benefits with respect to any Seller Employee.

**(f)** Except as set forth in Part 2.12(f) of the Disclosure Schedule, Seller has no legally binding plan or program requiring the payment of severance compensation in connection with the termination of employment of its employees. Except as would not reasonably be expected to have a Material Adverse Effect, with respect to employees, there are no grievances, complaints or charges pending against Seller or Seller Subsidiaries under any dispute resolution procedure. Any individual or entity that has been treated as an independent contractor by Seller within the past three (3) years has been classified properly as an independent contractor under all applicable laws and no material tax or other payment is due to or with regard to such individual or entity.

**2.13 Environmental Matters**. Seller possesses all permits and other Governmental Authorizations required under applicable Environmental Laws, and is in material compliance with the terms and conditions thereof. Seller has not received any notice or other communication (in writing or otherwise), whether from a Governmental Body, citizens group, employee or otherwise, that alleges that Seller is not in compliance with any Environmental Law. To the Knowledge of Seller, (a) all property that is leased to, controlled by or used by Seller, and all surface water, groundwater and soil associated with or adjacent to such property, is free of any material environmental contamination of any nature, (b) none of the property leased to, controlled by or used by Seller contains any underground storage tanks, asbestos, equipment using PCBs, underground injection wells, and (c) none of the property leased to, controlled by or used by Seller contains any septic tanks in which process wastewater or any Materials of Environmental Concern have been disposed of.

**2.14 Insurance**. Part 2.14 of the Disclosure Schedule identifies each insurance policy maintained by, at the expense of or for the benefit of Seller and identifies any claims (including any workers' compensation claims) made thereunder. Each insurance policy

identified in Part 2.14 of the Disclosure Schedule is in full force and effect and is of the type and in the amount customarily carried by Persons conducting businesses similar to those of Seller. Seller has not received any notice or other communication (in writing or otherwise) regarding any actual or possible (a) cancellation or invalidation of any insurance policy, (b) refusal of any coverage or rejection of any claim under any insurance policy, or (c) material adjustment in the amount of the premiums payable with respect to any insurance policy.

**2.15 Related Party Transactions.** No present or former director or officer, record or beneficial owner of one percent (1%) or more of Seller Capital Stock, Affiliate or "associate", members of any of their "immediate family" (as such terms are respectively defined in Rule 12b-2 and Rule 16a-1 of the Securities and Exchange Act of 1934), of Seller (each of the foregoing, a "**Related Party**"), other than in its capacity as a director or officer of Seller (a) is or was involved, directly or indirectly, in any business arrangement, transaction, Contract or other relationship (whether written or oral) with Seller or any assets or property thereof, (b) directly or indirectly owned or owns, or otherwise had or has any right, title, claim, interest in, to or under, any asset, property or right, tangible or intangible, that is used by Seller, (c) to the Knowledge of Seller, has any claim or cause of action against Seller or (d) owes any money to, or is owed any money by, Seller, other than for advances made to directors or officers of Seller in the ordinary course of business to meet reimbursable business expenses reasonably anticipated to be incurred by such individuals.

**2.16 Legal Proceedings; Orders**. There are no, and since inception there have not been, any Legal Proceedings pending by or against or, to the Knowledge of Seller, threatened against, Seller or any officer or director of Seller in his or her capacity as such. To the Knowledge of Seller, no event has occurred that would reasonably be expected to give rise to or serve as a basis for the commencement of any such Legal Proceeding. Seller is not, and since inception, has not been, subject to any Order that restricts the activities of the business. There is no Legal Proceeding pending by Seller or that Seller intends to initiate against any other Person.

**2.17 Financial Advisor**. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the Transactions based upon arrangements made by or on behalf of Seller.

**2.18 No Other Representations and Warranties**. Except for the representations and warranties contained in this Section 2 (including the related portions of the Disclosure Schedules), neither Seller nor any other Person has made or makes any other express or implied representation or warranty, either written or oral, on behalf of Seller, including any representation or warranty as to the accuracy or completeness of any information regarding Seller and the Transferred Assets furnished or made available to Purchaser and its Representatives (including any information, documents or material delivered to Purchaser, in management presentations or in any other form in expectation of the transactions contemplated hereby) or as to the future revenue, profitability or success of the Business, or any representation or warranty arising from statute or otherwise in law.

**SECTION 3. REPRESENTATIONS AND WARRANTIES OF THE STOCKHOLDERS**

Each Stockholder represents and warrants to and for the benefit of the Purchaser Indemnitees as follows:

**3.1 Authority; Binding Nature of Agreement**. Such Stockholder has the absolute and unrestricted right, power and authority to perform his obligations under this Agreement. This Agreement constitutes the legal, valid and binding obligation of such Stockholder, enforceable against him in accordance with its terms, subject to (a) laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (b) rules of law governing specific performance, injunctive relief and other equitable remedies.

**3.2 Title**. Such Stockholder (a) is the record and beneficial owner of the Capital Stock set forth opposite such Stockholder's name on Exhibit A hereto; (b) is not a party to any voting trust, proxy or other agreement or understanding with respect to the voting of any Capital Stock;

**(a)** is not a party to any option, warrant, purchase right or other Contract that could require the Stockholder to sell, transfer or otherwise dispose of any of his Capital Stock (other than this Agreement); (d) has full power, right and authority, and any approval required by applicable Legal Requirement, to make and enter into this Agreement; and (e) has good and valid title to the Capital Stock set forth opposite such Stockholder's name on Exhibit A hereto, free and clear of all Encumbrances (except Permitted Encumbrances).

**3.3 Non-Contravention**. To the Knowledge of Stockholder, neither (x) the execution, delivery or performance of this Agreement, nor (y) the consummation of the Transactions, will directly or indirectly (with or without notice or lapse of time):

**(a)** contravene, conflict with or result in a violation of, or give any Governmental Body or other Person the right to challenge the Transactions or to exercise any remedy or obtain any relief under, any Legal Requirement or any order, writ, injunction, judgment or decree to which the Stockholder, or the Capital Stock owned by such Stockholder, is subject;

**(b)** contravene, conflict with or result in a violation of any of the terms or requirements of, any Governmental Authorization that relates to the Stockholder or the Capital Stock owned by such Stockholder; or

**(c)** result in the imposition or creation of any Encumbrance (except any Permitted Encumbrance) upon or with respect to any Capital Stock owned by such Stockholder.

**3.4 Finders' Fees**. There is no investment banker, broker, finder or other intermediary that has been retained by or is authorized to act on behalf of the Stockholder who might be entitled to any fee or commission from Purchaser upon consummation of the Transactions.

**3.5 Investment Representations**. Stockholder understands that the Securities have not been registered under the Securities Act of 1933, as amended (the "**Securities Act**"). Stockholder also understands that the Securities are being offered and sold pursuant to an exemption from registration contained in the Securities Act based in part upon Stockholder's representations contained in the Agreement. Stockholder hereby represents and warrants as follows:

**(a) Stockholder Bears Economic Risk**. Stockholder has substantial experience in evaluating and investing in private placement transactions of securities in companies similar to Purchaser so that it is capable of evaluating the merits and risks of its investment in Purchaser and has the capacity to protect its own interests. Stockholder must bear the economic risk of this investment indefinitely unless the Securities are registered pursuant to the Securities Act, or an exemption from registration is available. Stockholder understands that Purchaser has no present intention of registering the Securities or any shares of its common stock. Stockholder also understands that there is no assurance that any exemption from registration under the Securities Act will be available and that, even if available, such exemption may not allow Stockholder to transfer all or any portion of the Shares or the Conversion Shares under the circumstances, in the amounts or at the times Stockholder might propose.

**(b) Acquisition for Own Account.** Stockholder is acquiring the Securities for Stockholder's own account for investment only, and not with a view towards their distribution.

**(c) Stockholder Can Protect Its Interest**. Stockholder represents that by reason of its, or of its management's, business or financial experience, Stockholder has the capacity to protect its own interests in connection with the transactions contemplated in this Agreement and the Ancillary Documents. Further, Stockholder is aware of no publication of any advertisement in connection with the transactions contemplated in the Agreement.

**(d) Accredited Investor**. Stockholder represents that it is an accredited investor within the meaning of Regulation D under the Securities Act.

**(e) No** "**Bad Actor**" **Disqualification**. Stockholder represents that none of (i) Stockholder, (ii) any other entity that Stockholder controls, directly or indirectly, nor (iii) any person or entity that would be deemed to beneficially own voting securities of Purchaser as a result of Stockholder's ownership of voting securities of Purchaser is subject to or has taken any of the actions described in Rule 506(d)(1)(i)-(viii) promulgated under the Securities Act.

**(f) Purchaser Information**. Stockholder has received and read the Financial Statements and has had an opportunity to discuss Purchaser's business, management and financial affairs with directors, officers and management of Purchaser and has had the opportunity to review Purchaser's operations and facilities. Stockholder has also had the opportunity to ask questions of and receive answers from, Purchaser and its management regarding the terms and conditions of this investment.

**(g) Rule 144**. Stockholder acknowledges and agrees that the Securities are (or will, once issued, be) "restricted securities" as defined in Rule 144 promulgated under the Securities Act as in effect from time to time and must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. Stockholder has been advised or is aware of the provisions of Rule 144, which permits limited resale of shares purchased in a private placement subject to the satisfaction of certain conditions, including, among other things: the availability of certain current public information about Purchaser, the resale occurring following the required holding period under Rule 144 and the number of shares being sold during any three-month period not exceeding specified limitations.

**(h) Residence**. If Stockholder is an individual, then Stockholder resides in the state or province identified in the address of Stockholder set forth on Exhibit A; if Stockholder is a partnership, corporation, limited liability company or other entity, then the office or offices of Stockholder in which its investment decision was made is located at the address or addresses of Stockholder set forth on Exhibit A.

**(i) Foreign Investors**. If Stockholder is not a United States person (as defined by Section 7701(a)(30) of the Code), Stockholder hereby represents that it has satisfied itself as to the full observance of the laws of its jurisdiction in connection with any invitation to subscribe for the Securities or any use of this Agreement, including (i) the legal requirements within its jurisdiction for the purchase of the Securities, (ii) any foreign exchange restrictions applicable to such purchase, (iii) any government or other consents that may need to be obtained, and (iv) the income tax and other tax consequences, if any, that may be relevant to the purchase, holding, redemption, sale or transfer of the Securities. Purchaser's offer and sale and Stockholder's subscription and payment for and continued beneficial ownership of the Securities will not violate any applicable securities or other laws of Stockholder's jurisdiction.

**3.6 Transfer Restrictions**. Each Stockholder acknowledges and agrees that the Securities are subject to restrictions on transfer as set forth in the Stockholder Agreements.

**3.7 No Other Representations and Warranties**. Except for the representations and warranties contained in this Section 3 (including the related portions of the Disclosure Schedules), neither Stockholder nor any other Person has made or makes any other express or implied representation or warranty, either written or oral, on behalf of Stockholder, including any representation or warranty as to the accuracy or completeness of any information regarding Seller, Stockholder and the Transferred Assets furnished or made available to Purchaser and its Representatives (including any information, documents or material delivered to Purchaser, in management presentations or in any other form in expectation of the transactions contemplated hereby) or as to the future revenue, profitability or success of the Business, or any representation or warranty arising from statute or otherwise in law.

**SECTION 4. REPRESENTATIONS AND WARRANTIES OF PURCHASER**

Purchaser represents and warrants to and for the benefit of the Seller Indemnitees, as of the Closing Date, as follows:

**4.1 Due Organization.** Purchaser is a corporation duly incorporated, validly existing and in good standing under the laws of Delaware.

**4.2** Authority; Binding Nature of Agreement. Purchaser has the corporate power and authority to enter into and to perform its obligations under this Agreement and under each Ancillary Document to which it is or will be a party; and the execution, delivery and performance by Purchaser of this Agreement and of each such Ancillary Document have been duly authorized by all necessary action on the part of Purchaser. Assuming the due authorization and execution by the other parties hereto and thereto, this Agreement and each Ancillary Document to which Purchaser is or will be a party constitutes the legal, valid and binding obligation of Purchaser, enforceable against Purchaser in accordance with its terms, subject to the Enforceability Exception.

**4.3 Non-Contravention; Consents**. Neither the execution, delivery or performance of this Agreement by Purchaser or any of the Ancillary Documents to which Purchaser is or will be a party nor the consummation by Purchaser of the Transactions will (with or without notice or lapse of time): contravene, conflict with or result in a violation of (a) any of the provisions of the certificate of incorporation or bylaws of Purchaser or (b) any resolution adopted by the stockholders, the board of directors or any committee of the board of directors of Purchaser.

**4.4 Capitalization**.

**(a)** The authorized capital stock of Purchaser, immediately prior to the Closing, consists of (i) 152,687,844 shares of Common Stock, par value $0.001 per share, 1,125,733 shares of which are issued and outstanding, and (ii) 132,400,836 shares of Preferred Stock, par value $0.001 per share, (A) 700,000 shares of which are designated Series A-1 Preferred Stock, all of which are issued and outstanding, (B) 266,688 shares of which are designated Series A-2 Preferred Stock, all of which are issued and outstanding, (C) 750,000 shares of which are designated Series A-3 Preferred Stock, all of which are issued and outstanding, (D) 3,641,817 shares of which are designated Series B Preferred Stock, all of which are issued and outstanding, (E) 2,998,852 shares of which are designated Series B-1 Preferred Stock, all of which are issued and outstanding, (F) 2,356,597 shares of which are designated Series C Preferred Stock, all of which are issued and outstanding, (G) 11,781,710 shares of which are designated Series D Preferred Stock, 10,874,876 of which are issued and outstanding, (H) 13,972,954 shares of which are designated Series E Preferred Stock, 7,639,556 of which are issued and outstanding, (I) 19,468,203 shares of which are designated Series F Preferred Stock, all of which are issued and outstanding and (J) 76,464,035 shares of which are designated Series G Preferred Stock, 35,496,613 of which are issued and outstanding.

**(b)** Under Purchaser's Amended and Restated 2006 Employee, Director and Consultant Stock Plan and its 2016 Equity Incentive Plan (together, the "***Plans***"),

(i) 1,089,401 shares of Common Stock have been issued pursuant to restricted stock purchase agreements and/or the exercise of outstanding options and are included in 4.4(a)(i) above and (ii) options to purchase 8,835,542 shares of Common Stock have been granted and are currently outstanding.

**(c)** Other than (i) the shares reserved for issuance under the Plans (including without limitation shares reserved for issuance upon exercise of outstanding options granted under the Plans), (ii) additional options to purchase 590,645 shares of Common Stock, (iii) warrants to purchase 1,827,384 shares of Purchaser's Series E Preferred Stock, (iv) warrants to purchase 613,333 shares of Purchaser's Series G Preferred Stock and (v) outstanding convertible promissory notes and except as may be granted pursuant to this Agreement and the Ancillary Documents, there are no outstanding options, warrants, rights (including conversion or preemptive rights and rights of first refusal), proxy or stockholder agreements, or agreements of any kind for the purchase or acquisition from Purchaser of any of its securities.

**(d)** Except with respect to the outstanding shares of Purchaser's Series B-1 Preferred Stock, each of which is convertible into 1.16363 shares of Purchaser's Common Stock as of the date hereof, each outstanding series of Purchaser's Preferred Stock is convertible into Purchaser's Common Stock on a one-for-one basis as of the date hereof.

**(e)** The Securities, when issued, sold and delivered in accordance with the terms of this Agreement, will be duly and validly issued, fully paid and nonassessable.

**4.5** Representations and Warranties Given to Investors of Series G Preferred **Stock**. The representations and warranties set forth in the Series G Preferred Stock Purchase Agreement dated February 23, 2018 were true and correct as of February 23, 2018, as qualified by the schedule of exceptions delivered in connection therewith.

**4.6 Legal Proceedings**. There are no Legal Proceedings pending by or against, or to the Knowledge of Purchaser, threatened against Purchaser, except as such as would not have a material adverse effect on Purchaser.

**4.7 Financial Advisor**. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the Transactions based upon arrangements made by or on behalf of Seller.

**4.8 Reorganization**. Purchaser has not taken any action, or has any knowledge of any fact or circumstance, that could reasonably be expected to prevent the Transactions from qualifying as a reorganization within the meaning of Section 368(a) of the Code.

## SECTION 5. COVENANTS OF THE PARTIES

**5.1 Further Actions**.

**(a)** From and after the Closing, Seller shall reasonably cooperate with Purchaser and its Representatives and shall execute and deliver such documents and take such other actions as Purchaser may reasonably request for the purpose of evidencing the

Transactions and putting Purchaser in possession and control of all of the Transferred Assets. To the extent that the parties hereto have been unable to obtain any Consent necessary be obtained for the transfer to Purchaser of any of the Transferred Assets by the Closing: (a) such Transferred Asset (a "**Specified Asset**") shall not be assigned or transferred to Purchaser until such time as such Consent is obtained; and (b) Seller shall use its reasonable efforts to assist Purchaser in its efforts to obtain such Consent as promptly as practicable thereafter; provided, however, that in no event will Seller by required to incur any unreasonable additional expenses in connection therewith. Until such Consent is obtained, Seller shall cooperate, and shall use its reasonable efforts to cause its Representatives to cooperate, with Purchaser in any lawful arrangement designed to provide Purchaser with the benefits of such Specified Assets at no cost to the Purchaser in excess of the cost Purchaser would have incurred (without modification to the terms of any Contract) if the Consent had been obtained. If a required Consent with respect to a Specified Asset is obtained after the Closing Date, the Specified Asset subject to such Consent shall be deemed to have been assigned and transferred to Purchaser as of the date such Consent is effective (and all references in Section 1.6 to the Closing Date shall be deemed to be the effective date of such Consent with respect to such Specified Asset). Seller hereby grants Purchaser a limited power of attorney (with full power of substitution) effective as of the Closing, for the limited purpose of: (i) collecting, asserting, enforcing or perfecting any claim, right or interest of any kind that is included in or constituted in any of the Transferred Assets; (ii) defending or compromising any Legal Proceeding relating to any of the Transferred Assets; or (iii) with the written consent of Seller, otherwise carrying out or facilitating the transfer or assignment of any of the Transferred Assets; provided, that for each of the subclauses above, Purchaser may not, without the written consent of Seller, incur any unreasonable expense, liability, obligations, debt or detriment of any kind with respect to Seller. The power of attorney referred to in the preceding sentence is and shall be coupled with an interest and shall be irrevocable, and shall survive the dissolution or insolvency of Seller.

**(b)** Following the Closing, utilizing commercially reasonable efforts, Seller shall work with Purchaser to develop a regulatory transition plan relating to the Transferred Assets and to facilitate the approval of each applicable Governmental Bodies necessary for the assignment of the CLIA Certificate, and all other certificates and registrations related to the Transferred Assets from Seller to Purchaser.

**5.2 Taxes**.

**(a)** Purchaser and Seller shall cooperate fully, as and to the extent reasonably requested by the other party, in connection with the preparation and filing of any Tax Return, statement, report or form, in any audit, litigation or other proceeding with respect to Taxes relating to the Business or the Transferred Assets or arising from the transactions contemplated by this Agreement. Such cooperation shall include the retention and (upon the other party's request) the provision of records and information in such party's possession that are reasonably relevant to any such audit, litigation or other proceeding and making employees available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder. Each of Purchaser and Seller agrees (i) to, subject to clause (ii), retain all books and records with

respect to Tax matters pertinent to the Business or the Transferred Assets relating to any Pre-Closing Tax Period, and to abide by all record retention agreements entered into with any taxing authority and (ii) to give the other party reasonable written notice prior to destroying or discarding any such books and records and, if the party so requests, shall allow the other party to take possession of such books and records.

**(b)** All real property taxes, personal property taxes and similar ad valorem obligations levied with respect to the Transferred Assets for a taxable period that includes (but does not end on) the date of the Closing shall be apportioned between Seller and Purchaser as of the Closing based on the number of days of such taxable period ending on the date of the Closing (the "**Pre-Closing Tax Period**") and the number of days of such taxable period after the Closing (with respect to any such taxable period, the "**Post-Closing Tax Period**"). Seller shall be liable for the proportionate amount of such Taxes that is attributable to the Pre-Closing Tax Period, and Purchaser shall be liable for the proportionate amount of such Taxes that is attributable to the Post-Closing Tax Period. Upon receipt of any bill for real or personal property Taxes relating to the Transferred Assets, Seller and Purchaser, as applicable, shall present a statement to the other setting forth the amount of reimbursement to which each is entitled under this Section 5.2(b) together with such supporting evidence as is reasonably necessary to calculate the proration amount. The proration amount shall be paid by the party owing it to the other within 20 days after delivery of such statement. In the event that either Seller or Purchaser shall make any other payment for which it is entitled to reimbursement under this Section 5.2(b), the other party shall make such reimbursement promptly but in no event later than 20 days after the presentation of a statement setting forth the amount of reimbursement to which the presenting party is entitled along with such supporting evidence as is reasonably necessary to calculate the amount of reimbursement.

**(c)** Purchaser and Seller intend the Transactions to constitute a reorganization within the meaning of Section 368(a) of the Code, and hereby adopt this Agreement as a plan of reorganization within the meaning of Treasury Regulations Section 1.368-2(g). Purchaser and Seller agree to file all Tax Returns consistent with, and shall not take any Tax reporting position inconsistent with, such treatment, unless required by the IRS or any other applicable taxing authority.

**(d)** Seller shall be entitled to the amount of any refund of Taxes or other governmental charges with respect to any Transferred Asset for a Pre-Closing Tax Period. Purchaser shall pay, or cause to be paid, to Seller any amount to which Seller is entitled pursuant to the prior sentence within [***] business days of the receipt of the applicable refund by Purchaser or its Subsidiaries. To the extent requested by Seller, Purchaser will reasonably cooperate with Seller in obtaining such refund.

**5.3 Continuing Access to Information**. Following the Closing, Seller shall give Purchaser and its Representatives reasonable access during normal business hours to (and shall allow Purchaser and its Representatives to make copies of) any books and records relating to the Transferred Assets that are not acquired by Purchaser hereunder for any reasonable purpose.

**5.4 Publicity**. Seller agrees that, on and at all times after the date hereof: (a) no press release or other publicity concerning any of the Transactions shall be issued or otherwise disseminated by it or on its behalf without Purchaser's prior written consent; and (b) it shall continue to keep the terms of this Agreement and the Ancillary Documents strictly confidential; *provided*, *however*, that the existence and terms of this Agreement and the Ancillary Documents may be disclosed to the extent required by Legal Requirements; *provided*, *that*, before making such a disclosure, Seller first notifies Purchaser and gives Purchaser an opportunity to limit such disclosure or seek a protective order and cooperates with Purchaser as reasonably requested.

**5.5 No Post-Closing Operations; Discharge of Liabilities**. After the Closing, Seller shall not conduct any business or otherwise engage in any operations. As promptly as practicable after the Closing, Sellers shall discharge all its Liabilities (other than the Assumed Liabilities and the Additional Liabilities). Seller will take all actions necessary, appropriate or advisable to ensure that Seller converts into a limited liability company (treated as a partnership for income Tax purposes) within one (1) month after Closing and keeps and maintains a separate existence in Delaware as a limited liability company and remains validly existing, in good standing, and solvent through the third anniversary of the Closing Date and neither Seller nor any of its Affiliates, or Related Parties (including the Stockholders) shall authorize, approve, take, participate in, facilitate, assist, acquiesce to, or encourage any action to liquidate, dissolve or otherwise wind-down the Seller (beyond its conversion into a limited liability company) during such period.

**5.6 Release**.

**(a)** Seller and the Stockholders irrevocably, unconditionally and completely releases, acquits and forever discharges each of the Purchaser Releasees (as defined below) from any claim, controversy, demand, right, Liability, action and cause of action of every kind and nature (each, a "**Claim**"), and hereby irrevocably, unconditionally and completely waives and relinquishes each and every Claim that Seller and the Stockholders may have had in the past, may now have or may have in the future against any of the Purchaser Releasees, directly or indirectly relating to or directly or indirectly arising out of any events, matters, causes, things, acts, omissions or conduct relating directly or indirectly to the Transactions and occurring or existing at any time up to and including the Closing, but, excluding all rights of Seller and the Stockholders under this Agreement and the Ancillary Documents. For purposes of this Section 5.6(a), "**Purchaser Releasees**" means: (i) Purchaser; (ii) each Affiliate and other direct or indirect parent Entity of Purchaser (together with Purchaser, each, a "**Purchaser Entity**"); and (iii) the successors and past, present and future successors, assigns and Representatives of the respective Entities identified or otherwise referred to in clauses "(i)", "(ii)" and "(iii)" of this Section 5.6(a).

**(b)** Purchaser irrevocably, unconditionally and completely releases, acquits and forever discharges each of the Seller Releasees (as defined below) from any Claim, and hereby irrevocably, unconditionally and completely waives and relinquishes each and every Claim that Purchaser may have had in the past, may now have or may have in the future against any of the Seller Releasees, directly or indirectly relating to or directly

or indirectly arising out of any events, matters, causes, things, acts, omissions or conduct relating directly or indirectly to the Transactions and occurring or existing at any time up to and including the Closing, but, excluding all rights of Purchaser under this Agreement and the Ancillary Documents. For purposes of this Section 5.6(b), "**Seller Releasees**" means: (i) Seller; (ii) the Stockholders, (iii) each Affiliate and other direct or indirect parent Entity of Seller or the Stockholders (together with Seller and the Stockholders, each, a "**Seller Entity**"); and (iv) the successors and past, present and future successors, assigns and Representatives of the respective Entities identified or otherwise referred to in clauses "(i)", "(ii)", "(iii)" and "(iv)" of this Section 5.6(b).

**5.7 Non-Competition; Non-Solicitation**. Seller agrees as follows:

**(a)** From the Closing Date until the third anniversary of the Closing (the "**Non-Compete Period**"), Seller shall not, in any way, directly, indirectly, individually or through any other Person, or for the benefit of any other Person, without the prior written consent of Purchaser, in each instance, which Purchaser may withhold or condition in its sole and absolute discretion, own, manage, operate, control or participate in the ownership, management, operation, control of, or consult with or perform services for, or be connected in any manner with (whether as principal, agent, employee, employer, investor, consultant, shareholder, partner, member, financier or in any other individual or representative capacity of any kind whatsoever), any business that is competitive with the business of Seller as currently conducted and as currently proposed to be conducted (the "**Business**") anywhere in the world where any Purchaser Entity conducts or has plans to conduct the Business during the Non-Compete Period.

**(b)** During the Non-Compete Period, Seller shall not, in any way, directly, indirectly, individually or through any other Person, or for the benefit of any other Person, without the prior written consent of Purchaser, in each instance, which Purchaser may withhold or condition in its sole and absolute discretion:

**(i)** solicit, induce, encourage or recruit any employee or contractor of Seller who assumes employment or other service with any Purchaser Entity to terminate or reduce the scope of his or her employment or other service relationship with any Purchaser Entity or otherwise interfere with such relationship;

**(ii)** employ or engage any Person described in clause (i); or

**(iii)** induce or encourage any licensor, vendor, supplier, client, customer or licensee of the Business to terminate or reduce the scope of his, her or its relationship with any Purchaser Entity or otherwise interfere with such relationship.

**(c)** For the avoidance of doubt, the restrictions set forth in this section 5.7 shall not apply to any stockholder of Seller.

**5.8 Distribution of Securities**. Following the Closing, Seller shall use commercially reasonable efforts to obtain from each Stockholder and to deliver to Purchaser a completed Stockholder Package. Following Purchaser's confirmation that such Stockholder Package is complete, Seller shall thereafter distribute to such Stockholder the

portion of the Securities allocable to such Stockholder in accordance with the percentages listed on Exhibit A hereto. For the avoidance of doubt, it shall be a condition precedent to a Stockholder receiving any Securities that the recipient shall have executed and delivered a Stockholder Package in a manner reasonably satisfactory to Purchaser.

**5.9** "**Market Stand-Off**" **Agreement**. Seller hereby agrees that Seller shall not sell, transfer, make any short sale of, grant any option for the purchase of, or enter into any hedging or similar transaction with the same economic effect as a sale of, any Securities (or other securities of Purchaser) held by Seller for a period specified by the representative of the underwriters of Purchaser's Common Stock (or other securities of Purchaser) not to exceed 180 days following the effective date of a registration statement of Seller filed under the Securities Act (or such longer period, not to exceed 34 days after the expiration of the 180-day period, as the underwriters or Purchaser shall request in order to facilitate compliance with NASD Rule 2711 or NYSE Member Rule 472). Each transferee or assignee of Securities shall be bound by and subject to the terms and conditions of this Section 5.9 and shall, as a condition precedent to receipt of such Closing Shares, agree in writing to be bound by, and subject to, all the terms and conditions of this Section 5.9.

**5.10 Bulk Sales Laws.** The parties hereby waive compliance with the provisions of any bulk sales, bulk transfer or similar Legal Requirements of any jurisdiction that may otherwise be applicable with respect to the sale of any or all of the Transferred Assets to Purchaser.

**5.11 Employees and Employee Benefits**.

**(a)** Commencing on the Closing Date, Seller shall terminate all Transferred Employees and shall pay to each such Transferred Employee all accrued but unpaid salary or wages, bonus amounts and other amounts, in each case, as set out on Schedule 5.11 attached hereto, and, unless such Transferred Employee elects to rollover accrued vacation and paid time-off to Purchaser, the accrued vacation and paid time off listed on Schedule 1.5 hereto (collectively, "**Accrued Wages**").

**(b)** Purchaser shall hire each Transferred Employee effective as of the date Seller terminates the employment of such Transferred Employee on the terms and conditions set forth in the offer letter provided by Purchaser to such Transferred Employee, provided that such offer letter shall include a provision allowing the Transferred Employee to elect to rollover any accrued vacation and paid time-off as set out on Schedule 1.5 hereto, and Purchaser shall permit such Transferred Employee to use any accrued vacation and paid time-off rolled over to Purchaser in accordance with Purchaser's policies, which shall be no less favorable to the Transferred Employee than the policies in effect at Seller on the Closing Date.

**(c)** The parties acknowledge and agree that all provisions contained in this Section 5.11 are included for the sole benefit of the respective parties and shall not create any right or remedy (including any third-party beneficiary rights) in any other Person, including any employees or former employees or other service providers of Seller, any participant in any employee plan or any beneficiary thereof or any Transferred

Employee. Nothing in this Section 5.11 shall be construed as any right to continued employment, or any particular term or condition of employment, of any Person with Seller or Purchaser (or any of their respective Affiliates), nor shall any provision of this Section 5.11 require Purchaser or any of its Affiliates to continue, terminate or amend or modify any employee benefit plan on or after the Closing Date for Transferred Employees. Nothing in this Section 5.11 shall (i) restrict the right of Purchaser or any of its Affiliates to terminate the employment of any Person (including any Transferred Employee) at any time and for any or no reason, (ii) constitute or be construed as an amendment, termination or other modification of any benefit or compensation plan, program, policy, agreement or arrangement, or (iii) prevent Purchaser or any of its Affiliates from amending, modifying or terminating any benefit or compensation plan, program, policy, agreement or arrangement at any time assumed, established, sponsored or maintained by any of them in accordance with its terms and applicable law.

**5.12 Financial Statements**. Promptly following the date hereof, Purchaser shall use commercially reasonable efforts to obtain from the Securities and Exchange Commission (the "**SEC**") relief pursuant to Regulation S-X Rule 3-13 from the requirement to provide certain audited financial statements required per Regulation S-X Rule 3-05 related to the transactions contemplated by this Agreement. If the SEC does not grant such relief, or grants such relief only with respect to a portion of the periods requested, Seller shall deliver to Purchaser by December 31, 2018, and shall use commercially reasonable efforts to deliver such statements to Purchaser by November 1, 2018, audited financial statements of Seller as of and for the years ended December 31, 2016 and December 31, 2017, audited by a firm registered with the Public Company Accounting Oversight Board ("**PCAOB**"), as well as reviewed financial statements as of and for the quarters ended March 31, 2018 and June 30, 2018, reviewed by a firm registered with PCAOB. Such financial statements shall be accurate and complete in all material respects and shall fairly present in all material respects the financial position of Seller as of the respective dates thereof and the results of operations and cash flows of Seller for the periods covered thereby in accordance with GAAP. Such financial statements shall be prepared in accordance with GAAP applied on a consistent basis throughout the periods covered. Seller shall provide Purchaser with such other information in a timely manner relating to the financial condition, business, books and records and financial statements of Seller as Purchaser may reasonably request.

**5.13 Information/Audit Rights**.

**(a)** ***Quarterly Financial Statements***. Prior to the seventh anniversary of this Agreement (the "**Milestone Period**"), Seller shall be entitled to the following quarterly information/audit rights:

**(i)** Within [***] days after the end of each fiscal quarter, Purchaser shall prepare and deliver to Seller an unaudited consolidated balance sheet and related statement of income and cash flows of Purchaser (the "**Performance Milestone Financial Statements**"), setting forth Purchaser's calculation of Xpresys Lung Gross Profit for each calendar month during such quarter, together with reasonable data supporting such calculation, and Purchaser's determination of whether the Milestone Event

was achieved by the end of such period (the "**Purchaser Determination**"). The Performance Milestone Financial Statements and the calculation of gross profit shall be prepared in accordance with GAAP consistently applied as reflected on Purchaser's regularly prepared financial statements.

**(ii)** Seller shall have [***] days following the delivery of the Performance Milestone Financial Statements (the "**Review Period**"), to review and object to the Performance Milestone Financial Statements and Purchaser's calculations of Xpresys Lung Gross Profit or the Purchaser Determination. In the event Seller does not object to the contents of the Performance Milestone Financial Statements, Purchaser's calculations of Xpresys Lung Gross Profit or the Purchaser Determination prior to the expiration of the Review Period, the Purchaser Determination shall be deemed to become the final determination of whether the Performance Milestone was satisfied during such fiscal quarter, subject to any contrary finding in the Annual Milestone Audit (as defined below). In the event Seller objects to the contents of the Performance Milestone Financial Statements or Purchaser's calculation of Xpresys Lung Gross Profit or the Purchaser Determination, Seller shall send written notice to Purchaser specifying its objections and the basis therefor, prior to the expiration of the Review Period (an "**Objection Notice**"). During the [***] day period following Purchaser's receipt of an Objection Notice (the "**Resolution Period**"), Purchaser and Seller shall attempt to resolve the differences specified in the Objection Notice.

**(iii)** In the event after the conclusion of a Resolution Period, the determination of whether the Performance Milestone has been satisfied remains in dispute, the dispute shall be submitted to an independent accounting firm mutually agreed upon, in good faith, in writing by Seller and Purchaser (the "**Settlement Accountant**"), within [***] Business Days after expiration of the Resolution Period, as well as any information and documentation reasonably requested by the Settlement Accountant; provided, however, that if the parties cannot mutually agree on the selection of a Settlement Accountant, each of Purchaser and Seller shall select an independent accounting firm who, in turn, shall select a third independent accounting firm to act in as the Settlement Accountant. The conclusions of the Settlement Accountant, in the absence of manifest error, be final and binding on the parties hereto, subject to any contrary determination in an Annual Milestone Audit. All fees and expenses of the Settlement Accountant shall be shared equally between Purchaser and Seller.

**(b)** ***Annual Milestone Audit Rights***. Purchaser shall deliver to Seller written notice of the issuance of Purchaser's annual audit for each fiscal year during the Milestone Period (the "**Annual Audit Notice**") within [***] days of the completion of each such annual audit. During the [***] day period following Seller's receipt of each Annual Audit Notice, upon the written request of Seller, Seller shall have the right to have an independent certified public accounting firm reasonably acceptable to Purchaser be provided access during normal business hours, upon reasonable prior written notice, to such books and records of Purchaser as may be required to verify the accuracy of Purchaser Determinations made during such fiscal year (an "**Annual Milestone Audit**"). Any and all records of Purchaser examined by such independent certified public accounting firm shall be deemed to be confidential information of Purchaser. In the event of a dispute with

respect to any audit conducted under this Section 5.13, such dispute shall be submitted to a Settlement Accountant and resolved in a manner consistent with the process described in Section 5.13(a)(iii) above.

**SECTION 6. CLOSING DELIVERABLES**

**6.1 Closing Deliverables of Seller**. At the Closing, Seller shall deliver, or cause to be delivered, the following to Purchaser:

**(a)** a bill of sale and assignment and assumption agreement in the form of Exhibit E hereto, duly executed by Seller (the "**Bill of Sale**");

**(b)** an intellectual property assignment agreement in the form of Exhibit F hereto, duly executed by Seller (the "**IP Assignment Agreement**");

**(c)** a non-foreign affidavit dated as of the Closing Date, sworn under penalty of perjury in accordance with the requirements of the Treasury Regulations issued pursuant to Section 1445 of the Code, in a form reasonably satisfactory to Purchaser, stating that Seller is not a "foreign person" as defined in Section 1445 of the Code;

**(d)** a completed and properly executed IRS Form W-9 (or the appropriate version of IRS Form W-8 (as and if applicable)) from Seller and from each other Person entitled to receive any payment pursuant to this Agreement;

**(e)** a certificate (the "**Secretary's Certificate**") dated as of the Closing Date, signed by the Secretary of Seller, certifying as to (i) an attached copy of the organizational documents of Seller and stating that such organizational documents have not been amended, modified, revoked or rescinded, (ii) an attached copy of the resolutions of the board of directors of Seller authorizing and approving the execution, delivery and performance of, and the consummation of, this Agreement and each Ancillary Document and the consummation of the Transactions and stating that such resolutions have not been amended, modified, revoked or rescinded and (iii) an attached copy of the resolutions of the stockholders of Seller authorizing and approving the execution, delivery and performance of, and the consummation of, this Agreement and each Ancillary Document and the consummation of the Transactions and stating that such resolutions have not been amended, modified, revoked or rescinded;

**(f)** good standing certificates from the Secretary of State of any State in which Seller is qualified to do business, dated within 3 business days prior to the Closing Date;

**(g)** counterpart signature pages to each Stockholder Agreement, duly executed by Seller;

**(h)** employment offer letters, duly executed by each employee of Seller to whom such offer letter is addressed that has accepted an offer of employment with Purchaser following the Closing;

**(i)** one or more CD ROMS or flash drive containing electronic copies of the data room as of the Closing;

**(j)** payoff letters with respect to all Indebtedness; and

**(k)** evidence reasonably satisfactory to Purchaser of the termination of all outstanding Encumbrances (except for Permitted Encumbrances) on the Transferred Assets.

**6.2 Closing Deliverables of Purchaser.** At the Closing, Purchaser shall deliver, or cause to be delivered, the following to Seller:

**(a)** the Bill of Sale, duly executed by Purchaser;

**(b)** the IP Assignment Agreement, duly executed by Purchaser;

**(c)** a certificate dated as of the Closing Date, signed by the Secretary of Purchaser, certifying as to (i) an attached copy of the organizational documents of Purchaser and stating that such organizational documents have not been amended, modified, revoked or rescinded, (ii) an attached copy of the resolutions of the board of directors of Purchaser authorizing and approving the execution, delivery and performance of, and the consummation of, this Agreement, each Ancillary Document and the issuance of the Securities to Seller and the Stockholders and the consummation of the Transactions and stating that such resolutions have not been amended, modified, revoked or rescinded and (iii) an attached copy of the resolutions of the stockholders of Purchaser authorizing and approving the execution, delivery and performance of, and the consummation of, this Agreement, each Ancillary Document and the issuance of the Securities to Seller and the Stockholders and the consummation of the Transactions and stating that such resolutions have not been amended, modified, revoked or rescinded; and

**(d)** evidence reasonably satisfactory to Seller of the issuance of the Securities to Seller, including, to the extent requested by Seller, such stock certificate(s) evidencing the Securities issued by Seller at the Closing.

## SECTION 7. INDEMNIFICATION, ETC.

**7.1 Survival of Representations, Exclusive Remedy, Etc.**

**(a)** All representations and warranties of Seller, Stockholders and Purchaser set forth in this Agreement shall expire on the second anniversary of the Closing (the "**Survival Date**"); *provided*, *however*, that (i) the Intellectual Property Representations shall survive until the third anniversary of the Closing; (ii) the Specified Representations (other than the Tax Representations) shall survive indefinitely; and (iii) the Tax Representations shall survive until 60 days following the expiration of the applicable statute of limitations, including any extensions. If, at any time on or prior to the expiration of a representation or warranty, any Indemnitee (acting in good faith) delivers to Seller or Purchaser, as applicable, a Notice of Indemnification Claim (as defined in Section 7.6(a)) alleging the existence of an inaccuracy in or a breach of any of such

representations or warranties and asserting a claim for recovery under Section 7.2 based on such inaccuracy or breach, then the claim asserted in such Notice of Indemnification Claim shall survive until such time as such claim is fully and finally resolved. All covenants of the parties shall survive until performed.

**(b)** The representations, warranties, covenants and obligations of Seller and the Stockholders, and the rights and remedies that may be exercised by the Purchaser Indemnitees, shall not be limited or otherwise affected by or as a result of any information furnished to, or any investigation made by or knowledge of, any of the Purchaser Indemnitees or any of their Representatives. The representations, warranties, covenants and obligations of Purchaser, and the rights and remedies that may be exercised by the Seller Indemnitees, shall not be limited or otherwise affected by or as a result of any information furnished to, or any investigation made by or knowledge of, any of the Seller Indemnitees or any of their Representatives.

**(c)** For purposes of this Agreement, each statement or other item of information set forth in the Disclosure Schedule shall be deemed to be a representation and warranty made by Seller in this Agreement.

**(d)** Except in the case of fraud, intentional misrepresentation or willful misconduct (collectively, "**Fraud**"), claims for indemnification, compensation and reimbursement brought in accordance with and subject to this Section 7, in addition to such matters and procedures covered by Section 5.2, shall be the sole and exclusive remedy of any Indemnitee for monetary Damages from and after the Closing with respect to this Agreement. Without limiting the generality of the foregoing, nothing contained in this Agreement shall limit the rights of any Indemnitee to seek or obtain injunctive relief or any other equitable remedy to which such Indemnitee is otherwise entitled.

**7.2 Indemnification by Seller and Stockholders**. From and after the Closing, Seller and the Stockholders shall hold harmless and indemnify each of the Purchaser Indemnitees from and against, and shall compensate and reimburse each of the Purchaser Indemnitees for, any Damages that are suffered or incurred by any of the Purchaser Indemnitees or to which any of the Purchaser Indemnitees may otherwise become subject (regardless of whether or not such Damages relate to any third-party claim) and that arise from or as a result of:

**(a)** any inaccuracy in or breach of any representation or warranty of Seller or any Stockholder set forth in this Agreement, the Disclosure Schedule or in any Ancillary Document;

**(b)** any breach of any covenant or obligation of Seller or any Stockholder set forth in this Agreement or in any Ancillary Document;

**(c)** any Liability other than the Assumed Liabilities or Additional Liabilities;

**(d)** any Liability for Excluded Taxes;

**(e)** any Liability to which Purchaser or any of the other Purchaser Indemnitees may become subject and that arises from or relates to any failure to comply with any bulk transfer law or similar Legal Requirement in connection with any of the Transactions;

**(f)** any Fraud on the part of Seller, any Stockholder, any Representative of Seller, any Representative of any Stockholder or any other equityholder of Seller in connection with or relating directly or indirectly to (i) the negotiation, execution, delivery or performance of this Agreement and (ii) any of the Transactions;

**(g)** any claim or Legal Proceeding alleging the occurrence of facts or circumstances that, if true, would entitle a Purchaser Indemnitee to indemnification hereunder; or

**(h)** any successful Legal Proceeding commenced by any Purchaser Indemnitee for the purpose of enforcing any of its rights under this Section 7.2).

**7.3 Indemnification by Purchaser**. From and after the Closing, Purchaser shall hold harmless and indemnify each of the Seller Indemnitees from and against, and shall compensate and reimburse each of the Seller Indemnitees for, any Damages that are suffered or incurred by any of the Seller Indemnitees or to which any of the Purchaser Indemnitees may otherwise become subject (regardless of whether or not such Damages relate to any third-party claim) and that arise from or as a result of:

**(a)** any inaccuracy in or breach of any representation or warranty of Purchaser set forth in this Agreement or in any Ancillary Document;

**(b)** any breach of any covenant or obligation of Purchaser set forth in this Agreement or in any Ancillary Document;

**(c)** any Assumed Liability or Additional Liability;

**(d)** any Fraud on the part of Purchaser or any Representative of Purchaser in connection with or relating directly or indirectly to (i) the negotiation, execution, delivery or performance of this Agreement and (ii) any of the Transactions;

**(e)** any claim or Legal Proceeding alleging the occurrence of facts or circumstances that, if true, would entitle a Seller Indemnitee to indemnification hereunder; or

**(f)** any successful Legal Proceeding commenced by any Seller Indemnitee for the purpose of enforcing any of its rights under this Section 7.3)

**7.4 Certain Limitations**.

**(a)** Except in the case of Fraud, recovery from the Holdback Shares and setoff against, or recovery of [***] of the Milestone Shares and any payments due under Section 1.9 or Section 1.10 (which such remedies shall not be cumulative) shall be the

Purchaser Indemnitees' sole and exclusive remedy for monetary Damages resulting from the matters referred to in Sections 7.2(a) and 7.2(h) (as such Section 7.2(h) relates to Section 7.2(a)); *provided, that*, the foregoing shall not apply with respect to any breach of the Specified Representations.

**(b)** Except in the case of Fraud, the maximum amount of Damages that the Indemnitees shall be entitled to recover in respect of an indemnification claim pursuant to Section 7.2(a) or Section 7.3(a) shall be the aggregate Deemed Value of the Securities.

**(c)** Except in the event of Fraud, the liability of a Stockholder under Section 7.2 shall not exceed the aggregate Deemed Value of the Securities received by the Stockholder.

**(d)** For purposes of calculating the amount of Damages in connection with any indemnifiable matter, all qualifications and limitations as to materiality and words of similar import set forth in this Agreement will be disregarded.

**(e)** Notwithstanding the foregoing, nothing in this Agreement shall limit the rights or remedies of any Indemnitee against any party, or the liability of any party, for a breach by such party of any provision of any agreement (other than this Agreement) executed and delivered by such party in connection with the Transactions.

**7.5 Defense of Third Party Claims**. In the event of the assertion or commencement by any Person of any claim or Legal Proceeding with respect to which any Indemnitee may be entitled to be held harmless, indemnified, compensated or reimbursed pursuant to this Section 7, (a) the Indemnitee shall notify Purchaser or Seller, as applicable (as applicable, the "**Indemnifying Party**"), in writing, promptly after the Indemnitee receives written notice of such claim or Legal Proceeding (it being understood that any failure by the Indemnitee to so notify the Indemnifying Party shall have no effect on an Indemnitee's ability to recover Damages pursuant to this Section 7 to the extent such failure is not prejudicial), (b) the Indemnitee shall have the right, at its election, to proceed with the defense of such claim or Legal Proceeding on its own; and (c) the Indemnifying Party shall be entitled, at its expense, to participate in any defense of such claim or Legal Proceeding. The notice sent to the Indemnifying Party by the Indemnitee shall describe in reasonable detail, to the extent known by the indemnitee, the facts and circumstances with respect to the alleged claim or Legal Proceeding, and include an estimate of the prospective Damages. If the Indemnitee so proceeds as described in this Section 7 with the defense of any such claim or Legal Proceeding: (i) all reasonable fees and expenses relating to the defense of such claim or Legal Proceeding shall constitute Damages, subject to the limitations and other provisions in Section 7; (ii) the Indemnifying Party shall make available to the Indemnitee any documents and materials that the Indemnitee determines in good faith may be necessary to the defense of such claim or Legal Proceeding; and (iii) the Indemnitee shall have the right to settle, adjust or compromise such claim or Legal Proceeding in good faith; *provided, however,* that if the Indemnitee settles, adjusts or compromises any such claim or Legal Proceeding without the consent of the Indemnifying Party, such settlement, adjustment or compromise shall not be conclusive evidence of the amount of Damages incurred by the Indemnitee in connection with such claim or Legal

Proceeding (it being understood that if the Indemnitee requests that the Indemnifying Party consent to a settlement, adjustment or compromise, the Indemnifying Party shall not unreasonably withhold, condition or delay such consent).

**7.6 Indemnification Claims**.

**(a)** If any Indemnitee has incurred or suffered or claims to have incurred or suffered, or believes that it may incur or suffer, Damages for which it is or may be entitled to be held harmless, indemnified, compensated or reimbursed under this Section 7, such Indemnitee may deliver a notice to the Indemnifying Party (any such notice being referred to as a "**Notice of Indemnification Claim**," and the claim for indemnification, compensation and reimbursement described in such Notice of Indemnification Claim being referred to as an "**indemnification claim**"), which shall (i) state that such Indemnitee believes that that there is or has been an inaccuracy in or breach of a representation, warranty, covenant or obligation contained in this Agreement or that such Indemnitee is otherwise entitled to be held harmless, indemnified, compensated or reimbursed under this Section 7, (ii) contain a description of the circumstances supporting such Indemnitee's belief that there is or has been such an inaccuracy or breach or that such Indemnitee may otherwise be entitled to be held harmless, indemnified, compensated or reimbursed and (iii) contain a good faith, non-binding, preliminary estimate of the aggregate dollar amount of actual and potential Damages that have arisen and may arise as a result of the inaccuracy, breach or other matter referred to in such notice (the aggregate amount of such estimate, as it may be modified by such Indemnitee in good faith from time to time, being referred to as the "**Claimed Amount**").

**(b)** During the 20-day period commencing upon the delivery by an Indemnitee to the Representative of a Notice of Indemnification Claim (the "**Dispute Period**"), the Indemnifying Party shall deliver to the Indemnitee a written response (the "**Response Notice**") in which the Indemnifying Party: (i) agrees that the full Claimed Amount is owed to the Indemnitee; (ii) agrees that part (but not all) of the Claimed Amount is owed to the Indemnitee; or (iii) asserts that no part of the Claimed Amount is owed to the Indemnitee. Any part of the Claimed Amount that is not agreed by the Indemnifying Party to be owed to the Indemnitee pursuant to the Response Notice (or the entire Claimed Amount, if the Indemnifying Party asserts in the Response Notice that no part of the Claimed Amount is owed to the Indemnitee) shall be referred to as the "**Contested Amount**" (it being understood that the Contested Amount shall be modified from time to time to reflect any good faith and reasonable modifications by the Indemnitee to the Claimed Amount). If a Response Notice is not sent to the Indemnitee prior to the expiration of the Dispute Period, then, absent any material prejudice to the Indemnitee, the Indemnifying Party shall be conclusively and irrevocably deemed to have asserted that no part of the Claimed Amount is owed to the Indemnitee. If there is a Contested Amount, the Indemnifying Party (on behalf of the Stockholders) and the Indemnitee shall attempt in good faith to resolve the dispute related to the Contested Amount. If the Indemnitee and the Indemnifying Party resolve such dispute in writing, then their resolution of such dispute shall be binding on the Indemnifying Party, Seller, Purchaser, the Stockholders and the other Indemnitees and a settlement agreement stipulating the amount owed to the Indemnitee (the "**Stipulated Amount**") shall be signed by the Indemnitee and the

Indemnifying Party. Purchaser, on the one hand, or Seller and the Stockholders, on the other hand, in each case as applicable, shall, within 10 days following execution of such settlement agreement, pay the Stipulated Amount to the Indemnitee (which, in the case of Seller or a Stockholder, may be through reduction of the Holdback Shares and/or setoff pursuant to the provisions of Section 7.9).

**(c)** If the Indemnifying Party and the Indemnitee are unable to resolve the dispute relating to any Contested Amount during the 30-day period commencing upon the delivery of the Response Notice, then either the Indemnitee or the Indemnifying Party may submit the contested portion of the indemnification claim to the court in accordance with Section 7. The final award setting forth the aggregate amount owed to the Indemnitee shall be referred to as the "**Award Amount**". Purchaser, on the one hand, or Seller and the Stockholders, on the other hand, in each case as applicable, shall, within 10 days following the entry by the court of the Award Amount, pay the Award Amount to the Indemnitee; *provided*, that any payments required to be made by the Seller or the Stockholders in satisfaction of claims for indemnification pursuant to Section 7.2(a) (other than any inaccuracy in or breach of any Specified Representation) shall first be satisfied by the Purchaser's cancellation of Holdback Shares with an aggregate Deemed Value equal to the Award Amount; *provided further*, that any payments required to be made by the Seller or the Stockholders in satisfaction of claims for indemnification pursuant to Section 7 may, upon Purchaser's election, be satisfied by the Purchaser's cancellation of Holdback Shares with an aggregate Deemed Value equal to the Award Amount.

**7.7 Tax Treatment of Indemnification Payments**. All indemnification payments made under this Agreement shall be treated by Seller and Purchaser as an adjustment to the Purchase Price for all Tax purposes, unless otherwise required by applicable Legal Requirements.

**7.8 Recovery of Securities**. For purposes of this Section 7, including with respect to any Securities redeemed from the Holdback Shares, the deemed value of each share of Purchaser Shares shall be equal to the Deemed Value. Upon determination in accordance with this Agreement that a Purchaser Indemnitee shall recover Securities issued hereunder, such Stockholder shall take all reasonable action requested by Purchaser to effect the transfer or such shares to the applicable Purchaser Indemnitee or the forfeiture of such shares to the Purchaser, at Purchaser's discretion, including returning the stock certificate evidencing such shares to Purchaser. Notwithstanding the foregoing, upon determination in accordance with this Agreement that a Purchaser Indemnitee is entitled to recover Securities issued hereunder, Purchaser shall be entitled to cancel on its books any stock certificate evidencing such shares and, upon such cancellation, such shares shall cease to be outstanding.

**7.9 Setoff**. In addition to any rights of setoff or other similar rights that Purchaser or any of the Purchaser Indemnitees may have at common law or otherwise, the Purchaser Indemnitees shall have the right to withhold and deduct any sum that is or may be owed to any Purchaser Indemnitee under this Section 7 from the Holdback Shares, Securities and any payments due under Section 1.9 or Section 1.10. Purchaser shall have the right, exercisable by delivery of written notice to Seller, to set-off against the Holdback

Shares, Milestone Shares and Securities issuable by Parent or Purchaser pursuant to this Agreement, and any payments due under Section 1.9 or Section 1.10, an amount equal to the aggregate amount of all Damages relating to Unresolved Claims for indemnification made by the Purchaser Indemnitees; *provided, however*, that if the amount of any Damages relating to claims for indemnification made by the Purchaser Indemnitees that is setoff against the Holdback Shares, Securities or any payments due under Section 1.9 or Section 1.10 exceeds the amount by which the payments were reduced for such claim, then, subject to the provisions of this Section 7, the Purchaser Indemnitees shall continue to be entitled to indemnification for the amount of such excess.

**SECTION 8. MISCELLANEOUS PROVISIONS.**

**8.1 Fees and Expenses**. Except as otherwise provided in this Agreement, each party to this Agreement shall bear and pay all fees, costs and expenses (including legal fees, accounting fees and investment banking fees) that have been incurred or that are incurred by or on behalf of such party in connection with the Transactions.

**8.2 Attorneys' Fees**. If any Legal Proceeding relating to this Agreement or the enforcement of any provision of this Agreement is brought against any party hereto, the prevailing party shall be entitled to recover reasonable attorneys' fees, costs and disbursements (in addition to any other relief to which the prevailing party may be entitled).

**8.3 Notices**. Any notice or other communication required or permitted to be delivered to any party under this Agreement shall be in writing and shall be deemed properly delivered, given and received when delivered (by hand, by registered mail, by courier or express delivery service or by electronic mail) to the address or electronic mail address set forth beneath the name of such party below (or to such other address or electronic mail address as such party shall have specified in a written notice given to the other parties hereto):

**if to Purchaser**:

Biodesix, Inc.
2970 Wilderness Place
Boulder, CO 80301
Attention: Chief Executive Officer

With a copy (which shall not constitute notice) to:

Cooley LLP
380 Interlocken Crescent
Suite 900
Broomfield, CO 80021
Attention: Brent Fassett and Laura Medina

**if to Seller**:

Integrated Diagnostics, Inc.
219 Terry Avenue N Suite 100
Seattle, WA 98109
Attention: Board of Directors

With a copy (which shall not constitute notice) to:

IND Funding, LLC (c/o Life Science Alternative Funding LLC)
[***]
Attention: [***]

With a copy (which shall not constitute notice) to:

Latham & Watkins LLP
140 Scott Drive
Menlo Park, CA 94025
Attention: Jim Morrone and Miles Jennings

**if to Stockholder:**

IND Funding, LLC (c/o Life Science Alternative Funding LLC)
[***]
Attention: [***]

With a copy (which shall not constitute notice) to:

Latham & Watkins LLP
140 Scott Drive
Menlo Park, CA 94025
Attention: Jim Morrone and Miles Jennings

**8.4 Headings**. The headings contained in this Agreement are for convenience of reference only, shall not be deemed to be a part of this Agreement and shall not be referred to in connection with the construction or interpretation of this Agreement.

**8.5 Counterparts and Exchanges by Electronic Transmission**. This Agreement may be executed in several counterparts, each of which shall constitute an original and all of which, when taken together, shall constitute one agreement. The exchange of a fully executed Agreement (in counterparts or otherwise) delivered electronically (including without limitation transmission by .pdf or other fixed image form) shall be sufficient to bind the parties to the terms and conditions of this Agreement.

**8.6 Governing Law; Consent to Jurisdiction**. This Agreement shall be governed by, and construed in accordance with, the Legal Requirements of the State of Delaware applicable to Contracts executed in and to be performed entirely within such State. Each of the parties to this Agreement hereby irrevocably and unconditionally submits, for itself and its assets and properties, to the exclusive jurisdiction of any Delaware State court, or Federal court of the United States of America, sitting within the

State of Delaware, and any appellate court from any thereof, in any Legal Proceeding arising out of or relating to this Agreement, the agreements delivered in connection with this Agreement, or the transactions contemplated hereby or thereby, or for recognition or enforcement of any judgment relating thereto, and each of the parties to this Agreement hereby irrevocably and unconditionally (a) agrees not to commence any such Legal Proceeding except in such courts; (b) agrees that any claim in respect of any such Legal Proceeding may be heard and determined in such Delaware State court or, to the extent permitted by Legal Requirement, in such Federal court; (c) waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any such Legal Proceeding in any such Delaware State or Federal court; and (d) waives, to the fullest extent permitted by Legal Requirement, the defense of an inconvenient forum to the maintenance of such Legal Proceeding in any such Delaware State or Federal court. Each of the parties to this Agreement hereby agrees that a final judgment in any such Legal Proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by Legal Requirement. Each of the parties to this Agreement hereby irrevocably consents to service of process in the manner provided for notices in Section 8.3. Nothing in this Agreement shall affect the right of any party to this Agreement to serve process in any other manner permitted by applicable Legal Requirement.

**8.7 Waiver of Jury Trial. Each of the parties hereto hereby irrevocably waives any and all right to trial by jury in any Legal Proceeding arising out of or related to this Agreement or the transactions contemplated hereby**

**8.8 Successors and Assigns**. This Agreement shall be binding upon, inure to the benefit of and be enforceable by the parties to this Agreement and their respective successors and assigns. Purchaser may freely assign any or all of its rights and obligations under this Agreement (including its indemnification rights under Section 7), in whole or in part, to any other Person without obtaining the consent or approval of any other party hereto; *provided, that*, such Person agrees in writing to be bound by the provisions of this Agreement. Neither Seller nor any Stockholder may assign its rights and obligations under this Agreement without obtaining the written consent of Purchaser; *provided, that*, Seller and Stockholder may make such an assignment to any Affiliate who agrees in writing to be bound by the provisions of this Agreement.

**8.9 Remedies Cumulative; Specific Performance**. The rights and remedies of the parties hereto shall be cumulative (and not alternative). The parties to this Agreement agree that, in the event of any breach or threatened breach by any party to this Agreement of any covenant, obligation or other provision set forth in this Agreement for the benefit of any other party to this Agreement, such other party shall be entitled (in addition to any other remedy that may be available to it) to (a) a decree or order of specific performance or mandamus to enforce the observance and performance of such covenant, obligation or other provision and (b) an injunction restraining such breach or threatened breach. The parties agree that no party shall be required to provide any bond or other security in connection with any such decree, order or injunction or in connection with any related Legal Proceeding.

**8.10 Waiver**.

**(a)** No failure on the part of any Person to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any Person in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver of such power, right, privilege or remedy; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

**(b)** No Person shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such Person; and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

**8.11 Amendments**. This Agreement may not be amended, modified, altered or supplemented other than by means of a written instrument duly executed and delivered on behalf of all of the parties hereto.

**8.12 Severability**. Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If the final judgment of a court of competent jurisdiction declares that any term or provision hereof is invalid or unenforceable, the parties hereto agree that the court making such determination shall have the power to limit the term or provision, to delete specific words or phrases, or to replace any invalid or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the parties hereto agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term.

**8.13 Parties in Interest**. Nothing expressed or implied in this Agreement is intended or shall be construed to confer upon or give any Person, other than the parties hereto, any rights or remedies under or by reason of this Agreement; *provided, however,* that, notwithstanding the foregoing, the Indemnitees shall be and are intended third-party beneficiaries of, and may enforce, Section 7.

**8.14 Entire Agreement**. This Agreement and the other agreements referred to herein set forth the entire understanding of the parties hereto relating to the subject matter hereof and thereof and supersede all prior agreements and understandings among or between any of the parties relating to the subject matter hereof and thereof.

**8.15 Construction**.

**(a)** For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include the masculine and feminine genders.

**(b)** The parties hereto agree that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in the construction or interpretation of this Agreement.

**(c)** As used in this Agreement and the Exhibits to this Agreement, the words "include" and "including," and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words "without limitation."

**(d)** The phrase "delivered to Purchaser" or similar phrases used in this Agreement shall mean that true and correct copies of the subject document were posted to the electronic data room for this transaction or were delivered in accordance with the notice provisions of Section 8.3 at least three (3) business days prior to the Closing.

**(e)** Except as otherwise indicated, all references in this Agreement to "Sections," "Exhibits" and "Schedules" are intended to refer to Sections of this Agreement and Exhibits and Schedules to this Agreement.

[*Remainder of page intentionally left blank*]

**IN WITNESS WHEREOF,** the parties hereto have caused this Agreement to be executed and delivered as of the date first set forth above.

**PURCHASER:**

**BIODESIX, INC.**

By: /s/ David Brunel
Name: David Brunel
Title: CEO

**SELLER:**

**INTEGRATED DIAGNOSTICS, INC.**

By: /s Albert Luderer
Name: Albert Luderer
Title: Chief Executive Officer

**STOCKHOLDER:**

**IND FUNDING LLC**

By: /s/ Steve DeNelsky
Name: Steve DeNelsky
Title: President

**EXHIBIT B**

**CERTAIN DEFINITIONS**

For purposes of the Agreement (including this Exhibit B and the Disclosure Schedule):

"**Acquisition**" means:

(a) the acquisition, directly or indirectly, in one transaction or a series of related transactions, by any Person or group (within the meaning of Section 13(d)(3) of the Securities Exchange Act of 1934) of the beneficial ownership of securities of Purchaser possessing more than 50% of the total combined voting power of all outstanding securities of Purchaser (provided, however, that a Change of Control will not result upon such acquisition of beneficial ownership if such acquisition occurs as a result of: (i) a public offering of Purchaser's securities or any financing transaction or series of financing transactions, in each case for bona fide financing purposes or (ii) a merger or consolidation involving Purchaser where the holders of the outstanding voting securities of Purchaser immediately prior to such merger or consolidation (taken in the aggregate) possess beneficial ownership of 50% or more of the total combined voting power of all outstanding voting securities of Purchaser, the surviving entity, the acquiring entity or a parent or holding company of the acquiring entity, immediately after such merger or consolidation); or

(b) the sale, transfer or other disposition (in one transaction or a series of related transactions) of all or substantially all of the assets of Purchaser, except for a transaction in which the holders of the outstanding voting securities of Purchaser immediately prior to such transaction(s) (taken in the aggregate) receive as a distribution with respect to securities of Purchaser more than 50% of the total combined voting power of all outstanding voting securities of the acquiring entity or a parent or holding company of the acquiring entity immediately after such transaction(s).

For purposes of this definition of Change of Control, all references to Purchaser will be deemed to include any successor-in-interest to Purchaser or any direct or indirect parent entity or holding company of Purchaser or such successor-in-interest.

"**Affiliate**" when used with respect to any specified Person, shall mean any other Person who or that, directly or indirectly through one or more intermediaries, Controls, is Controlled by or is under common Control with such specified Person.

"**Agreement**" shall mean the Asset Purchase Agreement and Plan of Reorganization to which this Exhibit B is attached.

"**Ancillary Document**" means the Bill of Sale, the IP Assignment Agreement and the Secretary's Certificate.

"**CLIA**" shall mean the Clinical Laboratory Improvement Amendments of 1988, as amended. "**COBRA**" shall mean the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended. "**Code**" shall mean the Internal Revenue Code of 1986, as amended.

"**Consent**" shall mean any approval, consent, ratification, permission, waiver or authorization (including any Governmental Authorization).

"**Contract**" shall mean any written, oral or other agreement, contract, subcontract, lease, understanding, instrument, note, certificate, warranty, proxy, insurance policy, benefit plan or commitment, arrangement or undertaking of any nature.

"**Control**" shall mean, as to any Person, the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of voting securities, by contract or otherwise. The term "**Controlled**" shall have a correlative meaning.

"**Damages**" shall include claims, liabilities, damages, Taxes, diminution of value, lost profits, payments, obligations, losses, costs and expenses (including reasonable attorneys' fees, court costs, expert witness fees, transcript costs and other expenses of litigation), and judgments (at law or in equity) of any nature, but shall not include indirect or consequential damages (unless such damages are reasonably foreseeable) nor punitive or special damages.

"**Deemed Value**" of the Securities, with respect to Section 7 only, shall mean, [***] per share of Series G Preferred Stock.

"**DOL**" shall mean the United States Department of Labor.

"**Encumbrance**" shall mean any lien, pledge, hypothecation, charge, mortgage, security interest, encumbrance, claim, infringement, interference, option, right of first refusal, preemptive right, community property interest or restriction of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

"**Entity**" shall mean any corporation (including any non-profit corporation), general partnership, limited partnership, limited liability partnership, joint venture, estate, trust, company (including any limited liability company or joint stock company), firm or other enterprise, association, organization or entity.

"**Environmental Law**" shall mean any applicable federal, state, local or foreign Legal Requirement relating to pollution or protection of worker health or safety (with respect to exposure to Materials of Environmental Concern) or the environment (including ambient air, surface water, ground water, land surface or subsurface strata), including any Legal Requirement relating to emissions, discharges, releases or threatened releases of Materials of Environmental Concern, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Materials of Environmental Concern.

"**ERISA**" shall mean the Employee Retirement Income Security Act of 1974, as amended.

"**Excluded Taxes**" shall mean any (i) Taxes of Seller (or any member, stockholder or Affiliate of Seller), or for which Seller (or any member, stockholder or Affiliate of Seller) is or are liable, for any taxable period; (ii) to the extent not included in the preceding subpart (i), all Taxes

related to the Excluded Assets or Liabilities that are not Assumed Liabilities or Additional Liabilities, in each case, for any taxable period; (iii) Taxes relating to the Business, the Transferred Assets, the Assumed Liabilities or the Additional Liabilities for any Pre-Closing Tax Period; (iv) other Taxes of Seller (or any member, stockholders or Affiliate of Seller) of any kind or description (including any Liability for Taxes of Seller (or any member, stockholder or Affiliate of Seller) that becomes a Liability of Purchaser under any common law doctrine of de facto merger or transferee or successor liability or otherwise by operation of contract or Legal Requirement); and (v) any Transfer Taxes borne by Seller pursuant to Section 1.7.

"**FDA**" shall mean the U.S. Food and Drug Administration and any successor organization.

"**FD&C Act**" shall mean the Federal Food, Drug, and Cosmetic Act, as set forth in 21 U.S.C. §301 et. seq., and all applicable regulations promulgated by the FDA.

"**FMLA**" shall mean the Family Medical Leave Act of 1993, as amended.

"**GAAP**" shall mean generally accepted accounting principles in the United States.

"**Governmental Authorization**" shall mean any: (a) permit, license, certificate, franchise, permission, clearance, registration, qualification or authorization issued, granted, given or otherwise made available by or under the authority of any Governmental Body or pursuant to any Legal Requirement; or (b) right under any Contract with any Governmental Body.

"**Governmental Body**" shall mean any: (a) nation, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; or (c) governmental authority of any nature (including any governmental division, department, agency, commission, instrumentality, official, organization, unit, body or Entity and any court or other tribunal).

"**Healthcare Laws**" shall mean all applicable federal and state Legal Requirements relating to the regulation, provision or administration of, or payment for, healthcare products or services, including, but not limited to (i) the federal Anti-Kickback Statute (42 U.S.C. §1320a-7b(b)), the Stark Law (42 U.S.C. §1395nn), the civil False Claims Act (31 U.S.C. §3729 et seq.), TRICARE (10 U.S.C. Section 1071 et seq.), Sections 1320a-7 and 1320-a-7a of Title 42 of the United States Code and the regulations and rules promulgated pursuant to such statutes; (ii) HIPAA; (iii) Medicare (Title XVIII of the Social Security Act) and the regulations and rules promulgated thereunder; (iv) Medicaid (Title XIX of the Social Security Act) and the regulations and rules promulgated thereunder; (v) quality and safety laws, rules or regulations relating to the regulation, provision or administration of, or payment for, healthcare products or services; (vi) laws, regulations or rules governing the provision of services to employees with workers compensation coverage or licensure or certification as a healthcare organization to provide such services; and (vii) licensure laws, rules or regulations relating to the regulation, provision or administration of, or payment for, healthcare products or services, each of (i) through (vii) as amended from time to time.

"**HIPAA**" shall mean the Health Insurance Portability and Accountability Act of 1996, and its implementing regulations, as amended and supplemented by the Health Information Technology for Economic and Clinical Health Act of the American Recovery and Reinvestment Act of 2009, Pub. Law No. 111-5 and its implementing regulations, as effective and as amended through the date of this Agreement.

"**Indebtedness**" shall mean both the current and long-term portions of any amount owed by Seller, without duplication, in respect of (a) borrowed money, extensions of credit, purchase money financing, and capitalized lease obligations or for the deferred purchase price of property or services, (b) all obligations for the reimbursement of any obligor for amounts drawn on any outstanding letters of credit, (c) all obligations evidenced by a note, bond, debenture or similar instrument, (d) all accrued and unpaid interest, fees, expenses, prepayment penalties or premiums on, or any guarantees or other contingent liabilities with respect to, any of the obligations referred to in the foregoing clauses (a) through (d); *provided, however,* that notwithstanding the foregoing, Indebtedness shall not be deemed to include any accounts payable incurred in the ordinary course of business except to the extent such amounts are included in clauses (a) through (d) above.

"**Indemnitees**" shall mean the Purchaser Indemnitees and the Seller Indemnitees, collectively.

"**Intellectual Property**" shall mean and include all algorithms (including classifiers, data analysis, prediction, and probabilities), application programming interfaces, apparatus, circuit designs and assemblies, data, databases and data collections, diagrams, designs, devices, analytics, materials (including chemical and biological materials and sequences and structural information thereof), compositions (including transition ion pairs for any diagnostic and normalization proteins), synthetic peptides and fragments, biomarkers, cell lines, viral lines, proteolytic reagents, assays, kits, panels, formulations, formulae, integrated quantification methods, multiple reaction monitoring mass spectroscopy methods, gate arrays, IP cores, inventions (whether or not patentable), know-how, trade secrets, logos, marks (including brand names, product names, logos, and slogans), processes, methods, image monitoring methods, network configurations and architectures, net lists, masks, photomasks, processes, proprietary information, protocols, schematics, models, layouts, diagrams, modules, dies, prototypes, specifications, software, software code (in any form including source code and executable or object code), statistical programs, subroutines, test results, test vectors, user interfaces, techniques, URLs, web sites, works of authorship, and other forms of technology (whether or not embodied in any tangible form and including all tangible or electronic embodiments of the foregoing).

"**Intellectual Property Opinions**" shall mean written opinions regarding the ownership, validity, patentability, inventorship, or enforceability of any Intellectual Property Rights of Seller or regarding freedom to operate or infringement (or lack of either of the foregoing) of or by the research, development, manufacture, use, sale, importation or other exploitation of the Seller Products.

"**Intellectual Property Representations**" shall mean the representations and warranties set forth in Section 2.7.

"**Intellectual Property Rights**" shall mean and include all rights of the following types, which may exist or be created under the laws of any jurisdiction in the world: (a) rights associated with works of authorship, including exclusive exploitation rights, copyrights, moral rights, design rights and mask works; (b) trademark and trade name rights and similar rights; (c) trade secret

rights; (d) patents and industrial property rights; (e) other proprietary rights in Intellectual Property of every kind and nature; and (f) all registrations, renewals, extensions, continuations, divisions, or reissues of, and applications for, any of the rights referred to in clauses (a) through (e) above, and all goodwill in or to any of the foregoing.

"**IRS**" shall mean the United States Internal Revenue Service.

**Knowledge**. An individual shall be deemed to have "Knowledge" of a particular fact or other matter if such individual is actually aware of such fact or other matter or could be expected to have discovered or otherwise became aware of such fact or other matter after reasonable inquiry. Seller shall be deemed to have "Knowledge" of a particular fact or other matter only if a director or officer of Seller has Knowledge of such fact or other matter.

"**Legal Proceeding**" shall mean any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, inquiry, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any court or other Governmental Body or any arbitrator or arbitration panel.

"**Legal Requirement**" shall mean any federal, state, local, municipal, foreign or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, order, award, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body.

"**Liability**" means any and all liabilities and obligations of any kind or nature, whether accrued or fixed, absolute or contingent, matured or unmatured, or determined or determinable.

"**Material Adverse Effect**" shall mean any change, event, effect, claim, circumstance or matter that is, or would reasonably be expected to be or to become, materially adverse to the business, , assets, capitalization, Liabilities, results of operations or financial condition of Seller, taken as a whole; *provided*, *however*, that "Material Adverse Effect" shall not include any change, event, effect, claim, circumstance or matter, directly or indirectly, arising out of or attributable to: (i) general economic or political conditions; (ii) conditions generally affecting the industries in which Seller operates; (iii) any changes in financial, banking or securities markets in general; (iv) acts of war (whether or not declared), armed hostilities or terrorism, or the escalation or worsening thereof; (v) any action required or permitted by this Agreement or any action taken (or omitted to be taken) with the written consent of or at the written request of Purchaser; the announcement, pendency or completion of the transactions contemplated by this Agreement; or any natural or man-made disaster or acts of God.

"**Materials of Environmental Concern**" include chemicals, pollutants, contaminants, wastes, toxic substances, petroleum and petroleum products and any other substance that is now regulated by any Environmental Law.

"**Milestone Event**" shall mean [***].

"**Order**" shall mean any order, writ, injunction, judgment or decree.

"**Permitted Encumbrances**" shall mean: (a) liens for Taxes that are not yet due and payable or that are being contested in good faith and for which appropriate reserves have been established on the most recent Seller Financial Statements; (b) mechanics', carriers', workmen's, repairmen's or other like liens arising or incurred in the ordinary course of business; (c) easements, rights of way, zoning ordinances and other similar encumbrances affecting real property; (d) liens imposed by law and incurred in the ordinary course of business for obligations not yet due and payable; and (e) liens in respect of pledges or deposits under workers' compensation laws or similar legislation.

"**Person**" shall mean any individual, Entity or Governmental Body.

"**Personal Data**" shall mean information that alone or in combination can be used to specifically identify a natural person.

"**Pre-Closing Tax Period**" shall mean any taxable year or period that ends on or before the day prior to the Closing Date and, with respect to any Straddle Period, the portion of such taxable year or period ending on the Closing Date.

"**Purchaser Indemnitees**" shall mean (a) Purchaser; (b) Purchaser's current and future Affiliates; (c) the respective Representatives of the Persons referred to in clauses "(a)" and "(b)" above; and (d) the respective successors and assigns of the Persons referred to in clauses "(a)", "(b)" and "(c)" above.

"**Registered IP**" shall mean all Intellectual Property Rights that are registered, filed or issued under the authority of any Governmental Body, including all patents, registered copyrights, registered mask works, registered designs and registered trademarks and all applications or similar submissions for any of the foregoing.

"**Regulatory Approval**" shall mean all necessary approvals, licenses or authorizations of the FDA or other applicable Governmental Body necessary for the development, manufacture, marketing and sale of a Product in all countries in the world, including any pre-market approval applications, CE marks, de novo classification petitions, premarket notifications or analogous approvals (including all information submitted or incorporated by reference therewith), pricing or reimbursement approvals, in each case, whether or not legally required in order to sell the product in such country, and any approvals by the applicable Governmental Body of any expansion or modification of the label for the Product.

"**Representatives**" shall mean officers, directors, employees, partners, agents, attorneys, accountants, advisors and representatives.

"**Seller Affiliate**" shall mean any Person under common control with Seller within the meaning of Sections 414(b), (c), (m) and (o) of the Code, and the regulations issued thereunder.

"**Seller Contract**" shall mean any Contract: (a) to which Seller is a party; (b) by which Seller is bound or under which Seller has any obligation; or (c) under which Seller has any right or interest.

"**Seller Employee**" shall mean any current or former employee, consultant, independent contractor or director of Seller or a Seller Affiliate.

"**Seller Employee Agreement**" shall mean any management, employment, severance, change in control, transaction bonus, consulting, relocation, repatriation or expatriation agreement or other Contract between Seller or a Seller Affiliate and any Seller Employee, other than any such Contract that is terminable "at will" and without any obligation on the part of Seller or any Seller Affiliate to make any payments or provide any benefits in connection with termination of such Contract other than the requirement to make continued healthcare coverage available to the Seller Employee in accordance with applicable Legal Requirements.

"**Seller Employee Plan**" shall mean any plan, program, policy, practice, Contract or other arrangement providing for compensation, severance, termination pay, deferred compensation, performance awards, stock or stock-related awards, fringe benefits or other employee benefits or remuneration of any kind, whether written, unwritten or otherwise, and whether funded or unfunded, including each "employee benefit plan," within the meaning of Section 3(3) of ERISA (whether or not ERISA is applicable to such plan), that is or has been maintained, contributed to or required to be contributed to by Seller or any Seller Affiliate for the benefit of any Seller Employee and with respect to which Seller or any Seller Affiliate has or may have any liability or obligation; *provided*, *however*, than a Seller Employee Agreement shall not be considered a Seller Employee Plan.

"**Seller Equity Plan**" shall mean Seller's 2009 Equity Incentive Plan.

"**Seller Indemnitees**" shall mean (a) Seller; (b) Seller's current and future Affiliates; (c) the respective Representatives of the Persons referred to in clauses "(a)" and "(b)" above; and (d) the respective successors and assigns of the Persons referred to in clauses "(a)", "(b)" and "(c)" above.

"**Seller IP**" shall mean (a) all Intellectual Property Rights owned by or exclusively licensed to Seller and (b) all other Intellectual Property Rights used in Seller's business.

"**Seller IP Contract**" shall mean any Contract to which Seller is a party or by which Seller is bound, that contains any assignment, option, grant or license of, or covenant not to assert, defend or enforce, any Intellectual Property Right or that otherwise relates to any Seller IP or any Intellectual Property developed or acquired by, with, or for Seller.

"**Seller Option**" shall mean a subscription, option, call, warrant or right of any kind to purchase any shares of capital stock of Seller, whether vested or unvested and whether or not granted under the Seller Equity Plan.

"**Seller Pension Plan**" shall mean any (a) Seller Employee Plan that is an "employee pension benefit plan," within the meaning of Section 3(2) of ERISA, or (b) other occupational pension plan, including any final salary or money purchase plan.

"**Seller Privacy Policy**" shall mean each external or internal, past or present privacy policy of Seller, including any policy relating to (i) the privacy of users of Seller Products or of any website or service operated or maintained by or on behalf of Seller, (ii) the collection, storage, disclosure, and transfer of any User Data or Personal Data, and (iii) any employee information.

"**Seller Product**" shall mean any product or service designed, developed, manufactured, marketed, distributed, provided, licensed, or sold at any time by Seller.

"**Seller Stock Award**" shall mean an award of shares of capital stock of Seller that is subject to a vesting schedule or right of Seller or any Person to repurchase or require such shares or an award of a right to acquire shares of capital stock of Seller (other than a Seller Option) or cash with a value based on the value of shares of capital stock of Seller, whether vested or unvested and whether or not granted under the Seller Equity Plan.

"**Series G Preferred Stock**" shall mean the Series G Preferred Stock of Purchaser, par value $0.001 per share, or the Common Stock of Purchaser, par value $0.001 if all other shares of Series G Preferred Stock of Purchaser have converted to Common Stock.

"**Specified Representations**" shall mean the representations and warranties set forth in Section 2.1 (Corporate Status; Subsidiaries), Section 2.2 (Authorization and Enforceability; No Conflict), Section 2.3 (Capitalization), Section 2.10 (Tax Matters), Section 2.17 (Financial Advisor), Section 3.1 (Authority; Binding Nature of Agreement), Section 3.2 (Title), Section 3.4 (Finder's Fees), Section 4.1 (Due Organization), Section 4.2 (Authority; Binding Nature of Agreement), and Section 4.4 (Capitalization).

"**Stockholder Agreements**" shall mean the Tenth Amended and Restated Investor Rights Agreement, the Sixth Amended and Restated Voting Agreement and the Seventh Amended and Restated Right of First Refusal and Co-Sale Agreement, each between Purchaser and certain of its stockholders dated April 12, 2017.

"**Stockholder Package**" shall mean (i) a joinder and release of claims, (ii) a completed Accredited Investor Questionnaire confirming such Stockholder is accredited within the meaning of Regulation D under the Securities Act and (iii) a counterpart signature page to each of the Stockholder Agreements.

"**Straddle Period**" shall mean any taxable that begins on or before but does not end on the Closing Date.

**Subsidiary**. An Entity shall be deemed to be a "Subsidiary" of another Person if such Person directly or indirectly owns or purports to own, beneficially or of record, (a) an amount of voting securities of other interests in such Entity that is sufficient to enable such Person to elect at least a majority of the members of such Entity's board of directors or other governing body, or (b) a majority of the outstanding equity or financial interests of such Entity.

"**Tax**" shall mean any tax of any kind whatsoever including any U.S. federal, state, local, or non-U.S. income, gross receipts, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, escheat, profits, withholding, social security (or similar), unemployment, disability, real property, personal property, sales, use, transfer, registration, value added, alternative or add-on minimum, estimated, or other tax, including any interest, penalty, or addition thereto, whether disputed or not and including any obligations to indemnify or otherwise assume or succeed to the Tax liability of any other Person.

"**Tax Representations**" shall mean the representations and warranties set forth in Section 2.10.

"**Tax Return**" shall mean any return, declaration, report, claim for refund, or information return or statement relating to Taxes, including any schedule or attachment thereto, and including any amendment thereof.

"**Transactions**" shall mean the transactions and other matters contemplated by the Agreement.

"**Transferred Employee**" shall mean any Seller Employee set forth on Exhibit G who accepts an offer of employment with Purchaser in connection with the Transactions contemplated hereunder.

"**Unresolved Claims**" shall mean the aggregate amount of the Claimed Amounts and Contested Amounts associated with all indemnification claims contained in Notices of Indemnification Claim that have not been finally resolved and paid, if applicable, prior to the Release Date in accordance with Section 7.

"**User Data**" shall mean any Personal Data or other data or information collected by or on behalf of Seller from users of Seller Products or of any website or service operated or maintained by or on behalf of Seller.

"**Xpresys Lung Diagnostic Test**" means the Seller's blood test, identified as Xpresys Lung version 2 (XL2), with the intended use of identifying lung nodules that are likely benign so those nodules can safely avoid risky and costly invasive procedures such as biopsy and surgery.

**Exhibit 10.24**

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

EXECUTION VERSION
**CONFIDENTIAL**

# ASSET PURCHASE AGREEMENT

BY AND BETWEEN

ONCIMMUNE LIMITED

AND

BIODESIX, INC.

Dated as of June 27, 2019

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EXHIBITS

# ASSET PURCHASE AGREEMENT

This Asset Purchase Agreement (this "Agreement"), dated as of June 27, 2019 (the "Execution Date"), is by and between Oncimmune Limited, a private limited company incorporated under the laws of England and Wales ("Seller"), and Biodesix, Inc., a Delaware corporation ("Buyer"). Each of Seller and Buyer are sometimes referred to herein as a "Party" or collectively as the "Parties".

## RECITALS:

1. Seller's Subsidiary Oncimmune (USA) LLC ("Oncimmune USA") is engaged in the Business.

2. Concurrently with the execution hereof, Seller and Buyer are entering into that certain Purchase and Commercialization Agreement (the "PCA"), which provides for certain agreements between the Parties with respect to the Business (including Buyer's operation thereof post-Closing).

3. On the terms and subject to the conditions of this Agreement, (a) Buyer desires to purchase the Acquired Assets, and Seller desires to sell, and cause to be sold, the Acquired Assets to Buyer, and (b) Buyer desires to assume the Assumed Liabilities.

Accordingly, the Parties agree as follows:

## ARTICLE I

## PURCHASE AND SALE OF ASSETS

Section 1.1 Acquired Assets. On the terms and subject to the conditions of this Agreement, at the Closing, Seller will, or will cause Oncimmune USA to, sell, assign, transfer and deliver ("Convey" and variants of this term, such as "Conveyance" will have correlative meanings) to Buyer, and Buyer will purchase, acquire and accept from Seller or Oncimmune USA, all of Seller's and Oncimmune USA's respective right, title and interest in and to the Acquired Assets. For the purposes of this Agreement, "Acquired Assets" means all Assets owned or held by a member of the Seller Group that are located at the Kansas Lab and either included in any of clauses (a) – (l) below or otherwise primarily used or held for primary use in the Business and that are not otherwise addressed in such clauses, in each case whether now existing or hereafter acquired prior to the Closing (other than any such Assets that are Conveyed or otherwise disposed of after the date hereof and prior to the Closing not in violation of Section 6.1, and other than an interest in a business entity as defined in Treasury Regulation Section 301.7701-2(a)):

(a) all inventories of raw materials, laboratory supplies, work-in- process, finished goods and packaging materials primarily used or held for primary use in the Business and located at the Kansas Lab as of the Closing (collectively, "Inventory");

(b) all machinery, equipment, furniture, furnishings, tools and other tangible personal property located at the Kansas Lab as of the Closing (collectively, the "Equipment");

(c) all accounts and notes receivable as of the Closing, in each case to the extent related to the conduct of the Business;

(d) all pre-paid expenses and other current assets as of the Closing, in each case to the extent related to the conduct of the Business;

(e) all Intellectual Property set forth on Exhibit 1.1(e) ("Assigned Intellectual Property");

(f) the Lease;

(g) all Contracts exclusively related to the Business;

(h) all books and records, including business records, research material, tangible data, documents, personnel records with respect to Transferred Employees, invoices, customer lists, vendor lists, service provider lists, sales and promotional literature, catalogs and advertising material used for the marketing of products or services, but only to the extent related primarily to the Business as of the Closing and permitted by applicable Law, and excluding Tax Returns and related notes, worksheets, files and documents relating thereto;

(i) (a) the software set forth on Exhibit 1.1(i) (the "Acquired IT Assets") and (b) all application systems and software, including all computer software, programs and source disks, and related program documentation, tapes, manuals, forms, guides and other materials, computer hardware and other systems hardware and networking and communications assets, including servers, databases, backups and peripherals, in each case located at the Kansas Lab as of the Closing and used exclusively in the Business;

(j) all Permits, to the extent transferable and related primarily to the Business and held as of the Closing;

(k) all goodwill generated primarily by, and associated primarily with, the Business; and

(l) all guarantees, warranties, indemnities and similar rights in favor of Seller or Oncimmune USA in respect of any other Acquired Asset or any Assumed Liability.

Section 1.2 Excluded Assets. Notwithstanding Section 1.1 or any other provision hereof, the Acquired Assets will not in any event include any of the following Assets of any member of the Seller Group (collectively, the "Excluded Assets"):

(a) all books and records not constituting an Acquired Asset described in Section 1.1(h), including the certificate of incorporation, bylaws and similar organizational documents, minutes, stock records and similar documents of any member of the Seller Group;

(b) all cash, cash equivalents (including marketable securities and short-term investments), bank accounts, lockboxes and deposits of, and any rights or interests in, the cash management system of any member of the Seller Group, including uncleared checks and drafts received or deposited for the account of any member of the Seller Group;

(c) all rights to and the use of any member of the Seller Group's trade names and trademarks, any derivation or combination thereof and all associated goodwill, and any other Intellectual Property not specifically described in Section 1.1(e);

(d) all Contracts between any member of the Seller Group, on the one hand, and any Affiliate of such Person, on the other hand, and all intercompany receivables owed to any member of the Seller Group by any Affiliate of such Person;

(e) all rights under any Contracts (i) other than the Business Contracts and (ii) related to the purchase of products and services necessary to supply Buyer with the products supplied by Seller under the supply agreement between the Parties contemplated by the PCA (the "Supply Agreement");

(f) all assets used in connection with the centralized management functions provided by the members of the Seller Group;

(g) all rights to and in Employee Benefit Plans and any trusts, insurance arrangements or other assets held pursuant to, or set aside to fund the obligations of a member of the Seller Group under, any such Employee Benefit Plans;

(h) all insurance policies and all rights of every nature and description under or arising out of such insurance policies;

(i) all claims for and rights to any Tax asset or to receive Tax refunds, or any other Tax attribute, in each case relating to the operation or ownership of the Business or the Acquired Assets for any Tax period (or portion thereof) ending on or prior to the Closing, and all Tax Returns of the Seller Group and related work papers;

(j) except to the extent set forth in Section 1.1(i), all application systems and software, including all computer software, programs and source disks, and related program documentation, tapes, manuals, forms, guides and

other materials, computer hardware and other systems hardware and networking and communications assets, including servers, databases, backups and peripherals;

(k) all rights of any member of the Seller Group to owned or leased real estate other than the Lease;

(l) all rights under this Agreement, the PCA, the Supply Agreement, the Development Agreement, the Ancillary Agreements, the other agreements and instruments executed and delivered in connection with this Agreement, and the transactions contemplated hereby or thereby;

(m) all inventory that is not Inventory pursuant to Section 1.1(a), including all inventory not related to the Test;

(n) any claims, course of action, credits, demands or rights of set-off of the members of the Seller Group related to any Excluded Asset or Excluded Liability, as well as any books, records and privileged information relating thereto, whether choate or inchoate, known or unknown, contingent or noncontingent;

(o) any rights under any interest rate, currency or other similar hedging or swap agreement;

(p) any personnel and other files (i) pertaining to any employee that is not a Transferred Employee and (ii) pertaining to any Transferred Employee or current or former employee of any member of the Seller Group to the extent required by Law not to be transferred; and

(q) the assets, properties and rights set forth on Exhibit 1.2(q).

Notwithstanding anything to the contrary contained in this Agreement, the PCA, the Supply Agreement, the Development Agreement or any of the Ancillary Agreements, Buyer acknowledges and agrees that all of the following shall remain the property of the Seller Group, and Buyer shall not have any interest therein: (x) all records and other materials prepared or received by Seller or any of its Affiliates in connection with the transactions contemplated hereby and (y) all privileged materials, documents and records of Seller or any of its Affiliates except to the extent exclusively related to the Assigned Intellectual Property or the Business.

Section 1.3 Assumed Liabilities. Subject to Section 1.4, on the terms and subject to the conditions of this Agreement, at the Closing, Buyer will assume and be liable for, pay, perform and discharge as and when due, the Assumed Liabilities. As used in this Agreement, "Assumed Liabilities" means all Liabilities of any member of the Seller Group that are included in any of clauses (a) – (f) below or that otherwise arise out of or relate to the ownership and use of the Acquired Assets or the operation or conduct of the Business, whether before, at or after the Closing, and that are not otherwise addressed in such clauses:

(a) all Liabilities under the Business Contracts;

(b) all trade accounts payable, accrued expenses and other current liabilities in each case to the extent related to the Business;

(c) all Liabilities with respect to any product warranty claim or recall, in each case made after the Closing, with respect to products that were designed, manufactured, marketed, distributed or sold at any time by the Business or that constitute Inventory;

(d) all Liabilities for product liability claims, arising out of occurrences after the Closing, relating to all products of the Business that were designed, manufactured, marketed, distributed or sold at any time by the Business or that constitute Inventory;

(e) any Taxes for any taxable period (or portion thereof), and any liability for Taxes arising from or attributable to the operation of the Business or use or ownership of the Acquired Assets for all taxable periods (or portions thereof), beginning after the Closing Date; and

(f) all other Liabilities to be paid or assumed by Buyer pursuant to the express terms of this Agreement.

Section 1.4 Excluded Liabilities. Notwithstanding Section 1.3, the Assumed Liabilities will not include the following Liabilities of the members of the Seller Group (collectively, the "Excluded Liabilities"):

(a) all Liabilities under debt instruments, loan documents, indentures, debentures or other written obligations which involve indebtedness for borrowed money;

(b) all Liabilities arising under or with respect to Contracts between any member of the Seller Group, on the one hand, and any Affiliate of such Person, on the other hand, and all intercompany payables owed by any member of the Seller Group to any Affiliate of such Person;

(c) all Liabilities to the extent related to the Excluded Assets;

(d) all Liabilities for product liability claims arising out of occurrences prior to the Closing;

(e) all Liabilities for legal, accounting, audit and investment banking fees, brokerage commissions and any other similar expenses incurred by the Seller Group in connection with the negotiation and preparation of this Agreement and the transactions contemplated hereby;

(f) any Taxes of any member of the Seller Group for any taxable period, and any liability for Taxes arising from or attributable to the operation of the Business or use or ownership of the Acquired Assets for all taxable periods (or portions thereof), ending on or prior to the Closing Date;

(g) all Liabilities for retention or change of control payments under Contracts with Transferred Employees; and

(h) all other Liabilities to be paid or assumed by Seller pursuant to the express terms of this Agreement.

## ARTICLE II

## PURCHASE PRICE

Section 2.1 Amount and Form of Purchase Price. The aggregate purchase price to be paid to the Seller in consideration of the Acquired Assets will consist of:

(a) [***] in cash, to be paid in quarterly installments of [***] (each installment, a "Quarterly Amount") pursuant to Section 2.2 (the sum of all such payments, the "Purchase Price"); and

(b) the assumption by Buyer as of the Closing of the Assumed Liabilities.

Section 2.2 Payment of Purchase Price. Within 30 days of the Closing Date, and no later than each of the three-, six- and nine-month anniversaries of the Closing Date, Buyer will pay to Oncimmune USA by wire of transfer of immediately available funds to an account or accounts designated by Seller or Oncimmune USA prior to each such payment becoming due, an amount equal to the Quarterly Amount.

Section 2.3 Allocation of Purchase Price. Within 60 days after the Closing Date, Seller will provide Buyer a schedule allocating the Purchase Price among the Acquired Assets in accordance with Code Section 1060 and Treasury Regulations thereunder (the "Final Allocation"). The Final Allocation will be binding upon Seller and Buyer. Seller, Buyer and their Affiliates will report and file Tax Returns (including, but not limited to, Internal Revenue Service Form 8594) in all respects and for all purposes consistent with the Final Allocation. Buyer will timely and properly prepare, execute, file and deliver all such documents, forms and other information as Seller may reasonably request in preparing such allocation. None of Seller, Buyer, or any of their Affiliates will take any position (whether in audits, Tax Returns, or otherwise) that is inconsistent with the Final Allocation unless required to do so by applicable Law.

## ARTICLE III

## CLOSING

Section 3.1 Closing Date. The closing of the transactions contemplated hereby (the "Closing") will take place at the offices of Jones Day, 1420 Peachtree Street, N.E., Suite 800, Atlanta, Georgia 30309, on the Closing Date. In lieu of an in-person Closing,

the Closing may instead be accomplished by email (in PDF format) transmission to the respective offices of legal counsel for the Parties of the requisite documents, duly executed where required, delivered upon actual confirmed receipt, with originals to be delivered promptly following the Closing if requested. All proceedings to be taken and all documents to be executed and delivered by all Parties at the Closing will be deemed to have been taken and executed simultaneously and no proceedings will be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered. Notwithstanding anything to the contrary in this Agreement, the Closing will be deemed to have occurred as of 11:59 p.m. (U.S. Eastern Time) on the Closing Date.

Section 3.2 Closing Deliveries.

(a) By Seller Group. At the Closing, Seller will deliver or cause to be delivered to Buyer:

(i) the Transfer Documents, as applicable;

(ii) the Intellectual Property Assignment Agreement, substantially in the form of Exhibit 3.2(a)(ii) (the "IP Assignment Agreement"), duly executed by Seller;

(iii) the Intellectual Property License Agreement, substantially in the form of Exhibit 3.2(a)(iii) (the "License Agreement"), duly executed by Seller;

(iv) the Supply Agreement and the Development Agreement; and

(v) each other Ancillary Agreement, duly executed by the applicable member or members of the Seller Group.

(b) By Buyer. At the Closing, Buyer will deliver, or will cause to be delivered, to Seller:

(i) the Transfer Documents, as applicable;

(ii) the IP Assignment Agreement;

(iii) the License Agreement;

(iv) the Supply Agreement and the Development Agreement; and

(v) each other Ancillary Agreement, duly executed by Buyer.

Section 3.3 Conveyance of Acquired Assets and Assumption of Assumed Liabilities. In furtherance of the Conveyance of the Acquired Assets and assumption of the Assumed Liabilities provided in Sections 1.1 and 1.3, on the Closing Date, (a) Seller

will execute and deliver, and will cause its Subsidiaries to execute and deliver, such bills of sale, assignments of Contracts and other instruments of Conveyance as necessary and in customary form to evidence the Conveyance of all of Seller's and Oncimmune USA's right, title and interest in and to the Acquired Assets to Buyer (it being understood that no such bills of sale, assignments or other instruments of Conveyance will require Seller or any of its Affiliates to make any additional representations, warranties or covenants, expressed or implied, not contained in this Agreement) and (b) Buyer will execute and deliver such assumptions of Assumed Liabilities and other instruments of assumption (in each case in a form that is consistent with the terms and conditions of this Agreement) as and to the extent reasonably necessary to evidence the valid and effective assumption of the Assumed Liabilities by Buyer. All of the foregoing documents contemplated by this Section 3.3 will be referred to collectively herein as the "Transfer Documents".

## ARTICLE IV

## REPRESENTATIONS AND WARRANTIES OF SELLER

Except as set forth in the Seller Disclosure Letter (interpreted as contemplated by Section 13.1), Seller represents and warrants to Buyer as follows:

Section 4.1 Organization, Existence and Good Standing. Each member of Seller Group is duly organized, validly existing and in good standing under the Laws of its jurisdiction of organization. Each member of the Seller Group has all corporate or equivalent organizational power and authority necessary to own, lease and operate its properties that will be Conveyed to Buyer and to carry on the Business as currently being conducted. Each member of Seller Group is duly qualified to do business (where such concept is applicable) in each jurisdiction in which the property owned, leased or operated by the Business that will be Conveyed to Buyer or to where the nature of the Business conducted by it makes such qualification necessary, except where the failure to be so duly qualified would not reasonably be expected to have a Material Adverse Effect.

Section 4.2 Authorization, Validity and Execution. Each of Seller and Oncimmune USA, as applicable, has all necessary corporate or equivalent organizational power and authority to (a) execute and deliver this Agreement and the Ancillary Agreements, as applicable, (b) perform its respective obligations hereunder and thereunder and (c) consummate the transactions contemplated hereby and thereby. This Agreement has been, and each Ancillary Agreement to be executed by Seller or Oncimmune USA will be on or prior to the Closing Date, duly executed and delivered by Seller or Oncimmune USA and, assuming the due execution of this Agreement and the Ancillary Agreements by Buyer, is or will be a legal, valid and binding obligation of Seller or Oncimmune USA, as applicable, enforceable against each in accordance with its terms, except to the extent that its enforceability may be subject to applicable bankruptcy, insolvency, reorganization, moratorium, receivership and similar Laws affecting the enforcement of creditors' rights generally and to general equitable principles (the "Bankruptcy and Equity Exception").

Section 4.3 Consents and Approvals; No Violations. The execution, delivery and performance by Seller and Oncimmune USA, as applicable, of this Agreement and the Ancillary Agreements, and the consummation by Seller Oncimmune USA, as applicable, of the transactions contemplated hereby and thereby will not (a) violate the provisions of the certificate of incorporation, bylaws or any other similar organizational instruments of any member of the Seller Group; (b) violate any Law of any Governmental Authority by which any member of the Seller Group is bound or to which any of the Acquired Assets is subject; or (c) result in a violation of, conflict with, constitute a default (or give rise to any right of termination, cancellation, payment or acceleration) under, or result in the creation of any Encumbrances upon any of the Acquired Assets under, any of the terms, conditions or provisions of any Material Contract to which any member of the Seller Group is a party or by which any of the Acquired Assets may be bound, except, with respect to clauses (b) and (c), violations, conflicts, defaults or rights of termination, cancellation, payment or acceleration which would not reasonably be expected to be material to the Business taken as a whole.

Section 4.4 Governmental Authorization. The execution, delivery and performance by Seller and Oncimmune USA, as applicable, of this Agreement and the Ancillary Agreements and the consummation of the transactions contemplated hereby and thereby require no action by or in respect of, or consent from or filing with, any Governmental Authority, other than any such action or filing the failure of which to be made or obtained would not reasonably be expected to be material to the Business taken as a whole.

Section 4.5 Financial Statements; Absence of Undisclosed Liabilities.

(a) Section 4.5(a) of the Seller Disclosure Letter sets forth the unaudited balance sheet of the Business as of December 31, 2018 (the "Balance Sheet"), and the unaudited statement of income of the Business for the year ended on December 31, 2018 (together, with the Balance Sheet, the "Financial Statements"). The Financial Statements are based on the books and records of the Business and are intended to reflect, in all material respects, the combined financial position and combined results of operations of the Business as of the date or for the time period set forth therein, except (i) for the absence of footnotes and (ii) for normal year-end audit adjustments. This Section 4.5 is qualified by the fact that the Business has not operated as a separate "stand alone" entity within Seller. As a result, the Business has been allocated certain charges and credits for purposes of the preparation of the Financial Statements. Such allocations of charges and credits do not necessarily reflect the amounts that would have resulted from arms-length transactions or the actual costs that would be incurred if the Business operated as an independent enterprise.

(b) Section 4.5(b) of the Seller Disclosure Letter sets forth a list of all trade accounts payable related to the Business as of May 31, 2019.

(c) Except (i) as set forth in the Balance Sheet, (ii) for Liabilities or obligations incurred in the ordinary course of business consistent with past

practice since the Statement Date, (iii) for Excluded Liabilities and (iv) for Liabilities or obligations that would not reasonably be expected to be material to the Business taken as a whole, there are no Liabilities of the Business that would be required to be reflected or reserved against in a balance sheet prepared in accordance with the accounting principles used in preparation of the Financial Statements.

Section 4.6 Absence of Certain Changes or Events. Except in connection with the transactions contemplated hereby, during the period beginning on January 1, 2019 and ending on the Execution Date, (a) Oncimmune USA has conducted the Business materially in the ordinary course of business, consistent with past practice, and (b) there has not been any Effect which has had or would reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

Section 4.7 Real Property.

(a) Oncimmune USA does not own any real property.

(b) The real property that is the subject of the Lease is the only real property leased or subleased to a member of the Seller Group for use primarily in connection with the Business (the "Leased Real Property"). Seller has made available to Buyer a true and correct copy of the Lease. With respect to the Lease:

(i) it is in full force and effect in all material respects and is valid and enforceable by Oncimmune USA, in accordance with its terms, subject to the Bankruptcy and Equity Exception;

(ii) Oncimmune USA is not a sublessor or grantor under any sublease or other instrument granting to any other Person any right to the possession, lease or occupancy of any of the Leased Real Property;

(iii) Oncimmune USA has not received written notice that it is in breach or default (after the expiration of any notice or cure period) under such Lease; and

(iv) to the Knowledge of Seller, no event has occurred that, with the lapse of time or the giving of notice or both, would constitute a material default by Oncimmune USA.

Section 4.8 Intellectual Property.

(a) Section 4.8(a) of the Seller Disclosure Letter sets forth a list of the following Business IP, in each case to the extent owned by a member of the Seller Group: (i) utility patents and applications therefor; (ii) design patents and applications therefor; (iii) utility models and applications therefor; (iv) registered trademarks and registered service marks, and applications therefor; (v) registered copyrights and applications therefor; and (vi) material registered domain names.

(b) The members of the Seller Group, as applicable, are the sole and exclusive owners of the Business IP set forth in Section 4.8(a) of the Seller Disclosure Letter. No member of the Seller Group has granted any license or other rights to a third party that would be inconsistent with the license granted to Buyer pursuant to the License Agreement.

(c) There is no written claim by any third party against any member of the Seller Group contesting the validity, enforceability or ownership of any of the Business IP, and, to the Knowledge of Seller, no such claims are threatened. During the period from June 27, 2017 through and including the Execution Date, no member of the Seller Group has received any written notice that any of the Business IP infringes any third party Intellectual Property rights. To the Knowledge of Seller, the operation of the Business does not, as currently conducted, infringe, misappropriate or otherwise violate or conflict with, in any material respect, the Intellectual Property rights of any third party.

(d) The representations in this Section 4.8 and Section 4.9(a)(viii) (and Sections 4.9(b) and 4.9(c) as applicable thereto) are the sole and exclusive representations made by Seller with respect to any matters relating to Intellectual Property.

Section 4.9 Material Contracts.

(a) Section 4.9 of the Seller Disclosure Letter sets forth a list, as of the Execution Date, of the following Business Contracts (other than the Lease, such Contracts set forth in Section 4.14(a) of the Seller Disclosure Letter and purchase orders submitted or received in the ordinary course of business):

(i) Contracts for the purchase or sale of assets, products or services (other than Contracts for the purchase or sale of inventory or obsolete equipment in the ordinary course of business), in each case requiring annual payments by any party thereto in excess of [***];

(ii) all Contracts with any HCP;

(iii) all Contracts that provide for the indemnification by the Company of any Person (other than customary commercial indemnification provisions entered into in the ordinary course of business) or the assumption of any Tax, environmental or other Liability of any Person by a member of the Seller Group;

(iv) all broker, distributor, dealer, franchise, agency, sales promotion, market research, marketing consulting and advertising Contracts;

(v) all Contracts with independent contractors or consultants (or similar arrangements) which are not cancellable without penalty or requiring more than [***] days' notice;

(vi) all Contracts with Governmental Authorities;

(vii) Contracts containing a covenant that restricts a member of the Seller Group, with respect to the Business, from engaging in any line of business or competing with any Person;

(viii) a license or sublicense Contract under which a member of the Seller Group is licensee or licensor, or sub-licensee or sub-licensor of any material Intellectual Property used exclusively in the Business, other than shrink wrap, click wrap or other software that is generally commercially available and not customized in any material respect; and

(ix) joint venture, partnership or other Contracts involving a sharing of profits, losses, costs or liabilities of the Business with any other Person.

(b) As of the Execution Date, each Contract set forth in, or required to be set forth in, Section 4.9 of the Seller Disclosure Letter (each, a "Material Contract") is a legal, valid and binding obligation of a member of the Seller Group and, to the Knowledge of Seller, each other party thereto, enforceable in accordance with its terms, subject to the Bankruptcy and Equity Exception. The applicable member of the Seller Group is not in default of, nor has it received any written notice of any default or event that, with notice or lapse of time, or both, would constitute a default by the applicable member of the Seller Group under any Material Contract, except as would not reasonably be expected to result in material Liability to the Business, taken as a whole, or otherwise materially interfere with the conduct of the Business, taken as a whole, in substantially the manner currently conducted. To the Knowledge of Seller, no other party to a Material Contract is in default of such Material Contract, except for any such defaults that would not reasonably be expected to result in a material Liability owed to the Business, taken as a whole, or otherwise materially interfere with the conduct of the Business, taken as a whole, in substantially the manner currently conducted.

(c) Seller has made available to Buyer a true and correct copy of each Material Contract or, if such Contract is not in written form, a true and correct summary of the material terms thereof.

Section 4.10 Title to Assets; Sufficiency of Assets.

(a) The applicable members of the Seller Group have good and valid title to, or a valid leasehold interest in, all of the Acquired Assets, free and clear of Encumbrances other than Permitted Encumbrances.

(b) The Acquired Assets constitute all of the tangible assets, properties, rights, titles and interests owned or held by the members of the Seller Group necessary to operate the Business immediately following the Closing in all material respects in substantially the manner conducted immediately prior to the Closing, except (i) as set forth in Section 4.10(b) of the Seller Disclosure Letter, and (ii) for any assets, properties, rights, titles and interests made available to Buyer following the Closing pursuant to any Ancillary Agreement or other Contract executed at Closing for the benefit of Buyer; provided, however, the foregoing is subject to the limitation that certain transfers, assignments, licenses, sublicenses, leases and subleases, as the case may be, of Contracts and Governmental Approvals, and any claim or right or benefit arising thereunder or resulting therefrom, may require consent of a Person or Governmental Authority, which has not been obtained, and that such matters are addressed elsewhere in this Agreement and the Ancillary Agreements.

Section 4.11 Litigation. As of the Execution Date, there is no Action against any member of the Seller Group with respect to the Business pending, or to the Knowledge of Seller, threatened. No member of the Seller Group has been permanently or temporarily enjoined or barred by order, judgment or decree of or agreement with any Governmental Authority from engaging in or continuing any conduct or practice in connection with the Business, and there is no outstanding order, judgment, ruling, injunction or decree requiring any such Person to take, or refrain from taking, action with respect to the Business.

Section 4.12 Compliance with Laws; Permits.

(a) Since June 27, 2017, the Business has been conducted in compliance in all material respects with all Laws applicable to the conduct of the Business or the ownership or use of the Acquired Assets (each, a "Legal Requirement"). No member of the Seller Group has received, during the period from June 27, 2017 through and including the Execution Date, any written notice from any Governmental Authority regarding any actual, alleged or potential violation by the Business of, or failure by the Business to comply with, any Legal Requirement. All material Permits held by a member of the Seller Group and used primarily in connection with the conduct of the Business are in full force and effect in all material respects and no member of the Seller Group has received, during the period from June 27, 2017 through and including the Execution Date, any written notice of any suspension, modification, revocation, cancellation or non-renewal, in whole or in part, of any such Permit.

(b) Since June 27, 2017, Seller has not received notice of any pending or asserted action, hearing, charge, complaint, claim or demand, and, to the Knowledge of Seller, there is no threatened action, hearing, charge, complaint, claim or demand, by or before any Governmental Authority against or affecting any member of the Seller Group or the Business, or any assets or properties of any member of the Seller Group or the Business with respect to any anti-money laundering Laws (including the Foreign Corrupt Practices Act of 1977, as amended, and any applicable international conventions of similar effect).

Section 4.13 Taxes.

(a) All material Tax Returns that were required to be filed prior to the Execution Date by, or with respect to, the Business, have been filed, and such Tax Returns, as amended, were true, correct and complete in all material respects when filed.

(b) All Taxes shown to be due on such Tax Returns have been paid or accrued, other than such Taxes (i) as are being contested in good faith by or on behalf of a member of the Seller Group, or (ii) that would not reasonably be expected, individually or in the aggregate, to result in a material Liability to the Business, taken as a whole.

(c) There are no Encumbrances for Taxes upon any Acquired Asset other than Permitted Encumbrances.

Section 4.14 Employee Benefit Plans.

(a) Section 4.14(a) of the Seller Disclosure Letter lists each material Employee Benefit Plan in which Transferred Employees participate. With respect to each Employee Benefit Plan, Seller has made available to Buyer current copies of the plan document or summaries thereof.

(b) No member of the Seller Group contributes on behalf of a Transferred Employee to a multiemployer plan within the meaning of ERISA Section 3(37) (a "Multiemployer Plan"). No Employee Benefit Plan is subject to Title IV of ERISA.

(c) Each Employee Benefit Plan that is intended to qualify under Code Section 401(a) has either received a favorable determination letter from the IRS as to its qualified status or the remedial amendment period for such Employee Benefit Plan has not yet expired, and each trust established in connection with any Employee Benefit Plan which is intended to be exempt from federal income taxation under Code Section 501(a) is so exempt. Each Employee Benefit Plan has been maintained in substantial compliance with the material terms thereof and with the requirements prescribed by applicable Law.

(d) With respect to the Transferred Employees, there are no employee post-retirement health plans in effect except as required by ERISA Section 601.

Section 4.15 Employee and Labor Matters.

(a) None of the employment terms of any Transferred Employee are subject to the terms of a current collective bargaining agreement.

(b) No member of the Seller Group has received, during the period

from June 27, 2017 through and including the Execution Date, written notice of any complaint against or arbitration proceeding involving the Business which is currently pending before the National Labor Relations Board or the Equal Employment Opportunity Commission with respect to any Transferred Employee or, to the Knowledge of Seller, threatened against any member of the Seller Group with respect to the Business. There are no labor strikes, disputes, grievances pending under any collective bargaining agreements, slowdowns, work stoppages or other labor disturbances or difficulties pending or, to the Knowledge of Seller, threatened against any member of the Seller Group with respect to the Business.

(c) Section 4.15(c) of the Seller Disclosure Letter sets forth a list, as of the Execution Date, of all employment Contracts between any Transferred Employee, on the one hand, and any member of the Seller Group, on the other hand, other than at-will employment Contracts.

Section 4.16 Healthcare Matters.

(a) During the period from June 27, 2017 through and including the Execution Date, the Business has been conducted in compliance in all material respects with all Healthcare Laws applicable to the conduct of the Business or the ownership or use of the Acquired Assets. With respect to the Business, (i) no member of the Seller Group is the subject of any Action relating to Healthcare Laws and (ii) during the period from June 27, 2017 through and including the Execution Date, no member of the Seller Group has received written notice regarding any actual, alleged, or potential violation of any Healthcare Laws.

(b) With respect to the Business, no owner, director, officer or employee or, to Seller's Knowledge, any former owner, director, officer or employee of the Company, has at any time (i) been suspended or excluded from participation in any federal health care program, (ii) been convicted of a criminal offense related to any Healthcare Laws, or (iii) been convicted of a criminal offense relating to fraud, theft, embezzlement, breach of fiduciary responsibility, or other financial misconduct in connection with the delivery of a healthcare item or service, or in connection with a program operated by or financed in whole or in part by any Governmental Authority.

(c) With respect to the Business, all HCPs performing services through the Company are (i) duly qualified to perform such services, including having all requisite licenses, (ii) if licensed, performing services that are solely within the scope of their licenses, and (iii) in good standing with all applicable licenses.

(d) The representations and warranties set forth in this Section 4.16 are the sole and exclusive representations and warranties relating to healthcare matters, including Healthcare Laws.

Section 4.17 Significant Customers and Suppliers. Section 4.17 of the Seller Disclosure Letter sets forth a list of each of the five largest customers and suppliers of the Business, taken as a whole (such customers and suppliers, the "Material Relationships") in terms of payments by each such customer, or in terms of annual volume of sales by each such supplier, during the twelve months ended December 31, 2018. Since December 31, 2018, other than in the ordinary course of business consistent with past practice, there has not been any written notice or, to the Knowledge of Seller, any oral notice, from any such Material Relationship that such Material Relationship has terminated or canceled or intends to terminate or cancel within the next [***] months any Material Contract between the Business and any such Material Relationship, other than any such notice that may be received by the Business after the Execution Date primarily as a result of or in connection with the transactions contemplated by this Agreement.

Section 4.18 Data Privacy.

(a) With respect to the Business and during the period from June 27, 2017 through and including the Execution Date, the members of the Seller Group and, to Seller's Knowledge, any Person acting for or on behalf of the members of the Seller Group have materially complied with (i) all applicable Privacy Laws, (ii) all of the Business's policies and notices regarding Personal Information or PHI, and (iii) all of the Business's contractual obligations with respect to the receipt, collection, compilation, use, storage, processing, sharing, safeguarding, security (technical, physical and administrative), disposal, destruction, disclosure, or transfer (including cross-border) of Personal Information and PHI. With respect to the Business and during the period from June 27, 2017 through and including the Execution Date, no member of the Seller Group has received any written notice of any claims of, or been charged with, a violation of any Privacy Laws, applicable privacy policies, or contractual commitments with respect to Personal Information or PHI.

(b) With respect to the Business and during the period from June 27, 2017 through and including the Execution Date, (i) to Seller's Knowledge, there have been no breaches, security incidents, misuse of or unauthorized access to or disclosure of any Personal Information or PHI in the possession or control of a member of the Seller Group or collected, used or processed by or on behalf of a member of the Seller Group, and (ii) no member of the Seller Group has been provided or been required to provide any notices to any Person in connection with an unauthorized disclosure of Personal Information or PHI.

Section 4.19 Accounts Receivable. The accounts receivable reflected on the Balance Sheet have arisen from bona fide transactions of the Business involving the sale of products or rendering of services in the ordinary course of business consistent with past practice.

Section 4.20 Brokers. No broker, finder or investment banker is entitled to any brokerage, finder's or other fee or commission in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of Seller.

Section 4.21 Disclaimer of Other Warranties. NEITHER SELLER NOR ANY OTHER PERSON MAKES ANY REPRESENTATION OR WARRANTY TO BUYER OR ANY PERSON, EXPRESS OR IMPLIED, WITH RESPECT TO THE BUSINESS, THE MEMBERS OF THE SELLER GROUP, THE ACQUIRED ASSETS, THE EXCLUDED ASSETS, THE EXCLUDED LIABILITIES OR THE ASSUMED LIABILITIES, INCLUDING ANY REPRESENTATION OR WARRANTY AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR FUTURE RESULTS, OTHER THAN AS EXPRESSLY PROVIDED IN THIS ARTICLE IV, AND SELLER HEREBY DISCLAIMS ANY OTHER REPRESENTATIONS AND WARRANTIES, WHETHER MADE BY SELLER, ANY OF ITS AFFILIATES OR ANY OF THEIR RESPECTIVE OFFICERS, DIRECTORS, MANAGERS, EMPLOYEES OR REPRESENTATIVES. WITHOUT LIMITING THE FOREGOING, NEITHER SELLER NOR ANY OTHER PERSON HAS MADE OR WILL MAKE ANY REPRESENTATION OR WARRANTY TO BUYER, EXPRESS OR IMPLIED, WITH RESPECT TO (A) THE INFORMATION DISTRIBUTED OR MADE AVAILABLE TO BUYER BY OR ON BEHALF OF SELLER IN CONNECTION WITH THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED BY THIS AGREEMENT, (B) ANY MANAGEMENT PRESENTATION OR (C) ANY FINANCIAL PROJECTION OR FORECAST RELATING TO THE BUSINESS.

## ARTICLE V

## REPRESENTATIONS AND WARRANTIES OF BUYER

Buyer represents and warrants to Seller as follows:

Section 5.1 Organization. Buyer is a duly organized corporation, validly existing and in good standing under the Laws of the State of Delaware, and has the requisite power and authority to carry on its businesses as it is now being conducted. Buyer is duly qualified to do business (where such concept is applicable) in each jurisdiction where the nature of its business or the ownership of its assets makes such qualification necessary, except where the failure to be so licensed or qualified would not reasonably be expected, individually or in the aggregate, to interfere with, prevent or materially delay the ability of Buyer to enter into and perform its obligations under this Agreement or consummate the transactions contemplated hereby.

Section 5.2 Authorization, Validity and Execution. Buyer has all necessary power and authority to execute and deliver this Agreement and the Ancillary Agreements to which it is a party, to perform its obligations hereunder and thereunder, and to consummate the transactions contemplated hereby and thereby. The execution, delivery and performance of this Agreement and each of the Ancillary Agreements to which Buyer is a party, and the consummation of the transactions contemplated hereby and thereby, have been duly and validly authorized by Buyer. This Agreement and the Ancillary Agreements have been duly executed and delivered by Buyer and, assuming

the due execution of those agreements by a Seller or an Affiliate of a Seller (as applicable), this Agreement and the Ancillary Agreements constitute the valid and binding obligation of Buyer, enforceable against Buyer in accordance with their terms, subject to the Bankruptcy and Equity Exception.

Section 5.3 Consents and Approvals; No Violations. The execution by Buyer of this Agreement and the Ancillary Agreements, and the consummation by Buyer of the transactions contemplated hereby and thereby will not (a) violate the provisions of the certificate of incorporation or bylaws of Buyer; (b) violate any Law of any Governmental Authority by which Buyer is bound; or (c) assuming compliance with the matters referred to in Section 5.4, require any consent or approval of, or the giving of any notice to, or filing with, any Governmental Authority on or prior to the Closing Date, excluding from the foregoing clause (c) consents, approvals, notices and filings the absence of which would not adversely impact, or reasonably be expected to adversely impact, the ability of Buyer to consummate the transactions contemplated by this Agreement.

Section 5.4 Governmental Authorization. The execution, delivery and performance by Buyer of this Agreement and the Ancillary Agreements to which it is a party and the consummation of the transactions contemplated hereby and thereby require no action by or in respect of, or consent from or filing with, any Governmental Authority, other than any such action or filing the failure of which to be made or obtained would not reasonably be expected, individually or in the aggregate, to interfere with, prevent or materially delay the ability of Buyer to enter into and perform its obligations under this Agreement or consummate the transactions contemplated hereby.

Section 5.5 Litigation. There are no (a) outstanding judgments, orders, writs, injunctions or decrees of any Governmental Authority pending, or the knowledge of Buyer, threatened against Buyer that would or could prevent, or otherwise materially adversely affect the ability of Buyer to consummate, the transactions contemplated by this Agreement; or (b) Actions pending or, to the knowledge of Buyer, threatened against Buyer that would or could prevent, or otherwise materially adversely affect the ability of Buyer to consummate, the transactions contemplated by this Agreement.

Section 5.6 Financial Capability. Buyer has, and will have available to it at the Closing, on an unconditional basis, the financial capability and all sufficient cash on hand (through existing credit agreements and otherwise) necessary and sufficient to complete each of the transactions contemplated hereby and to pay all fees and expenses of or payable by Buyer, including the Purchase Price, and any other amounts required to be paid by it in connection with the consummation of the transactions contemplated by this Agreement.

Section 5.7 Brokers. No broker, finder or investment banker is entitled to any brokerage, finder’s or other fee or commission in connection with the transactions contemplated by this Agreement based upon arrangements made by or on behalf of Buyer or any of its Affiliates.

Section 5.8 Acknowledgements. Buyer hereby acknowledges that (a) neither

Seller nor any other Person makes any representation or warranty with respect to the Business, the members of the Seller Group, the Acquired Assets, the Excluded Assets, the Assumed Liabilities, or the Excluded Liabilities, except as set forth in Article IV, and (b) it has not relied on any representation or warranty that is not set forth in Article IV. Buyer acknowledges that it has conducted, to its satisfaction, an independent investigation and verification of the financial condition, results of operations, assets, liabilities, properties and projected operations of the members of the Seller Group with respect to the Business and, in making its determination to proceed with the transactions contemplated by this Agreement, Buyer has relied on the results of its own independent investigation and verification, in addition to the representations and warranties of Seller expressly and specifically set forth in Article IV.

## ARTICLE VI

## CERTAIN AGREEMENTS

Section 6.1 Conduct of Business.

(a) Except as expressly provided by this Agreement or any Ancillary Agreement, as required by applicable Law, as set forth in Section 6.1 of the Seller Disclosure Letter or as expressly consented to in writing by Buyer (which consent will not be unreasonably withheld, conditioned or delayed), between the Execution Date and the Closing, Seller will, and will cause each member of the Seller Group to, use commercially reasonable efforts to conduct the Business in all material respects in the ordinary course, consistent with past practice (it being understood that a reasonable good faith action taken solely to address an extraordinary or unusual event occurring after the date of this Agreement that is outside of the control of Seller or its Subsidiaries and is outside of the ordinary course of business will not be deemed to be a breach of this Section 6.1); provided that, notwithstanding the foregoing, (i) no action by any member of the Seller Group with respect to matters specifically addressed by any other provision of this Section 6.1 will be deemed a breach of this Section 6.1(a), unless such action would constitute a breach of one or more of such other provisions, and (ii) the Seller Group's failure to take any action prohibited by Section 6.1(b) will not be a breach of this Section 6.1(a).

(b) Without limiting the generality of Section 6.1(a), and except as otherwise contemplated or permitted by this Agreement, as required by any Contract set forth on Section 4.9 of the Seller Disclosure Letter, as required by Law or Contract, as set forth in Section 6.1 of the Seller Disclosure Letter or as expressly consented to in writing by Buyer (which consent will not be unreasonably withheld, conditioned or delayed), Seller will not, and will not permit any member of the Seller Group to:

(i) sell, pledge, dispose of, grant, transfer, lease, license, guarantee, encumber or authorize the sale, pledge, disposition, grant, transfer, lease, guarantee or encumbrance of or on any assets, properties or rights that

are (or would otherwise be) material Business Assets (excluding the Business IP, provision for which is made in Section 6.1(b)(iv)), other than any inventory (including any finished goods or work-in-process) or obsolete equipment in the ordinary course of business;

(ii) (A) adopt or amend any Employee Benefit Plan or increase the salaries, wage rates, target bonus opportunities or equity based compensation of Transferred Employees, in each case except (x) in the ordinary course of business consistent with past practice, (y) in connection with the adoption or amendment of Employee Benefit Plans (or other practices) that are applicable generally to employees of Seller and its Subsidiaries in the relevant jurisdictions, or (z) as required (1) to comply with applicable Law, (2) by the terms of any Employee Benefit Plan in effect on the Execution Date, or (3) by the terms of any Contract of Seller or any of its Subsidiaries in effect on the Execution Date, the existence of which Contract does not constitute a breach of any representation, warranty or covenant in this Agreement, (B) hire, or offer to hire, any Business Employee, (C) terminate the employment, change the title, office or position, or materially reduce the responsibilities or terms and conditions of employment of any Transferred Employee, (D) enter into, amend or extend the term of any employment or consulting agreement, bonus arrangement, severance agreement, retention bonus, or change of control agreement with any Transferred Employee, or (E) enter into any collective bargaining agreement or other contract with a labor organization, trade or labor union, workers' council, employees' association or similar organization representing any of such employees (unless required by Law).

(iii) materially amend or modify or terminate (partially or completely), or enter into any agreement to materially amend or modify or terminate (partially or completely), any of the Material Contracts, other than in the ordinary course of business, or enter into any agreement that would have been a Material Contract had it been entered into prior to the Execution Date;

(iv) grant any rights to or transfer any Intellectual Property that is, or would be, Business IP, other than grants of non-exclusive licenses in the ordinary course of business;

(v) enter into any settlement, or offer or propose to enter into any settlement, that would reasonably be expected to materially and adversely affect the Business or limit the ability of Buyer to conduct the Business following the Closing in any geography or in any other material respect;

(vi) take any action for the express purpose of minimizing or reducing the level of working capital to be delivered to Buyer at the Closing; or

(vii) agree, in writing or otherwise, to take any of the foregoing actions.

Section 6.2 Access. Seller will permit Buyer and its Representatives to have reasonable access, prior to the Closing Date, to the properties, books and records of the Business during normal working hours and upon reasonable advance notice; provided, however, that Buyer will not disrupt the personnel and operations of the Business or other operations or activities of Seller or any of its Subsidiaries; provided, further, that (a) nothing herein will require any employee of Seller or any of its Subsidiaries to provide any information regarding the Business in any other format or otherwise to manipulate or reconfigure any data regarding the Business; (b) nothing herein will require Seller or any of its Subsidiaries to provide Buyer with access to or copies of (i) any information that must be maintained as confidential by applicable Law or in accordance with the terms of a written agreement with a third party, (ii) sensitive customer or employee information, manufacturing processes, pricing lists or other information that relates to the Business and that, in Seller's reasonable business judgment, should not be provided to Buyer until the transactions contemplated hereby have been consummated in order to avoid any adverse effect on the Business, or in order not to violate applicable Laws, unless such information will be acquired by Buyer at the Closing Date, in which case Buyer will enter into any confidentiality agreement(s) that are necessary to review such information (receipt of such information being subject to execution of any necessary confidentiality agreement(s) by any required third party), or (iii) employee information; and (c) nothing herein will require Seller or any of its Subsidiaries to provide Buyer with access to or copies of any information that relates to any businesses or operations of Seller or any of its Subsidiaries other than the Business. All requests for access will be made to such Representatives of Seller as Seller will designate, who will be solely responsible for coordinating all such requests and access thereunder. Notwithstanding the foregoing, prior to the Closing, Buyer and Buyer's Representatives will not contact or in any other manner communicate with the employees, customers and suppliers of the Business in connection with the transactions contemplated hereby, except following prior consultation with and written approval from Seller or its Representatives. Notwithstanding the foregoing or any other provision in this Agreement, none of Buyer, any Affiliate of Buyer or any Representative of Buyer will be entitled to review or have access to any Tax Return of Seller or any Affiliate thereof or any work papers related thereto.

Section 6.3 Efforts to Close. In addition to the actions specifically provided for elsewhere in this Agreement or in any Ancillary Agreement, each of the Parties will cooperate with each other and use (and will cause their respective Subsidiaries and Affiliates to use) their reasonable best efforts, prior to, at and after the Closing Date, to take, or to cause to be taken, all actions, and to do, or to cause to be done, all things reasonably necessary on its part under applicable Law or contractual obligations to consummate and make effective the transactions contemplated by this Agreement and the Ancillary Agreements as promptly as reasonably practicable; provided, however, that no member of the Seller Group will be required to make any payments, incur any liability, or offer or grant any accommodation (financial or otherwise) to any third party in connection with obtaining any consent, approval or waiver. Seller and Buyer will comply fully with all applicable notification, reporting and other requirements of applicable Law and Governmental Authorities.

Section 6.4 Confidentiality. Buyer acknowledges that the information being provided to it in connection with the transactions contemplated hereby is subject to the terms of a confidentiality agreement by and between Buyer and Seller (the "Confidentiality Agreement"), the terms of which are incorporated herein by reference. Effective upon the Closing, the Confidentiality Agreement will terminate with respect to information relating solely to the Business; provided, however, that Buyer acknowledges that any and all other information provided to it by Seller and its Affiliates or their Representatives concerning the Seller and its Affiliates (other than the Business) will remain subject to the terms and conditions of the Confidentiality Agreement after the Closing Date.

Section 6.5 Further Assurances. From and after the Closing, as and when requested by any Party, each Party will execute and deliver, or cause to be executed and delivered, all such documents and instruments and will take, or cause to be taken, at the requesting Party's expense, all such further or other actions, as such other Party may reasonably deem necessary or desirable to consummate the transactions contemplated by this Agreement.

Section 6.6 Publicity. The Parties acknowledge and agree to the confidentiality, publicity and related obligations contained in the PCA. The requirements of this Section 6.6 will be in addition to those included in the Confidentiality Agreement.

Section 6.7 Business Records; Cooperation. After the Closing, Buyer will cooperate with, and will afford the members of the Seller Group and their Representatives reasonable access, during normal business hours, to the books and records of the Business (and will permit such Persons to examine and copy such books and records to the extent reasonably requested by such Person) and will cause the directors, officers and employees of the Business to furnish all information requested by the members of the Seller Group in connection with financial reporting and Tax matters (including financial and Tax audits and Tax contests), third-party litigation, the Excluded Assets and the Excluded Liabilities, and other reasonable business purposes. Buyer will not destroy or dispose of any such books and records for a period of [***] years after the Closing without the prior written consent of Seller, and if thereafter Buyer proposes to destroy or dispose of any such books and records, Buyer will offer first in writing to surrender any such books and records to Seller.

Section 6.8 Bulk Transfer Laws. Buyer hereby waives compliance by the members of the Seller Group with the provisions of any so-called "bulk transfer law" of any jurisdiction in connection with the Conveyance of the Acquired Assets to Buyer.

Section 6.9 Excluded Liabilities; Assumed Liabilities.

(a) The applicable members of the Seller Group will promptly pay all Excluded Liabilities when due. If Buyer receives a claim or request for a payment that is an Excluded Liability, it will promptly forward such item to Seller.

(b) Buyer will promptly pay all Assumed Liabilities when due or promptly reimburse the applicable member of the Seller Group if paid by such Person. If a member of the Seller Group receives a claim or request for a payment that is an Assumed Liability, Seller will, or will cause the applicable member of the Seller Group to, promptly forward such item to Buyer.

Section 6.10 Expenses. All costs and expenses incurred in connection with this Agreement and the transactions contemplated by this Agreement will be paid by the Party incurring such costs and expenses, whether or not the transactions contemplated by this Agreement are consummated, except as otherwise expressly provided in this Agreement.

Section 6.11 Certain Consents; Shared Business Contracts.

(a) General Pre-Closing Cooperation. The Parties will use their respective commercially reasonable efforts prior to Closing to obtain all consents and approvals required in connection with the transactions contemplated hereby. To the extent practicable, Seller shall provide Buyer with a reasonable opportunity to review, comment on and approve any waivers, consents, approvals, notices, orders, registrations and filings to be made, given or used by Seller and shall promptly deliver to Buyer a copy of each such registration or filing made, each such notice given and each such waiver, consent, approval or order obtained by Seller prior to the Closing Date. Notwithstanding the foregoing, Seller will, in its sole discretion, retain final decision-making authority with respect to any waivers, consents, approvals, notices, orders, registrations and filings contemplated by this Section 6.11(a).

(b) General Post-Closing Cooperation. If and to the extent that the Conveyance to Buyer of any Acquired Asset would be a violation of applicable Laws or require any consent in connection with the transactions contemplated hereby that has not been obtained as of the Closing, then, notwithstanding any other provision hereof, such Conveyance will automatically be deferred and will not occur until all legal impediments are removed or such consents have been obtained. Notwithstanding the foregoing, any such Asset will still be considered an Acquired Asset and the Person retaining such Asset will thereafter hold such Asset in trust for the benefit, insofar as reasonably possible, of the Person entitled thereto (and at such Person's sole expense) until the consummation of the Conveyance thereof. The Parties will use their respective commercially reasonable efforts to (i) continue to seek to remove any legal impediments or secure any contractual consents required from third parties necessary to Convey such Asset and (ii) develop and implement arrangements to place the Person entitled to receive such Asset, insofar as reasonably possible and to the extent not prohibited by applicable Law or the relevant Contract, in the same position as if such Asset had been Conveyed as contemplated hereby such that all the benefits and burdens relating to such Asset, including possession, use, risk of loss, potential for gain, any Tax liabilities in respect thereof and dominion, control and command over such Asset, are to inure from and after the Closing to such

Person. If and when the applicable legal or contractual impediments are removed or the applicable Consents are obtained, the Conveyance of the applicable Asset will be effected in accordance with the terms of this Agreement or such applicable Ancillary Agreement. The obligations set forth in this Section 6.11(b) will terminate on the [***] -year anniversary of the Closing. Nothing in this Section 6.11(b) will be deemed to apply to any Shared Business Contract, it being understood that Shared Business Contracts are governed by Section 6.11(c).

(c) Shared Business Contracts.

(i) Seller will use commercially reasonable efforts to either (A) cause any Shared Business Contract to be assigned in relevant part to Buyer on the Closing Date or to appropriately amend such Shared Business Contract so that Buyer will, at and following the Closing, be entitled to the rights and benefits inuring to the Business under such Shared Business Contracts or (B) assist Buyer in its efforts to procure an alternative arrangement that provides Buyer with the applicable Business requirements currently procured under such Shared Business Contract. If with respect to any Shared Business Contract, such partial assignment or amendment provided for in clause (A) cannot be obtained, or if an attempted partial assignment or amendment thereof would adversely affect in a material respect the rights of Seller or Buyer thereunder, Seller will either provide the assistance called for by clause (B) or Seller and Buyer will use their commercially reasonable efforts to negotiate a mutually acceptable arrangement under which Buyer and Seller will, to the extent permitted by applicable Law or the relevant Shared Business Contract, obtain the benefits and assume the obligations under such Shared Business Contract to the extent related to the Business (in the case of Buyer) or businesses or operations other than the Business (in the case of Seller), including entering into sub-contracting, sub- licensing or sub-leasing arrangements for the benefit of Buyer or Seller, as the case may be (the "Sharing Arrangements").

(ii) Notwithstanding the foregoing, following the expiration or other termination of any Shared Business Contract, neither Buyer nor Seller will be obligated to continue the Sharing Arrangements, as applicable; provided, that neither Seller nor Buyer may terminate any such Shared Business Contract without the prior written consent of the other Party.

(iii) Any out-of-pocket costs of obtaining the consent of the relevant counterparty to the arrangements contemplated by this Section 6.11(c), including any payment or fee required to be made to such counterparty in exchange for the grant of such consent, will be paid by Buyer.

Section 6.12 Seller Name. Within three months of the Closing Date, Seller will cause Oncimmune USA to prepare and file such documents with the applicable Governmental Authority as are necessary to change its corporate name; provided, however, that the new name shall be able to include "Oncimmune".

Section 6.13 Business Balance Sheets. Seller shall provide to Buyer (a) within three weeks following the Execution Date, the unaudited balance sheet of the Business as of the Execution Date and (b) within three weeks following the Closing Date, the unaudited balance sheet of the Business as of the Closing Date.

Section 6.14 Non-Test Inventory. Following the Closing, Buyer will permit Seller and its Representatives to have reasonable access to the Kansas Lab during normal working hours and upon reasonable advance notice for purposes of accessing any Excluded Assets located at the Kansas Lab, including any inventory that constitutes an Excluded Asset; provided, however, that Seller will not disrupt the personnel and operations of the Business or other operations or activities of Buyer in exercising such access right. Buyer will not, without the prior written consent of Seller, use or access such inventory. The parties will reasonably cooperate regarding the duration of such access right.

Section 6.15 Brookhaven Sub-License. Prior to the Closing, the Parties will use commercially reasonable efforts to obtain consent from Brookhaven Science Associates, LLC to sub-license to Buyer certain rights under that certain License Agreement, by and between Brookhaven Science Associates, LLC and Oncimmune (USA) LLC, dated April 14, 2008.

## ARTICLE VII

## EMPLOYMENT MATTERS

Section 7.1 Employment of Transferred Employees; Severance.

(a) Effective as of and subject to the Closing, Buyer will offer employment to each Transferred Employee on substantially similar terms to those that applied to such employees immediately prior to the Closing, and Seller will or will cause the termination of such Transferred Employee's employment with Seller or its Subsidiaries as of the Closing Date.

(b) For 12 months following the Closing Date, (i) Buyer will not, and will cause its Affiliates not to, reduce the salary or base hourly wage rate and bonus opportunity of any Transferred Employee below the rate in effect immediately prior to the Closing Date, except in the case of bona fide performance issues or otherwise for cause, and (ii) each Transferred Employee that is employed by Buyer or its Affiliates will be eligible for bonuses under Buyer's bonus plan.

(c) To the extent that, following the Closing Date, Buyer or any Affiliate of Buyer terminates the employment of any Transferred Employee, Buyer will be solely responsible for providing such Transferred Employee any severance benefits in accordance with Buyer's policies and practices, and will hold harmless the members of the Seller Group and their Affiliates with respect to any Damages claimed by such Transferred Employee arising therefrom.

(d) Nothing in this Article VII will limit Buyer's obligations with respect to the Assumed Liabilities or any Liabilities under applicable Law.

Section 7.2 Employee Benefit Plans Generally.

(a) For a period of 12 months following the Closing Date, Buyer will provide employee benefits to Transferred Employees under Employee Benefit Plans maintained by Buyer that are (x) substantially similar to those provided to Buyer's similarly situated employees or, at Buyer's option, (y) substantially comparable in the aggregate to those provided to Transferred Employees under the Employee Benefit Plans immediately prior to the Closing.

(b) Buyer will credit Transferred Employees in accordance with Buyer's plans for their service with any member of the Seller Group and their Affiliates (and any predecessors) for purposes of eligibility and vesting under Buyer's plans in which Transferred Employees participate after the Closing and any applicable vacation or severance policies or programs. Buyer will permit Transferred Employees (and their eligible spouses and dependents) to participate in Buyer's plans without being subject to any waiting periods or any restrictions or limitations for pre-existing conditions, except to the extent any such person has not satisfied any corresponding applicable waiting period or limitation under the Employee Benefit Plans. Buyer's plans will credit each Transferred Employee (and any spouses and dependents) with the amount, if any, paid during the calendar year in which the Closing Date occurs under the Employee Benefit Plans towards deductibles, co-pays and out-of-pocket maximums.

Section 7.3 401(k) Plan. Buyer will use commercially reasonable efforts to cause one of its tax-qualified retirement plans intended to comply with Section 401(k) of the Code to accept a rollover by any Transferred Employee of any eligible rollover distribution in the form of cash and any outstanding loans from any Employee Benefit Plan that is qualified under Section 401(a) of the Code.

Section 7.4 Welfare Plans. Seller or another member of the Seller Group will retain all Liabilities for claims incurred by a Transferred Employee (and his or her eligible spouse and dependents) on or prior to the Closing under the Employee Benefit Plans that are welfare benefit plans within the meaning of Section 3(1) of ERISA and all short term disability, salary continuation, severance plans or arrangements (the "Welfare Plans"). For this purpose, claims under any medical, dental, vision, or prescription drug plan that is a Welfare Plan generally will be deemed to be incurred on the date that the service giving rise to such claim is performed and not when such claim is made; provided, however, that with respect to claims relating to hospitalization the claim will be deemed to be incurred on the first day of such hospitalization and not on the date that such services are performed. Claims for disability under any long or short term disability plan that is a Welfare Plan will be incurred on the date the Transferred Employee is first absent from work because of the condition giving rise to such disability and not when the Transferred Employee is determined to be eligible for benefits under the applicable Welfare Plan. Seller or an Affiliate will provide or cause to be provided

any continuation coverage required under Part 6 of Title I of ERISA or applicable state law ("COBRA") to each "qualified beneficiary" as that term is defined in COBRA who is not a Transferred Employee and whose first "qualifying event" (as defined in COBRA) occurs on or prior to the Closing.

## ARTICLE VIII

## CONDITIONS TO CLOSING

Section 8.1 Conditions to Buyer's Obligations. The obligation of Buyer to consummate the transactions contemplated by this Agreement is conditioned upon the satisfaction or waiver, at or prior to the Closing, of the following conditions; provided, however, that Buyer may not rely on the failure of any of the following conditions in this Section 8.1 to be satisfied if such failure was caused by Buyer's failure to act in good faith or to use commercially reasonable efforts to cause the Closing to occur, as required by Section 6.3:

(a) Representations and Warranties. All representations and warranties set forth in Article IV (other than the Fundamental Representations), without giving effect to materiality, Material Adverse Effect or similar qualifications, shall be true and correct in all respects at and as of the Closing Date as though such representations and warranties were made at and as of the Closing Date (other than in the case of any representation or warranty that by its terms addresses matters only as of another specified date, which shall be so true and correct only as of such specified date), except to the extent the failure of such representations and warranties to be true and correct would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect. All Fundamental Representations shall be true and correct in all material respects at and as of the Closing Date as though such Fundamental Representations were made at and as of the Closing Date (other than in the case of any representation or warranty that by its terms addresses matters only as of another specified date, which shall be so true and correct only as of such specified date);

(b) Covenants. Seller shall have performed in all material respects all of the covenants and agreements required to be performed by it under this Agreement at or prior to the Closing;

(c) Officer's Certificate. Seller shall have delivered to Buyer a certificate dated as of the Closing Date signed by an officer of Seller to the effect that each of the conditions set forth in Section 8.1(a) and Section 8.1(b) have been satisfied;

(d) Closing Deliveries. Seller shall have delivered, or caused to be delivered, to Buyer the items and documents set forth in Section 3.2(a);

(e) No Prohibition. No Law enacted, entered, promulgated or enforced by any Governmental Authority of competent jurisdiction will be in effect at the Closing preventing the consummation of the transactions contemplated by this Agreement; and

(f) PCA. The PCA shall not have been terminated in accordance with its terms.

Section 8.2 Conditions to Seller's Obligations. The obligation of Seller to consummate the transactions contemplated by this Agreement is conditioned upon the satisfaction or waiver, at or prior to the Closing, of the following conditions; provided, however, that Seller may not rely on the failure of any of the following conditions in this Section 8.2 to be satisfied if such failure was caused by Seller's failure to act in good faith or to use commercially reasonable efforts to cause the Closing to occur, as required by Section 6.3.

(a) Representations and Warranties. All representations and warranties set forth in Article V shall be true and correct in all material respects at and as of the Closing Date as though such representations and warranties were made at and as of the Closing Date (other than in the case of any representation or warranty that by its terms addresses matters only as of another specified date, which shall be true and correct only as of such specified date);

(b) Covenants. Buyer shall have performed in all material respects all of the covenants and agreements required to be performed by it under this Agreement at or prior to the Closing;

(c) Officer's Certificate. Buyer shall have delivered to Seller a certificate dated as of the Closing Date signed by an officer of Buyer to the effect that each of the conditions set forth in Section 8.2(a) and Section 8.2(b) have been satisfied;

(d) Closing Deliveries. Buyer shall have delivered to Seller the items and documents set forth in Section 3.2(b);

(e) No Prohibition. No Law enacted, entered, promulgated or enforced by any Governmental Authority of competent jurisdiction will be in effect at the Closing preventing the consummation of the transactions contemplated by this Agreement; and

(f) PCA. The PCA shall not have been terminated in accordance with its terms.

Section 8.3 Waiver. Upon the occurrence of the Closing, any condition set forth in this Article VIII that was not satisfied as of the Closing shall be deemed to have been waived as of and from the Closing.

ARTICLE IX

INDEMNIFICATION

Section 9.1 Survival. The representations and warranties of the Parties contained in this Agreement and all covenants and agreements of the Parties that are to be performed prior to the Closing will survive the Closing for a period of 12 months after the Closing Date; provided, that (i) the representations and warranties of Seller contained Section 4.10(a) (Title to Assets) will survive for a period of three years after the Closing Date, (ii) the representations and warranties of Seller contained Section 4.13 (Taxes) will survive for a period of sixty days following the expiration of the applicable statute of limitations, and (iii) the Fundamental Representations (other than the representations and warranties of Seller contained Section 4.10(a) (Title to Assets)) and the representations and warranties contained in Sections 5.1 (Organization), 5.2 (Authorization, Validity and Execution) and 5.7 (Brokers) will survive indefinitely. All of the covenants contained in this Agreement that by their nature are required to be performed after the Closing will survive the Closing until fully performed or fulfilled, unless and only to the extent that non-compliance with such covenants or agreements is waived in writing by the Party entitled to such performance. Notwithstanding the preceding two sentences, any breach of any covenant, agreement, representation or warranty in respect of which indemnification may be sought under this Agreement will survive the time at which it would otherwise terminate pursuant to the preceding two sentences, if notice of such breach giving rise to such right of indemnification will have been given to the Party against whom such indemnification may be sought prior to such time. The Parties acknowledge and agree that with respect to any claim that any Party may have against any other Party that is permitted pursuant to the terms of this Agreement, the survival periods set forth and agreed to in this Section 9.1 will govern when any such claim may be brought and will replace and supersede any statute of limitations that may otherwise be applicable.

Section 9.2 Indemnification.

(a) Subject to the provisions of this Article IX, including the limitations set forth in Section 9.4, from and after the Closing, Seller agrees to indemnify Buyer and its Affiliates, directors, officers, employees, successors, permitted assigns, agents and representatives (collectively, the "Buyer Indemnitees") against and agrees to hold each of them harmless from any and all Damages incurred or suffered by any Buyer Indemnitee to the extent arising out of or relating to:

(i) any breach of any representation or warranty of Seller in Article IV;

(ii) any breach of any covenant or agreement made or to be performed by Seller pursuant to this Agreement; or

(iii) any Excluded Liability or any other Liability arising in connection with or relating to any Excluded Asset.

(b) Subject to the provisions of this Article IX, including the limitations set forth in Section 9.4, from and after the Closing, Buyer agrees to indemnify the members of the Seller Group and their respective Affiliates, directors, officers, employees, successors, permitted assigns, agents and representatives (collectively, the "Seller Indemnitees") against and agrees to hold each of them harmless from any and all Damages incurred or suffered by any Seller Indemnitee to the extent arising out of or relating to:

(i) any breach of any representation or warranty of Buyer in Article V;

(ii) any breach of covenant or agreement made or to be performed by Buyer pursuant to this Agreement; or

(iii) without duplication, any Assumed Liability or any other Liability arising in connection with or relating to the Business to the extent the Buyer Indemnitees are not entitled to indemnification for Damages arising out of or relating to such other Liability pursuant to this Article IX.

Section 9.3 Procedures. Claims for indemnification under this Agreement will be asserted and resolved as follows:

(a) Any Buyer Indemnitee or Seller Indemnitee seeking indemnification under this Agreement (an "Indemnified Party") with respect to any claim asserted against the Indemnified Party by a third party (a "Third Party Claim") in respect of any matter that is subject to indemnification under Section 9.2 will (i) promptly notify the other Party (the "Indemnifying Party") of the Third Party Claim (and in any event within 20 days of the date on which the Indemnified Party knows or reasonably should have known of the Third Party Claim), and (ii) as promptly as practicable transmit to the Indemnifying Party a written notice (a "Claim Notice") describing in reasonable detail the nature of the Third Party Claim, a copy of all papers served with respect to such claim (if any), the basis of the Indemnified Party's request for indemnification under this Agreement and, to the extent estimable, a reasonable estimate of any Damages suffered with respect thereto. Notwithstanding the foregoing, the delay or failure to give the notice provided in this Section 9.3(a) will not relieve the Indemnifying Party of its obligations under this Article IX, except to the extent such Indemnifying Party is actually prejudiced by such delay or failure.

(b) The Indemnifying Party will have the right to defend the Indemnified Party against such Third Party Claim. The Indemnifying Party will promptly notify the Indemnified Party (and in any event within 45 days after having received any Claim Notice) with respect to whether or not it is exercising its right to defend the Indemnified Party against such Third Party Claim. If the Indemnifying Party notifies the Indemnified Party that the Indemnifying Party elects to assume the defense of the Third Party Claim (such election to be without prejudice to the right of the Indemnifying Party to dispute whether such claim is an indemnifiable

Damage under this Article IX), then the Indemnifying Party will have the right to defend such Third Party Claim with counsel selected by the Indemnifying Party, in all appropriate proceedings, to a final conclusion or settlement at the discretion of the Indemnifying Party in accordance with this Section 9.3(b). The Indemnifying Party will have full control of such defense and proceedings, including any compromise or settlement thereof; provided, however, that the Indemnifying Party will not enter into any settlement agreement without the written consent of the Indemnified Party (which consent will not be unreasonably withheld, conditioned or delayed). Notwithstanding the foregoing, such consent will not be required if (i) the settlement agreement contains a complete and unconditional general release by the third party asserting the Third Party Claim to all Indemnified Parties affected by the Third Party Claim and (ii) the settlement agreement does not contain any admission of fault or material sanction or restriction upon the conduct or operation of any business conducted by the Indemnified Party or its Affiliates. The Indemnified Party may participate in, but not control, any defense or settlement of any Third Party Claim controlled by the Indemnifying Party pursuant to this Section 9.3(b), and the Indemnified Party will bear its own costs and expenses with respect to such participation.

(c) If the Indemnifying Party does not notify the Indemnified Party that the Indemnifying Party elects to defend the Indemnified Party pursuant to Section 9.3(b) within 45 days after receipt of any Claim Notice, then the Indemnified Party will defend itself against the applicable Third Party Claim, and be reimbursed for its reasonable cost and expense (but only if the Indemnified Party is actually entitled to indemnification hereunder) in regard to the Third Party Claim with counsel selected by the Indemnified Party, in all appropriate proceedings and in good faith, which proceedings will be prosecuted diligently by the Indemnified Party. In such circumstances, the Indemnified Party will defend any such Third Party Claim in good faith and have full control of such defense and proceedings; provided, however, that the Indemnified Party may not enter into any compromise or settlement of such Third Party Claim if indemnification is to be sought hereunder, without the Indemnifying Party's consent (which consent will not be unreasonably withheld, conditioned or delayed). The Indemnifying Party may participate in, but not control, any defense or settlement controlled by the Indemnified Party pursuant to this Section 9.3(c), and the Indemnifying Party will bear its own costs and expenses with respect to such participation; provided, however, if at any time the Indemnifying Party acknowledges in writing that such Third Party Claim is an indemnifiable Damage under this Article IX, the Indemnifying Party will be entitled to assume the defense of such Third Party Claim in accordance with Section 9.3(b).

(d) If requested by the Indemnifying Party, the Indemnified Party agrees, at the sole cost and expense of the Indemnifying Party (but only if the Indemnified Party is actually entitled to indemnification hereunder), to cooperate with the Indemnifying Party and its counsel in contesting any Third Party Claim that the Indemnifying Party elects to contest, including providing reasonable access to documents, records and information. In addition, the Indemnified Party

will make its personnel reasonably available at no cost to the Indemnifying Party for conferences, discovery, proceedings, hearings, trials or appeals as may be reasonably requested by the Indemnifying Party. The Indemnified Party also agrees to cooperate with the Indemnifying Party and its counsel in the making of any related counterclaim against the Person asserting the Third Party Claim or any cross complaint against any Person and executing powers of attorney to the extent necessary.

(e) A claim for indemnification for any matter not involving a Third Party Claim will be asserted by notice to the Party from whom indemnification is sought as promptly as practicable after the date on which the Indemnified Party knows or reasonably should have known of facts giving rise to the claim for indemnification, which notice will describe in reasonable detail the nature of the claim and the basis of the Indemnified Party's request for indemnification under this Agreement and will include, to the extent estimable, a reasonable estimate of the Damages suffered with respect thereto. Notwithstanding the foregoing, the delay or failure to give the notice provided in this Section 9.3(e) will not relieve the Indemnifying Party of its obligations under this Article IX, except to the extent such Indemnifying Party is actually prejudiced by such delay or failure.

Section 9.4 Limitations on Liability. Notwithstanding anything to the contrary herein:

(a) Seller will not be liable for (i) any breach of any representation or warranty of Seller set forth in this Agreement or (ii) any breach of Section 6.1, in either case, unless the aggregate amount of Damages actually incurred by the Buyer Indemnitees for such breach and all other breaches otherwise subject to indemnification hereunder exceeds [***] (the "Basket"), in which case the Buyer Indemnitees shall be entitled to indemnification for all such Damages, including the initial [***]; provided, however, that the limitations set forth in this Section 9.4(a) will not apply to indemnification for Damages arising out of or resulting from any breach of any Fundamental Representation (and, for the avoidance of doubt, Damages indemnifiable on account of any breach of any Fundamental Representation will not be counted towards the calculation of the Basket);

(b) in no event will Seller's aggregate Liability arising out of or relating to Section 9.2(a)(i) or Section 9.2(a)(ii) (in the case of a breach or breaches of Section 6.1) exceed [***] (the "Cap"); provided, however, that the Cap will not apply to indemnification for Damages arising out of or resulting from any breach of any Fundamental Representation;

(c) notwithstanding anything to the contrary in this Agreement, in no event will Seller's aggregate Liability arising out of or relating to Section 9.2(a) exceed the Purchase Price;

(d) in no event will Seller be liable under Section 9.2(a) for any Damages arising from an action taken or not taken by the Seller at the request of Buyer;

(e) the Buyer Indemnitees will not have a right to assert claims for indemnification under any provision of this Agreement for Damages to the extent that such Damages arise out of actions taken (or omitted to be taken) by Buyer, its Affiliates or any Buyer Indemnitee after the Closing;

(f) each Indemnified Party will have a duty to use commercially reasonable efforts to mitigate any Damages arising out of or relating to this Agreement or the transactions contemplated hereby;

(g) the amount of any Damages for which an Indemnified Party claims indemnification under this Agreement will be reduced by the amount of (i) any insurance proceeds actually received from third party insurers with respect to such Damages; (ii) any Tax Benefit that is Actually Realized, which Tax Benefit is attributable to such Damages or to the facts giving rise to such Damages and (iii) any indemnification, contribution, offset or reimbursement payments actually received from third parties with respect to such Damages; provided, that such Indemnified Party will use commercially reasonable efforts to obtain recoveries from insurers and other third parties in respect of this Section 9.4(g); and provided, further, that an Indemnified Party will use commercially reasonable efforts to cause any Tax Benefit to be Actually Realized with respect to such Damages. If an Indemnified Party (A) actually receives insurance proceeds from third party insurers with respect to such Damages, (B) has a Tax Benefit that is Actually Realized, or (C) actually receives indemnification, contribution, offset or reimbursement payments from third parties with respect to such Damages, in each case, at any time subsequent to any indemnification payment pursuant this Article IX, then such Indemnified Party will promptly reimburse the applicable Indemnifying Party for any payment made or expense incurred by such Indemnifying Party in connection with providing such indemnification up to such amount actually received by such Indemnified Party;

(h) in the event an Indemnified Party will recover Damages in respect of a claim of indemnification under this Article IX, no other Indemnified Party will be entitled to recover the same Damages in respect of a claim for indemnification; and

(i) notwithstanding anything provided under applicable Law, no Party will have any Liability (including, without limitation, under this Article IX) for, and Damages will not include, any punitive, incidental, consequential, special or indirect Damages or Damages based on lost profits, loss in value or Damages that are based on a multiple of earnings, in each case, except to the extent any such Damages are awarded and paid with respect to a Third Party Claim as to which a Party is entitled to indemnification under this Agreement.

Section 9.5 Assignment of Claims. If the Indemnified Party receives any payment from an Indemnifying Party in respect of any Damages pursuant to Section 9.2 and the Indemnified Party could have recovered all or a part of such Damages from a third party (a "Potential Contributor") based on the underlying claim asserted against the Indemnifying Party, the Indemnified Party will, to the extent permitted by Law and any pertinent Contract, assign such of its rights to proceed against the Potential Contributor as are necessary to permit the Indemnifying Party to recover from the Potential Contributor the amount of such payment.

Section 9.6 Exclusivity. After the Closing, the sole and exclusive remedy for any and all claims, Damages or other matters arising under, out of, or related to this Agreement or the transactions contemplated hereby, other than in the case of Fraud with respect to a representation and warranty made by a Party in this Agreement, will be the rights of indemnification set forth in this Article IX only, and no Person will have any other entitlement, remedy or recourse, whether in contract, tort, strict liability, equitable remedy or otherwise, it being agreed that all of such other remedies, entitlements and recourse are expressly waived and released by the Parties to the fullest extent permitted by Law. This Section 9.6 will not operate to interfere with or impede the operation of the covenants contained in this Agreement that by their nature are required to be performed after the Closing, with respect to a Party's right to seek equitable remedies (including specific performance or injunctive relief). The provisions of this Section 9.6, together with the covenants contained in this Agreement that by their nature are required to be performed after the Closing, were specifically bargained-for between the Seller Group, on the one hand, and Buyer, on the other hand, and were taken into account by the Parties in arriving at the Purchase Price. Each Party, respectively, specifically relied upon the provisions of this Section 9.6 in agreeing to the Purchase Price and in agreeing to provide the specific representations and warranties set forth in Article IV (in the case of the Seller Group) and Article V (in the case of Buyer).

Section 9.7 Characterization of Indemnity Payments. The Parties agree that any indemnification payments made pursuant to this Article IX will be treated for all Tax purposes as an adjustment to the Purchase Price unless otherwise required by applicable Law.

Section 9.8 Recovery. In the event a Party recovers damages in respect of a claim under an agreement between the Parties hereto related to the transactions completed hereby, (i) no other party will be entitled to recover with respect to the same claim and (ii) such party which recovers damages shall be barred from recovery with respect to the same claim under any other agreement between the parties hereto related to the transactions contemplated hereby.

## ARTICLE X

## TAX MATTERS

Section 10.1 Sales and Transfer Taxes. Seller and Buyer will each be responsible for 50 percent of all sales, use, value-added, business, goods and services,

transfer, documentary, conveyance or similar taxes or expenses that are imposed as a result of the Conveyance sale of the Acquired Assets (including any stamp duty or other tax chargeable in respect of any instrument transferring property and any taxes (other than Income Taxes) payable in connection with the sale and transfer of the Intellectual Property), together with any and all penalties, interest and additions to tax with respect thereto, and Seller and Buyer will cooperate in timely making all filings, returns, reports and forms as may be required to comply with the provisions of such tax Laws.

Section 10.2 Property Expense Apportionment. The following items relating to the Acquired Assets will be apportioned at the Closing in an Equitable Manner as of the close of business of the Closing Date so that the income and expense items with respect to the period up to and including the Closing Date will be for the applicable member of the Seller Group's account and the income and expense items with respect to the period after the Closing Date will be for Buyer's account. For purposes of this Section 10.2, the term "Equitable Manner" will mean that the members of the Seller Group will be allocated such items based on a fraction, the numerator of which is the number of days in the applicable period ending on the Closing Date for which the corresponding item is accrued and the denominator of which is the total number of days in such period for which the item is accrued, and Buyer will be allocated the remainder.

(a) Furthermore, apportionment will be made for:

(i) general and special real estate and other ad valorem Taxes and assessments and other state or local Taxes, fees, charges and assessments in respect of real estate will be based on the fiscal year for which assessed. If the Closing Date will occur before the Tax rate or assessment is fixed for any fiscal year, the apportionment of such Taxes and payments at the Closing will be based upon the most recently ascertainable Tax bills; provided, however, that Buyer and the members of the Seller Group will recalculate and re-prorate said Taxes and payments and make the necessary cash adjustments promptly upon the issuance, and based on, the actual Tax bills received for any such fiscal year and the amount of any payments in lieu of Tax made with respect to any such fiscal year; and

(ii) personal property Taxes, if any, based on the fiscal year for which assessed. If the Closing Date will occur before the Tax rate or assessment is fixed for any fiscal year, the apportionment of such Taxes and payments at Closing will be based upon a reasonable estimate mutually agreed upon by Buyer and the members of the Seller Group; provided, however, that Buyer and the members of the Seller Group will recalculate and re-prorate said Taxes and make the necessary cash adjustments promptly upon the issuance, and based on, the actual Tax bills received for any such fiscal year.

(b) To the extent any Taxes described in Section 10.2(a) are adjusted as a result of any Tax audit by a Governmental Authority or administrative or court proceeding initiated by a Governmental Authority with jurisdiction over the properties, Buyer and the members of the Seller Group will recalculate and re-prorate such Taxes and make the necessary cash adjustments promptly upon the resolution of such audit or proceeding.

Section 10.3 Amendment of Tax Returns. Except as required pursuant to applicable Law or contemplated by this Agreement, Buyer shall not, and shall cause its Affiliates not to, amend, refile or otherwise modify any Tax Return or material tax election relating in whole or in part to the Acquired Assets that was filed on or prior to the Closing Date without the prior written consent of Seller, which consent shall not be unreasonably withheld, conditioned or delayed.

## ARTICLE XI

## TERMINATION

Section 11.1 Termination. Anything herein or elsewhere to the contrary notwithstanding, this Agreement may be terminated and the transactions contemplated herein may be abandoned at any time prior to the Closing:

(a) by written consent of Seller and Buyer;

(b) by Seller or Buyer if any Governmental Authority having competent jurisdiction has issued a final, non-appealable order, decree, ruling or injunction or taken any other Action permanently restraining, enjoining or otherwise prohibiting the transactions contemplated by this Agreement; provided, that this right of termination will not be available to any Party whose failure to comply with its obligations under this Agreement has been the primary cause of, or has primarily resulted in, such order, decree, ruling, injunction or other Action;

(c) by Seller or Buyer if any of the conditions set forth in Sections 8.1 and 8.2 of this Agreement, as applicable, have not been satisfied or waived on or prior to November 1, 2019 (the "Outside Date"); provided, that this right of termination will not be available to any Party whose failure to comply with its obligations under this Agreement has been the primary cause of, or has primarily resulted in, the failure of any such conditions to be satisfied before such date; and, provided, further, that Buyer will have no right to terminate this Agreement pursuant to this Section 11.1(c) during the pendency of a legal proceeding by Seller for specific performance pursuant to Section 13.13.

(d) by Buyer upon written notice to Seller, in the event of a breach of any representation, warranty, covenant or agreement on the part of Seller, such that the conditions specified in Section 8.1 would not be satisfied at the Closing, and which, (i) with respect to any such breach that is capable of being cured, is not cured by Seller within [***] days after receipt of written notice thereof, or (ii) is incapable of being cured prior to the applicable Outside Date; provided, that Buyer will not have the right to terminate this Agreement pursuant to this Section 11.1(d) if it is then in material breach of any of its representations, warranties, covenants or agreements set forth in this Agreement;

(e) by Seller upon written notice to Buyer, in the event of a breach of any representation, warranty, covenant or agreement contained in this Agreement on the part of Buyer, such that the conditions specified in Section 8.2 would not be satisfied at the Closing, and which, (i) with respect to any such breach that is capable of being cured, is not cured by Buyer within [***] days after receipt of written notice thereof, or (ii) is incapable of being cured prior to the applicable Outside Date; provided, that Seller will not have the right to terminate this Agreement pursuant to this Section 11.1(e) if Seller is then in material breach of any of its representations, warranties, covenants or agreements set forth in this Agreement; or

(f) by Seller or Buyer if the PCA is terminated in accordance with its terms.

Section 11.2 Procedure upon Termination. In the event that this Agreement is terminated by Buyer or Seller pursuant to Section 11.1, written notice thereof will forthwith be given to the other Party in accordance with Section 11.1 and Section 13.6, and this Agreement will terminate, and the transactions contemplated hereby will be abandoned, without further action by Seller or Buyer.

Section 11.3 Effect of Termination. Except as otherwise set forth in this Section 11.3, in the event of the termination of this Agreement pursuant to Section 11.1, this Agreement will forthwith become void and have no further force or effect, without any liability on the part of any Party hereto or its Affiliates, officers, directors or stockholders, other than liability of Seller or Buyer, as the case may be, for any willful breach of this Agreement occurring prior to such termination; provided, however, that, (a) any failure of Seller to consummate the transactions contemplated hereby in breach of this Agreement will be deemed to be willful and (b) any failure of Buyer to consummate the transactions contemplated hereby in breach of this Agreement will be deemed to be willful (whether or not Buyer had sufficient funds available to consummate the transactions contemplated hereby). Notwithstanding the foregoing, the provisions of the last sentence of Section 6.2, Section 6.4, Section 6.6, Section 6.10, this Article XI, Article XII, Article XIII and the Confidentiality Agreement will survive any termination of this Agreement pursuant to Section 11.1 and remain valid and binding obligations of the Parties.

## ARTICLE XII

## CERTAIN DEFINITIONS

Section 12.1 Certain Definitions. The following terms, as used in this Agreement, have the following meanings:

"Action" means any action, claim, suit, arbitration, investigation or proceeding, in each case, by or before any Governmental Authority.

"Actually Realized" means, with respect to any Tax Benefit, the time that

any refund of Taxes is actually received or applied against other Taxes due, or at the time of the filing of a Tax Return on which a loss, deduction, credit or an increase in basis is applied to reduce the amount of Taxes that would otherwise be payable.

"Affiliate" of any Person means another Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such first Person. The term "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlled by" and "under common control with" have meanings correlative thereto.

"Ancillary Agreements" means the IP Assignment Agreement and the License Agreement.

"Assets" means assets, properties and rights, wherever located (including in the possession of vendors or other third-parties or elsewhere), whether real, personal or mixed, tangible, intangible or contingent, in each case whether or not recorded or reflected or required to be recorded or reflected on the books and records or financial statements of any Person.

"Business" means the business of selling and performing the Test for the risk stratification of indeterminate pulmonary nodules in patients in the United States currently operated by Oncimmune USA.

"Business Contract" means any Contract to which a member of the Seller Group is party and of the type described in Section 1.1(g).

"Business Days" means a day other than Saturday, Sunday or other day on which commercial banks in New York, New York are required to or may be closed.

"Business Employee" means each individual whose employment duties are primarily connected to performance of services for the Business, including all such employees absent due to vacation, holiday, sickness, short term disability or approved leave of absence.

"Business IP" means any Intellectual Property that is included in the Acquired Assets or the License Agreement and any licenses to use Intellectual Property that are included in the Acquired Assets or the License Agreement.

"Closing Date" means October 31, 2019.

"Code" means the Internal Revenue Code of 1986.

"Contract" means any contract, agreement, license, lease, guaranty, indenture, sales or purchase order or other legally binding commitment in the nature of a contract, whether written or oral.

"Damages" means all damages, losses, fines, penalties, costs and expenses, including reasonable attorneys' fees and expenses incurred in investigating or defending a claim.

"Development Agreement" means the development agreement between the Parties contemplated by the PCA.

"Effect" has the meaning set forth in the definition of "Material Adverse Effect."

"Employee Benefit Plan" means (a) an employee benefit plan (as such term is defined in Section 3(3) of ERISA), other than a Multiemployer Plan, (b) other plans or arrangements providing welfare (including health, dental, vision, life and disability), pension, retirement benefits or vacation benefits, and (c) profit-sharing, bonus, stock option or stock appreciation plans or arrangements or similar forms of incentive compensation, in each case maintained by Seller or a Subsidiary of Seller for Transferred Employees. Notwithstanding the foregoing, "Employee Benefit Plan" will not include any statutory plan or similar employee benefits required by Law.

"Encumbrances" means options, pledges, security interests, liens, mortgages, charges, claims or other encumbrances or restrictions.

"ERISA" means the Employee Retirement Income Security Act of 1974.

"Fraud" means (a) with respect to Seller, that (i) a representation and warranty made by Seller was false when made, (ii) to the knowledge of Seller, such representation and warranty was false when made, (iii) Seller had an intent to induce Buyer to act or refrain from acting in such context and (iv) Buyer acted in justifiable reliance on such representation and warranty, and (b) with respect to Buyer, that (i) a representation and warranty made by Buyer was false when made, (ii) to the knowledge of Buyer, such representation and warranty was false when made, (iii) Buyer had an intent to induce Seller to act or refrain from acting in such context and (iv) Seller acted in justifiable reliance on such representation and warranty.

"Fundamental Representations" means the representations and warranties of Seller contained in Sections 4.1 (Organization, Existence and Good Standing), 4.2 (Authorization, Validity and Execution), 4.10(a) (Title to Assets) and 4.20 (Brokers).

"GAAP" means United States generally accepted accounting principles.

"Governmental Authority" means (a) any national, federal, state, county, municipal or foreign or supranational government, or other political subdivision thereof, (b) any entity exercising executive, legislative, judicial, regulatory, tribunal, taxing or administrative functions of or pertaining to government, and (c) any arbitrator or arbitral body or panel, department, ministry, instrumentality, agency, court, commission or body of competent jurisdiction.

"HCP" means any Person performing any professional medical, laboratory or research services, nursing services, behavioral health, or other clinical services, including any research investigator, physician, pharmacist, registered nurse, licensed practical nurse, advanced practice nurse, nurse practitioner, certified registered nurse practitioner, physician assistant, healthcare provider, therapist, mental health coach or other similar practitioner that is classified as a health care professional under applicable Law.

"Healthcare Laws" means all applicable Laws regulating health services or payment, including, but not limited to, the federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)), the Stark Law (42 U.S.C. § 1395nn), the civil False Claims Act (31 U.S.C. § 3729 et seq.), the administrative False Claims Law (42 U.S.C. § 1320a-7b(a)), the exclusion laws (42 U.S.C. § 1320a-7), the civil monetary penalty laws (42 U.S.C. § 1320a-7a), the administrative simplification provisions of HIPAA, the Medicare Prescription Drug, Improvement and Modernization Act of 2003, Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), the Food, Drug and Cosmetic Act (21 C.F.R. §§ 301 et seq.), the Prescription Drug Marketing Act of 1987, the Deficit Reduction Act of 2005, HIPAA, HITECH, the Patient Protection and Affordable Care Act of 2010, any amendments thereto, the regulations promulgated pursuant to such Laws, and any state analogs to any of the foregoing Laws.

"HIPAA" means the Health Insurance Portability and Accountability Act of 1996 and the rules and regulations promulgated thereunder, including the privacy rule at 45 C.F.R. Part 160 and Part 164, Subparts A and E, the security rule at 45 C.F.R. 164, Subpart C, and the data breach notification rule at 45 C.F.R. Subpart D, as each be amended from time to time.

"Income Taxes" means U.S. federal, state or local or foreign net income or capital gain Taxes (but not any gross income Taxes and not any withholding Taxes or payroll, employment or employee Taxes), together with any interest or penalties imposed with respect thereto.

"Intellectual Property" means any (a) utility and design patents, (b) trademarks, service marks, trade names, brand names, trade dress, slogans, logos and internet domain names, (c) inventions, discoveries, ideas, processes, formulae, designs, models, industrial designs, know-how, proprietary information, trade secrets, and confidential information, whether or not patented or patentable, (d) copyrights, writings and other copyrightable works and works in progress, databases and software, (e) all other intellectual property rights and foreign equivalent or counterpart rights and forms of protection of a similar or analogous nature or having similar effect in any jurisdiction throughout the world, (f) all registrations and applications for registration of any of the foregoing, and (g) any renewals, extensions, continuations, divisionals, reexaminations or reissues or equivalent or counterpart of any of the foregoing in any jurisdiction throughout the world.

"Kansas Lab" means the CLIA-licensed laboratory at 8960 Commerce Drive, Building #6, De Soto, Kansas 66018, USA leased by Oncimmune USA pursuant to the Lease.

"Law" means any statute, law (including common law), ordinance, rule, regulation, order or decree promulgated by any Governmental Authority.

"Lease" means that certain Commercial and Industrial Lease Agreement, between Fish Development, LLC and Oncimmune (USA) LLC, dated November 29, 2007, as amended by the First Amendment to Lease, by Great Southern Bank, successor in interest to Fish Development, LLC and Oncimmune (USA) LLC, dated October 29, 2012 and the Second Amendment to Lease, by Desoto Investments, L.L.C., successor in interest to Great Southern Bank, and Oncimmune (USA) LLC, dated July 26, 2017.

"Liability" means all debts, claims, liabilities, obligations, damages, fines, penalties, costs and expenses (whether known or unknown, vested or unvested, asserted or unasserted, absolute or contingent, accrued or unaccrued, assessed or unassessed, liquidated or unliquidated, actual or potential, and due or to become due).

"Material Adverse Effect" means any change, effect or event (each, an "Effect") that is materially adverse to the financial condition or results of operations of the Business, taken as a whole; provided, however, that no Effect will be considered when determining whether a Material Adverse Effect has occurred to the extent such Effect resulted or arose from any of the following: (a) the negotiation, execution, announcement or pendency of the transactions contemplated by this Agreement, including any impact thereof on relationships, contractual or otherwise, with any customers, suppliers, distributors, partners or employees; (b) conditions affecting the industry in which the Business participates, the U.S. economy as a whole or the capital markets in general or the markets in which the Business operates; (c) compliance with the terms of, or the taking of any action required by, this Agreement, the Ancillary Documents or the other agreements and transactions contemplated hereby; (d) any change in applicable Laws or the interpretation thereof; (e) actions required to be taken under applicable Laws; (f) any change in GAAP or other accounting requirements or principles or any change in related Laws or the interpretation thereof; (g) any national or international political or social conditions, including an outbreak or escalation of hostilities, acts of terrorism, military acts, political instability or other national or international calamity, crisis or emergency, or any governmental or other response to the foregoing, in each case whether or not involving the United States; (h) any change in conditions in the United States, foreign or global financial, banking or securities markets generally (including any disruption thereof and any decline in the price of any security or any market index or any change in interest or exchange rates); (i) any hurricane, earthquake, flood or other natural disasters; (j) any failure by the Business to meet any internal or published projections, forecasts or revenue or earnings predictions for any period ending (or for which revenues or earnings are released) on or after the date of this Agreement (provided that this clause (j) will not prevent a determination that any Effect underlying such failure has resulted in a Material Adverse Effect); or (k) any action taken with the consent or upon the request of Buyer, but in the case of clause (b), only to the extent any such Effects do not have a materially disproportionate adverse impact on the Business relative to other Persons in the industries in which the Business operates.

"Permit" means any approval, permit, license, certificate, franchise, permission, clearance, registration, qualification or other authorization issued, granted, given or otherwise made available by or under the authority of any Governmental Authority.

"Permitted Encumbrances" means (a) (i) Encumbrances for Taxes, assessments or governmental charges or levies on property not yet delinquent or the validity of which are being contested in good faith by appropriate proceedings, (ii) mechanics', carriers', workmen's, repairmen's and other like Encumbrances arising or incurred in the ordinary course of business and (iii) Encumbrances arising under equipment leases with third parties entered into in the ordinary course of business; (b) the terms of the Lease; (c) Encumbrances consisting of zoning or planning restrictions, Permits and other governmental or non-governmental restrictions or limitations on the use of real property or irregularities in title thereto which do not materially impair the use of such real property in the operation of the Business as currently conducted; (d) covenants, conditions and restrictions of record; (e) private and public easements, rights of way and utility agreements, and roads or highways, if any; (f) all covenants, conditions, restrictions, easements, rights of way, encumbrances, defects, imperfections, irregularities of title or other Encumbrances that would be readily apparent upon physical inspection of the Leased Real Property or review of an accurate survey covering the Leased Real Property; (g) with respect to any Leased Real Property, (i) the interests and rights of the respective lessors with respect thereto, including any statutory landlord liens and any Encumbrance thereon, and (ii) any Encumbrance permitted under the applicable lease agreement and any ancillary documents thereto; (h) Encumbrances created by Buyer or its successors and assigns; (i) Encumbrances disclosed in the Seller Disclosure Letter; (j) Encumbrances (other than monetary encumbrances) incurred in the ordinary course of business since December 31, 2018; and (k) licenses to Intellectual Property granted in the ordinary course of business.

"Person" means any individual, corporation (including not-for-profit), general or limited partnership, limited liability company, joint venture, estate, trust, association, organization, Governmental Authority or other entity of any kind or nature.

"Personal Information" means, in addition to any definition for any similar term (e.g., "personally identifiable information" or "PII") provided by applicable Law, or by the Business in any of its privacy policies, notices or contracts, all information that alone or in combination with other information identifies, or that could be used to identify an individual person or a device belonging to an individual person, including name, physical address, telephone number, email address, financial information, financial account number or government-issued identifier.

"PHI" means "protected health information" as defined under HIPAA.

"Privacy Laws" means any and all applicable Laws relating to the receipt, collection, compilation, use, storage, processing, sharing, safeguarding, security (both technical and physical), disposal, destruction, disclosure or transfer (including cross- border) of Personal Information, including the Federal Trade Commission Act and any and all applicable Laws relating to breach notification in connection with Personal Information.

"Representatives" means a Party's accountants, counsel, consultants, advisors and agents.

"Seller Disclosure Letter" means the disclosure letter delivered by Seller to Buyer immediately prior to the execution of this Agreement, as the same may be updated in accordance herewith.

"Seller Group" means Seller and Oncimmune USA.

"Seller Guaranty" will mean any guaranty, letter of credit, indemnity or contribution agreement or other similar agreement entered into by any member of the Seller Group in favor of any third party guaranteeing or assuring such third party of the payment of any actual or potential liability or obligation of the Business to such third party.

"Shared Business Contracts" means the Contracts between Seller or an Affiliate, on the one hand, and unrelated third parties, on the other hand, that are related to the Business but are not Business Contracts.

"Subsidiary" means, with respect to any Person: (a) any other Person of which such Person beneficially owns, either directly or indirectly, more than fifty percent (50%) of (i) the total combined voting power of all classes of voting securities of such other Person, (ii) the total combined equity interests of such other Person, or (iii) the capital or profit interests of such other Person; or (b) any other Person of which such Person has the power to vote, either directly or indirectly, sufficient securities to elect a majority of the board of directors or similar governing body of such other Person.

"Tax" or "Taxes" means any income, alternative or add-on minimum, gross income or receipts, sales, use, value added, consumption, transfer, gains, *ad valorem*, franchise, profits, license, withholding, payroll, direct placement, employment, excise, severance, stamp, procurement, occupation, premium, property, escheat, environmental or windfall profit tax, custom, duty or other tax, together with any interest, additions or penalties with respect thereto.

"Tax Benefit" means any refund of Taxes paid or any reduction in the amount of Taxes which otherwise would have been paid, calculated on a with and without basis.

"Tax Return" means any return, declaration, report, claim for refund, information return or similar statement filed or required to be filed with respect to any Taxes, including any schedule or attachment thereto, and including any amendment thereof.

"Test" means the EarlyCDT-Lung blood test detecting a panel of seven lung cancer autoantibodies (p53, CAGE, GBU4-5, NY-ESO-1, MAGE A4, HuD and SOX2) in blood or serum collected by venipuncture or finger stick, the first intended use of which is a rule-in test for use by physicians to further assess lung cancer risk in patients previously identified by CT scan to have IPNs of intermediate risk (10-65%) and the second intended use of which is a targeted screen for use by health care providers (HCPs) to triage patients at risk of lung cancer to CT scan. For clarity, "Test" includes any Successor Iteration (as defined in the PCA) developed by or on behalf of Oncimmune or its Affiliates or their respective licensees.

"Transferred Employee" means each employee set forth on Exhibit 12.1, which Exhibit may be updated prior to the Closing by mutual agreement of the Parties.

"Treasury Regulations" means final and temporary income tax regulations proposed by the U.S. Department of Treasury existing as of the Closing Date.

Section 12.2 Cross References. Each of the following terms is defined in the Section set forth opposite such term:

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|---|---|
| Acquired Assets | Section 1.1 |
| Acquired IT Assets | Section 1.1(i) |
| Agreement | Introductory Paragraph |
| Assigned Intellectual Property | Section 1.1(e) |
| Assumed Liabilites | Section 1.3 |
| Balance Sheet | Section 4.5(a) |
| Bankruptcy and Equity Exception | Section 4.2 |
| Basket | Section 9.4(a) |
| Buyer | Introductory Paragraph |
| Buyer Indemnitees | Section 9.2(a) |
| Cap | Section 9.4(b) |
| Claim Notice | Section 9.3(a) |
| Closing | Section 3.1 |
| COBRA | Section 7.4 |
| Confidentiality Agreement | Section 6.4 |
| Convey | Section 1.1 |
| Equipment | Section 1.1(b) |
| Equitable Manner | Section 10.2 |
| Excluded Assets | Section 1.2 |
| Excluded Liabilities | Section 1.4 |
| Execution Date | Introductory Paragraph |
| Final Allocation | Section 2.3 |
| Financial Statements | Section 4.5(a) |
| Indemnified Party | Section 9.3(a) |
| Indemnifying Party | Section 9.3(a) |

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|---|---|
| Inventory | Section 1.1(a) |
| IP Assignment Agreement | Section 3.2(a)(ii) |
| Knowledge | Section 13.7(b) |
| Leased Real Property | Section 4.7(b) |
| Legal Requirement | Section 4.12 |
| License Agreement | Section 3.2(a)(iii) |
| Material Contract | Section 4.9(b) |
| Material Relationships | Section 4.17 |
| Multiemployer Plan | Section 4.14(b) |
| Oncimmune USA | Recitals |
| Outside Date | Section 11.1(c) |
| Parties | Introductory Paragraph |
| Party | Introductory Paragraph |
| PCA | Recitals |
| Potential Contributor | Section 9.5 |
| Purchase Price | Section 2.1(a) |
| Quarterly Amount | Section 2.1(a) |
| Seller | Introductory Paragraph |
| Seller Indemnitees | Section 9.2(b) |
| Sharing Arrangements | Section 6.11(b)(i) |
| Supply Agreement | Section 1.2(e) |
| Third Party Claim | Section 9.3(a) |
| Transfer Documents | Section 3.3 |
| Welfare Plans | Section 7.4 |

## ARTICLE XIII

## GENERAL PROVISIONS

Section 13.1 Seller Disclosure Letter. Any disclosure in any section of the Seller Disclosure Letter of any Contract, Liability, default, breach, violation, limitation, impediment or other matter, although the provision for such disclosure may require such disclosure only if such Contract, Liability, default, breach, violation, limitation, impediment or other matter be "material," will not be construed against Seller, as an assertion by Seller, that any such Contract, Liability, default, breach, violation, limitation, impediment or other matter is, in fact, material. No reference to or disclosure of any item or other matter in the Seller Disclosure Letter will be construed as an admission or indication that such item or other matter is material or that such item or other matter is required to be referred to or disclosed in the Seller Disclosure Letter. Any disclosure in any section of the Seller Disclosure Letter will be deemed to be fully disclosed regardless of whether it could have been listed in another section of the Seller Disclosure Letter. Any disclosure by Seller in any section of the Seller Disclosure Letter will be deemed to be fully disclosed with respect to all other sections of the Seller Disclosure Letter, to the extent that the relevance to the disclosure required by or provided in another section of the Seller Disclosure Letter is reasonably apparent. The Seller Disclosure Letter is qualified in its entirety by reference to specific provisions of this Agreement and is not intended to constitute, and will not be construed as

constituting, any representations or warranties of Seller except as and to the extent provided in this Agreement, subject to the limitations and conditions provided for in this Agreement. The Seller Disclosure Letter may include items or information which Seller is not required to disclose under this Agreement; disclosure of such items or information will not affect (directly or indirectly) the interpretation of this Agreement or the scope of any disclosure obligation under this Agreement. The attachments to the Seller Disclosure Letter form an integral part of the Seller Disclosure Letter and are incorporated by reference for all purposes as if set forth fully therein. The headings contained in the Seller Disclosure Letter are for convenience of reference purposes only and will not affect in any way the meaning or interpretation of this Agreement or the Seller Disclosure Letter. No disclosure in the Seller Disclosure Letter relating to any possible breach or violation of any Contract or applicable Law will be construed as an admission or indication that any such breach or violation exists or has actually occurred. The exceptions, modifications, descriptions and disclosures in any section of the Seller Disclosure Letter are made for all relevant purposes of this Agreement and are exceptions by members of the Seller Group to all representations and warranties set forth in this Agreement or in any instrument delivered pursuant to this Agreement to the extent applicable thereto. From time to time prior to the Closing, Seller shall have the right (but not the obligation) to supplement or amend the Seller Disclosure Letter with respect to any matter hereafter arising, which, if existing or occurring at the date of this Agreement, would have been required to be set forth or described in the Seller Disclosure Letter. Any such supplement shall be deemed to have cured any inaccuracy in or breach of any representation or warranty contained in this Agreement for purposes of satisfying the Closing conditions set forth in Section 8.1(a) and for purposes of ARTICLE XI, but shall otherwise not be deemed to have cured any inaccuracy in or breach of any representation or warranty contained in this Agreement for purposes of the indemnification rights contained in this Agreement.

Section 13.2 Assignment. This Agreement may not be assigned by Buyer or Seller without the prior written consent of the other Party. Notwithstanding anything to the contrary, either party shall be permitted to assign or otherwise transfer (by operation of law or otherwise) this Agreement in connection with the sale of such party or all or substantially all of its assets, provided that such party obtains prior written consent of the other Party, which consent shall not be unreasonably withheld.

Section 13.3 No Third-Party Beneficiaries. Except for the Persons entitled to indemnification under Article IX, this Agreement is for the sole benefit of the parties to this Agreement and does benefit or create any right or cause of action for any other Persons.

Section 13.4 Entire Agreement; Amendments. This Agreement, including any Exhibits, Schedule, the Seller Disclosure Letter, the PCA, the Supply Agreement, the Development Agreement and the Ancillary Agreements contain the complete and entire understanding of the parties with respect to their subject matter. This Agreement supersedes all prior written or oral statements representations, warranties, promises, assurances, agreements and understandings between the Parties relating to or in connection with the subject matter of this Agreement. For clarity, this Agreement does not supersede any other related agreements executed by the Parties in connection with or relating to the subject matter of this Agreement. Each Party to this Agreement hereby acknowledges that they have not relied on any promise, representation or warranty that is not set forth in this Agreement. This Agreement may not be amended except in writing signed by each Party.

Section 13.5 Waiver. At any time at or prior to the Closing, Seller may agree to (a) extend the time for the performance of any of the obligations or other acts of Buyer contained herein, (b) waive any inaccuracies in the representations and warranties of Buyer contained herein or in any document, certificate or writing delivered by Buyer pursuant hereto or (c) waive compliance by Buyer with any of the agreements or conditions contained herein. At any time at or prior to the Closing, Buyer may (i) extend the time for the performance of any of the obligations or other acts of Seller contained herein, (ii) waive any inaccuracies in the representations and warranties of Seller contained herein or in any document, certificate or writing delivered by Seller pursuant hereto or (iii) waive compliance by Seller with any of the agreements or conditions contained herein. Any agreement on the part of any Party to any such extension or waiver will be valid only if set forth in a written instrument signed on behalf of such Party. The failure of any Party to assert any of its rights hereunder will not constitute a waiver of such rights.

Section 13.6 Notices. All notices, requests, demands and other communications (including, for the avoidance of doubt, any notice or document sent by any Party) under this Agreement will be in writing and will be deemed to have been duly given (i) on the date of service if served personally on the Party to whom notice is to be given; (ii) on the day of transmission if sent by e-mail to the e-mail address given below (provided no delivery failure message is received by the sender); (iii) on the Business Day after delivery to Federal Express or similar overnight courier or the Express Mail service maintained by the United States Postal Service; or (iv) on the fifth day after mailing, if mailed to the Party to whom notice is to be given, by first class mail, registered or certified, postage prepaid and properly addressed, to the Party as follows:

(a) If to Buyer:

Biodesix, Inc.
2970 Wilderness Place, Suite 100
Boulder, Colorado 80301
Attn: Legal Affairs
Email: legalaffairs@biodesix.com

with a copy to:

Cooley Godward
380 Interlocken Crescent #900
Broomfield, Colorado 80021
Attn: Brent Fassett
Email: fassettbd@cooley.com

(b) If to Seller:

Oncimmune Limited
51 Eastcheap
London EC3M 1JP
United Kingdom
Email: [***]

with a copy to:

Jones Day
1420 Peachtree St., NE
Atlanta, Georgia 30309
Attn: R. Kenneth Boehner
Email: kboehner@jonesday.com

or such other addresses or numbers and/or addressee as are furnished in writing by either Party.

Section 13.7 Interpretation.

(a) The words "hereof" "herein" and "herewith" and words of similar import will, unless otherwise stated, be construed to refer to this Agreement as a whole and not to any particular provision of this Agreement, and Article, Section, Exhibits and Schedule references are to the Articles, Sections, Exhibits and Schedule of this Agreement unless otherwise specified. Whenever the words "include," "includes" "including" or similar expressions are used in this Agreement, they will be understood be followed by the words "without limitation." The words describing the singular number will include the plural and vice versa, and words denoting any gender will include all genders and words denoting natural persons will include corporations and partnerships and vice versa. The phrase "made available" in this Agreement will mean that the information referred to has been made available if requested by the Party to whom such information is to be made available. The parties have participated jointly in the negotiation and drafting of this Agreement. In the event of an ambiguity or question of intent or interpretation arises, this Agreement will be construed as if drafted jointly by the parties and no presumption or burden of proof will arise favoring or disfavoring any Party by virtue of the authorship of any provisions of this

Agreement. All references to "$" or "dollars" are to U.S. dollars, and all amounts to be calculated or paid under this Agreement will be in U.S. dollars. References to statutes include all regulations promulgated thereunder and reference to statutes or regulations will be construed as including all statutory and regulatory provisions consolidating, amending or replacing the statute or regulation.

(b) For all purposes of this Agreement, the phrase "to the Knowledge of Seller" and any derivations thereof will mean, as of the applicable date, the actual knowledge of Adam Hill, Matthew Hall, Andrew Stewart, Marco Casarin and Laura Peek, who will not have any personal liability or obligations regarding such knowledge or any duty of inquiry or investigation with respect thereto.

Section 13.8 Counterparts. This Agreement may be executed in multiple original, PDF or facsimile counterparts, each of which will be deemed an original, and all of which taken together will be considered one and the same agreement. In the event that any signature to this Agreement or any agreement or certificate delivered pursuant hereto, or any amendment thereof, is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature will create a valid and binding obligation of the Party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof. No Party will raise the use of a facsimile machine or e-mail delivery of a ".pdf" format data file to deliver any such signature page or the fact that such signature was transmitted or communicated through the use of a facsimile machine or e-mail delivery of a ".pdf" format data file as a defense to the formation or enforceability of a contract and each Party forever waives any such defense.

Section 13.9 Severability. If any provision of this Agreement or the application of any such provision to any Person or circumstance is held invalid, illegal or unenforceable in any respect by a court of competent jurisdiction, such invalidity, illegality or unenforceability will not affect any other provision of this Agreement.

Section 13.10 Governing Law; Consent to Exclusive Jurisdiction.

(a) The interpretation and construction of this Agreement, and all matters relating to this Agreement, will be governed by the laws of the State of Delaware applicable to contracts made and to be performed entirely within the State of Delaware without giving effect to any conflict of law provisions thereof.

(b) Each of the parties agrees that any legal action or proceeding with respect to this Agreement may be brought in the federal and state courts located in the State of Delaware, and, by execution and delivery of this Agreement, each Party to this Agreement irrevocably submits itself in respect of its property, generally and unconditionally, to the exclusive jurisdiction of the aforesaid courts in any legal action or proceeding arising out of this Agreement. Each of the parties irrevocably waives any objection which it may now or hereafter have to the laying of venue of any of the aforesaid actions or proceedings arising out of or in connection with this Agreement brought in the courts referred to in the

preceding sentence. Each Party consents to process being served in any such action or proceeding by the mailing of a copy thereof to the address (set forth in Section 13.6) below its name and agrees that such service upon receipt will constitute good and sufficient service of process or notice thereof. Nothing in this paragraph will affect or eliminate any right to serve process in any other manner permitted by law.

Section 13.11 WAIVER OF JURY TRIAL. THE PARTIES TO THIS AGREEMENT IRREVOCABLY WAIVE THEIR RESPECTIVE RIGHTS TO TRIAL BY JURY OF ANY CAUSE OF ACTION, CLAIM, COUNTERCLAIM OR CROSS- COMPLAINT IN ANY ACTION OR OTHER PROCEEDING BROUGHT BY ANY PARTY TO THIS AGREEMENT AGAINST ANY OTHER PARTY OR PARTIES TO THIS AGREEMENT WITH RESPECT TO ANY MATTER ARISING OUT OF, OR IN ANY WAY CONNECTED WITH OR RELATED TO THIS AGREEMENT OR ANY PORTION OF THIS AGREEMENT, WHETHER BASED UPON CONTRACTUAL, STATUTORY, TORTUOUS OR OTHER THEORIES OF LIABILITY. EACH PARTY REPRESENTS THAT IT HAS CONSULTED WITH COUNSEL REGARDING THE MEANING AND EFFECT OF THE FOREGOING WAIVER OF ITS RIGHT TO A JURY TRIAL.

Section 13.12 Recovery of Fees by Prevailing Party. In any action at law or in equity to enforce any of the provisions or rights under this Agreement, the Party which does not prevail in such litigation, as determined by the court in a final judgment or decree, will pay to the prevailing Party all costs, expenses and attorneys' fees incurred by the prevailing Party, including such costs, expenses and fees of any appeals. If the prevailing Party will recover judgment in any action or proceeding, its costs, expenses and attorneys' fees will be included as part of such judgment.

Section 13.13 Specific Performance. Except as otherwise expressly provided herein, any and all remedies provided herein will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or conferred by Law or equity, upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy. The parties agree that irreparable damage for which monetary damages, even if available, would not be an adequate remedy, would occur in the event that the parties do not perform their respective obligations under the provisions of this Agreement in accordance with their specific terms or otherwise breach such provisions. It is accordingly agreed that, prior to the valid termination of this Agreement pursuant to Article XI, the parties will be entitled to an injunction or injunctions, specific performance and other equitable relief to prevent breaches of this Agreement and to enforce specifically the terms and provisions of this Agreement, this being in addition to any other remedy to which they are entitled at Law or in equity. Each of the parties agrees that it will not oppose the granting of an injunction, specific performance and other equitable relief when expressly available pursuant to the terms of this Agreement, and hereby waives (a) any defenses in any action for an injunction, specific performance or other equitable relief, including the defense that the other parties have an adequate remedy at Law or an award of specific performance is not an appropriate remedy for any reason at Law or equity, and (b) any requirement under Law to post a bond, undertaking or other security as a prerequisite to obtaining equitable

relief. To the extent any Party hereto brings an action, suit or proceeding to enforce specifically the performance of the terms and provisions of this Agreement (other than an action to enforce specifically any provision that expressly survives termination of this Agreement), the Outside Date will automatically be extended to (i) the [***] Business Day following the resolution of such action, suit or proceeding or (ii) such other time period established by the court presiding over such action, suit or proceeding.

*[Remainder of this Page Intentionally Left Blank; Signature Page Follows]*

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the date first written above.

**ONCIMMUNE LIMITED**

By: /s/Adam M. Hill
Name: Adam M. Hill
Title: Chief Executive Officer

**BIODESIX, INC.**

By: /s/ David Brunel
Name: David Brunel
Title: CEO

[SIGNATURE PAGE TO ASSET PURCHASE AGREEMENT]

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# COVID-19 TESTING LABORATORY SERVICES AGREEMENT

This COVID-19 TESTING LABORATORY SERVICES AGREEMENT (this "Agreement") is made as of April 3, 2020 by and between **Biodesix, Inc.** ("Biodesix"), a Delaware corporation with its usual place of business at 2790 Wilderness Place, Boulder, CO 80301, and **Centura Health Corporation** ("Hospital"), a nonprofit corporation with its usual place of business at located at 9100 E. Mineral Circle, Centennial, CO 80112.

## RECITALS

A. Biodesix operates a clinical laboratory that is duly licensed, and is certified under all applicable federal and state statutes and regulations and the Medicare and Medicaid programs, and at which it provides COVID-19 Droplet Digital PCR testing services ("COVID Testing", and each test, individually, a "COVID Test"); and

B. Hospital desires to contract with Biodesix to provide COVID Testing for the Centura facilities listed on Exhibit A ("Facilities"), and Biodesix and Hospital desire to enter into this Agreement to define their respective rights and responsibilities.

NOW, THEREFORE, in consideration of the terms, conditions and covenants hereinafter set forth, the parties agree as follows:

## AGREEMENT

1. Responsibilities of Biodesix

a. Biodesix shall perform the COVID Testing as requested by the Hospital pursuant to properly completed test requisition.

b. Biodesix will report results to the authorized hospital personnel using its standard report or other required documentation for the submitted specimen for the COVID Testing.

c. Biodesix expects to be required to submit positive specimens to at least State Departments of Health. Negative samples will be destroyed. Biodesix may retain de-identified remnant specimens for on-going quality assessment and test improvement.

2. Responsibilities of Hospital. Hospital shall submit to Biodesix properly completed test requisition information. Hospital also shall maintain, and furnish to Biodesix upon request, supporting documentation of the physician's order for the specified COVID Testing services from the ordering physician sufficient to document that any COVID Testing services performed under this Agreement were reasonable and medically necessary for the diagnosis or treatment of such patient.

3. Term and Termination.

a. The term of this Agreement ("Term") shall be for one (1) year, commencing on the Effective Date and continuing until the first (1st) anniversary of the Effective Date, and renewing automatically unless terminated in accordance with Section 3.b of this Agreement.

b. Either party may terminate this Agreement at any time with or without cause upon thirty (30) days prior written notice to the other party.

4. Billing.

a. Throughout the Term of this Agreement, Hospital shall have the sole right to bill third party payers and collect charges for COVID Testing services ordered by Hospital and performed on specimens collected under this Agreement, except as set forth in Section 4.b for hospital outpatient testing for Medicare patients.

b. In the event that Hospital requests a COVID Test from Biodesix for a patient who is insured by Medicare and who is a registered hospital outpatient at the time the specimen is collected (each, a "Medicare Outpatient Test"), Biodesix is required to bill Medicare for such Services. The Hospital shall identify each Medicare Outpatient Test to Biodesix.

5. Payment.

a. The payment rate for the COVID Testing shall be [***] per COVID Test. Within the first [***] business days of each month, Biodesix shall submit a monthly invoice to Hospital for the payment amount for COVID Testing performed during the preceding month. Hospital shall remit payment for such COVID Testing within [***] days of receipt of an invoice to the Biodesix, Inc. principal address listed above.

b. If Hospital disputes anything included in Biodesix's submission pursuant to Section 5.b, Hospital shall notify Biodesix, in writing, not less than [***] business days after receipt of such submission. Failure to respond shall be deemed approval of such submission. The parties shall work in good faith to resolve any disagreements regarding submissions under Section 5.b.

c. Hospital may, at Hospital's discretion, arrange with Biodesix for a fixed pre-payment retainer for COVID Testing ("Retainer"). Biodesix shall draw down on the Retainer balance billing as per Section 5.a until a balance of [***] of the full Retainer exists, at which point Hospital will again have the option to top off the balance of the Retainer or move to billing as per Section 5.a.

6. Compliance and Warranty. The terms of this Agreement are intended to be in compliance with all applicable federal, state and local statutes, regulations and ordinances. Each of the parties represents and warrants to the other party that it will comply with all applicable laws, rules and regulations, as they may be amended from time to time, including, but not limited to, (1) the Health Information Technology for Economic and Clinical Health Act of 2009 (the "HITECH Act"); (2) the Administrative Simplification section of the Health Insurance Portability and Accountability Act of 1996, as codified at 42 U.S.C. §1320d through d-8 ("HIPAA"); (3) the requirements of any regulations promulgated under either the HITECH Act or HIPAA, including, without limitation, the federal privacy regulations as contained in 45 CFR Parts 160 and 164 (the "Federal Privacy Regulations"), the federal security standards as contained in 45 CFR Parts 160, 162 and 164 (the "Federal Security Regulations"), and the federal standards for electronic transactions contained in 45 CFR Parts 160 and 162 (the "Federal Electronic Transactions Regulations"); (4) the federal Physician Self-Referral Law (42 U.S.C. § 1395nn), the regulations promulgated thereunder and similar state physician self-referral laws and regulations; (5) the federal Medicare/Medicaid Anti-Kickback Law (42 U.S.C. § 1320a-7b), the regulations promulgated thereunder and similar state anti-kickback laws and regulations; and (6) the Eliminating Kickbacks in Recovery Act (18 U.S.C. § 220), the regulations promulgated thereunder and similar state laws and regulations.

7. Governing Law. This Agreement shall be governed by and construed according to the laws of the State of Colorado without regard to the conflict of laws provisions thereof.

8. Insurance. During the performance of this Agreement, the Hospital shall, at its own expense, carry and maintain insurance at levels sufficient to support the obligations in this Agreement. The Hospital shall, at Biodesix's written request, furnish to Biodesix a certificate indicating that such insurance is in force.

9. Independent Contractor. Biodesix is, and shall at all times be deemed to be, an independent contractor and shall carry out the responsibilities required of it by the terms of this Agreement. This Agreement shall not be construed as creating the relationship of employer and employee, or principal and agent, between Biodesix and Hospital or any of Hospital's employees, agents, consultants, or subcontractors. Each party assumes exclusively the responsibility for the acts of their respective employees, agents, consultants, or subcontractors as they relate to any Services provided under this Agreement.

10. Indemnification. Each party shall defend, indemnify and hold harmless the other party and such party's directors, officers, employees, affiliates, and agents from and against any and all third party claims, losses, damages, costs, expenses or liabilities to the extent arising out of its obligations pursuant to this Agreement, except to the extent such claims, losses, damages, costs, expenses or liabilities arise out of the gross negligence or willful misconduct of party seeking such indemnification, its employees or agents. The provisions of this Section 10 shall survive the termination of this Agreement. The party requesting to be indemnified must place such a demand, in writing, to the other party within [***] days of its notice of the claim. The indemnified party must cooperate fully with the investigation and defense of the claim or suit, and may not take any action which will prejudice the claim or suit.

11. Entire Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and shall supersede all previous negotiations, commitments, and writings. This Agreement shall not be amended, released, discharged, changed or modified except by a written instrument signed by a duly authorized representative of each of the parties.

12. Amendments. No modifications of or amendment to this Agreement shall be effective or binding on either party unless mutually agreed to in writing signed by both parties.

13. Notice. All notices required or permitted to be given under this Agreement shall be in writing and shall be (a) delivered personally, (b) sent by certified mail, or (c) sent by a nationally-recognized courier guaranteeing next-day delivery, to the recipients below. The parties agree that changes to the addresses below for receipt of notices under this Section may be effected by a letter signed by the relevant party and does not require an amendment to this Agreement signed by all parties.

If to Sponsor:
Biodesix, Inc.
2970 Wilderness Place
Suite 100
Boulder, Colorado 80301
Attention: Legal and Regulatory Affairs
LegalAffairs@Biodesix.com

If to the Hospital:
Centura Health
9100 E Mineral Circle
Centennial, CO 80122
Laboratory 3rd Floor
[***]

**[SIGNATURE PAGE FOLLOWS]**

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

**BIODESIX, INC.**

By: /s/ Robin Harper Cowie
Name: Robin Harper Cowie
Title: CFO

**CENTURA HEALTH CORPORATION**

By: /s/ Ramy Hanna
Name: Ramy Hanna
Title: SVP Shared Services

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# FIRST AMENDMENT TO COVID-19 TESTING LABORATORY SERVICES AGREEMENT

This first amendment ("**First Amendment**") is made effective as of April 23, 2020 ("**Amendment Effective Date**") and shall serve to modify that certain COVID-19 Testing Laboratory Services Agreement dated April 3, 2020 ("**Agreement**") by and between Centura Health Corporation ("**Hospital**") and Biodesix, Inc. ("**Biodesix**").

## Background

Biodesix entered into the Agreement to provide Hospital with COVID-19 Testing services. Parties wish to amend Section 5 (Payment) of the Agreement.

NOW, THEREFORE, in consideration of the foregoing and the promises and conditions of this First Amendment, the parties agree as follows:

1. All capitalized terms in this First Amendment shall have the same meaning as defined in the Agreement.

2. The Agreement shall be amended as follows:

   A. DELETE AND REPLACE: Item b. of Section 1 (Responsibilities of Biodesix) of the Agreement is hereby deleted in its entirety and replaced with the following:

   "(i) Biodesix will pickup pre-operative test specimens at the previously agreed upon collection times per Hospital collection siteas as listed on Table 1 attached as Exhibit A of this First Amendment. Table 1 may be replaced through amendment upon mutual agreement between Hospital and Biodesix.

   (ii) Provided samples are available at the proper times and their delivery is not subject to any exceptions listed in Section 3c, Biodesix will guarantee to provide test results for at least [****] of tests by 12:00 p.m. on the day following pickup by Biodesix from each Hospital collection site. Biodesix will report results to the authorized Hospital personnel using its standard report or other required documentation for the submitted specimen for COVID Testing."

   B. ADDITION: To the end of Section 2 (Responsibilities of Hospital):

   "Hospital shall inform Biodesix of any substantial change to the specimen collection protocols that could impact performance of COVID Testing."

   C. ADDITION: A new Item c. to Section 3 (Term and Termination):

   "Hospital may terminate this Agreement immediately should Biodesix fail to comply to provide the promised percentage of test results within the required

timeframe noted in 1.b.ii. and such non-compliance is not a result of Hospital's failure to provide samples for testing pick-up by the agreed upon timeframes noted in Section lb.i. Biodesix will be excused from its obligations under this Agreement to the extent that performance is delayed or prevented by forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, as well as, additional restrictions placed on commerce as a result of COVID (or any other disease outbreak), isolated Courier delivery delays (which result from traffic or automobile related issues). Biodesix and Hospital will work together in a good faith effort to adjust the pick-up and delivery times should either party deem it necessary. If such termination occurs, Hospital shall pay Biodesix for all completed tests that it has yet to be compensated for up to the effective date of termination. Upon such termination, Biodesix will provide Hospital with a final report of all outstanding unpaid tests."

D. DELETE AND REPLACE: All of Section 5 (Payment) of the Agreement is hereby deleted in its entirety and replaced with the following:

"Hospital shall agree to purchase an intial quantity of [***] COVID Testing tests. Hospital shall arrange with Biodesix for a fixed pre-payment retainer with an initial balance ("**Retainer**") equal to the value of [***] COVID Testing tests. The cost per test shall be [***] ("**Price**") and the Retainer balance shall be [***]. The Retainer shall be drawn down by Biodesix on a per test basis at the Price until a balance of [***] of the Retainer remains [***]. At such time, Hospital will assess its projected future needs for such testing based on then-current trends and agrees to purchase additional COVID Testing tests in increments of up to [***] as deemed necessary by such trending assessments.

The Retainer may be increased at Hospital's sole discretion at the Price for each additional pre-paid test. The Price shall be reviewed by Biodesix and Hospital after six (6) months."

3. This First Amendment, together with the Agreement, constitute the entire agreement between the parties with respect to the subject matter contained therein, and together, supersede and replace any and all prior and contemporaneous understands, arrangements and agreements, whether oral or written, with respect to the subject matter.

4. Except as provided hereinabove, the parties hereby confirm and ratify that all terms and conditions of the Agreement, as heretofore amended, are in full force and effect and shall continue to apply, as amended by this First Amendment.

5. This First Amendment may be executed in two or more identical counterparts, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute the First Amendment when a duly authorized representative of each arty has signed a counterpart. Each party agrees that the delivery of the First Amendment by facsimile or electronic transmission shall have the same force and effect as delivery of

original signatures and that each party may use such facsimile or electronic signatures as evidence of the execution and delivery of the First Amendment by all parties to the same extent that an original signature could be used.

**SIGNATURE PAGE FOLLOWS**

IN WITNESS WHEREOF, the parties have caused this First Amendment to be executed in multiple counterparts by their duly authorized representatives as of the Amendment Effective Date.

| Centura Health Corporation | | Biodesix Inc. | |
|---|---|---|---|
| By: | /s/ Ramy Hanna | By: | /s/ Robin Harper Cowie |
| Name: | Ramy Hanna | Name: | Robin Harper Cowie |
| Title: | SVP Shared Services | Title: | CFO |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# SECOND AMENDMENT TO COVID-19 TESTING LABORATORY SERVICES AGREEMENT

This second amendment ("**Second Amendment**") is made effective as of May 27, 2020 ("**Amendment Effective Date**") and shall serve to modify that certain COVID-19 Testing Laboratory Services Agreement dated April 3, 2020 ("**Agreement**") by and between Centura Health Corporation ("**Hospital**") and Biodesix, Inc. ("**Biodesix**").

## Background

Biodesix entered into the Agreement to provide Hospital with COVID-19 Testing services. Parties wish to amend Exhibit A -Centura Health Facilities of the Agreement.

NOW, THEREFORE, in consideration of the foregoing and the promises and conditions of this Second Amendment, the parties agree as follows:

1. All capitalized terms in this Second Amendment shall have the same meaning as defined in the Agreement.

2. The Agreement shall be amended as follows:

   A. DELETE AND REPLACE: Exhibit A — Centura Health Facilities of the Agreement is hereby deleted in its entirety and replaced with the attached revised Exhibit A.

3. This Second Amendment, together with the Agreement, constitute the entire agreement between the parties with respect to the subject matter contained therein, and together, supersede and replace any and all prior and contemporaneous understands, arrangements and agreements, whether oral or written, with respect to the subject matter.

4. Except as provided hereinabove, the parties hereby confirm and ratify that all terms and conditions of the Agreement, as heretofore amended, are in full force and effect and shall continue to apply, as amended by this Second Amendment.

5. This Second Amendment may be executed in two or more identical counterparts, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute the Second Amendment when a duly authorized representative of each party has signed a counterpart. Each party agrees that the delivery of the Second Amendment by facsimile or electronic transmission shall have the same force and effect as delivery of original signatures and that each party may use such facsimile or electronic signatures as evidence of the execution and delivery of the Second Amendment by all parties c the same extent that an original signature could be used.

IN WITNESS WHEREOF, the parties have caused this Second Amendment to be executed in multiple counterparts by their duly authorized representatives as of the Amendment Effective Date.

| | |
|---|---|
| Centura Health Corporation | Biodesix, Inc. |
| By: /s/ Ramy Hanna | By: /s/ Robin Harper Cowie |
| Name: Ramy Hanna | Name: Robin Harper Cowie |
| Title: SVP – Shared Services | Title: CFO |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# THIRD AMENDMENT TO COVID-19 TESTING LABORATORY SERVICES AGREEMENT

This third amendment ("**Third Amendment**") is made effective as of August 7, 2020 ("**Amendment Effective Date**") and shall serve to modify that certain COVID-19 Testing Laboratory Services Agreement dated April 3, 2020 ("**Agreement**") by and between Centura Health Corporation ("**Hospital**") and Biodesix, Inc. ("**Biodesix**").

## Background

Biodesix entered into the Agreement to provide Hospital with COVID-19 Testing services. Parties wish to amend the Agreement to establish the quantities of ddPCR specimens subject to the results delivery time guarantees.

NOW, THEREFORE, in consideration of the foregoing and the promises and conditions of this Third Amendment, the parties agree as follows:

1. All capitalized terms in this Third Amendment shall have the same meaning as defined in the Agreement.

2. The Agreement shall be amended as follows:

   a. DELETE AND REPLACE: Recital Section A shall be deleted in its entirety and replaced with the following:

   "A. Biodesix operates clinical laboratories that are duly licensed, and are certified under all applicable federal and state statutes and regulations and the Medicare and Medicaid programs, and at which it provides COVID-19 Droplet Digital PCR testing and SARS Co V-2 total antibody testing each of which has been authorized under Emergency Use Authorizations by the FDA (collectively "COVID Testing", and each test, individually, a "COVID Test)."

   b. DELETE AND REPLACE: Item b (ii) of Section 1 as amended in the First Amendment shall be deleted in its entirely and replaced with the following:

   "For any given day that samples are delivered to Biodesix, provided that samples are available foregularly scheduled delivery to Biodesix and not subject to any exceptions listed in Section 3c, and further **provided that no more than [***] ddPCR** tests are received by Biodesix that day, Biodesix will guarantee to provide (1) test results for at least [***] of the first [***] tests received within [***] hours of sample arrival at Biodesix, and (2) test results for at least [***] of the remaining tests [***] received within [***] hours of sample arrival at Biodesix. For all tests received over [***] tests in any given day, Biodesix shall use best efforts to deliver results as soon as commercially possible. Biodesix will report results to the authorized Hospital personnel using its standard report or other required documentation for the submitted specimen for COVID Testing."

c. ADDITION: a new Section l .d. is herebys added as follows

"For COVID Testing not subject to the Retainer, Hospital will deliver samples to Biodesix via accepted courier service from the sites in Appendix A. Biodesix will report results to the authorized hospital personnel using its standard report or other required documentation for the submitted specimen for the COVID Testing."

d. DELETION AND REPLACEMENT: Section 5 as amended in the First Amendment shall be deleted in its entirely ad replaced with the following:

"Hospital shall agree to purchase a quantity of COVID Testing tests ("Purchase Volume") to cover two weeks of Hospital's projected volume, currently projected as [***] COVID Tests. Hospital shall arrange with Biodesix for a fixed pre-payment retainer with an initial balance ("Retainer") equal to the value of the Purchase Volume. The cost per test shall be [***] ("Price") and the Retainer balance shall be [***] (initial balance of [***]). The Retainer shall be drawn down by Biodesix on a per test basis at the Price until a balance of [***] of the Retainer remains (a balance of [***]). At such time, Hospital will assess its projected future needs for such testing based on then-current trends. Hospital agrees to purchase, at its own discretion, additional COVID Testing tests in increments of [***] tests, as deemed necessary by such trending assessments, in order to maintain a minimum Retainer balance of [***].

The Retainer may be increased at Hospital's sole discretion at the Price for each additional pre¬paid test. The Price shall be reviewed by Biodesix and Hospital after six (6) months. Any pre¬existing balance Hospital has with Biodesix predating this Third Amendment shall be added to the Retainer.

If Hospital disputes anything included in Biodesix's submission pursuant to this Section 5, Hospital shall notify Biodesix, in writing, not less than [***] business days after receipt of such submission. Failure to respond shall be deemed approval of such submission. The parties shall work in good faith to resolve any disagreements regarding submissions under Section 5."

e. DELETE AND REPLACE: Exhibit A — Centura Health Facilities is hereby deleted in its entirety and replaced with the attached Exhibit A — Revised Centural Health Facilities.

3. This Third Amendment, together with the Agreement, constitute the entire agreement between the parties with respect to the subject matter contained therein, and together, supersede and replace any and all prior and contemporaneous understands, arrangements and agreements, whether oral or written, with respect to the subject matter.

4. Except as provided hereinabove, the parties hereby confirm and ratify that all terms and conditions of the Agreement, as heretofore amended, are in full force and effect and shall continue to apply, as amended by this Third Amendment.

5. This Third Amendment may be executed in two or more identical counterparts, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute the Third Amendment when a duly authorized representative of each arty has signed a counterpart. Each party agrees that the delivery of the Third Amendment by facsimile or electronic transmission shall have the same force and effect as delivery of original signatures and that each party may use such facsimile or electronic signatures as evidence of the execution and delivery of the Third Amendment by all parties to the same extent that an original signature could be used.

IN WITNESS WHEREOF, the parties have caused this Third Amendment to be executed in multiple counterparts by their duly authorized representatives as of the Amendment Effective Date.

| | |
|---|---|
| Centura Health Corporation | Biodesix, Inc. |
| By: /s/ Clint Hinman | By: /s/ Robin Harper Cowie |
| Name: Clint Hinman | Name: Robin Harper Cowie |
| Title: VP of Pharmacy and Shared Services | Title: CFO |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# STATE OF COLORADO CONTRACT

## COVER PAGE

**State Agency**

Department of Public Health and Environment ("CDPHE" or the "State")

**Contract Number 2020-3114-6**

**Contractor**

Biodesix, Inc. ("Biodesix" or "Contractor")

**Contract Performance Beginning Date**

Effective Date

**Contract Maximum Amount**

The maximum amount payable under this Contract to Contractor by the State shall not exceed the cumulative amount owed for the Services (defined below), as determined by the State from available funds. The maximum amount payable to Contractor by the State for all Services is limited to the amount specified in invoices. Payments to Contractor are limited to the unpaid obligated balance of the Contract as owed pursuant to **Exhibit** B, **Laboratory Rate.**

**Initial Contract Expiration Date**

December 30, 2020

**Contract Purpose**

The State desires to have Contractor provide clinical and molecular pathology services ("Lab Services") through a laboratory located in Boulder ("Reference Lab") to assist the public health interests of the people of Colorado during the COVID-19 pandemic.

**Exhibits and Order of Precedence**

The following Exhibits and attachments are included with this Contract:

1. Exhibit A – Statement of Work
2. Exhibit B – Laboratory Rate
3. Exhibit C – Sample Option Letter
4. Exhibit D – Federal Provisions

In the event of a conflict or inconsistency between this Contract and any Exhibit or attachment, such conflict or inconsistency shall be resolved by reference to the documents in the following order of priority:

1. Exhibit D, Federal Provisions
2. Colorado Special Provisions in §19 of the main body of this Contract.
3. The provisions of the other sections of the main body of this Contract.
4. Exhibit A, Statement of Work.
5. Exhibit B, Laboratory Rate.
6. Exhibit C, Sample Option Letter.

**Principal Representatives**

For the State:
Lisa McGovern, Director
Procurement and Contracts Section
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Email: [***]
For Non-Legal Matters
Copy to Robin Harper Cowie, CFO robin.cowie@biodesix.com

For Contractor:
David Poticha
Senior Director, Legal Biodesix, Inc.
2970 Wilderness Place, Suite 100
Boulder, CO 80301
Email: [***]

**SIGNATURE PAGE**

**THE PARTIES HERETO HAVE EXECUTED THIS CONTRACT**

Each person signing this Contract represents and warrants that the signer is duly authorized to execute this Contract

**CONTRACTOR**
Biodesix, Inc.

By: Robin Harper Cowie
Chief Financial Officer
9/9/2020

Date: /s/ Robin Harper Cowie

**STATE OF COLORADO**
Jared S. Polis, Governor
Department of Public Health and Environment
Jill Hunsaker Ryan, MPH, Executive Director

By: Lisa McGovern, Director
Procurement and Contracts Section

Date: /s/ Lisa McGovern

**LEGAL REVIEW**
Philip J. Weiser, Attorney General

By: N/A

First Assistant Attorney General

Date: _____

In accordance with §24-30-202, C.R.S., this Contract is not valid until signed and dated below by the State Controller or an authorized delegate.

**STATE CONTROLLER**
**Robert Jaros, CPA, MBA, JD**

By: /s/ Robert Jaros

Effective Date: September 11, 2020

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## 1. PARTIES

This Contract is entered into by and between Contractor named on the Cover Page for this Contract (the "Contractor"), and the STATE OF COLORADO acting by and through the State agency named on the Cover Page for this Contract (the "State"). Contractor and the State agree to the terms and conditions in this Contract.

## 2. TERM AND EFFECTIVE DATE

A. Effective Date

This Contract shall not be valid or enforceable until the Effective Date. The State shall not be bound by any provision of this Contract before the Effective Date, and shall have no obligation to pay Contractor for any Work performed or expense incurred before the Effective Date or after the expiration or sooner termination of this Contract except for any non-cancellable, unreimbursed costs or expenses incurred as a result of this Contract prior to termination or expiration.

B. Initial Term

The Parties' respective performances under this Contract shall commence on the Contract Performance Beginning Date shown on the Cover Page for this Contract and shall terminate on the Initial Contract Expiration Date shown on the Cover Page for this Contract (the "Initial Term") unless sooner terminated or further extended in accordance with the terms of this Contract.

C. Extension Terms - State's Option

The State, at its discretion, shall have the option to extend the performance under this Contract beyond the Initial Term for a period, or for successive periods, of one year or

less at the same rates and under the same terms specified in the Contract (each such period an "Extension Term"), provided Contractor has not experienced any significant cost adjustments related to its suppliers or other unforeseen costs, in which case Contractor will share with State the impact on costs with State prior to any Extension Term and State, in its sole discretion may reasonably adjust the rates paid to Contractor. In order to exercise this option, the State shall provide written notice to Contractor in a form substantially equivalent to the Sample Option Letter attached to this Contract. Except as stated in **§2(D)**, the total duration of this Contract, including the exercise of any options to extend, shall not exceed [***] years from its Effective Date absent prior approval from the Chief Procurement Officer in accordance with the Colorado Procurement Code.

D. End of Term Extension

If this Contract approaches the end of its Initial Term, or any Extension Term then in place, the State, at its discretion, upon written notice to Contractor as provided in **§14,** may unilaterally extend such Initial Term or Extension Term for a period not to exceed [***] months (an "End of Term Extension"), regardless of whether additional Extension Terms are available or not. The provisions of this Contract in effect when such notice is given shall remain in effect during the End of Term Extension. The End of Term Extension shall automatically terminate upon execution of a replacement contract or modification extending the total term of this Contract.

E. Early Termination in the Public Interest

The State is entering into this Contract to serve the public interest of the State of Colorado as determined by its Governor, General Assembly, or Courts. If this Contract ceases to further the public interest of the State, the State, in its discretion, may terminate this Contract in whole or in part. A determination that this Contract should be terminated in the public interest shall not be equivalent to a State right to terminate for convenience. This subsection shall not apply to a termination of this Contract by the State for breach by Contractor, which shall be governed by **§12(A)(i).**

i. Method and Content

The State shall notify Contractor of such termination in accordance with **§14.** The notice shall specify the effective date of the termination and whether it affects all or a portion of this Contract, and shall include, to the extent practicable, the public interest justification for the termination.

ii. Obligations and Rights

Upon receipt of a termination notice for termination in the public interest, Contractor shall be subject to the rights and obligations set forth in **§12(A)(i)(a).**

iii. Payments

If the State terminates this Contract in the public interest, the State shall pay Contractor an amount equal to the percentage of the total reimbursement payable under this Contract that corresponds to the percentage of Work satisfactorily completed and accepted, as determined by the State, less payments previously made. Additionally, if this Contract is less than [***] completed, as determined by the State, the State may reimburse Contractor for a portion of actual out-of- pocket expenses, not otherwise reimbursed under this Contract, incurred by

Contractor which are directly attributable to the uncompleted portion of Contractor's obligations, provided that the sum of any and all reimbursement shall not exceed the maximum amount payable to Contractor hereunder.

F. Mutual Termination by the Parties

Upon [***] days prior written notice to the other Party, either Party may terminate this Contract. Such notice shall specify the effective date of the termination and whether it affects all or a portion of this Contract.

**3. DEFINITIONS**

The following terms shall be construed and interpreted as follows:

A. "**Breach of Contract**" means the failure of a Party to perform any of its obligations in accordance with this Contract, in whole or in part or in a timely or satisfactory manner. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within [***] days after the institution of such proceeding, shall also constitute a breach. If Contractor is debarred or suspended under § 24-109-105, C.R.S. at any time during the term of this Contract, then such debarment or suspension shall constitute a breach.

B. "**Business Day**" means any day other than Saturday, Sunday, or a Legal Holiday as listed in § 24-11-101(1), C.R.S.

C. "**Chief Procurement Officer**" means the individual to whom the Executive Director has delegated his or her authority pursuant to § 24-102-202(6), C.R.S. to procure or supervise the procurement of all supplies and services needed by the state.

D. "**Contract**" means this agreement, including all attached Exhibits, all documents incorporated by reference, all referenced statutes, rules and cited authorities, and any future modifications thereto.

E. "**Contract Funds**" means the funds that have been appropriated, designated, encumbered, or otherwise made available for payment by the State under this Contract.

F. "**CORA**" means the Colorado Open Records Act, § 24-72-200.1, *et. seq.*, C.R.S.

G. "**End of Term Extension**" means the time period defined in **§2(D).**

H. "**Effective Date**" means the date on which this Contract is approved and signed by the Colorado State Controller or designee, as shown on the Signature Page for this Contract. If this Contract is for a Major Information Technology Project, as defined in § 24-37.5-102(2.6), C.R.S., then the Effective Date of this Contract shall be the later of the date on which this Contract is approved and signed by the State's Chief Information Officer or authorized delegate or the date on which this Contract is approved and signed by the State Controller or authorized delegate, as shown on the Signature Page for this Contract.

I. "**Exhibits**" means the exhibits and attachments included with this Contract as shown on the Cover Page for this Contract.

J. "**Extension Term**" means the time period defined in **§2(C)**.

K. "**Goods**" means any movable material acquired, produced, or delivered by Contractor as set forth in this Contract and shall include any movable material acquired, produced, or delivered by Contractor in connection with the Services.

L. "**Initial Term**" means the time period defined in **§2(B).**

M. "**Party**" means the State or Contractor, and "Parties" means both the State and Contractor.

N. "**PHI**" means any protected health information, including, without limitation any information whether oral or recorded in any form or medium: **(i)** that relates to the past, present or future physical or mental condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and **(ii)** that identifies the individual or with respect to which there is a reasonable basis to believe the information can be used to identify the individual. PHI includes, but is not limited to, any information defined as Individually Identifiable Health Information by the federal Health Insurance Portability and Accountability Act.

O. "**PII**" means personally identifiable information including, without limitation, any information maintained by the State about an individual that can be used to distinguish or trace an individual's identity, such as name, social security number, date and place of birth, mother's maiden name, or biometric records; and any other information that is linked or linkable to an individual, such as medical, educational, financial, and employment information. PII includes, but is not limited to, all information defined as personally identifiable information in § 24-72-501, C.R.S. and § 24-73-101, C.R.S.

P. "**Services**" means the services to be performed by Contractor as set forth in this Contract, and shall include any services to be rendered by Contractor in connection with the Goods.

Q. "**State Confidential Information**" means any and all State Records not subject to disclosure under CORA. State Confidential Information shall include, but is not limited to, PII, PHI, Tax Information and State personnel records not subject to disclosure under CORA. State Confidential Information shall not include information or data concerning individuals that is not deemed confidential but nevertheless belongs to the State, which has been communicated, furnished, or disclosed by the State to Contractor which (i) is subject to disclosure pursuant to CORA; (ii) is already known to Contractor without restrictions at the time of its disclosure to Contractor; (iii) is or subsequently becomes publicly available without breach of any obligation owed by Contractor to the State; (iv) is disclosed to Contractor, without confidentiality obligations, by a third party who has the right to disclose such information; or (v) was independently developed without reliance on any State Confidential Information.

R. "**State Fiscal Rules**" means that fiscal rules promulgated by the Colorado State Controller pursuant to § 24-30-202(13)(a), C.R.S.

S. "**State Fiscal Year**" means a 12 month period beginning on July 1 of each calendar year and ending on June 30 of the following calendar year. If a single calendar year follows the term, then it means the State Fiscal Year ending in that calendar year.

T. "**State Records**" means any and all State data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under CORA.

U. "**Subcontractor**" means third-parties, if any, engaged by Contractor to aid in performance of the Work.

V. "**Tax Information**" means federal and State of Colorado tax information including, without limitation, federal and State tax returns, return information, and such other tax- related information as may be protected by federal and State law and regulation. Tax Information includes, but is not limited to all information defined as federal tax information in Internal Revenue Service Publication 1075.

W. "**Work**" means the Goods delivered and Services performed pursuant to this Contract.

X. "**Work Product**" means the tangible and intangible results of the Work, whether finished or unfinished, including drafts. Work Product includes, but is not limited to, documents, text, software (including source code), research, reports, proposals, specifications, plans, notes, studies, data, images, photographs, negatives, pictures, drawings, designs, models, surveys, maps, materials, ideas, concepts, know-how, and any other results of the Work. "Work Product" does not include any material that was developed prior to the Effective Date that is used, without modification, in the performance of the Work.

Any other term used in this Contract that is defined in an Exhibit shall be construed and interpreted as defined in that Exhibit.

## 4. STATEMENT OF WORK

Contractor shall complete the Work as described in this Contract and in accordance with the provisions of Exhibit A. The State shall have no liability to compensate Contractor for the delivery of any goods or the performance of any services that are not specifically set forth in this Contract.

## 5. PAYMENTS TO CONTRACTOR

A. Maximum Amount

Payments to Contractor are limited to the unpaid, obligated balance of the Contract Funds. Any payment allowed under this Contract or in **Exhibit A, Statement of Work** shall comply with State Fiscal Rules and be made in accordance with the provisions of this Contract and **Exhibit B, Laboratory Rate**. Contractor shall initiate payment requests by submitting invoices to the State in the form and manner set forth and approved by the State. The State shall not pay Contractor any amount under this Contract that exceeds the Contract Maximum for that State Fiscal Year shown on the Cover Page for this Contract.

B. Payment Procedures

i. Invoices and Payment

A. The State shall pay Contractor in the amounts and in accordance with the schedule and other conditions set forth in Exhibit A.

B. Contractor shall initiate payment requests by invoice to the State, in a form and manner approved by the State.

C. On a monthly basis, Contractor will submit an invoice, which invoice will reflect Lab Services rendered from the first day of the calendar month to the last day of the calendar month, and will be submitted to the State within 30 days of the end of the following calendar month. Each invoice shall include the following information:

1. Name and Address of Reference Laboratory;

2. CDPHE and Address;

3. Patient names shall not be used, but refer to each patient as "Patient # " to whom services were provided, the date each service was provided, the accession number for each service provided, the CPT code, if applicable, for each service provided and the charge for each service provided.

D. The State shall pay each invoice within 30 days following the State's receipt of that invoice, so long as the amount invoiced correctly represents Work completed by Contractor and previously accepted by the State during the term that the invoice covers. If the State determines that the amount of any invoice is not correct, then Contractor shall make all changes necessary to correct that invoice.

E. The acceptance of an invoice shall not constitute acceptance of any Work performed or deliverables provided under this Contract.

ii. Interest

Amounts not paid by the State within 45 days of the State's acceptance of the invoice shall bear interest on the unpaid balance beginning on the 45th day at the rate of 1% per month, as required by § 24-30-202(24)(a), C.R.S., until paid in full; provided, however, that interest shall not accrue on unpaid amounts that the State disputes in writing. Contractor shall invoice the State separately for accrued interest on delinquent amounts, and the invoice shall reference the delinquent payment, the number of day's interest to be paid and the interest rate.

iii. Payment Disputes

If Contractor disputes any calculation, determination or amount of any payment, Contractor shall notify the State in writing of its dispute within [***] days following the earlier to occur of Contractor's receipt of the payment or notification of the determination or calculation of the payment by the State. The State will review the information presented by Contractor and may make changes to its determination based on this review. The calculation, determination or payment amount that results from the State's review shall not be subject to additional dispute under this subsection. No payment subject to a dispute under this subsection shall be due until after the State has concluded its review, and the State shall not pay any interest on any amount during the period it is subject to dispute under this subsection.

iv. Available Funds-Contingency-Termination

The State is prohibited by law from making commitments beyond the term of the current State Fiscal Year. Payment to Contractor beyond the current State Fiscal Year is contingent on the appropriation and continuing availability of Contract

Funds in any subsequent year (as provided in the Colorado Special Provisions). If federal funds or funds from any other non-State funds constitute all or some of the Contract Funds the State's obligation to pay Contractor shall be contingent upon such non-State funding continuing to be made available for payment. Payments to be made pursuant to this Contract shall be made only from Contract Funds, and the State's liability for such payments shall be limited to the amount remaining of such Contract Funds. If State, federal or other funds are not appropriated, or otherwise become unavailable to fund this Contract, the State may, upon written notice, terminate this Contract, in whole or in part, without incurring further liability. The State shall, however, remain obligated to pay for Services and Goods that are delivered and accepted prior to the effective date of notice of termination, and this termination shall otherwise be treated as if this Contract were terminated in the public interest as described in **§2(E)**.

v. Use of Funds

Contract Funds shall be used only for eligible costs identified herein and/or in Exhibit B, Laboratory Rate.

**6. REPORTING - NOTIFICATION**

A. Quarterly Reports.

In addition to any reports required pursuant to **§16** or pursuant to any other Exhibit, for any contract having a term longer than three months, Contractor shall submit, on a quarterly basis, a written report specifying progress made for each specified performance measure and standard in this Contract. Such progress report shall be in accordance with the procedures developed and prescribed by the State. Progress reports shall be submitted to the State not later than five Business Days following the end of each calendar quarter or at such time as otherwise specified by the State.

B. Litigation Reporting

If Contractor is served with a pleading or other document in connection with an action before a court or other administrative decision making body, and such pleading or document relates to this Contract or may affect Contractor's ability to perform its obligations under this Contract, Contractor shall, within [***] days after being served, notify the State of such action and deliver copies of such pleading or document to the State's principal representative identified on the Cover Page for this Contract.

C. Performance Outside the State of Colorado or the United States, § 24-102-206, C.R.S.

To the extent not previously disclosed in accordance with § 24-102-206, C.R.S., Contractor shall provide written notice to the State, in accordance with **§14** and in a form designated by the State, within [***] days following the earlier to occur of Contractor's decision to perform Services outside of the State of Colorado or the United States, or its execution of an agreement with a Subcontractor to perform, Services outside the State of Colorado or the United States. Such notice shall specify the type of Services to be performed outside the State of Colorado or the United States and the reason why it is necessary or advantageous to perform such Services at such location or locations, and such notice shall be a public record. Knowing failure by Contractor to provide notice to the State under this section shall constitute a breach of this Contract. This section shall not apply if the Contract Funds include any federal funds.

**7. CONTRACTOR RECORDS**

A. Maintenance

Contractor shall maintain a file of all documents, records, communications, notes and other materials relating to the Work (the "Contractor Records"). Contractor Records shall include all documents, records, communications, notes and other materials maintained by Contractor that relate to any Work performed by Subcontractors, and Contractor shall maintain all records related to the Work performed by Subcontractors required to ensure proper performance of that Work. Contractor shall maintain Contractor Records until the last to occur of: **(i)** the date [***] years after the date this Contract expires or is terminated, **(ii)** final payment under this Contract is made, **(iii)** the resolution of any pending Contract matters, or **(iv)** if an audit is occurring, or Contractor has received notice that an audit is pending, the date such audit is completed and its findings have been resolved (the "Record Retention Period").

B. Inspection

Contractor shall permit the State to audit, inspect, examine, excerpt, copy and transcribe Contractor Records during the Record Retention Period. Contractor shall make Contractor Records available during normal business hours at Contractor's office or place of business, or at other mutually agreed upon times or locations including virtually or electronically if no physical locations are mutually convenient, upon no fewer than [***] Business Days' notice from the State, unless the State determines that a shorter period of notice, or no notice, is necessary to protect the interests of the State.

C. Monitoring

The State, in its discretion, may monitor Contractor's performance of its obligations under this Contract using procedures as determined by the State. The State shall monitor Contractor's performance in a manner that does not unduly interfere with Contractor's performance of the Work.

D. Final Audit Report

Contractor shall promptly submit to the State a copy of any final audit report of an audit performed on Contractor's records that relates to or affects this Contract or the Work, whether the audit is conducted by Contractor or a third party.

E. The State recognizes that if applicable, pursuant to Section 1395(V)(1)(l) of Title 42 of the United States Code, until the expiration of 4 years after the termination of this Contract, Contractor shall make available, upon written request to the Secretary of the United States Department of Health and Human Services, or upon request to the Comptroller General of the United States General Accounting Office, or any of their duly authorized representatives, a copy of this Contract and such books, documents and records as are necessary to certify the nature and extent of costs of the Services provided by Contractor under this Contract.

**8. CONFIDENTIAL INFORMATION-STATE RECORDS**

A. Confidentiality

Contractor shall keep confidential, and cause all Subcontractors to keep confidential, all State Records, unless those State Records are publicly available. Contractor shall not, without prior written approval of the State, use, publish, copy, disclose to any third

party, or permit the use by any third party of any State Records, except as otherwise stated in this Contract, permitted by law or approved in writing by the State. Contractor shall provide for the security of all State Confidential Information in accordance with all policies promulgated by the Colorado Office of Information Security and all applicable laws, rules, policies, publications, and guidelines. If Contractor or any of its Subcontractors will or may receive the following types of data, Contractor or its Subcontractors shall provide for the security of such data according to the following: **(i)** the most recently promulgated IRS Publication 1075 for all Tax Information and in accordance with the Safeguarding Requirements for Federal Tax Information attached to this Contract as an Exhibit, if applicable, **(ii)** and **(iii)** the federal Health Insurance Portability and Accountability Act for all PHI and the HIPAA Business Associate Agreement attached to this Contract, if applicable. Contractor shall immediately forward any request or demand for State Records to the State's principal representative.

B. Other Entity Access and Nondisclosure Agreements

Contractor may provide State Records to its agents, employees, assigns and Subcontractors as necessary to perform the Work, but shall restrict access to State Confidential Information to those agents, employees, assigns and Subcontractors who require access to perform their obligations under this Contract. Contractor shall ensure all such agents, employees, assigns, and Subcontractors sign agreements containing nondisclosure provisions at least as protective as those in this Contract, and that the nondisclosure provisions are in force at all times the agent, employee, assign or Subcontractor has access to any State Confidential Information. Contractor shall provide copies of those signed nondisclosure provisions to the State upon execution of the nondisclosure provisions.

C. Use, Security, and Retention

Contractor shall use, hold and maintain State Confidential Information in compliance with any and all applicable laws and regulations in facilities located within the United States, and shall maintain a secure environment that ensures confidentiality of all State Confidential Information wherever located. Contractor shall provide the State with access, subject to Contractor's reasonable security requirements, for purposes of inspecting and monitoring access and use of State Confidential Information and evaluating security control effectiveness. Upon the expiration or termination of this Contract, Contractor shall return State Records provided to Contractor or destroy such State Records and certify to the State that it has done so, as directed by the State. If Contractor is prevented by law or regulation from returning or destroying State Confidential Information, Contractor warrants it will guarantee the confidentiality of, and cease to use, such State Confidential Information.

D. Data Protection and Handling

Contractor shall ensure that all State Records and Work Product in the possession of Contractor or any Subcontractors are protected and handled in accordance with the requirements of this Contract, including the requirements of any Exhibits hereto, at all times.

E. Safeguarding PII

If Contractor or any of its Subcontractors will or may receive PII under this Contract, Contractor shall provide for the security of such PII, in a manner and form acceptable

to the State, including, without limitation, State non-disclosure requirements, use of appropriate technology, security practices, computer access security, data access security, data storage encryption, data transmission encryption, security inspections, and audits. Contractor shall be a "Third-Party Service Provider" as defined in § 24-73- 103(1)(i), C.R.S. and shall maintain security procedures and practices consistent with § 24-73-101, et seq., C.R.S.

F. Patient Information

Contractor warrants and covenants to the State that neither it or any Reference Laboratory staff shall disclose to any third party, except where permitted or required by law or where such disclosure is expressly approved by the State in writing, any patient or medical record information regarding the Laboratory Services patients, and Contractor and Reference Laboratory staff shall comply with all federal and state laws and regulations, and all reasonable rules, regulations, and policies of the State and its medical staff, regarding the confidentiality of such information. Contractor acknowledges that in receiving or otherwise dealing with any records or information from the State about the Laboratory Services requested by the State, Contractor warrants and covenants to the State that, if necessary, Contractor staff will resist in judicial proceedings any effort to obtain access to such records or information except such access as is expressly permitted by the aforementioned federal regulations and/or State law.

G. Confidentiality Requirements

To the extent applicable to this Contract, both Parties agree to comply with the federal Health Information Technology for Economic and Clinical Health Act of 2009 (the "HITECH Act"), the Administrative Simplification provisions of the Health Insurance Portability and Accountability Act of 1996, as codified at 42 USC § 1320d through d- 8 ("HIPAA") and any current and future regulations promulgated under either the HITECH Act or HIPAA, including without limitation the federal privacy standards contained in 45 C.F.R. Parts 160 and 164 (the "Federal Privacy Standards"), and the federal security standards contained in 45 C.F.R. Parts 160, 162 and 164 (the "Federal Security Standards"), all as may be amended from time to time, and all collectively referred to herein as "Confidentiality Requirements." Both Parties agree to enter into any further agreements as necessary to facilitate compliance with Confidentiality Requirements.

Both Parties agree not to use or further disclose any protected health information, as defined in 45 C.F.R. §164.504, or individually identifiable health information as defined in 42 U.S.C. §1320d (collectively, the "Protected Health Information"), concerning a patient other than as permitted by this Contract and the requirements of HIPAA or regulations promulgated under HIPAA including without limitation the Federal Privacy Standards and the Federal Security Standards. Both Parties shall implement appropriate safeguards to prevent the use or disclosure of a patient's Protected Health Information other than as provided for by this Contract. Either party will promptly report to the other party any use or disclosure of a patient's Protected Health Information not provided for by this Contract or in violation of HIPAA, the Federal Privacy Standards, or the Federal Security Standards of which that party becomes aware. In the event either party, with the approval of the other party in writing, contracts with any contractors and/or agents to whom the party provides a patient's

Protected Health Information received from the party, that party shall include provisions in such agreements whereby the contractor and/or agent agree to the same restrictions and conditions that apply to that party with respect to such patient's Protected Health Information. Either party will make its internal practices, books, and records relating to the use and disclosure of a patient's Protected Health Information available to the Secretary of Health and Human Services to the extent required for determining compliance with the Federal Privacy Standards and the Federal Security Standards. Notwithstanding the foregoing, no attorney-client, accountant-client, or other legal privilege shall be deemed waived by either party by virtue of this section.

**9. CONFLICTS OF INTEREST**

A. Actual Conflicts of Interest

Contractor shall not engage in any business or activities, or maintain any relationships that conflict in any way with the full performance of the obligations of Contractor under this Contract. Such a conflict of interest would arise when a Contractor or Subcontractor's employee, officer or agent were to offer or provide any tangible personal benefit to an employee of the State, or any member of his or her immediate family or his or her partner, related to the award of, entry into or management or oversight of this Contract.

B. Apparent Conflicts of Interest

Contractor acknowledges that, with respect to this Contract, even the appearance of a conflict of interest shall be harmful to the State's interests. Absent the State's prior written approval, Contractor shall refrain from any practices, activities or relationships that reasonably appear to be in conflict with the full performance of Contractor's obligations under this Contract.

C. Disclosure to the State

If a conflict or the appearance of a conflict arises, or if Contractor is uncertain whether a conflict or the appearance of a conflict has arisen, Contractor shall submit to the State a disclosure statement setting forth the relevant details for the State's consideration. Failure to promptly submit a disclosure statement or to follow the State's direction in regard to the actual or apparent conflict constitutes a breach of this Contract.

**10. INSURANCE**

Contractor shall obtain and maintain, and ensure that each Subcontractor shall obtain and maintain, insurance as specified in this section at all times during the term of this Contract. All insurance policies required by this Contract shall be issued by insurance companies as approved by the State.

A. Workers' Compensation

Workers' compensation insurance as required by state statute, and employers' liability insurance covering all Contractor or Subcontractor employees acting within the course and scope of their employment.

B. General Liability

Commercial general liability insurance covering premises operations, fire damage, independent contractors, products and completed operations, blanket contractual liability, personal injury, and advertising liability with minimum limits as follows:

i. [***] each occurrence;

ii. [***] general aggregate;

iii. [***] products and completed operations aggregate; and

iv. [***] any one fire.

C. Automobile Liability

Automobile liability insurance covering any auto (including owned, hired and non- owned autos) with a minimum limit of [***] each accident combined single limit.

D. Protected Information

Liability insurance covering all loss of State Confidential Information, such as PII, PHI, Tax Information, and claims based on alleged violations of privacy rights through improper use or disclosure of protected information with minimum limits as follows:

i. [***] each occurrence; and

ii. [***] general aggregate.

E. Professional Liability Insurance

Professional liability insurance covering any damages caused by an error, omission or any negligent act with minimum limits as follows:

i. [***] each occurrence; and

ii. [***] general aggregate.

F. Crime Insurance

Crime insurance including employee dishonesty coverage with minimum limits as follows:

i. [***] each occurrence; and

ii. [***] general aggregate

G. Additional Insured

The State shall be named as additional insured on all commercial general liability policies (leases and construction contracts require additional insured coverage for completed operations) required of Contractor and Subcontractors.

H. Primacy of Coverage

Coverage required of Contractor and each Subcontractor shall be primary over any insurance or self-insurance program carried by Contractor or the State.

I. Cancellation

The above insurance policies shall include provisions preventing cancellation or non- renewal, except for cancellation based on non-payment of premiums, without at least [***] days prior notice to Contractor and Contractor shall forward such notice to the State in accordance with **§14** within [***] days of Contractor's receipt of such notice.

J. Subrogation Waiver

All insurance policies secured or maintained by Contractor or its Subcontractors in relation to this Contract shall include clauses stating that each carrier shall waive all rights of recovery under subrogation or otherwise against Contractor or the State, its agencies, institutions, organizations, officers, agents, employees, and volunteers.

K. Public Entities

If Contractor is a "public entity" within the meaning of the Colorado Governmental Immunity Act, § 24-10-101, *et seq.*, C.R.S. (the "GIA"), Contractor shall maintain, in lieu of the liability insurance requirements stated above, at all times during the term of this Contract such liability insurance, by commercial policy or self-insurance, as is necessary to meet its liabilities under the GIA. If a Subcontractor is a public entity within the meaning of the GIA, Contractor shall ensure that the Subcontractor maintain at all times during the terms of this Contract, in lieu of the liability insurance requirements stated above, such liability insurance, by commercial policy or self- insurance, as is necessary to meet the Subcontractor's obligations under the GIA.

L. Certificates

Contractor shall provide to the State certificates evidencing Contractor's insurance coverage required in this Contract within seven Business Days following the Effective Date. Contractor shall provide to the State certificates evidencing Subcontractor insurance coverage required under this Contract within seven Business Days following the Effective Date, except that, if Contractor's subcontract is not in effect as of the Effective Date, Contractor shall provide to the State certificates showing Subcontractor insurance coverage required under this Contract within seven Business Days following Contractor's execution of the subcontract. No later than 15 days before the expiration date of Contractor's or any Subcontractor's coverage, Contractor shall deliver to the State certificates of insurance evidencing renewals of coverage. At any other time during the term of this Contract, upon request by the State, Contractor shall, within seven Business Days following the request by the State, supply to the State evidence satisfactory to the State of compliance with the provisions of this section.

**11. LABORATORY QUALIFICATIONS, REPRESENTATIONS AND WARRANTIES**

A. Contractor shall provide the State with proof that its Reference Laboratory is approved by Medicare CLIA ID number 06D2085730 to provide laboratory services and is licensed or registered, where and as applicable, by the State of Colorado.

B. Contractor will provide copies of licensure and certification to the State as requested.

C. Contractor warrants that its Reference Laboratory staff are duly licensed to provide Lab Services.

D. Reference Laboratory will perform all tests in compliance with any applicable standard, ruling or regulation of the Joint Commission of the State of Colorado Department of Public Health and Environment, the Laboratory Improvement Act, or any other governmental agency responsible for administering, regulating, or accrediting healthcare facilities or professionals.

E. Reference Laboratory will conform to all applicable Reference Laboratory policies including personnel qualifications, established and maintained to comply with Medicare, as well as state laws and regulations.

F. Contractor hereby represents and warrants to the State that it: (i) is not currently excluded, debarred, or otherwise ineligible to participate in the Federal health care programs as defined in 42 U.S.C. § 1320a-7b(f) (the "Federal Health Care Programs");

and (ii) is not under investigation or otherwise aware of any circumstances that may result in it being excluded from participation in the Federal Health Care Programs. This shall be an ongoing representation and warranty during the term of this Contract.

G. Contractor shall immediately notify the State of any change in the status of these representations and warranties set forth in this Contract.

H. Any breach of this Section 11 shall give the State the right to terminate this Contract immediately for cause.

**12. BREACH OF CONTRACT**

In the event of a Breach of Contract, the aggrieved Party shall give written notice of breach to the other Party. If the notified Party does not cure the Breach of Contract, at its sole expense, within [***] days after the delivery of written notice, the Party may exercise any of the remedies as described in **§13** for that Party. Notwithstanding any provision of this Contract to the contrary, the State, in its discretion, need not provide notice or a cure period and may immediately terminate this Contract in whole or in part or institute any other remedy in this Contract in order to protect the public interest of the State; or if Contractor is debarred or suspended under § 24-109-105, C.R.S., the State, in its discretion, need not provide notice or cure period and may terminate this Contract in whole or in part or institute any other remedy in this Contract as of the date that the debarment or suspension takes effect.

**13. REMEDIES**

A. State's Remedies

If Contractor is in breach under any provision of this Contract and fails to cure such breach, the State, following the notice and cure period set forth in **§12,** shall have all of the remedies listed in this section in addition to all other remedies set forth in this Contract or at law. The State may exercise any or all of the remedies available to it, in its discretion, concurrently or consecutively.

i. Termination for Breach

In the event of Contractor's uncured breach, the State may terminate this entire Contract or any part of this Contract. Contractor shall continue performance of this Contract to the extent not terminated, if any.

A. Obligations and Rights

To the extent specified in any termination notice, Contractor shall not incur further obligations or render further performance past the effective date of such notice, and to the maximum extent possible shall terminate outstanding orders and subcontracts with third parties. However, Contractor shall complete and deliver to the State all Work not cancelled by the termination notice, and may incur obligations as necessary to do so within this Contract's terms. At the request of the State, Contractor shall assign to the State all of Contractor's rights, title, and interest in and to such terminated orders or subcontracts. Upon termination, Contractor shall take timely, reasonable and necessary action to protect and preserve property in the possession of Contractor but in which the State has an interest. At the State's request, Contractor shall return materials owned by the State in Contractor's possession at the time of any termination. Contractor shall deliver all completed Work Product and all Work Product that was in the process of completion to the State at the State's request.

B. Payments

Notwithstanding anything to the contrary, the State shall only pay Contractor for accepted Work received as of the date of termination. If, after termination by the State, the State agrees that Contractor was not in breach or that Contractor's action or inaction was excusable, such termination shall be treated as a termination in the public interest, and the rights and obligations of the Parties shall be as if this Contract had been terminated in the public interest under **§2(E)**.

C. Damages and Withholding

Notwithstanding any other remedial action by the State, Contractor shall remain liable to the State for any damages sustained by the State in connection with any breach by Contractor, and the State may withhold payment to Contractor for the purpose of mitigating the State's damages until such time as the exact amount of damages due to the State from Contractor is determined. The State may withhold any amount that may be due Contractor as the State deems necessary to protect the State against loss including, without limitation, loss as a result of outstanding liens and excess costs incurred by the State in procuring from third parties replacement Work as cover.

ii. Remedies Not Involving Termination

The State, in its discretion, may exercise one or more of the following additional remedies:

A. Suspend Performance

Suspend Contractor's performance with respect to all or any portion of the Work pending corrective action as specified by the State without entitling Contractor to an adjustment in price or cost or an adjustment in the performance schedule. Contractor shall promptly cease performing Work and incurring costs in accordance with the State's directive, and the State shall not be liable for costs incurred by Contractor after the suspension of performance.

B. Withhold Payment

Withhold payment to Contractor until Contractor corrects its Work.

C. Deny Payment

Deny payment for Work not performed, or that due to Contractor's actions or inactions, cannot be performed or if they were performed are reasonably of no value to the state; provided, that any denial of payment shall be equal to the value of the obligations not performed.

D. Removal

Demand immediate removal of any of Contractor's employees, agents, or Subcontractors from the Work whom the State deems incompetent,

careless, insubordinate, unsuitable, or otherwise unacceptable or whose continued relation to this Contract is deemed by the State to be contrary to the public interest or the State's best interest.

E. Intellectual Property

If any Work infringes, or if the State in its sole discretion determines that any Work is likely to infringe, a patent, copyright, trademark, trade secret or other intellectual property right, Contractor shall, as approved by the State **(i)** secure that right to use such Work for the State and Contractor; **(ii)** replace the Work with noninfringing Work or modify the Work so that it becomes noninfringing; or, **(iii)** remove any infringing Work and refund the amount paid for such Work to the State

B. Contractor's Remedies

If the State is in breach of any provision of this Contract and does not cure such breach, Contractor, following the notice and cure period in **§12** and the dispute resolution process in **§14** shall have all remedies available at law and equity.

**14. DISPUTE RESOLUTION**

A. Initial Resolution

Except as herein specifically provided otherwise, disputes concerning the performance of this Contract which cannot be resolved by the designated Contract representatives shall be referred in writing to a senior departmental management staff member designated by the State and a senior manager designated by Contractor for resolution.

B. Resolution of Controversies

If the initial resolution described in **§14(A)** fails to resolve the dispute within [***] Business Days, Contractor shall submit any alleged breach of this Contract by the State to the Procurement Official of the State Agency named on the Cover Page of this Contract as described in § 24-101-301(30), C.R.S. for resolution in accordance with the provisions of § 24-106-109, C.R.S. and § 24-109-101.1, C.R.S. through § 24- 109-505, C.R.S., (the "Resolution Statutes"), except that if Contractor wishes to challenge any decision rendered by the Procurement Official, Contractor's challenge shall be an appeal to the executive director of the Department of Personnel and Administration, or their delegate, under the Resolution Statutes before Contractor pursues any further action as permitted by such statutes. Except as otherwise stated in this Section, all requirements of the Resolution Statutes shall apply including, without limitation, time limitations.

**15. NOTICES AND REPRESENTATIVES**

Each individual identified as a Principal Representative on the Cover Page for this Contract shall be the principal representative of the designating Party. All notices required or permitted to be given under this Contract shall be in writing, and shall be delivered **(A)** by hand with receipt required, **(B)** by certified or registered mail to such Party's principal representative at the address set forth below or **(C)** as an email with read receipt requested to the principal representative at the email address, if any, set forth on the Cover Page for this Contract. If a Party delivers a notice to another through email and the email is undeliverable, then, unless the Party has been provided with an alternate email contact, the Party delivering the notice shall deliver the notice by hand with receipt required or by

certified or registered mail to such Party's principal representative at the address set forth on the Cover Page for this Contract. Either Party may change its principal representative or principal representative contact information, or may designate specific other individuals to receive certain types of notices in addition to or in lieu of a principal representative by notice submitted in accordance with this section without a formal amendment to this Contract. Unless otherwise provided in this Contract, notices shall be effective upon delivery of the written notice.

**16. RIGHTS IN WORK PRODUCT AND OTHER INFORMATION**

A. Exclusive Property of the State

Except to the extent specifically provided elsewhere in this Contract, any pre-existing State Records, State software, research, reports, studies, photographs, negatives or other documents, drawings, models, materials, data and information shall be the exclusive property of the State (collectively, "State Materials"). Contractor shall not use, willingly allow, cause or permit Work Product or State Materials to be used for any purpose other than the performance of Contractor's obligations in this Contract without the prior written consent of the State. Upon termination of this Contract for any reason, Contractor shall provide all Work Product and State Materials to the State in a form and manner as directed by the State.

B. Exclusive Property of Contractor

Contractor retains the exclusive rights, title, and ownership to any and all pre-existing materials owned or licensed to Contractor including, but not limited to, all pre-existing software, licensed products, associated source code, machine code, text images, audio and/or video, and third-party materials, delivered by Contractor under the Contract, whether incorporated in a Deliverable or necessary to use a Deliverable (collectively, "Contractor Property"). Contractor Property shall be licensed to the State as set forth in this Contract or a State approved license agreement: **(i)** entered into as exhibits to this Contract; **(ii)** obtained by the State from the applicable third-party vendor; or **(iii)** in the case of open source software, the license terms set forth in the applicable open source license agreement.

**17. STATEWIDE CONTRACT MANAGEMENT SYSTEM**

If the maximum amount payable to Contractor under this Contract is [***] or greater, either on the Effective Date or at any time thereafter, this section shall apply. Contractor agrees to be governed by and comply with the provisions of § 24-106-103, C.R.S., § 24- 102-206, C.R.S., § 24-106-106, C.R.S. and § 24-106-107, C.R.S. regarding the monitoring of vendor performance and the reporting of contract performance information in the State's contract management system ("Contract Management System" or "CMS"). Contractor's performance shall be subject to evaluation and review in accordance with the terms and conditions of this Contract, Colorado statutes governing CMS, and State Fiscal Rules and State Controller policies.

**18. GENERAL PROVISIONS**

A. Assignment

Contractor's rights and obligations under this Contract are personal and may not be transferred or assigned without the prior, written consent of the State. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Contractor's rights and obligations approved by the State shall be subject to the provisions of this Contract.

B. Subcontracts

Contractor shall not enter into any subcontract in connection with its obligations under this Contract without the prior, written approval of the State. Contractor shall submit to the State a copy of each such subcontract upon request by the State. All subcontracts entered into by Contractor in connection with this Contract shall comply with all applicable federal and state laws and regulations, shall provide that they are governed by the laws of the State of Colorado, and shall be subject to all provisions of this Contract.

i. Contractor further agrees that in the event it carries out any of the duties under this Contract through a subcontract with a value of [***] or more over a [***] month period with a related organization, such a subcontract shall contain a clause to the effect that until the expiration of [***] years after the furnishing of such services pursuant to such subcontract, the related organization shall make available, upon written request to the Secretary of the United States Department of Health and Human Services, or upon request to the Comptroller General of the United States General Accounting Office, or any of their duly authorized representatives, a copy of such subcontract and such books, documents and records of such organization as are necessary to verify the nature and extent of such costs.

C. Binding Effect

Except as otherwise provided in **§ 18(A)**, all provisions of this Contract, including the benefits and burdens, shall extend to and be binding upon the Parties' respective successors and assigns.

D. Authority

Each Party represents and warrants to the other that the execution and delivery of this Contract and the performance of such Party's obligations have been duly authorized.

E. Captions and References

The captions and headings in this Contract are for convenience of reference only, and shall not be used to interpret, define, or limit its provisions. All references in this Contract to sections (whether spelled out or using the § symbol), subsections, exhibits or other attachments, are references to sections, subsections, exhibits or other attachments contained herein or incorporated as a part hereof, unless otherwise noted.

F. Counterparts

This Contract may be executed in multiple, identical, original counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

G. Entire Understanding

This Contract represents the complete integration of all understandings between the Parties related to the Work, and all prior representations and understandings related to the Work, oral or written, are merged into this Contract. Prior or contemporaneous additions, deletions, or other changes to this Contract shall not have any force or effect whatsoever, unless embodied herein.

H. Digital Signatures

If any signatory signs this agreement using a digital signature in accordance with the Colorado State Controller Contract, Grant and Purchase Order Policies regarding the use of digital signatures issued under the State Fiscal Rules, then any agreement or consent to use digital signatures within the electronic system through which that signatory signed shall be incorporated into this Contract by reference.

I. Modification

Except as otherwise provided in this Contract, any modification to this Contract shall only be effective if agreed to in a formal amendment to this Contract, properly executed and approved in accordance with applicable Colorado State law and State Fiscal Rules. Modifications permitted under this Contract, other than contract amendments, shall conform to the policies issued by the Colorado State Controller.

J. Statutes, Regulations, Fiscal Rules, and Other Authority

Any reference in this Contract to a statute, regulation, State Fiscal Rule, fiscal policy or other authority shall be interpreted to refer to such authority then current, as may have been changed or amended since the Effective Date of this Contract.

K. External Terms and Conditions

i. Notwithstanding anything to the contrary herein, the State shall not be subject to any provision included in any terms, conditions, or agreements appearing on Contractor's or a Subcontractor's website or any provision incorporated into any click-through or online agreements related to the Work unless that provision is specifically referenced in this Contract.

L. Severability

The invalidity or unenforceability of any provision of this Contract shall not affect the validity or enforceability of any other provision of this Contract, which shall remain in full force and effect, provided that the Parties can continue to perform their obligations under this Contract in accordance with the intent of this Contract.

M. Survival of Certain Contract Terms

Any provision of this Contract that imposes an obligation on a Party after termination or expiration of this Contract shall survive the termination or expiration of this Contract and shall be enforceable by the other Party.

N. Taxes

The State is exempt from federal excise taxes under I.R.C. Chapter 32 (26 U.S.C., Subtitle D, Ch. 32) (Federal Excise Tax Exemption Certificate of Registry No. 84- 730123K) and from State and local government sales and use taxes under § 39-26- 704(1), *et seq.,* C.R.S. (Colorado Sales Tax Exemption Identification Number 98- 02565). The State shall not be liable for the payment of any excise, sales, or use taxes, regardless of whether any political subdivision of the state imposes such taxes on Contractor. Contractor shall be solely responsible for any exemptions from the collection of excise, sales or use taxes that Contractor may wish to have in place in connection with this Contract.

O. Third Party Beneficiaries

Except for the Parties' respective successors and assigns described in **§ 18(A),** this Contract does not and is not intended to confer any rights or remedies upon any person or entity other than the Parties. Enforcement of this Contract and all rights and obligations hereunder are reserved solely to the Parties. Any services or benefits which third parties receive as a result of this Contract are incidental to this Contract, and do not create any rights for such third parties.

P. Waiver

A Party's failure or delay in exercising any right, power, or privilege under this Contract, whether explicit or by lack of enforcement, shall not operate as a waiver, nor shall any single or partial exercise of any right, power, or privilege preclude any other or further exercise of such right, power, or privilege.

Q. CORA Disclosure

To the extent not prohibited by federal law, this Contract and the performance measures and standards required under § 24-106-107, C.R.S., if any, are subject to public release through the CORA.

R. Standard and Manner of Performance

Contractor shall perform its obligations under this Contract in accordance with the highest standards of care, skill and diligence in Contractor's industry, trade, or profession.

S. Licenses, Permits, and Other Authorizations

Contractor shall secure, prior to the Effective Date, and maintain at all times during the term of this Contract, at its sole expense, all licenses, certifications, permits, and other authorizations required to perform its obligations under this Contract, and shall ensure that all employees, agents and Subcontractors secure and maintain at all times during the term of their employment, agency or subcontract, all license, certifications, permits and other authorizations required to perform their obligations in relation to this Contract.

T. Indemnification

i. General Indemnification

Contractor shall indemnify, save, and hold harmless the State, its employees, agents and assignees (the "Indemnified Parties"), against any and all costs, expenses, claims, damages, liabilities, court awards and other amounts (including attorneys' fees and related costs) ("Damages") incurred by any of the Indemnified Parties in relation to any act or omission by Contractor, or its employees, agents, Subcontractors, or assignees in connection with this Contract to the extent any such Damages are not a result of the gross negligence or willful misconduct of an Indemnified Party.

ii. Confidential Information Indemnification

Disclosure or use of State Confidential Information by Contractor in violation of **§8** may be cause for legal action by third parties against Contractor, the State, or their respective agents. Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all claims, damages, liabilities, losses, costs, expenses (including attorneys' fees and costs) incurred by the State in relation to any act or omission by Contractor, or its employees, agents, assigns, or Subcontractors in violation of **§8**.

iii. Intellectual Property Indemnification

Contractor shall indemnify, save, and hold harmless the Indemnified Parties, against any and all costs, expenses, claims, damages, liabilities, and other amounts (including attorneys' fees and costs) incurred by the Indemnified Parties in relation to any claim that any Work infringes a patent, copyright, trademark, trade secret, or any other intellectual property right.

## 19. COLORADO SPECIAL PROVISIONS (COLORADO FISCAL RULE 3-3)

These Special Provisions apply to all contracts except where noted in italics.

### A. STATUTORY APPROVAL. § 24-30-202(1), C.R.S.

This Contract shall not be valid until it has been approved by the Colorado State Controller or designee. If this Contract is for a Major Information Technology Project, as defined in §24-37.5-102(2.6), then this Contract shall not be valid until it has been approved by the State's Chief Information Officer or designee.

### B. FUND AVAILABILITY. § 24-30-202(5.5), C.R.S.

Financial obligations of the State payable after the current State Fiscal Year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

### C. GOVERNMENTAL IMMUNITY.

Liability for claims for injuries to persons or property arising from the negligence of the State, its departments, boards, commissions committees, bureaus, offices, employees and officials shall be controlled and limited by the provisions of the Colorado Governmental Immunity Act, § 24-10-101, *et seq*., C.R.S.; the Federal Tort Claims Act, 28 U.S.C. Pt. VI, Ch. 171 and 28 U.S.C. 1346(b), and the State's risk management statutes, § 24-30-1501, *et seq*., C.R.S. No term or condition of this Contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protections, or other provisions, contained in these statutes.

### D. INDEPENDENT CONTRACTOR.

Contractor shall perform its duties hereunder as an independent contractor and not as an employee. Neither Contractor nor any agent or employee of Contractor shall be deemed to be an agent or employee of the State. Contractor shall not have authorization, express or implied, to bind the State to any agreement, liability or understanding, except as expressly set forth herein. **Contractor and its employees and agents are not entitled to unemployment insurance or workers compensation benefits through the State and the State shall not pay for or otherwise provide such coverage for Contractor or any of its agents or employees. Contractor shall pay when due all**

**applicable employment taxes and income taxes and local head taxes incurred pursuant to this Contract. Contractor shall (i) provide and keep in force workers' compensation and unemployment compensation insurance in the amounts required by law, (ii) provide proof thereof when requested by the State, and (iii) be solely responsible for its acts and those of its employees and agents.**

**E. COMPLIANCE WITH LAW.**

Contractor shall comply with all applicable federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

**F. CHOICE OF LAW, JURISDICTION, AND VENUE.**

Colorado law, and rules and regulations issued pursuant thereto, shall be applied in the interpretation, execution, and enforcement of this Contract. Any provision included or incorporated herein by reference which conflicts with said laws, rules, and regulations shall be null and void. All suits or actions related to this Contract shall be filed and proceedings held in the State of Colorado and exclusive venue shall be in the City and County of Denver.

**G. PROHIBITED TERMS.**

Any term included in this Contract that requires the State to indemnify or hold Contractor harmless; requires the State to agree to binding arbitration; limits Contractor's liability for damages resulting from death, bodily injury, or damage to tangible property; or that conflicts with this provision in any way shall be void ab initio. Nothing in this Contract shall be construed as a waiver of any provision of § 24-106- 109, C.R.S.

**H. SOFTWARE PIRACY PROHIBITION.**

State or other public funds payable under this Contract shall not be used for the acquisition, operation, or maintenance of computer software in violation of federal copyright laws or applicable licensing restrictions. Contractor hereby certifies and warrants that, during the term of this Contract and any extensions, Contractor has and shall maintain in place appropriate systems and controls to prevent such improper use of public funds. If the State determines that Contractor is in violation of this provision, the State may exercise any remedy available at law or in equity or under this Contract, including, without limitation, immediate termination of this Contract and any remedy consistent with federal copyright laws or applicable licensing restrictions.

**I. EMPLOYEE FINANCIAL INTEREST/CONFLICT OF INTEREST. § 24-18- 201, C.R.S. and § 24-50-507, C.R.S.**

The signatories aver that to their knowledge, no employee of the State has any personal or beneficial interest whatsoever in the service or property described in this Contract. Contractor has no interest and shall not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of Contractor's services and Contractor shall not employ any person having such known interests.

**J. VENDOR OFFSET AND ERRONEOUS PAYMENTS. § 24-30-202(1), C.R.S. and § 24-30-202.4, C.R.S.**

**[*Not applicable to intergovernmental agreements*]** Subject to § 24-30-202.4(3.5), C.R.S., the State Controller may withhold payment under the State's vendor offset intercept system for debts owed to State agencies for: **(i)** unpaid child support debts or child support arrearages; **(ii)** unpaid balances of tax, accrued interest, or other charges specified in § 39-21-101, *et seq.*, C.R.S.; **(iii)** unpaid loans due to the Student Loan Division of the Department of Higher Education; **(iv)** amounts required to be paid to the Unemployment Compensation Fund; and **(v)** other unpaid debts owing to the State as a result of final agency determination or judicial action. The State may also recover, at the State's discretion, payments made to Contractor in error for any reason, including, but not limited to, overpayments or improper payments, and unexpended or excess funds received by Contractor by deduction from subsequent payments under this Contract, deduction from any payment due under any other contracts, grants or agreements between the State and Contractor, or by any other appropriate method for collecting debts owed to the State.

**K. PUBLIC CONTRACTS FOR SERVICES. § 8-17.5-101, *et seq.*, C.R.S.**

***[Not applicable to agreements relating to the offer, issuance, or sale of securities, investment advisory services or fund management services, sponsored projects, intergovernmental agreements, or information technology services or products and services]*** Contractor certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this Contract and will confirm the employment eligibility of all employees who are newly hired for employment in the United States to perform work under this Contract, through participation in the E-Verify Program or the State verification program established pursuant to § 8-17.5-102(5)(c), C.R.S., Contractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract or enter into a contract with a Subcontractor that fails to certify to Contractor that the Subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract. Contractor **(i)** shall not use E-Verify Program or the program procedures of the Colorado Department of Labor and Employment ("Department Program") to undertake pre-employment screening of job applicants while this Contract is being performed, **(ii)** shall notify the Subcontractor and the contracting State agency or institution of higher education within three days if Contractor has actual knowledge that a Subcontractor is employing or contracting with an illegal alien for work under this Contract, **(iii)** shall terminate the subcontract if a Subcontractor does not stop employing or contracting with the illegal alien within three days of receiving the notice, and **(iv)** shall comply with reasonable requests made in the course of an investigation, undertaken pursuant to § 8-17.5-102(5), C.R.S., by the Colorado Department of Labor and Employment. If Contractor participates in the Department program, Contractor shall deliver to the contracting State agency, Institution of Higher Education or political subdivision, a written, notarized affirmation, affirming that Contractor has examined the legal work status of such employee, and shall comply with all of the other requirements of the Department program. If Contractor fails to comply with any requirement of this provision or § 8-17.5-101, *et seq.*, C.R.S., the contracting State agency, institution of higher education or political subdivision may terminate this Contract for breach and, if so terminated, Contractor shall be liable for damages.

**L. PUBLIC CONTRACTS WITH NATURAL PERSONS. § 24-76.5-101, *et seq*., C.R.S.**

Contractor, if a natural person eighteen (18) years of age or older, hereby swears and affirms under penalty of perjury that Contractor **(i)** is a citizen or otherwise lawfully present in the United States pursuant to federal law, **(ii)** shall comply with the provisions of § 24-76.5-101, *et seq*., C.R.S., and **(iii)** has produced one form of identification required by § 24-76.5-103, C.R.S. prior to the Effective Date of this Contract.

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## EXHIBIT A, STATEMENT OF WORK

I. Services Provided by Contractor

A. Contractor will provide SARS-CoV-2 polymerase chain reaction ("PCR") diagnostic laboratory testing services ("Lab Service") as requested by the State.

1. Lab Services shall be limited to molecular microbiology testing, specifically SARS-CoV-2 performed on approved specimen source samples to provide information for the diagnosis, prevention or treatment of a disease or assessment of a medical condition.

2. Contractor shall provide SARS-CoV-2 testing according to its approved testing methodologies, all of which have been determined by the CDC and FDA to be acceptable emergency use authorized diagnostic tests.

   a. Contractor shall comply with applicable standards under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") and College of American Pathologists.

3. The SARS-CoV-2 testing services will be available to the State 24 hours a day, 7 days a week.

4. As the State deems necessary, Contractor agrees to render Lab Services for the State in accordance with orders issued by a health care provider ("HCP"), which issuance of said order is within the HCP's scope of licensure and privileges.

5. Contractor agrees in good faith to allocate up to [***] tests daily for the State, and will strive for a daily, 24-hour turnaround to results at a performance rate of [***] with turnaround measured from receipt at Contractor of a viable sample and complete manifest. The State understands that certain factors, such as, but not limited to availability of necessary reagents, personnel, and/or testing kits may affect the testing capabilities of Reference Laboratory and its turnaround time.

   a. The State does not guarantee or warrant that Contractor will receive a minimum number of specimens.

   b. The State may request an increase or decrease in sample processing capacity depending on Contractor performance and/or changes in daily laboratory throughput capacity, Contractor is not obligated to accept a requested increase if it exceeds Contractor's then existing capacity, but Contractor agrees to work with State to accommodate all reasonable requests for increased capacity.

   c. Contractor will be responsible for reporting test results to State Communicable Disease Reporting. Preferred method is via HL-7 messaging.

   d. Contractor will be responsible for notifying submitting client or patient of lab test results directly.

6. Each Party acknowledges that this Contract is not an exclusive agreement with respect to Lab Services, and each Party may contract with other parties providing or requesting the same or similar Lab Services. While Contractor will use its best efforts to meet the turnaround times and capacity stated herein, Contractor does not warrant that it can meet all of the State's needs with respect to the Lab Services.

7. The State is required to provide specimen collection supplies for the specimen collection for any samples sent to Contractor for testing. The State agrees to follow test-specific collection protocols when collecting laboratory specimens.

8. The State shall be responsible for arranging and ensuring that specimens are transported to the Biodesix laboratory at the State's expense.

B. Contractor shall , if requested by State, provide laboratory processing services to State approved third party organizations to fulfill daily sample processing quota for State

1. At the request of the State, and with at least a week's notice of third party need unless an emergency situation arises that is approved by Contractor management and State, Contractor will provision test kits to designated organizations (local governments, schools, large employers, etc.) and upon receipt of used samples, process and report results to the State

a. Contractor will ship requested test kits directly to designated organization

b. Contractor will not be responsible for actual sample collection

c. Approved third party organization will send used test kits back to Contractor's lab for processing at cost to the State

d. Contractor will strive for a daily, 24-hour turnaround to results at a performance rate of [***] based on turnaround from the point of receipt at Contractor's facility of a viable test kit and complete manifest

2. Contractor will invoice State for shipping costs directly associated with the distribution of testing kits to approved third party organizations.

II. Test Orders and Forms

A. All tests ordered pursuant to this Contract by the State will be performed by Contractor.

B. All test orders must be accompanied by the following:

1. A diagnosis;

2. Signature;

3. Symptom and/or ICD-9-CM code associated with the test(s) being ordered.

4. Verbal test orders must be authenticated as specified in accordance with the State's medical staff bylaws and/or State/federal rules/regulations.

C. The State will provide Contractor with a complete manifest with every shipment of samples with all required fields as agreed upon by Contractor and CDPHE necessary for test performance, and State and Federal reporting.

III. Test Information

A. Contractor will provide the State with the following information:

1. Laboratory name and address;

2. Laboratory phone and fax number;

3. Medical Director's name and phone number; and

4. Tests offered, including test name, pricing, CPS/HCPCS code and specimen requirements.

IV. Laboratory Report Delivery and Contents

A. Contractor agrees to deliver a copy of the original laboratory report in a timely manner (timely manner will mean within one week of specimen testing) to the State.

B. The laboratory test report will include the following:

1. Name of patient;

2. Date of test;

3. Test name;

4. Test result;

5. Normal values (Not Detected or Negative)

6. Laboratory name and address.

7. If applicable, Reference Laboratory shall report all abnormal and STAT reports to the State or to the patient's attending health care provider ("HCP"), as directed by the State.

8. Reference Laboratory also agrees to make all records of its Lab Services that were requested by the State available as authorized by State statutes.

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## EXHIBIT B, LABORATORY RATE

I. Contractor will be paid in the following manner for:

A. Orders issued by a HCP, which issuance of said order is within the HCP's scope of licensure and privileges; and

B. Tests and specimens submitted to Contractor by the State:

| TEST MNEMONIC | TEST NAME | REFERENCE LABORATORY RATE |
|---|---|---|
| SARS CoV-2 ddPCR test | COVID-19 ddPCR | [***] per specimen |

II. The State does not guarantee or warrant that Contractor will receive a minimum number of specimens.

III. Invoices

A. On a weekly basis, Contractor will submit an invoice, which invoice will reflect Lab Services rendered from the first day of the calendar week to the last day of the calendar week, and will be submitted to the State within 7 days of the end of the following calendar week. Each invoice shall include the following information:

1. Name and Address of Reference Laboratory;

2. CDPHE and Address;

3. Patient names shall not be used, but refer to each patient as "Patient # " to whom services were provided, the date each service was provided, the accession number for each service provided, the CPT code, if applicable, for each service provided and the charge for each service provided.

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CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

**MATERIAL TRANSFER AGREEMENT**

THIS MATERIAL TRANSFER AGREEMENT ("Agreement"), effective March 23, 2020 ("Effective Date"), is entered into between Biodesix, Inc., (hereinafter, "Biodesix") having a place of business at 2970 Wilderness Place, Suite 100, Boulder, CO 80301, and BIO-RAD LABORATORIES, INC. (hereinafter "Bio-Rad") having a place of business at 1000 Alfred Nobel Drive, Hercules CA 94547 (individually, a "Party", and collectively, "Parties").

Whereas, Bio-Rad and Biodesix are collaborating on an Emergency Use Authorization (EUA) submission to U.S. Food and Drug Administration as further described in Exhibit A ("the Purpose");

Whereas, Bio-Rad and Biodesix will exchange information and materials in the pursuit of the Purpose;

Whereas, Bio-Rad and Biodesix desire to protect their rights to and in exchanged materials and information.

NOW, THEREFORE IN CONSIDERATION of the mutual covenants set forth below, the Parties hereby agree as follows:

Definitions

1. The term "Biodesix Material" means items listed in Table 2 of Exhibit B.

2. The term "Bio-Rad Material" means items listed in Table 1 of Exhibit B.

3. The term "Confidential Information" means all information, knowledge, and experience concerning a Party and/or its affiliates, including, but not limited to, business, scientific, technical, manufacturing information, procedure, formulation, process, or data, disclosed to the receiving party by or on behalf of the disclosing party related to the Purpose. Confidential Information also includes Biodesix Material and Bio-Rad Material as well as any information that results from carrying out the Purpose of this Agreement. The following are excluded from the definition of Confidential Information:

    a. Information that is in or becomes part of the public domain through no fault of the receiving Party;

b. Information that was in the possession of the receiving Party beforereceipt from the disclosing Party and was not subject to a duty of confidentiality to the disclosing Party;

c. Information that is lawfully received from a third party who has the right to disclose it and who provides it without any breach, direct or indirect, of a duty of confidentiality to the disclosing Party;

d. Information that is independently developed without use of or reference to the disclosing Party's Confidential Information or Party's Material as evidenced by the receiving Party's written records.

Ownership of Material.

4. The Parties agree that Biodesix Material is the property of Biodesix and Biodesix retains all right, title and interest in and to the Biodesix Material.

5. The Parties agree that Bio-Rad Material is the property of Bio-Rad and Bio-Rad retains all right, title and interest in and to the Bio-Rad Material.

Use of the Biodesix Material.

6. Biodesix grants to Bio-Rad a non-exclusive right to use the Biodesix Material only for the Purpose. Bio-Rad agrees not to use Biodesix Material for any other purpose or to distribute the Biodesix Material to any third party at any other time without prior written consent from Biodesix, which consent may be withheld by Biodesix at its sole discretion.

7. Bio-Rad will use the Biodesix Material in compliance with all applicable national and local laws and regulations.

8. Bio-Rad agrees that access to the Biodesix Material will only be given to its personnel, staff members, and agents who are directly participating in the performance of the Purpose and who have been informed of the limitations of use of such Biodesix Material as set forth in this Agreement. Bio-Rad shall be responsible for compliance by its personnel, staff members, and agents of such limitations of use and shall be liable for breach of this Agreement by its personnel, staff members, and agents with access to the Biodesix Material.

Use of the Bio-Rad Material.

9. Bio-Rad grants to Biodesix a non-exclusive right to use the Bio-Rad Material only for the Purpose. Biodesix agrees not to use Bio-Rad Material for any other purpose or to distribute the Bio-Rad Material to any third party at any other time without prior written consent from Bio-Rad, which consent may be withheld by Bio-Rad at its sole discretion.

10. Biodesix will use the Bio-Rad Material in compliance with all applicable national and local laws and regulations.

11. Biodesix agrees that access to the Bio-Rad Material will only be given to its personnel, staff members, and agents who are directly participating in the performance of the Purpose and who have been informed of the limitations of use of such Bio-Rad Material as set forth in this Agreement. Biodesix shall be responsible for compliance by its personnel, staff members, and agents of such limitations of use and shall be liablefor breach of this Agreement by its personnel, staff members, and agents with access tothe Bio-Rad Material.

Confidential Information.

12. Each Party agrees to use reasonable efforts, no less than those it uses for its own information of a like nature, to preserve the Confidential Information disclosed by the other Party as confidential for a period of [***] years from the Effective Date. Each Party agrees to disclose to only those of its personnel, staff members and agents who are directly participating in the Purpose or have a need to know said Confidential Information in connection with the performance this Agreement and who have agreed to maintain said Confidential Information confidential under the terms and conditions of this Agreement.

13. If a receiving Party becomes legally compelled to disclose the disclosing Party's Confidential Information, so far as it is lawful and practicable, the receiving Party will notify the disclosing Party with a view to afford the disclosing Party an opportunity to seek a protective order or other appropriate remedy. In the event that such a protective order or other remedy is not obtained, the receiving Party shall furnish only that portion of the Confidential Information that it is legally obligated to disclose.

14. It is understood and agreed by both Parties that as the Purpose includes an application to the FDA for an EUA, certain information that may be Confidential Information may be disclosed in the application for the EUA. The Parties will cooperate in the application for the EUA ("the Application") and will not unreasonably withhold consent for the Party's Confidential Information to be included in the Application.

Representations and Warranties.

14. EACH PARTY REPRESENTS THAT IT HAS THE RIGHT TO ENTER INTO THIS AGREEMENT. EACH PARTY SUPPLIES ITS MATERIAL TO THE OTHER PARTY WITH NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER PARTY MAKES ANY REPRESENTATION THAT USE OF ITS MATERIAL WILL NOT INFRINGE ANY PATENT OR PROPRIETARY RIGHTS OF THIRD PARTIES.

15. Biodesix assumes all liability for damages which may arise from Biodesix' use, storage, disposal or destruction of the Bio-Rad Materials. Bio-Rad will not be liable to Biodesix for any loss, claim or demand made by Biodesix, or made against Biodesix by any other party, due to or arising from the use, storage, disposal, or destruction of the Bio-Rad Materials by Biodesix (collectively, "Biodesix Use Claims"), and Biodesix shall defend, indemnify and hold harmless Bio-Rad from any Biodesix Use Claims, except to the extent when caused by the gross negligence or willful misconduct of Bio-Rad.

16. Bio-Rad assumes all liability for damages which may arise from its receipt and use of the Biodesix Materials. Biodesix will not be liable to Bio-Rad for any loss, claim or demand made by Bio-Rad, or made against Bio-Rad by any other party, due to or arising from the use of the Biodesix Material by Bio-Rad ("Bio-Rad Use Claims") and Bio-Rad shall defend, indemnify and hold harmless Biodesix from any Bio-Rad Use Claims, except to the extent caused by the gross negligence or willful misconduct of Biodesix.

Assignment.

17. This Agreement is not assignable by either Party without prior written consent of the other Party.

Representations

18. Biodesix understands that if required by applicable law, Bio-Rad shall report the information contained in this Agreement to relevant regulators. Bio-Rad uses a variety of standardized global systems and processes to manage data relevant to this Agreement, in accordance with relevant data protection laws.

19. It is the duty of the signatories to be in compliance with relevant transparency laws within their applicable jurisdiction(s).

20.Please check all representations that apply and provide applicable information. One selection must be checked. If none of the first five representations apply, please check the sixth None of the Above:

☐ Purpose shall be conducted at a healthcare organization licensed in the US INSERT: number or REMOVE THIS TEXT with TIN# INSERT: number or REMOVE THIS TEXT;

☐ **Denmark or Belgium** - You are a healthcare professional (physician, pharmacist, medical laboratory technician, nurse, dentist, midwife, or another healthcare professional

☐ **Denmark** - If applicable, please provide CPR number. # INSERT

☐ **Belgium** - If applicable, please provide INAMI / RIZIV number or a National Register Number # INSERT

☐ You are a subject to any other transparency law requirements from a jurisdiction other than those mentioned above explain jurisdiction

☒ None of the above

Term and Termination.

21. This Agreement will terminate upon one (1) year from the Effective Date or upon thirty (30) days written notice by either Party to the other. The Parties agree that Sections 12-17, 25 and 28 shall survive the termination or expiration of this Agreement.

22. Upon termination or expiration of this Agreement Biodesix's right to use Bio-Rad Material and Bio-Rad's right to use Biodesix Material will end. Upon termination or expiration of this Agreement, Bio-Rad will return remaining Biodesix Material to Biodesix and Biodesix will return remaining Bio-Rad Material to Bio-Rad. Either Party may request that the other Party destroy unused Material in lieu of returning it.

23. At any time upon request, receiving Party will return or destroy all Confidential Information provided by disclosing Party (including all copies), and will destroy all notes and memoranda to the extent they contain disclosing Party's Confidential Information, and will make no further use of any Confidential Information, except that the receiving Party may retain one archival copy of the Confidential Information in a secure location for the purpose of demonstrating compliance with this Agreement and receiving Party will not be required to delete electronic copies on computer back-up devices made for the purpose of disaster recovery. In the event of destruction, and upon the request of the disclosing Party, receiving Party agrees to certify in writing that such destruction has been accomplished.

Miscellaneous.

24. This Agreement shall be governed and interpreted in accordance with the laws of the State of Delaware, without reference to the conflict of law principles thereof.

25. This Agreement constitutes the entire agreement and understanding of the Parties hereto and supersedes any prior agreements or understandings relating to the subject matter hereof. No amendments or changes to this Agreement shall be effective unless made in writing and signed by authorized representatives of both Parties.

26. This Agreement shall not constitute, create or in any way be interpreted as a joint venture, partnership or employer-employee relationship of any kind.

27. Each Party agrees that it will not use the name or logo of the other Party or any of its affiliates, or any of its respective trustees, directors, officers, staff members, employees, students or agents in any advertising, promotional or sales literature, publicity without the prior written approval of the Party or individual whose name or logo is to be used. This provision does not supersede any previous permissions granted by either Party in regards to names or logos and only applies to the Purpose.

28. The provisions of this Agreement are severable. In the event that any provisions of this Agreement shall be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each term and provision of this Agreement shall be valid and shall be enforced to the fullest extent permitted by law.

/ / /

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement by proper persons thereunto duly authorized.

| BIODESIX, INC. | | BIO-RAD LABORATORIES, INC. | |
|---|---|---|---|
| By: | /s/ Robin Harper Cowie | By: | /s/ Josh Shinoff |
| Name: | Robin Harper Cowie | Name: | Josh Shinoff |
| Title: | CFO | Title: | Vice President, Business Development, LSG & DBG |
| Date: | 3/31/2020 | Date: | 3/31/2020 |

Bio-Rad Laboratories, Inc.
Digital Biology Center
5731 West Las Positas Blvd.
Pleasanton, California 94588
Phone: 925-474-8600
Fax: 925-474-8644

**Exhibit A - STATEMENT OF WORK**

**Collaborator's Information**
Name: Gary Pestano, PhD
Institution: Biodesix, Inc.
Phone: [***]

**Date:** 3/22/2020
NPI #: [***]
Phone: [***]
Email: gary.pestano@biodesix.com

**Project Name:** Biodesix ddPCR COVID-19 EUA test

**Project Description:** The emergence of COVID-19 (coronavirus) has demonstrated the need for highly sensitive and accurate testing. The standard of care in virology testing, qPCR, has shown in 2 recent papers from Wuhan to not be as sensitive or accurate as ddPCR[1-2]. Additionally, there is a large need globally for assays that can be deployed on both RUO and IVD platforms under emergency use authorization (EUA) from the FDA and other regulatory bodies.

The intent of this collaboration is for Biodesix to create, validate and file Bio-Rad's ddPCR SARS- CoV-2 test for EUA with the FDA specifically for use in Biodesix's CLIA laboratory in Colorado. Additionally, Bio-Rad will file a kit manufacturer SARS-CoV-2 EUA with the FDA for broad distribution in the US. The need is high for broad, high-quality assays during this pandemic – both Biodesix and Bio-Rad can contribute to remedy this need.

Initial validation studies to support the Biodesix EUA will be conducted according to FDA guidelines using the recommended genomic RNA (NR-52281, novel coronavirus 2019- nCoV/USA-WA1/2020 control material spiked into negative samples to create 30 "positives" and 30 'negatives". Similarly, additional validation studies will be conducted using <100 contrived samples created from negative sample spiked with standard material from Exact Diagnostics:
<50 negative samples, <25 low positive samples and <25 high positive samples.

**Significance of Project:** There are at least 8 PCR assays filed with the FDA for EUA: all qPCR based with similar performance. However, the availability of ddPCR will provide both additional testing capability and an analytical comparison of sensitivity and specificity to qPCR. Biodesix will not only file their CLIA EUA but also provide access to Bio-Rad for residual samples that could be used for 510k filing once the EUA has expired. Finally, the SARS-CoV-2 ddPCR assay will also broaden the portfolio of both Biodesix and Bio-Rad in molecular diagnostic testing.

**How will the development and V&V accomplished?**

Bio-Rad will provide materials and protocols produced during feasibility to Biodesix.
Biodesix, per CLIA guidelines, will confirm feasibility, run verification and validation testing in keeping with previously approved SARS-CoV-2 EUA tests and file with the FDA. Biodesix will run pre-defined extraction method and multiple manual DG/QX200 systems in parallel . Currently, the maximum capacity for COVID-19 testing at Biodesix is 1000 tests/day.

**Is the current qPCR test unsatisfactory?**

Evidence of qPCR test performance varies; however all EUA tests document sensitivity of 0.009 TCID50/mL[3] and/or 0.33 copies/µl[4] at 95% positivity. As seen in the recent Wuhan papers, disease is likely present at lower levels than qPCR can detect due to sampling, interfering substances or other issues resulting in observed high false negative rates.

**What would success look like?**

An approved FDA EUA and live SARS-CoV-2 test at Biodesix laboratory.

**What Bio-Rad will provide:**

1. Reagents for ~1000 SARS-CoV-2 tests including:
    a) 1-step ddPCR super mix (may not be final configuration of assay which is expected to be 5000 reactions/kit)
    b) Plastics
    c) Droplet generation and droplet reader oil
    d) 2019-nCoV CDC ddPCR Triplex Probe Assay
    e) Exact Diagnostics SARS-CoV-2 Standard, Part# COV19(www.exactdiagnostics.com)
    f) Exact Diagnostics SARS-CoV-2 Negative, Part# COV000
2. Regulatory support
3. Supply agreement for 2019-nCoV CDC ddPCR Triplex Probe Assay
4. Protocols developed during Bio-Rad feasibility
5. Commitment to prioritized instrument service and/or replacements

**What Biodesix will provide:**

1. ddPCR instruments (QX200 manual DGs, thermocyclers and QX200 droplet readers)
2. Trained Laboratory personnel
3. Certified CAP/CLIA/NYS CLEP, ISO13485-approved BSL2 clinical laboratory facility
4. Laboratory Director services for test review and resulting
5. Samples, contrived and /or patient derived
6. Positive specimen procurement for validation (BEI)
7. Regulatory support for EUA filing
8. Extraction kit and process testing
9. Full access to all resulting data to Bio-Rad for use in joint publications and purposes

**Project timing start:**

Kick off meeting between Bio-Rad and Biodesix on 3/19/2020. Reagents and consumable to ship week of 3/23/2020. Completion of Biodesix EUA and go live estimated week of 4/6/2020.

**If Biodesix successfully executes EUA, Biodesix agrees to act as a reference, speak publicly and present EUA data in the public domain where appropriate.**

**MTA and NDA in place through 2021- amended to add this SOW**

1 https://www.medrxiv.org/content/10.1101/2020.02.29.20029439v1
2 https://www.medrxiv.org/content/10.1101/2020.03.14.20036129v1
3 Roche CoV-2 Cobas Package insert
4 Primerdesign CoV-2 Package insert

**Exhibit B**

**Table 1. Bio-Rad items to be shipped to Biodesix**

| Part Number | Item | Qty Per Item | Qty needed per Study | List Price per unit | List Price Total |
|---|---|---|---|---|---|
| COVO19 | COV019 SARS-CoV-2 Standard | 5 vials | 2 | [***] | [***] |
| dEXD28563542 | 2019-nCoV CDC ddPCR Triplex Probe Assay | 1 x 200 rxn | 3 | [***] | [***] |
| 1864022 | One-step RT ddPCR Advanced kit for probes | 1 x 500 rxn | 1 | [***] | [***] |
| N/A | Nasopharyngeal swab samples and/or extracted nucleic acids | 1 | 60 | [***] | [***] |
| | | | | **Total** | [***] |

**Table 2. Biodesix items to be shipped to Bio-Rad**

| Part Number | Item | Qty Per Item | Qty needed per Study | List Price per unit | List Price Total |
|---|---|---|---|---|---|
| R1040 | *Quick*-RNA Viral 96 Kit | 1 | 1 | [***] | [***] |
| | | | | **Total** | [***] |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. [***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# FIRST AMENDMENT TO MATERIAL TRANSFER AGREEMENT

This first amendment ("**First Amendment**") is made effective as of April 3, 2020 ("**Amendment Effective Date**") and shall serve to modify that certain Material Transfer Agreement dated March 23, 2020 ("**Agreement**") by and between Bio-Rad Laboratories, Inc. ("**Bio-Rad**") and Biodesix, Inc. ("**Biodesix**").

## Background

Parties entered into the Agreement to exchange information and materials for that certain Purpose. Parties wish to amend the Agreement to replacing Table 2 in Exhibit B.

NOW, THEREFORE, in consideration of the foregoing and the promises and conditions of this First Amendment, the parties agree as follows:

1. All capitalized terms in this First Amendment shall have the same meaning as defined in the Agreement.

2. The Agreement shall be amended as follows:

   A. DELETE AND REPLACE: Table 2 – Biodesix items to be shipped to Bio-Rad in Exhibit B of the Agreement is hereby deleted in its entirety and replaced with the following:

**B. Table 2. Biodesix items to be shipped to Bio-Rad**

| Part Number | Item | Qty Per Item | Qty needed per Study | List Price per unit | List Price Total |
|---|---|---|---|---|---|
| R1040 | *Quick*-RNA Viral 96 Kit | 1 | [***] | $[***] | $[***] |
| N/A | Nasopharyngeal swab samples and/or extracted nucleic acids | 1 | [***] | $[***] (per 500ul) | $[***] |
| | | | | **Total** | $[***] |

3. This First Amendment, together with the Agreement, constitute the entire agreement between the parties with respect to the subject matter contained therein, and together, supersede and replace any and all prior and contemporaneous understands, arrangements and agreements, whether oral or written, with respect to the subject matter.

4. Except as provided hereinabove, the parties hereby confirm and ratify that all terms and conditions of the Agreement, as heretofore amended, are in full force and effect and shall continue to apply, as amended by this First Amendment.

5. This First Amendment may be executed in two or more identical counterparts, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute the First Amendment when a duly authorized representative of each arty has signed a counterpart. Each party agrees that the delivery of the First Amendment by facsimile or electronic transmission shall have the same force and effect as delivery of original signatures and that each party may use such facsimile or electronic signatures as evidence of the execution and delivery of the First Amendment by all parties to the same extent that an original signature could be used.

IN WITNESS WHEREOF, the parties have caused this First Amendment to be executed in multiple counterparts by their duly authorized representatives as of the Amendment Effective Date.

| Bio-Rad Laboratories, Inc. | | Biodesix, Inc. | |
|---|---|---|---|
| By: | /s/ Josh Shinoff | By: | /s/ Robin Harper Cowie |
| Name: | Josh Shinoff | Name: | Robin Harper Cowie |
| Title: | Vice President, Business Development, LSG & DBG | Title: | CFO |

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THE EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED.
[***] INDICATES THAT INFORMATION HAS BEEN REDACTED.

# MATERIAL TRANSFER AGREEMENT

THIS MATERIAL TRANSFER AGREEMENT ("Agreement"), effective this April 17, 2020 ("Effective Date"), is entered into between Biodesix, Inc., (hereinafter, "Recipient") having a place of business at 2970 Wilderness Place, Suite 100, Boulder, CO 80301, and BIO-RAD LABORATORIES, INC. (hereinafter "Bio-Rad") having a place of business at 1000 Alfred Nobel Drive, Hercules CA 94547 (individually, a "Party", and collectively, "Parties").

Whereas, Parties desire to have Recipient evaluate the performance of Bio-Rad's Platelia SARS- CoV-2 Total Ab assay that is not yet commercially available ("the Purpose");

Whereas, Bio-Rad will provide materials in the pursuit of the Purpose;

Whereas, Bio-Rad and Recipient desire to protect their rights to and in exchanged materials and information.

NOW, THEREFORE IN CONSIDERATION of the mutual covenants set forth below, the Parties hereby agree as follows:

**Definitions**

1. The term "Bio-Rad Material" means items listed in Table 1 of Exhibit B.
2. The term "Confidential Information" means all information, knowledge, and experience concerning a Party and/or its affiliates, including, but not limited to, business, scientific, technical, manufacturing information, procedure, formulation, process, or data, disclosed to the receiving party by or on behalf of the disclosing party related to the Purpose. Confidential Information also includes Bio-Rad Material as well as any information that results from carrying out the Purpose of this Agreement. The following are excluded from the definition of Confidential Information:
    a. Information that is in or becomes part of the public domain through no fault of the receiving Party;
    b. Information that was in the possession of the receiving Party before receipt from the disclosing Party and was not subject to a duty of confidentiality to the disclosing Party;
    c. Information that is lawfully received from a third party who has the right to disclose it and who provides it without any breach, direct or indirect, of a duty of confidentiality to the disclosing Party;
    d. Information that is independently developed without use of or reference to the disclosing Party's Confidential Information or, in the case of Recipient, independently developed without use of or reference to the Bio-Rad Material as evidenced by the receiving Party's written records.

**Ownership of Material.**

3. The Parties agree that Bio-Rad Material is the property of Bio-Rad and Bio-Rad retains all right, title and interest in and to the Bio-Rad Material and intellectual property rights related thereto.

4. Bio-Rad will own all right, title and interest in and to any improvements, modifications and methods of using or making the Bio-Rad Material developed by Recipient through Recipient's Evaluation or any other use of the Bio-Rad Material ("Bio-Rad Material Improvements") and any intellectual property rights related thereto. Recipient will, and hereby does, assign all of its right, title and interest to Bio-Rad Material Improvements and intellectual property rights related thereto to Bio-Rad.

5. If the rights to Inventions are not assignable due to applicable mandatory law, Recipient grants to Bio-Rad an irrevocable, perpetual, exclusive, sub-licensable, world-wide, unlimited and royalty-free license to make, have made, use, sell and import the Invention for any purpose.

**Use of the Bio-Rad Material.**

6. Bio-Rad grants to Recipient a non-exclusive right to use the Bio-Rad Material only for the purpose of performing the evaluation as described in Exhibit A ("Evaluation"). Recipient agrees not to use Bio-Rad Material for any other purpose or to distribute the Bio-Rad Material to any third party at any other time without prior written consent from Bio-Rad, which consent may be withheld by Bio-Rad at its sole discretion.

7. Recipient will not analyze, attempt to modify or reverse-engineer or otherwise seek to determine the structure or sequence of any Material without Bio-Rad's prior written consent, which consent may be withheld by Bio-Rad at its sole discretion.

8. Recipient will provide Bio-Rad a copy of all data generated by the Evaluation, analysis of data and other results of the Evaluation ("the Results"). Recipient agrees that upon mutual agreement of the parties Bio-Rad may present or publish the Results. Recipient retains ownership of all Results that are not also Bio-Rad Material Improvements that Recipient generates. For the avoidance of doubt, Results do not include any results generated by Recipient from use of Platelia SARS-CoV-2 Total Ab test kits that Recipient acquires other than under this Agreement.

9. Recipient will use the Bio-Rad Material in compliance with all applicable national and local laws and regulations.

10. Recipient agrees that access to the Bio-Rad Material will only be given to its personnel, staff members, and agents who are directly participating in the performance of the purpose recited in Section 6 of this Agreement and who have been informed of the limitations of use of such Bio-Rad Material as set forth in this Agreement. Recipient shall be responsible for compliance by its personnel, staff members, and agents of such limitations of use and shall be liable for breach of this Agreement by its personnel, staff members, and agents with access to the Bio-Rad Material.

**Confidential Information.**

11. Each Party agrees to use reasonable efforts, no less than those it uses for its own information of a like nature, to preserve the Confidential Information disclosed by the other Party as confidential for a period of [***] years from the Effective Date. Each Party agrees to disclose to only those of its personnel, staff members and agents who are directly participating in the Purpose or have a need to know said Confidential Information in connection with the performance this Agreement and who have agreed to maintain said Confidential Information confidential under the terms and conditions of this Agreement. The receiving Party shall remain liable under this agreement for any violations of this agreement by its agent.

12. If a receiving Party becomes legally compelled to disclose the disclosing Party's Confidential Information, so far as it is lawful and practicable, the receiving Party will notify the disclosing Party with a view to afford the disclosing Party an opportunity to seek a protective order or other appropriate remedy. In the event that such a protective order or other remedy is not obtained, the receiving Party shall furnish only that portion of the Confidential Information that it is legally obligated to disclose.

**Publication and Use of Results**

13. If either Party publishes the Results as per Paragraph 8, they will follow standard protocols in acknowledging the contributions of the other Party and authorship on scientific articles.

14. Recipient may share Results with regulatory agencies as required by applicable laws. Recipient will, if reasonable to do so, notify Bio-Rad when Results are shared pursuant to this Section 14.

15. Recipient may share Results with potential pharmaceutical company collaborators of Recipient under confidentiality obligations no less strict than those of this Agreement with prior written consent of Bio-Rad, said consent not to be unreasonably withheld.

**Representations and Warranties.**

16. EACH PARTY REPRESENTS THAT IT HAS THE RIGHT TO ENTER INTO THIS AGREEMENT. BIORAD SUPPLIES ITS MATERIAL TO RECIPIENT WITH NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER PARTY MAKES ANY REPRESENTATION THAT USE OF ITS MATERIAL WILL NOT INFRINGE ANY PATENT OR PROPRIETARY RIGHTS OF THIRD PARTIES.

17. Other than for claims of infringement of third party proprietary rights, for which Bio-Rad shall be solely responsible provided Recipient uses the Material as instructed by Bio-Rad, Recipient assumes all liability for damages which may arise from Recipient' use, storage, disposal or destruction of the Bio-Rad Materials. Bio-Rad will not be liable to Recipient for any loss, claim or demand made by Recipient, or made against Recipient by any other party, due to or arising from the use, storage, disposal, or destruction of the Bio-Rad Materials by Recipient (collectively, "Recipient Use Claims"), and Recipient shall

defend, indemnify and hold harmless Bio-Rad from any Recipient Use Claims, except to the extent when caused by the gross negligence or willful misconduct of Bio-Rad or arise out of claims of infringement of third party proprietary rights relating to the Materials or the use of the Materials.

18. Recipient understands that if required by applicable law, Bio-Rad shall report the information contained in this Agreement to relevant regulators. Bio-Rad uses a variety of standardized global systems and processes to manage data relevant to this Agreement, in accordance with relevant data protection laws. It is the duty of the signatories to be in compliance with relevant transparency laws within their applicable jurisdiction(s).

19. Please check all representations that apply and provide applicable information. One selection must be checked. If none of the first five representations apply, please check the sixth None of the Above:

☐ Evaluation shall be conducted at a healthcare organization licensed in the US INSERT: number or REMOVE THIS TEXT with TIN# INSERT: number or REMOVE THIS TEXT;

☐ **Denmark or Belgium** - You are a healthcare professional (physician, pharmacist, medical laboratory technician, nurse, dentist, midwife, or another healthcare professional

☐ **Denmark** - If applicable, please provide CPR number. # INSERT

☐ **Belgium** - If applicable, please provide INAMI / RIZIV number or a National Register Number # INSERT

☐ You are a subject to any other transparency law requirements from a jurisdiction other than those mentioned above explain jurisdiction

☒ None of the above

**Assignment.**

20. This Agreement is not assignable by Recipient without prior written consent of Bio-Rad.

**Term and Termination.**

21. This Agreement will terminate upon one (1) year from the Effective Date or upon thirty (30) days written notice by either Party to the other. The Parties agree that Sections 11- 17, 20 24 and 27 shall survive the termination or expiration of this Agreement.

22. Upon termination or expiration of this Agreement Recipient's right to use Bio-Rad Material will end. Upon termination or expiration of this Agreement, Recipient will return remaining Bio-Rad Material to Bio-Rad. Bio-Rad may request that Recipient destroy unused Material in lieu of returning it.

23. At any time upon request, receiving Party will return or destroy all Confidential Information provided by disclosing Party (including all copies), and will destroy all notes and memoranda to the extent they contain disclosing Party's Confidential Information, and will make no further use of any Confidential Information, except that the receiving Party may retain one archival copy of the Confidential Information in a secure location

for the purpose of demonstrating compliance with this Agreement and receiving Party will not be required to delete electronic copies on computer back-up devices made for the purpose of disaster recovery. In the event of destruction, and upon the request of the disclosing Party, receiving Party agrees to certify in writing that such destruction has been accomplished.

**Miscellaneous.**

24. This Agreement shall be governed and interpreted in accordance with the laws of the State of Delaware, without reference to the conflict of law principles thereof.

25. This Agreement constitutes the entire agreement and understanding of the Parties hereto and supersedes any prior agreements or understandings relating to the subject matter hereof. No amendments or changes to this Agreement shall be effective unless made in writing and signed by authorized representatives of both Parties.

26. This Agreement shall not constitute, create or in any way be interpreted as a joint venture, partnership or employer-employee relationship of any kind.

27. Each Party agrees that it will not use the name or logo of the other Party or any of its affiliates, or any of its respective trustees, directors, officers, staff members, employees, students or agents in any advertising, promotional or sales literature, publicity without the prior written approval of the Party or individual whose name or logo is to be used.

28. The provisions of this Agreement are severable. In the event that any provisions of this Agreement shall be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each term and provision of this Agreement shall be valid and shall be enforced to the fullest extent permitted by law.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement by proper persons thereunto duly authorized.

| **BIODESIX, INC.** | | **BIO-RAD LABORATORIES, INC.** | |
|---|---|---|---|
| By: | /s/ Robin Harper Cowie | By: | /s/ Josh Shinoff |
| Name: | Robin Harper Cowie | Name: | Josh Shinoff |
| Title: | CFO | Title: | Vice President, Business Development, LSG & DBG |
| Date: | 4/24/2020 | Date: | 4/24/2020 |

**Exhibit A - STATEMENT OF WORK**

Recipient wishes to verify the performance of the commercialized Bio-Rad's COVID-19 Serology test (Platelia SARS-CoV-2 Total Ab) as described below. The intended use of the product when commercialized is to be offered together with the Bio-Rad ddPCR assay (when requested) to meet Recipient two target markets in (i) Pharma (screening of patients for trial enrollment and in longitudinal monitoring) and in (ii) the Hospital/Private practice and employee setting for "back to work", patient and essential (first responder) testing and in routine care for patients with nodules that may progress to lung cancer.

Project Objective: Support for CLIA/CAP/COLA and NYS CLEP regulatory approvals. Studies include but are not limited to this below.

A. Performance Verification of the commercialized Platelia SARS-CoV-2 Total Ab test Kit:

- Accuracy (10 reference cases + 10 normal controls). Reference cases have an IgG (and IgM) result from the respective Diazyme Ig Test kit. Additional exploratory studies will be conducted on the specimens to estimate viral copy number using the Bio-Rad ddPCR assay.
- Precision (2 samples; may be 2 of the 20 used for Accuracy; 5 reps each over 4 plates)
- Reportable range (to run a high- and low-signal sample, which will establish our reportable range; values outside this range will need to be reported < or > their respective limits)

B) Verify reference intervals (normal values)

- minimum of 10 normal patients (using samples prior to COVID-19 outbreak), run 1 rep each over 3 days.

C) Final Systems Acceptance Testing (FAT)

- end to end testing of test order through resulting; will be at least 3 test cases and in 1 run

D) Robustness

- up to 21 consecutive days of testing; can use the Positive Controls.

Bio-Rad will provide reasonable assistance to Recipient as Recipient

**Exhibit B**

**Table 1. Bio-Rad items to be shipped to Recipient**

| Part Number | Item | Qty needed per Study | List Price per unit | List Price Total |
|---|---|---|---|---|
| 72710 | Platelia SARS-CoV-2 Total Ab | 3 kits | [***] | [***] |
| | | | **Total** | [***] |

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***Bio-Rad***
**Laboratories**

Diagnostics Group
1000 Alfred Nobel Drive
Hercules, CA 94547
Phone: 1-8004BIORAD (1-800-224-6723)
Fax: 1-800-879-2289
Email: usorders@bio-rad.com

CONFIDENTIAL

**PRICE AGREEMENT #20-28629**

Gary Pestano
BioDesix, Inc.
2790 Wilderness Place, Ste. 100
Boulder, CO 80301
Bill-To Account: [***]

Laura Peek
C/O BioDesix, Inc
8960 Commerce Drive, Bldg. 6
De Soto, KS 66018
Ship-To Account: [***]

Date: May 12, 2020

Our Reference: Kathy Hogue, Executive Account Manager
David Tomichek, Core Lab Immunochemistry Manager

Route: Best Way

Terms: Net 30 days from date of invoice

Shipment can be made 30 - 90 days for instrument and 3 - 5 days for reagents after receipt of order.

Any terms and conditions contained in Customer's purchase or order form shall be null and void unless specifically agreed

NOTE: Bio-Rad will only ship to end-user. Pricing to in writing by Bio-Rad. quoted to United States and its possessions only

| Catalog No. | Product Description | Kit QTY per Month 1-20 | Kit QTY per Month 21-49 | Kit QTY per Month 50-75 | Kit QTY per Month >75 |
|---|---|---|---|---|---|
| 12013798 | Platelia SARS-CoV-2 Total Ab 480 tests | [***] | [***] | [***] | [***] |

Proposal and pricing set forth above is valid for thirty (30) days pending acceptance and counter-signature of this agreement. Term of this agreement is (36) thirty-six months from the Effective Date. Monthly kit volumes will be reviewed on a quarterly basis and pricing may be subject to increase for noncompliance.

Supplier may immediately terminate this Agreement in the event (a) Customer fails to make payment when due (b) materially breaches this Agreement (other than non-payment) and fails to cure such breach within thirty (30) days of notice by Supplier of such breach, or (c) Customer makes an assignment for the benefit of creditors or proceedings are commenced by or for Customer under any bankruptcy, insolvency, or debtor's relief law.

*Due to the high demand in our Covid offerings our supply will be on allocation short term. We cannot always confirm a delivery date, yet Sales will contact you with further information.*

In the U.S., the test has been authorized by the FDA under an EUA for use by authorized laboratories. The test has not been FDA cleared or approved. The test has been authorized only for the presence of total antibodies against SARS- CoV-2, not for any other viruses or pathogens. This test is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the authorization is terminated or revoked sooner.

| BioDesix, Inc.: | | SUPPLER: | |
|---|---|---|---|
| By: | /s/ Robin Cowie | By: | /s/ Karen M. Smith |
| Name: | Robin Cowie | Name: | Karen M. Smith |
| Title: | CFO | Title: | Contract Analyst<br>CDG Commercial Contract Management |
| Date: | 5/14/2020 | Date: | 05-12-20 |

**Exhibit 23.1**

**Consent of Independent Registered Public Accounting Firm**

The Board of Directors
Biodesix, Inc.:

We consent to the use of our report included herein and to the reference to our firm under the heading “Experts” in the prospectus.

/s/ KPMG LLP

Denver, Colorado
October 2, 2020