As submitted confidentially to the Securities and Exchange Commission on October 15, 2020.
This draft registration statement has not been publicly filed with the Securities and Exchange Commission and all information herein remains strictly confidential.

Registration No. 333-

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

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Talis Biomedical Corporation
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**3826**	**46-3122255**
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

Talis Biomedical Corporation
230 Constitution Drive
Menlo Park, California 94025
(650) 433-3000
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Brian Coe
Chief Executive Officer
Talis Biomedical Corporation
230 Constitution Drive
Menlo Park, California 94025
(650) 433-3000
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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Menlo Park, California 94025
(650) 463-4600

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, 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 not elected to use the extended transition period for complying with any new or revised financial accounting standards provided in 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)**	**AMOUNT OF REGISTRATION FEE(2)**
Common Stock, $0.0001 par value per share	$	$

(1) Estimated solely for the purpose of calculating the amount of the registration fee in accordance with Rule 457(o) under the Securities Act. Includes the offering price of shares that the underwriters have the option to purchase.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum 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 that 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 the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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Explanatory note

Pursuant to the applicable provisions of the Fixing America's Surface Transportation Act, we are omitting our unaudited financial statements as of and for the six months ended June 30, 2019 and 2020 because they relate to historical periods that we believe will not be required to be included in the prospectus at the time of the contemplated offering. We intend to amend this registration statement to include all financial information required by Regulation S-X at the date of such amendment before distributing a preliminary prospectus to investors.

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The information in this 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 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.

Subject to completion, dated , 2020

Preliminary prospectus

shares

Common stock

This is the initial public offering of shares of common stock of Talis Biomedical Corporation. We are offering shares of our common stock. Prior to this offering, there has been no public market for our common stock. The initial public offering price of our common stock is expected to be between $ and $ per share.

We intend to apply to list our common stock on The Nasdaq Global Market under the symbol "TLIS."

We are an "emerging growth company" as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

	Per share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds to Talis Biomedical Corporation, before expenses	$	$

(1) See the section titled "Underwriting" for a description of the compensation payable to the underwriters.

We have granted the underwriters an option for a period of 30 days to purchase up to a total of additional shares of common stock from us at the initial public offering price less the underwriting discounts and commissions.

Investing in our common stock involves a high degree of risk. See "Risk factors" beginning on page 16.

Neither the Securities and Exchange Commission nor any state securities commission has 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 or about , 202 .

J.P. Morgan **BofA Securities**

, 2020

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We have not, and the underwriters have not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

Through and including , 202 (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 dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in 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.

Prospectus summary

This summary highlights information contained in other parts of this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in shares of our common stock and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus. You should read the entire prospectus carefully, especially "Risk factors" and our financial statements and the related notes, before deciding to buy shares of our common stock. Unless the context requires otherwise, references in this prospectus to "Talis Biomedical," "Talis," "the Company," "we," "us" and "our" refer to Talis Biomedical Corporation.

Overview

Talis aims to transform diagnostic testing by developing and commercializing innovative products that are designed to enable accurate, reliable, low cost and rapid molecular testing for infectious diseases and other conditions at the point-of-care. While timely diagnosis of infectious diseases is critically important to enable effective treatment, testing is primarily performed in centralized laboratories, which require samples to be shipped for processing, delaying the return of results by days. Point-of-care testing solves this problem by delivering the timely information necessary for clinical care. We are developing the Talis One platform, a sample-to-answer, cloud-enabled molecular diagnostic platform that, once authorized, could be rapidly deployed to distributed diagnostic settings in the United States and around the world to diagnose infectious disease at the point-of-care. The Talis One platform comprises a compact instrument, single-use test cartridges and software, including a central cloud database, which work together and are designed to provide central laboratory levels of accuracy and be operated by an untrained user.

We are developing Talis One tests for respiratory infections, infections related to women's health and sexually transmitted infections. We intend to submit around year end 2020 a request for an Emergency Use Authorization (EUA) to the U.S. Food and Drug Administration (FDA) for our point-of-care Talis One platform with COVID-19 molecular diagnostic assay for the automated detection of nucleic acid from the SARS-CoV-2 virus in nasal swab samples from individuals suspected of COVID-19 by their healthcare provider. We are also developing influenza A and influenza B tests to be included as part of a respiratory panel with our COVID-19 test. In addition, we plan to initiate a clinical trial to support clearance of a pre-market notification under Section 510(k) of the Federal Food, Drug, and Cosmetic Act (FDCA) of our Talis One instrument with a test for chlamydia and gonorrhea in the middle of 2021 and submit a 510(k) pre-market notification in the first half of 2022. To support our anticipated commercial launch of our COVID-19 test, we have invested in automated cartridge manufacturing lines capable of producing one million cartridges per month, which are scheduled to begin to come on-line in 2020 and we expect will scale to full capacity by the middle of 2021. We estimate that the potential annualized market opportunity for COVID-19 point-of-care diagnostic tests in the United States exceeds $7.0 billion. We estimate that the potential annualized market opportunity in the United States for women's health diagnostics and sexually transmitted infection diagnostics in our development pipeline was approximately $3.9 billion in 2019.

The COVID-19 crisis is accelerating the adoption of point-of-care platforms in both traditional and non-traditional care settings, and we believe the Talis One platform is well positioned to meet this growing demand. While a variety of technologies are commercially available, we believe that few, if any, sufficiently meet the needs of healthcare providers in order to drive broad adoption of, and transition to, point-of-care testing for infectious diseases. For example, antigen detection technologies, which detect proteins from the pathogen, are rapid and relatively low cost, but they have higher limits of detection. Molecular technologies that detect nucleic acids are generally considered highly accurate for infectious disease testing. However, we

believe that some currently available point-of-care molecular technologies have sacrificed accuracy to increase speed. Lower accuracy limits a test's utility, particularly in the case of testing for dangerous infectious diseases, such as COVID-19, for which an incorrect test result can have severe consequences. We believe that the ideal point-of-care technology for diagnosing infectious diseases would not only be highly accurate and rapid, but would also be easy to use, low cost, cloud-compatible and enable multiplexing to detect multiple pathogens at the same time.

The Talis One platform

We are developing the Talis One platform to address limitations of existing point-of-care diagnostic testing technologies for infectious diseases. Our platform combines robust sample preparation with highly-optimized and rapid isothermal nucleic acid amplification technology to enable rapid detection of infectious pathogens in a variety of unpurified patient sample types. The Talis One is an integrated platform that includes a compact instrument, single-use test cartridges and software, including a central cloud database:

Talis One cartridge. Versatile shelf-stable and single-use test cartridge that is designed to fully integrate proprietary, highly-optimized nucleic acid isothermal amplification assays with sample preparation. The cartridge is designed to handle a wide range of sample types, including nasal swab, vaginal swab, saliva, urine, whole blood, plasma, serum and sputum, to be compatible with lysis by bead beating in order to process a wide range of pathogens, including viral, bacterial and hard-to-lyse fungal pathogens, and to enable multiplex (multiple pathogen) testing.

Talis One instrument. The Talis One instrument is designed to enable sample-to-answer capabilities without user intervention. We designed the instrument to be low cost, portable and easy to use. We believe the modular design, which is divided into major subsystems for performing cartridge handling, sample preparation, amplification and detection, will facilitate automated assembly and low-cost manufacturing.

Talis One software and IT. The Talis One platform incorporates software and information technology (IT) capabilities. The instrument is designed to communicate test results to a central cloud database that can be remotely and securely accessed to obtain key data required to collect, screen, collate, report, and monitor disease infection and pandemic spread on a micro and macro level. The cellular connectivity built into each Talis One instrument is also designed to enable Health Insurance Portability and Accountability Act of 1996 (HIPAA)-compliant transmission, storage and review, and we expect to make such features available with a planned post-launch software upgrade.

We believe the Talis One platform provides the following competitive advantages:

- ***The Talis One platform has the potential to provide a compelling and differentiated value proposition for key stakeholders.*** We believe the Talis One platform could, if authorized for marketing, empower more healthcare providers to deliver better care, improve the patient experience, respond to public health threats and ultimately lower healthcare costs for payors by providing an accurate and timely diagnosis at the point-of-care. Additionally, our platform may create revenue and profit opportunities for healthcare providers who currently use centralized laboratories for their testing by enabling them to bring testing in-house. We believe the tests that we are developing for our Talis One platform have established reimbursement codes, which would enable healthcare providers to submit for reimbursement.
- ***We designed the Talis One platform to provide central lab levels of accuracy at the point-of-care.*** Our single-use test cartridge is designed to fully integrate nucleic acid amplification and detection with sample preparation, including nucleic acid extraction and purification. We believe this could result in higher sensitivity and specificity than other alternatives that omit the sample preparation step. The large sample volume input (1 mL) is designed to enable detection of pathogens at low concentrations, which is critical for sensitivity. We developed bioinformatics software to design isothermal assays which we applied to design primers for the detection of SARS-CoV-2. Implemented on a cartridge, our COVID-19 test has demonstrated a limit of detection for SARS-CoV-2 of £150 copies of genomic RNA per milliliter. The Talis One platform has detected bacterial pathogens at concentrations as low as one infectious unit per milliliter (IFU/mL) in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. We believe this demonstrates the power of our platform to detect disease at high sensitivity and specificity and the technical capability to rapidly develop additional assays on the Talis One platform.
- ***The Talis One platform is designed to be rapid and easy to use.*** The Talis One platform is designed to provide actionable information to clinicians in approximately 25 minutes. Faster turnaround time can inform quicker clinical decision making, which is critical for COVID-19 patients, as well as patients with other infectious diseases, where immediate treatment is important to reduce community transmission and achieve optimal outcomes. In addition, our platform is designed to be operated by untrained personnel and incorporate safety and convenience features, including automated cartridge-based sample preparation for reliable results, closed cartridges to mitigate contamination, room-temperature cartridge storage for convenient storage, and cloud connectivity for easily accessed results and records. The Talis One platform is designed to require two minutes or less of hands-on time for the operator to run a test.

- ***The Talis One platform is designed to enable efficient menu expansion.*** The Talis One platform is designed to enable single organism as well as multiplex detection for a plurality of infectious pathogens from one point-of-care system, which increases the potential value proposition of the platform for our customers. The modular design and multiplex capability of the single-use test cartridges is intended to enable us to use such cartridges for each of the tests we develop, which we believe could enable us to rapidly expand our test menu to meet customer needs and produce an attractive platform for a variety of providers and facilities. Following receipt of marketing authorization, we plan to launch our COVID-19 test and we have additional tests in development for other respiratory infections, infections related to women's health and sexually transmitted infections.
- ***The Talis One instrument includes a cellular connection and capacity for a cloud-based reporting and management system.*** The cellular connectivity built into the Talis One instrument is designed to enable HIPAA-compliant transmission, storage, review and printing of results, which we expect to be released with an upcoming software upgrade in 2021 for all installed instruments. We believe such centralized storage and information management could provide for (i) improved clinical workflow at healthcare sites and institutions, (ii) the creation of a public health interface granting access to select information to governmental entities and/or (iii) the automatic transmission of "reportable infections," such as COVID-19, to public health authorities. Additionally, administrators could remotely monitor, in real-time, the status of any instrument in an organization, as well as manage users and certain security features.
- ***The Talis One platform is designed to be scalable for different throughput requirements.*** The portable and compact design enables the Talis One instruments to be stacked on top of, and be located next to, additional Talis One instruments, with the goal of increasing testing throughput capability at the point-of-care. Instruments are designed to be stacked three by three, in groups of nine without impact to the cellular connection.
- ***We designed the Talis One platform to enable scalable low-cost manufacturing from raw material supply through the entire supply chain.*** We believe the scalable and low-cost manufacturing features of the Talis One platform could enable us to maintain our margins, offer attractive pricing to our customers and be competitive in price sensitive environments. The modular design of the single-use test cartridges requires only swapping target-specific assay reagents on small plug-in components inserted into the cartridge to change the assay.

Talis One tests

As reflected in the table below, we are developing Talis One tests for respiratory infections, infections related to women's health and sexually transmitted infections. Our initial focus is on the detection of SARS-CoV-2, the virus that causes COVID-19. We are also developing additional tests for the detection of other respiratory infections, such as a respiratory panel test to detect influenza A and influenza B plus COVID-19. We intend to submit for a 510(k) clearance to commercialize our Talis One platform with a test for *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) in the first half of 2022. For other tests that are not eligible for an EUA, we intend to complete the requirements for and submit a 510(k) pre-market notification to the FDA (if available to us; otherwise we would plan to submit another form of marketing authorization under the FDA's standard medical device authorities). We chose our assay development roadmap to address the most common clinically relevant tests which require high sensitivity and specificity and for which timely results provide significant clinical benefit.

Respiratory infections

The Talis One COVID-19 test

The Talis One COVID-19 test is our first assay in development for respiratory infections. The test cartridge for COVID-19 diagnosis contains a nucleic acid amplification test (NAAT) designed for optimal sensitivity and specificity to provide highly accurate results. The assay on the Talis One cartridge is an isothermal NAAT targeting two physically separated locations in the SARS-CoV-2 genome to increase sensitivity and inclusivity. While natural evolution of the SARS-CoV-2 virus is to be expected, the inclusion of two distinct targets reduces the likelihood that natural mutations in the virus would cause a false negative result when using the Talis One COVID-19 test.

We intend to submit a request for an EUA to the FDA for our Talis One COVID-19 test around year end 2020. After the emergency period is declared to be over, we expect that the FDA will require companies operating under an EUA to submit a 510(k) pre-market notification for tests such as our COVID-19 test, but we believe the

FDA will provide a grace period for such submissions. Accordingly, we intend to complete the requirements for and submit a 510(k) pre-market notification to the FDA for our Talis One COVID-19 test to enable continued marketing when the public health emergency period is declared to be over.

Performance of the Talis One COVID-19 test

As part of our development of our COVID-19 test we assessed the performance of the Talis One platform using anterior or mid-turbinate nasal specimens to tests conducted in a centralized laboratory using the Centers for Disease Control and Prevention (CDC) quantitative polymerase chain reaction assay. In a preclinical assessment comparing the Talis One platform to a reference lab test on 60 matched anterior or mid-turbinate nasal specimens, the Talis One test results exactly matched the central lab results with 100% positive percentage agreement (PPA) and 100% negative percentage agreement (NPA) for detection of SARS-CoV-2, the virus that causes COVID-19. The high PPA and NPA is suggestive of clinical sensitivity and specificity in the broader clinical population and is driven by the very low limits of detection possible on the Talis One platform, e.g. 150 copies of genomic SARS-CoV-2 RNA per milliliter.

Respiratory panels

We also anticipate developing respiratory panels incorporating our COVID-19 test. We are developing tests targeting influenza A and influenza B. If we successfully commercialize the Talis One platform for the diagnosis of COVID-19, we plan to incorporate these flu tests with the COVID-19 test in an upper respiratory panel on a single cartridge and seeking marketing authorizations for such multi-panel tests, whether through the EUA process (if available to us) or through a 510(k) clearance process once available to us.

Infections related to women's health and sexually transmitted infections

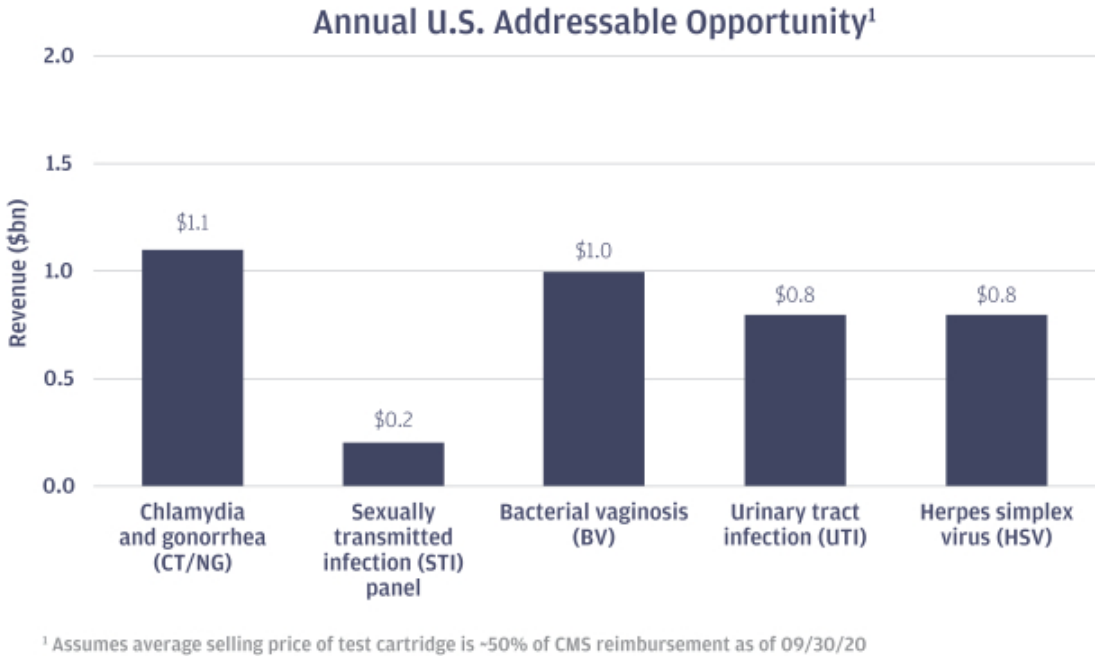
We are also developing our Talis One platform to be used for infections related to women's health and sexually transmitted infections. Immediately prior to the current pandemic, we were beginning the process of verification, validation and conducting clinical trials of our Talis One platform for chlamydia and gonorrhea (CT/NG). While we have postponed our CT/NG program to focus on the COVID-19 test, we intend to complete clinical development in this indication and submit a 510(k) pre-market notification to the FDA in the first half of 2022 and pursue authorization to affix a CE Mark from the European Medicines Agency (EMA) by the end of 2022 or approximately six months after 510(k) clearance, if obtained. If cleared or otherwise authorized for marketing, this would be our first commercial offering in our women's health menu. We are planning to develop additional tests for infections related to women's health, including a panel for sexually transmitted infections (STIs) and other infections, such as bacterial vaginosis (BV), urinary tract infections (UTI) and herpes simplex virus (HSV).

Future applications

We are developing new algorithms and a bioinformatics pipeline to design rapid isothermal assays that are based on isothermal amplification chemistries. On the Talis One platform, we have observed limits of detection of bacterial pathogens as low as one IFU/mL in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. We have also demonstrated, in a research setting, rapid detection of similarly low concentrations for a variety of bacterial, fungal, parasitic and viral pathogens.

Market opportunity

We are currently developing Talis One tests for COVID-19, other respiratory infections, infections related to women's health and sexually transmitted infections. We estimate that the total potential annualized addressable market opportunity for COVID-19 tests in the United States exceeds $7.0 billion, based on an estimate of daily testing demand of 750,000 tests as of June 2020 and an estimated price of $25 per COVID-19 test, which is roughly 50% of the Centers for Medicare & Medicaid Services (CMS) reimbursed price of approximately $50. We estimate that the potential annualized addressable market opportunity in the United States for our Talis One tests in development for infections related to women's health and sexually transmitted infections was approximately $3.9 billion in 2019. We believe the market opportunity outside the United States for our tests in development is at least as large as the domestic market.



Sales and marketing

Subject to receipt of marketing authorization for our COVID-19 test using our Talis One platform, our initial sales strategy will focus on driving adoption of the Talis One platform in two customer types: enterprise accounts and health care providers. We initially plan to launch Talis One through an enterprise account management team and a direct sales force with approximately 25 sales representatives dedicated to driving adoption in both categories. With respect to direct sales, we intend to commercialize the Talis One platform through a sales force focused initially on placing platforms with potential customers that place high value on accuracy and our broader test menu in development. Target customer segments include: (1) large elder care chains where vulnerable residents have unmet needs for millions of high sensitivity assays per year; (2) urgent care chains that serve on the front lines of COVID-19 diagnosis, needing millions of rapid tests to triage symptomatic patients; and (3) traditional medical establishments, including hospitals, physician groups and public health clinics that need rapid and high-quality testing to best serve their patients. These customers represent large and concentrated testing opportunities for COVID-19. For example, we estimate that a single

large elder care chain could represent a COVID-19 testing opportunity of over a million tests per year. In addition, the sales team will directly target smaller accounts including public health clinics, obstetrician and gynecologist practices, primary care doctors and mid-sized physician networks. We may also consider sales to organizations such as schools and school districts as well as corporate customers.

We intend to offer our Talis One platform to customers via direct purchase of the instrument or through a reagent rental program. Under these options we expect to generate revenue in the form of instrument sales or rentals, test cartridge sales and service and support fees.

Our strategy

Our strategy is to improve medical care through the transformation of diagnostic testing by enabling customers in distributed diagnostic locations to deploy accurate, reliable, low cost and rapid molecular testing for infectious diseases and other conditions. To achieve this, we intend to:

- *Pursue marketing authorization and commercialization of our COVID-19 test in the United States.*
- *Increase our low-cost manufacturing capacity for our Talis One instrument and COVID-19 test cartridges.*
- *Complete development of and, if marketing authorizations are obtained, commercialize other Talis One tests for other respiratory infections, infections related to women's health and sexually transmitted infections in the United States*.
- *Pursue marketing authorizations and, if approved, commercialize our products and expand our operations in selected geographies globally.*
- *Continue to invest in capabilities to drive sustainable growth.*

Summary of risk factors

An investment in shares of our common stock involves a high degree of risk. If any of the factors enumerated below or in the section entitled "Risk factors" occurs, our business, financial condition, liquidity, results of operations and prospects could be materially and adversely affected. In that case, the market price of our common stock could decline, and you may lose some or all of your investment. Some of the more significant risks relating to this offering and an investment in our common stock include:

- There can be no assurance that the COVID-19 test we are developing for the detection of the SARS-CoV-2 virus will be granted an EUA by the FDA. If no EUA is granted or, once granted, it is revoked or the emergency declaration is terminated, we will be unable to sell this product in the near future and will be required to pursue 510(k) clearance or other marketing authorization, which would likely be a lengthy and expensive process.
- We may not be able to obtain marketing authorization of our Talis One platform or for any test.
- We contract with a significant number of third parties for the manufacturing and supply of products, which supply may become limited or interrupted or may not be of satisfactory quality and quantity.
- We have no products approved for commercial sale. We have no or limited experience in developing, marketing and commercializing diagnostic platforms and tests, and we are continuing to evaluate the sales model for the Talis One platform which may make it difficult to evaluate the success of our business and to assess our future viability.

- The COVID-19 pandemic could materially adversely affect our business, financial condition and results of operations.
- If our products do not perform as expected, including due to errors, defects or reliability issues, our reputation and market acceptance of our products could be harmed, and our operating results, reputation and business will suffer.
- We may be unable to manage our growth effectively, which could make it difficult to execute our business strategy.
- We may rely on a small number of customers for a significant portion of our revenue, which may materially adversely affect our financial condition and results of operations.
- Our commercial success could be compromised if our customers do not receive coverage and adequate reimbursement for our products, if approved.
- Modifications to our marketed products may require new EUAs, 510(k) clearances, pre-market approvals, or other marketing authorizations, or may require us to cease marketing or recall the modified products until clearances, approvals or other marketing authorizations are obtained.
- If we are not able to obtain, maintain, defend or enforce patent and other intellectual property protection for products, or if the scope of the patent and other intellectual property protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, which could have a material adverse effect on our competitive position, business, financial conditions, results of operations and prospects.
- We have incurred significant losses since our inception and we anticipate that we will continue to incur losses for the foreseeable future, which could harm our future business prospects.
- We may need to raise additional capital to fund our existing operations, further develop our diagnostic platform, commercialize new products and expand our operations.

Corporate and other information

We were formed as a limited liability company under the Illinois Limited Liability Company Act in March 23, 2010 under the name SlipChip LLC. In June 2013, SlipChip LLC merged with and into SlipChip Corporation, a Delaware corporation, with each member of SlipChip LLC exchanging their respective membership interest for shares of common stock of SlipChip Corporation. In February 2018, we changed our corporate name to Talis Biomedical Corporation. Our principal executive offices are located at 230 Constitution Drive, Menlo Park, California 94025, and our telephone number is (650) 433-3000. Our corporate website address is http://talis.bio. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

This prospectus contains references to our trademarks, including Talis™ and Talis One™, and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Implications of being an emerging growth company and a smaller reporting company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act, as amended (JOBS Act), enacted in April 2012. An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and only two years of related Management's discussion and analysis of financial condition and results of operations in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved.

We may use these provisions until the last day of our fiscal year following the fifth anniversary of the completion of this offering. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenues exceed $1.07 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

In addition, as an emerging growth company the JOBS Act allows us to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies, unless we later irrevocably elect not to avail ourselves of this exemption. We have elected to use this extended transition period under the JOBS Act; however, we may choose to early adopt new or revised accounting pronouncements, if permitted under such pronouncements.

We are also a "smaller reporting company" as defined in Regulation S-K under the Securities Act of 1933, as amended (Securities Act), and have elected to take advantage of certain of the scaled disclosures available to smaller reporting companies. We may be a smaller reporting company even after we are no longer an emerging growth company.

The offering

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Series 1 convertible preferred stock to be outstanding after this offering	shares
Total common stock and Series 1 convertible preferred stock to be outstanding after this offering	shares
Option to purchase additional shares	The underwriters have a 30-day option to purchase up to a total of additional shares of common stock.
Use of proceeds	We intend to use the net proceeds from this offering to and for working capital and other general corporate purposes, including the additional costs associated with being a public company. See “Use of proceeds.”
Recapitalization	Upon the filing of our amended and restated certificate of incorporation and the completion of this offering, all outstanding shares of our convertible preferred stock as of September 30, 2020 will be converted into shares of our common stock and shares of our Series 1 convertible preferred stock, and the carrying value of the convertible preferred stock will be reclassified to permanent equity. See the section entitled “Description of capital stock” for additional information.
Voting rights	Following this offering, we will have outstanding shares of common stock and outstanding shares of Series 1 convertible preferred stock. The Series 1 convertible preferred stock is a voting common stock equivalent. Except as otherwise expressly provided in our amended and restated certificate of incorporation to be in effect upon the completion of this offering or required by applicable law, on any matter that is submitted to a vote of our stockholders, holders of our Series 1 convertible preferred stock are entitled to one vote per share. Holders of shares of our common stock and Series 1 convertible preferred stock will vote together as a single class on all matters (including the election of directors) submitted to a vote of stockholders. See the section entitled “Description of capital stock” for additional information.

Risk factors	You should read the “Risk factors” section of this prospectus beginning on page 16 for a discussion of certain of the factors to consider carefully before deciding to purchase any shares of our common stock.
Proposed Nasdaq Global Market symbol	“TLIS”

The number of shares of our common stock and Series 1 convertible preferred stock to be outstanding after this offering is based on shares of common stock outstanding as of September 30, 2020, after giving effect to the conversion of our outstanding shares of convertible preferred stock into shares of common stock and shares of Series 1 convertible preferred stock, and excludes:

- shares of common stock issuable upon the exercise of outstanding stock options as of September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding stock options granted after September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock reserved for future issuance under our 2020 equity incentive plan (2020 Plan), which will become effective upon the execution and delivery of the underwriting agreement for this offering (including shares of common stock reserved for issuance under our 2013 equity incentive plan, as amended (2013 Plan), which shares will be added to the shares reserved under the 2020 Plan upon its effectiveness); and
- shares of common stock reserved for future issuance under our 2020 employee stock purchase plan (ESPP), which will become effective upon the execution and delivery of the underwriting agreement for this offering.

Unless otherwise indicated, all information contained in this prospectus assumes or gives effect to:

- the conversion of all our outstanding shares of convertible preferred stock as of September 30, 2020, into an aggregate of shares of common stock and shares of Series 1 convertible preferred stock in connection with the completion of this offering;
- no exercise by the underwriters of their option to purchase up to a total of additional shares of our common stock;
- no conversion of the Series 1 convertible preferred stock into Series 2 convertible preferred stock or common stock;
- the filing of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws, each of which will be in effect upon the completion of this offering;
- a 1-for-10 reverse stock split of our common stock and convertible preferred stock effected on December 3, 2019; and
- a 1-for- reverse stock split of our common stock to be effected prior to the completion of this offering.

Summary financial data

The following tables present our selected financial data for the periods and as of the dates indicated. The following summary statements of operations data for the years ended December 31, 2018 and 2019 are derived from our audited financial statements and notes appearing elsewhere in this prospectus. The following summary statements of operations data for the nine months ended September 30, 2019 and 2020 and the summary balance sheet data as of September 30, 2020 have been derived from our unaudited interim condensed financial statements and notes included elsewhere in this prospectus. The unaudited interim condensed financial statements have been prepared in accordance with generally accepted accounting principles in the United Stated and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary to present fairly our financial position of such financial data. You should read these data together with our financial statements and related notes appearing elsewhere in this prospectus and the information in “Selected financial data” and “Management’s discussion and analysis of financial condition and results of operations.” Our historical results are not necessarily indicative of the results to be expected for any other period in the future and the results of statement of operations data for the nine months ended September 30, 2020 are not necessarily indicative of the results to be expected for the year ended December 31, 2020 or any other period in the future.

(in thousands, except share and per share data)	Years ended December 31, 2018	2019	Nine months ended September 30, 2019	2020
			(unaudited)	
Statement of Operations Data:				
Grant revenue	$ 2,390	$ 3,977		
Operating expenses:				
Research and development	18,388	23,812		
General and administrative	5,432	6,864		
Total operating expenses	23,820	30,676		
Loss from operations	(21,430)	(26,699)		
Other income (expense):				
Change in estimated fair value of convertible notes	—	(817)		
Interest and other (expense)/income	93	42		
Total other income (expense):	93	(775)		
Net loss and comprehensive loss	$ (21,337)	$ (27,474)		
Net (loss) income attributable to Class A Common Stockholders	$ (21,337)	$ 26,382		
Net (loss) income per share:				
Basic(1)	$ (28.41)	$ 24.01		
Diluted(1)	$ (28.41)	$ (8.93)		
Weighted average shares used in the calculation of net (loss) income per share attributable to Class A common stockholders:				
Basic(1)	751,121	1,098,795		
Diluted(1)	751,121	3,075,473		
Pro forma net loss per share attributable to Class A Common Stockholders, basic and diluted (unaudited)(1)		$ (6.22)		
Pro forma weighted average Class A Common Stock outstanding, basic and diluted (unaudited)(1)		4,413,771		

(1) See Note 2 and 13 to our audited financial statements, and Note and to our unaudited interim condensed financial statements included elsewhere in this prospectus for further details on the calculations of our basic and diluted net loss per share, basic and diluted pro forma net loss per share and the weighted-average number of shares used in the computation of the per share amounts.

The table below presents our balance sheet data as of September 30, 2020:

- on an actual basis;
- on a pro forma basis to reflect (1) the conversion of all outstanding shares of our convertible preferred stock as of September 30, 2020 into shares of our common stock and shares of our Series 1 convertible preferred stock and the related reclassification of the carrying value of the convertible preferred

stock to permanent equity in connection with the completion of this offering, and (2) the filing of our amended and restated certificate of incorporation immediately prior to the completion of this offering; and

- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

	As of September 30, 2020		
(unaudited, in thousands)	**Actual**	**Pro forma**	**Pro forma as adjusted**
Balance Sheet Data:			
Cash(1)	$	$	$
Total assets			
Working capital(2)			
Total Liabilities			
Convertible preferred stock			
Accumulated deficit			
Total stockholders' (deficit) equity			

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) the pro forma as adjusted cash after this offering by approximately $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. An increase of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted cash, total assets, working capital and total stockholders' (deficit) equity after this offering by approximately $, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, a decrease of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted cash, total assets, working capital and total stockholders' (deficit) equity after this offering by approximately $, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

(2) We define working capital as current assets less current liabilities. See our audited financial statements and unaudited interim condensed financial statements and related notes included elsewhere in this prospectus for details regarding our current assets and current liabilities.

Risk factors

Investing in our common stock is speculative and involves a high degree of risk. Before investing in our common stock, you should consider carefully the risks described below, together with the other information contained in this prospectus, including our financial statements and the related notes appearing at the end of this prospectus. If any of the following risks occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment. This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See "Special note regarding forward-looking statements."

Risks related to our business and strategy

There can be no assurance that the COVID-19 test we are developing for the detection of the SARS-CoV-2 virus will be granted an Emergency Use Authorization (EUA) by the U.S. Food and Drug Administration (FDA). If no EUA is granted or, once granted, it is revoked or the emergency declaration is terminated, we will be unable to sell this product in the near future and will be required to pursue 510(k) clearance or other marketing authorization, which would likely be a lengthy and expensive process.

We intend to submit a request for an EUA to the FDA around year end 2020 for our point-of-care Talis One platform with COVID-19 molecular diagnostic assay for the automated detection of nucleic acid from the SARS-CoV-2 virus in nasal swab samples from individuals suspected of COVID-19 by their healthcare provider. There can be no assurances that the FDA will authorize this EUA.

An EUA would allow us to market and sell our platform with this assay without the need to pursue the lengthy and expensive 510(k) clearance process or any other marketing authorization process. The FDA may issue an EUA during a public health emergency if it determines that, based on the totality of the scientific evidence, that it is reasonable to believe that the product may be effective, that the known and potential benefits of a product outweigh the known and potential risks, that there is no adequate, approved and available alternative and if certain additional regulatory criteria are met. These standards for marketing authorization are lower than if the FDA were to review our test under its traditional marketing authorization pathways, and we cannot assure you that our COVID-19 test would be cleared or approved under those more onerous clearance and approval standards. As a result, if we do not receive an EUA for our Talis One platform with COVID-19 test, the commercial launch of such products could be significantly delayed, which would adversely impact our business, financial condition and results of operations. The effects of any such delay would also be exacerbated if the demand for COVID-19 tests declines prior to our receipt of any marketing authorization.

If an EUA is granted for our Talis One platform for its intended use in detecting SARS-CoV-2, we will rely on the FDA policies and guidance in connection with the marketing and sale of such products. If these policies and guidance change unexpectedly and/or materially or if we misinterpret them, potential sales of our products could be adversely impacted. In addition, the FDA may revoke an EUA where it is determined that the underlying health emergency no longer exists or warrants such authorization, or if we fail to comply with the conditions of such EUA. The FDA may also revoke an EUA when the circumstances justifying its issuance no longer exist, such as when an alternative is authorized for marketing through the standard procedures, such as through a 510(k) clearance. The FDA has stated that, given the magnitude of the COVID-19 health crisis and the testing capacity challenges in the United States, it has no intention of terminating EUAs for COVID-19 diagnostic tests based solely on a test receiving 510(k) clearance. However, the FDA may change this position at any time and without notice. If granted, we cannot predict how long an EUA for the Talis One platform and COVID-19 test will remain in place. FDA policies regarding diagnostic tests, therapies and other products used to diagnose,

treat or mitigate COVID-19 remain in flux as the FDA responds to new and evolving public health information and clinical evidence. Changes to FDA regulations or requirements could require changes to our authorized test, necessitate additional measures, or make it impractical or impossible for us to market our test. The revocation of an EUA, if granted, could necessitate that we pursue the lengthy and expensive 510(k) clearance process, if available, or another similarly burdensome marketing authorization process, such as a *de novo* classification. Indeed, FDA has recommended that manufacturers of tests subject to an EUA pursue pre-market submissions such as a 510(k), *de novo* classification, or pre-market approval (PMA), as applicable, during the declared public health emergency so that their devices can remain on the market after the emergency terminates. As a result, any such revocation could adversely impact our business, financial condition and results of operations.
We may also seek an additional EUA from the FDA for our respiratory panel test in combination with a test for the detection of the SARS-CoV-2 virus. To date, no such combination test has received an EUA in the absence of a previously 510(k)-cleared flu test and the FDA's guidance on the possibility of such an authorization is unclear. If granted, the additional EUAs would allow us to market and sell such additional tests without the need to pursue the lengthy and expensive clearance or approval process for such additional tests (at least for as long as such EUAs are maintained). There is no guarantee that we will be able to obtain any additional EUAs. Further, we cannot predict when any such EUA would terminate in connection with a determination by the FDA regarding the end of the SARS-CoV-2 public health emergency. After the emergency declaration is terminated or the EUA is earlier revoked, we will be required to have 510(k) clearance in order for us to continue marketing and distributing our products. Failure to obtain additional EUAs or the revocation of any EUAs, if obtained, could adversely impact our business, financial condition and results of operations.

We may not be able to obtain marketing authorization for our Talis One platform or for any test, which would adversely affect our business, financial condition and results of operations.

We have focused our efforts on the development of the Talis One platform for FDA clearance or other marketing authorization as a point-of-care testing platform for infectious diseases. A significant portion of our commercial strategy is dependent upon the initial commercialization of our Talis One platform with COVID-19 test pursuant to an EUA, if granted, and on receiving subsequent marketing authorizations with inclusion in clinical guidelines to strengthen our position in establishing coverage and reimbursement of our products with both public and private payors. If we are unable to receive marketing authorization pursuant to an EUA, or if any EUA we receive is later withdrawn or terminates at the conclusion of the public health emergency, we will be required to pursue marketing authorization through the FDA's standard pre-market review pathways, such as a 510(k) clearance, *de novo* classification, or PMA approval. The 510(k) clearance pathway may not be available to us if no suitable predicate device has previously received marketing authorization through the FDA's traditional marketing authorization pathways. In that case, we may be required to pursue a PMA approval or *de novo* classification, both of which are more onerous than the 510(k) clearance pathway. We cannot guarantee that we would be able to satisfy the requirements for marketing authorization under any of these pathways. If we do not receive such marketing authorizations in a timely manner, or at all, or we are not successful in receiving such guideline inclusion, we may not be able to commercialize our products successfully or at all. Additionally, third-party payors may be unwilling to provide sufficient coverage and reimbursement for our products necessary for hospitals and other healthcare providers to adopt our solutions as part of their treatment strategy.

Moreover, development of the data necessary to obtain marketing authorization of a diagnostic test is time-consuming and carries with it the risk of not yielding the desired results. The performance achieved in initial studies may not be repeated in later studies that may be required to obtain marketing authorizations. In addition, limited results from earlier-stage verification studies may not predict results from studies conducted to obtain marketing authorization. Unfavorable results from ongoing preclinical and clinical studies could result in delays, modifications or abandonment of ongoing analytical or future clinical studies, or abandonment of a

product development program, or may delay, limit or prevent regulatory approvals or clearances or commercialization of our products, any of which may materially adversely affect our business, financial condition and results of operations. Furthermore, results that would be sufficient for regulatory approval may not demonstrate strong performance characteristics, limiting the market demand for the platform, which would adversely affect our business. See "—Risks related to regulatory matters."

We contract with a significant number of third parties for the manufacturing and supply of products, which supply may become limited or interrupted or may not be of satisfactory quality and quantity.

We do not have any commercial-scale manufacturing facilities. We rely, and expect to continue to rely, on third parties for the manufacture of the Talis One platform and our tests, as well as for commercial supply if any of our products are authorized for marketing. This reliance exposes us to significant risk that we will not have sufficient quantities of our products at an acceptable cost or quality, which could delay, prevent or impair our clinical trials and commercialization efforts. The manufacturing of our Talis One instrument and cartridge involves over 500 raw materials, intermediates and subassemblies. While we do not have any commercial-scale manufacturing facilities, we have invested in the development of multiple automated assembly lines for production of the test cartridges. The automated lines are required to meet the near-term volume commercial needs for the Talis One platform, if we receive an EUA for our COVID-19 test. However, the lines are not complete and could incur substantial delays, costs and may not perform as anticipated, and any failure to perform as anticipated could require us to make significant capital expenditures to make adjustments. Any such delays or required expenditures could prevent us from launching our Talis One platform with COVID-19 test if we receive marketing authorization, which would adversely impact our business, financial condition and results of operations. The effects of any such delays would also be exacerbated if the demand for COVID-19 tests declines prior to our assembly lines becoming fully operational at scale.

As we have not yet operated our assembly lines at scale, it may be difficult to predict the cost of manufacturing our cartridges. We are undertaking a number of initiatives designed to reduce the cost of manufacturing our instruments and diagnostic tests, including reducing the costs of supplies. There is no guarantee that we will be able to achieve planned cost reductions from such 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. As a result, even if our automated lines perform as anticipated, we may be unable to manufacture our products, if authorized for marketing, in a profitable manner.

Almost all the materials, enzymes and reagents used in or with our instrument and cartridges are obtained from single source suppliers, which exposes us to significant supplier risk. 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. A loss of sufficient supply of such components could require us to expend significant time and resources to develop or license replacement technology and obtain additional marketing authorizations. While we are evaluating redundancy vendors for reagents and other materials there can be no assurance that we will successfully contract for such materials. To further mitigate risk, we are implementing multi-month, multi-lot safety stock strategy to promote an uninterrupted supply of critical or scarce reagents and other materials and, when we can, we negotiate for termination provisions and purchase rights with our third-party manufacturers to allow enough time for us to find replacement suppliers, if necessary. However, mitigating this risk by keeping a safety stock level of inventory, requires careful management and may result is losses associated with expired inventory or inventory that is otherwise unsuitable for use in our products or for commercial sale.

Our third-party manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes, or unstable political environments, or health pandemics or epidemics. For example,

due to the health crisis of the COVID-19 pandemic, some of the suppliers of materials and components for our instrument and cartridges are facing extreme demand for their services. In particular, certain manufacturers of multiple components of our instrument are currently unable to provide such components to us, or are unable to provide such components on reasonable timelines, without a requirement from the government to do so pursuant to the Defense Production Act of 1950, as amended (DPA). Currently, such mandates from the government are not in place. If we fail to obtain such mandates we may be unable to manufacture our instruments in sufficient quantities and such event would have a material adverse effect on our business, financial condition and results of operations.

We plan to engage a third-party logistics company to manage the movement of materials between suppliers and for finished goods warehousing. However, if any of our suppliers fails to perform adequately or fulfill our needs, we may be required to incur significant costs and devote significant efforts to find new suppliers and may face delays in processing samples or developing and commercializing our products. For example, a sole supplier supplies us with the enzymes used in our test cartridges. While we acquire these proprietary enzymes from the supplier on customary terms, if we had to replace our enzymes, we may also need to acquire alternate enzymes, and optimize our tests with new enzymes, buffers and amplification conditions. This would most likely result in significant delays in delivering our products to the market and require new applications for marketing authorizations. In addition, the COVID-19 crisis may cause shortages of key supplies, such as pipettes and nasal swabs, that are necessary components of our products. The ability to provision such key supplies may be outside our control and may limit the use of our products and the purchase of our tests.

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 instrument and diagnostic tests, the supply of our instrument and 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.

Furthermore, all entities involved in the manufacture of our products, are subject to extensive regulation. We do not control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with these regulations. In the event that any of our manufacturers fails to comply with such requirements or to perform its obligations to us in relation to quality, timing or otherwise, or if our supply of components or other materials becomes limited or interrupted for other reasons, we may be forced to manufacture the materials ourselves, for which we currently do not have the capabilities or resources, or enter into an agreement with another third party, which we may not be able to do so on commercially reasonable terms, if at all. Further, we may be unable to use the product produced by that manufacturer, or if the manufacturer has manufactured product for our commercial sale, if and when we obtain approval, we could be subject to a recall of such product. Any replacement of our manufacturers could require significant effort and expertise because there may be a limited number of qualified replacements. In some cases, the technical skills or technology required to manufacture our products may be unique or proprietary to the original manufacturer and we may have difficulty transferring such skills or technology to another third party and a feasible alternative may not exist. These factors would increase our reliance on such manufacturer or require us to obtain a license from such manufacturers in order to have another third-party manufacture our products.

The process of changing manufacturers is time consuming, may involve substantial costs and is likely to result in delays or interruptions in the development of products and/or the commercialization of products, if approved. If we are required to change manufacturers for any reason, we will be required to verify that the new manufacturer maintains facilities and procedures that comply with quality standards and with all applicable

regulations and guidelines. The delays associated with the verification of a new manufacturer could negatively affect our ability to develop products in a timely or affordable manner.

Our, or a third party's, failure to execute on our manufacturing requirements, to do so on commercially reasonable terms and to comply with applicable regulations could adversely affect our business in a number of ways, including:

- an inability to initiate or continue clinical trials of our products under development;
- delay in submitting regulatory applications, or receiving regulatory approvals, for our products;
- requirements to cease development or to recall batches of our products; and
- in the event of approval to market and commercialize our products, an inability to meet commercial demands for our products or any other future products.

In order to commercialize our products, if approved, we will need to manufacture them in large quantities. We, or our manufacturing partners, may be unable to successfully increase the manufacturing capacity for any of our products in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities. If we or our manufacturing partners are unable to successfully scale up the manufacture of our products in sufficient quality and quantity, the development, testing and clinical trials of that product may be delayed or become infeasible, and marketing approval or commercial launch of any resulting product may be delayed or not obtained, which could significantly harm our business.

Additionally, our third-party manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes, or unstable political environments, or health pandemics or epidemics such as the ongoing COVID-19 pandemic.

We have no products approved for commercial sale. We have no or limited experience in developing, marketing and commercializing diagnostic platforms and tests, and we are continuing to evaluate the sales model for the Talis One platform, which may make it difficult to evaluate the success of our business and to assess our future viability.

To date, we have no commercialization experience as a company. As a result, we have limited experience forecasting future financial performance for our products and our actual results may fall below our financial guidance or other projections, or the expectations of analysts or investors, which could cause the price of our common stock to decline. In addition, we are continuing to evaluate the appropriate sales model for our Talis One platform and cannot predict the proportion of customers that would purchase the Talis One platform or utilize our planned reagent rental model in which the Talis One platform is rented. Changes in the proportion of our customers directly purchasing as compared to accessing the reagent rental model will cause our results of operations to fluctuate making predictions with regard to our operating results highly variable particularly during the early stages of our commercial launch.

Assuming we are successful in obtaining an EUA, we expect to initially market and sell the Talis One platform with our COVID-19 test in the United States. Substantially all of our revenue will initially be dependent upon such sales, which we expect will continue to be the case until such time as we obtain marketing authorization for subsequent tests. As a result, our future success will depend in large part on our ability to effectively launch the Talis One platform with our COVID-19 test and subsequently introduce enhanced or new tests for the Talis One platform. The launch of new products is inherently uncertain and requires the completion of commercialization activities that are complex, costly, time-intensive and uncertain, and require us to accurately anticipate patients', providers' and, if applicable, payors' attitudes and needs and emerging technology and industry trends. This process is conducted in various stages, and each stage presents the risk that we will not achieve our goals on a timely basis, or at all.

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 our customers are willing to incur the upfront costs associated with purchasing Talis One instruments;
- 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 may experience research and development, regulatory, marketing and other difficulties that could delay or prevent our introduction of enhanced or new products and result in increased costs and the diversion of management's attention and resources from other business matters. For example, any molecular diagnostic tests that we may enhance or develop may not prove to be clinically effective, or may not meet our desired target product profile or be offered at acceptable cost and with the sensitivity, specificity and other test performance metrics necessary to address the relevant clinical need or commercial opportunity; our molecular diagnostic test performance in commercial settings may be inconsistent with our validation or other clinical data; we may not be successful in achieving market awareness and demand, whether through our own sales and marketing operations or entering into collaborative arrangements; the collaborative arrangements we enter into may not be successful or we may not be able to maintain those that are successful; healthcare providers may not use any tests that we may enhance or develop; or we may otherwise have to abandon a product or service in which we have invested substantial resources.

An important factor in our ability to commercialize our products is collecting data that supports the value proposition of our products, and in particular that our tests are just as accurate and reliable as central lab testing. The data collected from any studies we complete may not be favorable or consistent with our existing data or may not be statistically significant or compelling to the medical community or to third-party payors seeking such data for purposes of determining coverage for our products. Any of the foregoing could have a negative impact on our ability to commercialize our future products, which could have a material adverse effect on our business, financial condition and results of operations.

We may be subject to an order from federal or state governments, including pursuant to the DPA, to distribute the Talis One instrument and our COVID-19 test directly to the government or as directed by the government, which could adversely affect our business, financial condition and results of operations.

The DPA is a federal statute that confers upon the President of the United States a broad set of authorities to influence domestic industry in the interest of national defense. “National defense” can include emergency and disaster response and, since the start of the current COVID-19 crisis, the President of the United States has used this authority more than 30 times to address the public health crisis. Through the DPA, the executive branch has struck agreements with multiple companies to accelerate COVID-19 countermeasures, like N95 protective masks, testing swabs, and vaccine development, and, in September 2020, used the DPA to acquire point-of-care diagnostic testing instruments from two of our potential competitors for placement in nursing homes. If the government applies the DPA, or any other law or program, to acquire our Talis One instrument and/or COVID-19 test or to direct us to distribute our products in a particular manner, we may be required to prioritize distribution to certain government agencies or other recipients or allocate inventory, supplies or facilities for government or government-directed use. The DPA provides that orders pursuant to the statute must “meet regularly established terms of sale or payment” and further provides that no person “shall be held liable for damages or penalties for any act or failure to act resulting directly or indirectly from compliance with a rule, regulation, or order” under the DPA. However, compliance with the DPA could potentially cause business disruption, interfere with our commercial sales and marketing efforts, and depending on the demand, could even prevent or delay our ability to sell our products commercially, or may have other implications that significantly affect our commercialization and development efforts and general ability to conduct our business operations as planned. For example, if the government directs the use of our products under such a program, it may result in our instruments not being placed in settings where they will be used often for additional tests following the COVID-19 crisis which would adversely affect our long-term commercial plan that is based on the addition of multiple tests for use with the Talis One platform. In addition, any such government requirements may adversely affect our regular operations and financial results, result in differential treatment of customers and/or adversely affects our reputation and customer relationships. It is also possible that any change in the current administration could impact the manner in which the government uses the DPA and its other authorities, and result in additional or different risk to us.

The COVID-19 pandemic could materially adversely affect our business, financial condition and results of operations.

The COVID-19 pandemic is negatively impacting worldwide economic and commercial activity and financial markets, as well as increasing demand for certain components that we use in our Talis One platform. Certain manufacturers of multiple components of our Talis One platform are unable to provide such components to us, or are unable to provide such components on reasonable timelines, without a requirement from the government to do so pursuant to the DPA and, currently, such requirements are not in place. COVID-19 has also resulted in significant business and operational disruptions, including business closures, supply chains disruptions, travel restrictions, stay-at-home orders and limitations on the availability of workforces. We expect that COVID-19 precautions will directly or indirectly impact the timeline for some of our planned clinical trials for our non-COVID-19 related products in development and we are continuing to assess the potential impact of

the COVID-19 pandemic on our current and future business and operations, including our expenses and clinical trials, as well as on our industry and the healthcare system. The full impact of COVID-19 is unknown and is rapidly evolving. The extent to which COVID-19 negatively impacts our business and operations will depend on the severity, location and duration of the effects and spread of COVID-19, the actions undertaken by national, regional and local governments and health officials to contain the virus or treat its effects, how quickly and to what extent economic conditions improve and normal business and operating conditions resume, and whether the supply of components will remain sufficient to satisfy market demand and any impact on its pricing. 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, such as those relating to our reliance on a limited number of suppliers and our need to raise additional capital to fund our existing operations.

If our products do not perform as expected, including due to errors, defects or reliability issues, our reputation and market acceptance of our products could be harmed, and our operating results, reputation and business will suffer.

Our success depends on physician and customer confidence that we can provide reliable and highly accurate diagnostic tests and enable better patient care. We believe that physicians and other healthcare providers are likely to be particularly sensitive to defects, errors or reliability issues in our products, including if our products fail to accurately diagnose infections with high accuracy from patient samples, and there can be no guarantee that our products will meet their expectations. There is no guarantee that the accuracy and reproducibility we have demonstrated to date will continue as our product deliveries increase and our product portfolio expands.

Our products use a number of complex and sophisticated biochemical and bioinformatics processes, many of which are highly sensitive to external factors. For example, the Talis One platform, comprised of a compact instrument, universal single-use assay cartridges and software, including a central cloud database, may contain undetected errors or defects when first introduced or as new versions are released. Our diagnostic tests may contain errors or defects or be subject to reliability issues, 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. An operational, technological or other failure in one of these complex processes or fluctuations in external variables may result in sensitivity or specificity rates that are lower than we anticipate or result in longer than expected turnaround times or they may cause our products to malfunction. Due to the complexity of our instrument and cartridge, it may be difficult or impossible to identify the reason for such performance. Performance issues would increase our costs in the near-term and accordingly adversely affect our business, financial condition and results of operations. In addition, 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 and our ability to sell our Talis One platform. We may also be subject to warranty claims or breach of contract for damages related to errors, defects or reliability issues in our products.

Further, our products are designed to be used at the customer’s location by untrained personnel. We cannot provide assurance that our customers will always use our products in the manner in which we intend. Any intentional or unintentional misuse of our products by our customers could lead to substantial civil and criminal monetary and non-monetary penalties, and could cause us to incur significant legal and investigatory fees.

If our products do not perform, or are perceived to not have performed, as expected or favorably in comparison to competitive products, our operating results, reputation, and business will suffer, and we may also be subject to legal claims arising from product limitations, errors, or inaccuracies.

Additionally, many of the pathogens for which we are developing tests are known to mutate over time. Such mutations may negatively affect the accuracy of our tests or even make our tests obsolete. The failure of our

products to perform as expected could significantly impair our operating results and our reputation, including if we become subject to legal claims arising from any defects or errors in our products or test results.

Operational, technical and other difficulties adversely affecting test performance may harm our reputation, impact the commercial attractiveness of our products, increase our costs or divert our resources, including management's time and attention, from other projects and priorities. Any of the foregoing could have a material adverse effect on our business, financial condition and results of operations.

Our products may be subject to recalls in the future. A recall of products, either voluntarily or at the direction of the FDA or another governmental authority, or the discovery of serious safety issues with our products, could have a significant adverse impact on us.

The FDA has the authority to require the recall of commercialized products that are subject to FDA regulation. Manufacturers may, also, under their own initiative, recall a product or service if any deficiency is found. For reportable corrections and removals, companies are required to make additional periodic submissions to the FDA after initiating the recall, and often engage with the FDA on their recall strategy prior to initiating the recall. A government-mandated or voluntary recall by us or a distributor could occur as a result of an unacceptable health risk, component failures, malfunctions, manufacturing errors, design or labeling defects, or other deficiencies and issues. Recalls of any of our commercialized products would divert managerial and financial resources and adversely affect our business, results of operations, financial condition and reputation. A recall of Talis One instruments could be required for any number of problems. Given the number of components, determining the cause of the malfunction may be particularly challenging and costly. In addition, any recall of Talis One instruments would decrease the market for our authorized tests given the decreased availability of such instruments. We may also be subject to liability claims, be required to bear other costs or take other actions that may negatively impact our future sales and our ability to generate profits. Companies are also required to maintain certain records of corrections and removals, even if these do not require reporting to the FDA. We may initiate voluntary recalls involving our commercialized products. The FDA or other agency could take enforcement action for failing to report the recalls when they were conducted. In addition, if we are required to make changes to our products to redress the deficiencies leading to the recall, we may be required to seek marketing authorization for the modified device prior to commercializing it. Any recall announcement by us or a governmental authority, or any changes that we make to our products as a result of such recall, could harm our reputation with customers and negatively affect our business, financial condition, and results of operations.

If we initiate a recall, including a correction or removal, for one of our commercialized products, issue a safety alert, or undertake a field action or recall to reduce a health risk, this could lead to increased scrutiny by the FDA, other governmental and regulatory enforcement bodies, and our customers regarding the quality and safety of our products, and to negative publicity, including FDA alerts, press releases, or administrative or judicial actions. Furthermore, the submission of these reports could be used against us by competitors and cause customers to delay purchase decisions or cancel orders, which would harm our reputation.

We may be unable to manage our growth effectively, which could make it difficult to execute our business strategy.

We anticipate continued growth in our business operations both inside and outside the United States. Any future growth could create strain on our organizational, administrative, and operational infrastructure, including quality control, customer service, and sales force management. Our ability to manage our growth properly will require us to continue to improve our operational, financial, and managerial controls, as well as our reporting systems and procedures.

The COVID-19 pandemic and current lack of available testing, both at the point-of-care and at centralized laboratories, means there is currently significant demand for accurate COVID-19 tests. If we receive an EUA, we intend to meet as much of this demand as we can, and are currently undertaking rapid growth in all aspects of our business. We anticipate that such activities will increase as we build out a commercial operation. If we are able to successfully commercialize our products, we will need to incorporate new equipment, implement new technology systems, automate equipment processes, obtain additional facilities, hire new personnel with different qualifications, and procure additional manufacturing capabilities to allow us to further develop and manufacture new and existing tests. In addition, following the initial commercial launch, if our volume grows and our test menu expands, if authorized, we expect that we will need to continue to implement customer service, billing, and general process improvements and expand our internal quality assurance program to support increased demand. Customer service could prove to be particularly important given the lack of experience our potential customers will have with our products. While we are currently undertaking the construction of new facilities and improvements to our facilities as part of our rapid growth, such construction may be delayed for reasons that are outside of our control. As a result of the foregoing, there is no assurance that any necessary increases in scale, expansion of personnel, equipment, facilities software and computing capacities, or process enhancements will be successfully implemented.

Further, the challenges of addressing the potential outsized demand for COVID-19 tests due to the pandemic is exacerbated by the fact that we are currently a pre-commercial company. If we receive an EUA for our Talis One platform, we expect to sell our instrument and test for the first time during the crisis. We do not have processes, procedures, or models in place to forecast, predict or manage demand for our products or for ancillary functions such as customer service, technological support, and billing. This inexperience could expose us to several risks. For example, it could make it more likely that we mismanage inventory or distribution, resulting in expired or otherwise unusual products or components of our products. In addition, we do not currently have a sales force or any experience in selling our instrument or tests, to date. Furthermore, in the event that demand for our products were to exceed our initial ability to supply our products, we may initially prioritize the wrong customers, the wrong type of customer, or the wrong geographic areas, any of which will have a negative impact on our potential revenue.

In addition, if we experience a significant increase in demand, 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.

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. Failure to manage this growth could result in higher costs, declining quality, deteriorating customer service, and slower responses to competitive challenges. A failure in any one of these areas could make it difficult for us to meet market expectations for our products and could damage our reputation, which in turn could have a material adverse effect on our business, financial condition and results of operations.

The diagnostic testing industry is subject to rapid change, which could make our current or future products obsolete.

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 products and the other products we are developing obsolete. Concerns about obsolescence could make it particularly difficult to successfully deploy our Talis One platform to a sufficiently broad customer base to enable us to profitably sell our authorized tests in the future. Our future success will depend on our ability to keep pace with the evolving needs of customers on a timely and cost-effective basis and to pursue new market

opportunities that develop as a result of scientific and technological advances. We must continuously enhance our Talis One platform and develop new tests to keep pace with evolving standards of care. If we do not update our products to reflect new scientific knowledge our products could become obsolete and sales of our current products and any new products we develop could decline or fail to grow as expected.

If we are unable to establish sales and marketing and customer support capabilities or enter into agreements with third parties to sell and market our current or future products, we may not be successful in commercializing our current or future products, if and when they are approved, and we may not be able to generate any revenue.

We do not currently have a sales or marketing infrastructure and have limited experience in the sales, marketing, customer support or distribution of medical devices. To achieve commercial success for any product for which we retain sales and marketing responsibilities, we must build our sales, marketing, customer support, managerial and other capabilities or make arrangements with third parties to perform these services. We recently hired a Chief Commercial Officer, a VP, Enterprise Sales and a National Sales Director, but have not yet hired or contracted for a sales force. We are currently planning to establish internal sales and marketing teams to address the COVID-19 test opportunity if we receive an EUA for our Talis One platform and anticipate that this will require significant near-term hiring.

There are risks involved with both establishing our own sales and marketing and customer support capabilities and entering into arrangements with third parties to perform these services. For example, recruiting and training a sales force is expensive and time consuming and could delay any product launch. If the commercial launch of the Talis One platform with COVID-19 test or for any future authorized test for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. This may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our current or future products on our own include:

- our inability to recruit and retain adequate numbers of effective sales and marketing personnel;
- the inability of sales personnel to obtain access to enterprise accounts, institutions and/or physicians or persuade adequate numbers of these customers to order our products;
- the initial lack of multiple testing menus to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we enter into arrangements with third parties to perform sales, marketing, patient support and distribution services, our revenues or the profitability of these revenues to us are likely to be lower than if we were to market and sell any current or future products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell and market our current or future products or may be unable to do so on terms that are favorable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our current or future products effectively. If we do not establish sales and marketing capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our current or future products. Further, our business, results of operations, financial condition and prospects will be materially adversely affected.

We may rely on a small number of customers for a significant portion of our revenue, which may materially adversely affect our financial condition and results of operations.

Our initial sales and marketing strategy is focused on enterprise accounts, including: (1) large elder care chains where vulnerable residents have unmet needs for millions of high sensitivity assays per year; (2) urgent care chains that serve on the front lines of COVID-19 diagnosis, needing millions of rapid tests to triage symptomatic patients; and (3) traditional medical establishments, including independent practice associations, accountable care organizations, and public health clinics that that need rapid and high-quality testing to best serve their patients. Given the number of Talis One instruments we initially expect to have available for sale following any authorization, such strategy, may result in a customer base that is, initially, concentrated among one or a few customers. 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. If these largest customers were to significantly reduce their use of our instrument, leading to fewer cartridge sales than we are forecasting, it would have a material adverse effect on our business, financial condition and results of operations and could cause significant fluctuations in our results of operations.

Our sales cycle may be lengthy and variable, which may make it difficult for us to forecast revenue and other operating results.

We expect that our enterprise account sales process will involve numerous interactions with multiple individuals within any given organization, and often includes in-depth analysis by potential customers of our products, performance of proof-of-principle studies, preparation of extensive documentation and a lengthy review process. As a result of these factors and the budget cycles of our customers, the time from initial contact with a potential enterprise customer to our receipt of a purchase order may vary significantly and be many months or longer. Given the length and uncertainty of this expected sales cycle, we may experience, fluctuations in our product revenue on a period-to-period basis.

We may not successfully implement our strategy to provide customers access to our platform through alternative non-direct capital sales channels, including our planned reagent rental program or other sales and marketing practices.

Our ability to execute our growth strategy depends upon our ability to drive adoption of the Talis One platform. In addition to direct capital sales of our instrument, we intend to implement methods for customers to access to our platform through alternatives such as the rental of our instrument instead of purchase. Our ability to execute on this program is unproven. We cannot assure you that we will be successful in developing a rental program nor that it will gain market acceptance. Our failure to execute on this strategy will cause us to be dependent on capital equipment sales and may hinder or delay adoption of our platform.

If our current or future products are not competitive in their intended markets, we may be unable to increase or sustain our revenues or achieve profitability.

Our industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on intellectual property. Due to the significant interest and growth in diagnostics, we expect ongoing intense competition.

We anticipate facing competition primarily from reference labs and diagnostic companies offering both point-of-care and at-home technologies, including those with antibody, antigen and molecular tests. Competitors in the reference lab category include Laboratory Corporation of America Holdings (commonly

referred to as LabCorp) and Quest Diagnostics Incorporated. Competitors with point-of-care diagnostic technology platforms that are either currently available or that are in development include:

- the following company with antibody testing technology: Assure Tech. (Hangzhou) Co., Ltd.;
- the following companies with antigen testing technology: Becton, Dickinson and Company (commonly referred to as BD), Abbott Laboratories, LumiraDx UK Limited and Quidel Corporation; and
- the following companies with molecular testing technology: Abbott Laboratories, Cue Health Inc., Visby Medical, Inc., Cepheid (a subsidiary of Danaher Corporation), Mesa Biotech, Inc. and F. Hoffmann-La Roche AG.

All of the above-listed companies, as well as numerous others, have received an EUA for a point-of-care COVID-19 test. Many of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, regulatory clearance approval and compliance, and sales and distribution than we do. Mergers and acquisitions involving diagnostics companies may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies or customer networks. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize diagnostic products or services that are more accurate, more convenient to use or more cost-effective than our products. Our competitors also may obtain FDA or other regulatory clearance or approval for their products more rapidly than we may obtain clearance or approval for ours, which could result in our competitors establishing a strong market position before we are able to enter a particular market.

Further, some of our competitors' products are sold at prices that are lower than our anticipated pricing, which could cause sales of our products to decline or force us to reduce our prices, which would harm our revenues, operating income or market share. If we are unable to compete successfully, we may be unable to increase or sustain our revenue or achieve profitability.

To remain competitive, we must continually research and develop improvements to our products. However, we cannot assure you that we will be able to develop and commercialize the improvements to our products on a timely basis. Our competitors may develop and commercialize competing or alternative products and improvements faster than we are able to do so, which would negatively affect our ability to increase or sustain our revenue or achieve profitability.

We have estimated the sizes of the markets for our current and future products, and these markets may be smaller than we estimate.

Our estimates of the annual addressable markets for our COVID-19 test and the additional tests under development are based on a number of internal and third-party estimates as well as the assumed rates at which such products will be reimbursed, or the assumed prices at which we can sell our products for markets that have not been established. 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, including as a result of factors outside our control, thereby reducing the predictive accuracy of these underlying factors. Specifically, with respect to the market for our COVID-19 test, the market and competitive landscape are continuously changing. Any number of factors that are outside of our control could make our estimates invalid including the development and distribution of a safe and effective vaccine and/or effective therapies and interventions for COVID-19.

If the actual number of patients who would benefit from our products, the price at which we can sell future products or the annual addressable market for our products is smaller than we have estimated, it may impair our sales growth and have an adverse impact on our business, financial condition and results of operations.

Unfavorable global economic conditions could adversely affect our business, financial condition, and results of operations.

Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. For instance, legal, political and economic uncertainty surrounding the exit of the United Kingdom from the European Union (EU) may be a source of instability in international markets, adversely affect our operations in the EU and United Kingdom and pose additional risks to our business, financial condition, and results of operations. A severe or prolonged global economic downturn could result in a variety of risks to our business, including our ability to raise additional capital when needed on acceptable terms, if at all. A weak or declining economy could also strain our manufacturers and suppliers, possibly resulting in supply disruption. Any of the foregoing could harm our business and we cannot anticipate all of the ways in which the current economic climate and financial market conditions could adversely impact our business.

We are highly dependent on our senior management team and key personnel, and if we are unable to recruit, train and retain key personnel, we may not achieve our goals.

Our future success depends on our ability to recruit, develop, retain and motivate key personnel. The loss of members of our senior management, research and development, science and engineering, manufacturing and sales and marketing teams could result in delays in product development and harm our business.

We do not maintain fixed-term employment contracts or key man life insurance with any of our employees. Competition for qualified personnel is intense. Our growth depends, in particular, on attracting, retaining and motivating highly skilled sales personnel with the necessary clinical background and ability to understand our systems at a scientific and technical level. Because of the complex and technical nature of our products and the dynamic market in which we compete, any failure to attract, develop, retain and motivate qualified personnel could materially harm our operating results and growth prospects.

If we were sued for product liability or professional liability, we could face substantial liabilities that exceed our resources.

The marketing, sale, and use of our products could lead to the filing of product liability claims were someone to allege that our products identified inaccurate or incomplete information regarding their infections, or otherwise failed to perform as designed. We may also be subject to liability for errors in, a misunderstanding of, or inappropriate reliance upon the information we provide in the ordinary course of our business activities. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend.

We maintain product liability 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. Additionally, any product liability lawsuit could damage our reputation, which could impact our results of operations.

We depend on our information technology and telecommunications systems, and those of our third-party service providers, contractors and consultants, and any failure of these systems could harm our business.

We depend on our information technology and telecommunications systems and those of our third-party service providers, contractors and consultants for significant elements of our operations. We have installed and are

expanding a number of enterprise software systems that affect a broad range of business processes and functional areas, including, for example, systems handling human resources, financial controls and reporting, contract management, and other infrastructure operations. These information technology and telecommunications systems support a variety of functions. In addition, our third-party service providers depend upon technology and telecommunications systems provided by outside vendors.

Despite the implementation of preventative and detective security controls, such information technology and telecommunications systems are vulnerable to damage or interruption from a variety of sources, including telecommunications or network failures or interruptions, system malfunction, natural disasters, malicious human acts, terrorism and war. Failures or significant downtime of our information technology or telecommunications systems, or those used by our third-party service providers, contractors or consultants could prevent us from conducting our comprehensive genomic analyses, preparing and providing reports and data to clinicians, handling customer inquiries, conducting research and development activities, and managing the administrative aspects of our business.

If the information technology systems of our third-party service providers and other contractors and consultants become subject to disruptions, we may have insufficient recourse against such third parties and we may have to expend significant resources to mitigate the impact of such an event, and to develop and implement protections to prevent future events of this nature from occurring. Any disruption or loss of information technology or telecommunications systems on which critical aspects of our operations depend could have an adverse effect on our business, financial condition and results of operations.

Security breaches, loss of data, and other disruptions of our or our third-party service providers' information technology or telecommunications systems could result in a material disruption of our business and expose us to reputational damage and substantial liability.

In the ordinary course of our business, we and our third-party service providers will collect, store and transmit sensitive data, including legally protected health information (PHI), personally identifiable information, intellectual property and proprietary business information owned or controlled by us or our customers. In addition, we offer online customer-facing portals accessible through public web portals. It is critical that we collect, store and transmit sensitive data in a secure manner to maintain the confidentiality and integrity of such confidential information. We manage and maintain our applications and data utilizing a combination of on-site systems, managed data center systems, and cloud-based data center systems. These applications and related data encompass a wide variety of business-critical information including research and development information, commercial information, and business and financial information.

Although we take measures to protect such information from unauthorized access or disclosure, our information technology and infrastructure, and that of our third-party service providers may be vulnerable to attacks by hackers or malicious software, physical break-ins or breaches due to inadvertent or intentional actions by our employees, third-party service providers, and/or other third parties, malfeasance or other disruptions. We also face the ongoing challenge of managing access controls to our information technology systems. If we do not successfully manage these access controls it further exposes us to risk of security breaches or disruptions. Any such security breaches or disruptions could compromise the security or integrity of our networks or result in the loss, misappropriation, and/or unauthorized access, use, modification or disclosure of, or the prevention of access to, sensitive data or confidential information (including trade secrets or other intellectual property, proprietary business information, and personal information). For example, any such event that leads to unauthorized access, use, or disclosure of personal information, including personal information regarding our customers or employees, could harm our reputation directly, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, and otherwise subject us to liability under laws and regulations that protect the privacy and

security of personal information. If our or our vendors' information systems are breached, sensitive data are compromised, surreptitiously modified, rendered inaccessible for any period of time or maliciously made public, or if we fail to make adequate or timely disclosures to the public or law enforcement agencies following any such event, whether due to delayed discovery or a failure to follow existing protocols, it could result in significant fines, penalties, orders, sanctions and proceedings or actions against us by governmental bodies or other regulatory authorities, clients or third parties. Any of the foregoing could result in significant legal and financial exposure and reputational damages that could potentially have a material adverse effect on our business, financial condition, results of operations and prospects.

Cyber-attacks are increasing in frequency and evolving in nature. We are at risk of attack by a variety of adversaries, including state-sponsored organizations, organized crime, hackers or "hactivists" (activist hackers), through the use of increasingly sophisticated methods of attack, including long-term, persistent attacks referred to as advanced persistent threats. The techniques used to obtain unauthorized access or sabotage systems include, among other things, computer viruses, malicious or destructive code, ransomware, social engineering attacks (including phishing and impersonation), hacking and denial-of-service attacks. For example, we have been subject to phishing incidents and we may experience additional incidents in the future. Our systems are also subject to compromise from internal threats, such as theft, misuse, unauthorized access or other improper actions by employees, vendors and other third parties with otherwise legitimate access to our systems. Given the unpredictability of the timing, nature and scope of information technology disruptions, there can be no assurance that any security procedures and controls that we or our third-party service providers have implemented will be sufficient to prevent cyber-attacks from occurring. The latency of a compromise is often measured in months, but could be years, and we may not be able to detect a compromise in a timely manner. New techniques may not be identified until they are launched against a target, and we may be unable to anticipate these techniques or detect an incident, assess its severity or impact, react or appropriately respond in a timely manner or implement adequate preventative measures, resulting in potential data loss or other damage to our information technology systems.

As the breadth and complexity of the technologies we use and the software and platforms we develop continue to grow, the potential risk of security breaches and cyber-attacks also increases. Our policies, employee training (including phishing prevention training), procedures and technical safeguards may be insufficient to prevent or detect improper access to confidential, proprietary or sensitive data, including personal data. In addition, the competition for talent in the data privacy and cybersecurity space is intense, and we may be unable to hire, develop or retain suitable talent capable of adequately detecting, mitigating or remediating these risks. As cybersecurity threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. The inability to implement, maintain and upgrade adequate safeguards could have a material adverse effect on our business.

We expect that we may have numerous vendors and other third parties who receive personal data from us in connection with the products we offer our customers. In addition, we have migrated certain data, and may increasingly migrate data, to a cloud hosted by third-party vendors. Some of these vendors and third parties also have direct access to our systems. Due to applicable laws and regulations or contractual obligations, we may be held responsible for any information security failure or cyber-attack attributed to our vendors as they relate to the information we share with them. In addition, because we do not control our vendors and our ability to monitor their data security is limited, we cannot ensure the security measures they take will be sufficient to protect confidential, proprietary, or sensitive data, including personal data, or prevent cyber-attackers from gaining access to our infrastructure or data through our vendors or other third parties.

Regardless of whether an actual or perceived cyber-attack is attributable to us or our third-party service providers, such an incident could, among other things, result in improper disclosure of information, harm our

reputation and brand, reduce the demand for our products, lead to loss of customer confidence in the effectiveness of our security measures, disrupt normal business operations or result in our systems or products being unavailable. In addition, it may require us to spend material resources to investigate or correct the breach and to prevent future security breaches and incidents. The costs related to significant security breaches or disruptions could be material and exceed the limits of any cybersecurity insurance we maintain, increase our risk of regulatory scrutiny, expose us to legal liabilities, including litigation, regulatory enforcement, indemnity obligations or damages for contract breach, divert the attention of management from the operation of our business and cause us to incur significant costs, any of which could affect our financial condition, operating results and our reputation. Moreover, there could be public announcements regarding any such incidents and any steps we take to respond to or remediate such incidents, and if securities analysts or investors perceive these announcements to be negative, it could, among other things, have a substantial adverse effect on the price of our common stock. In addition, our remediation efforts may not be successful. Any of the foregoing events could have a material adverse effect on our business, financial condition and results of operations.

We or the third parties upon whom we depend may be adversely affected by power outages, earthquakes, fires, health pandemics or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our facilities are located in areas, which have experienced severe earthquakes and fires and are at risk for rolling or prolonged power outages. If these earthquakes, fires, other natural disasters, power outages health pandemics or epidemics, terrorism and similar unforeseen events beyond our control, including for example the ongoing COVID-19 pandemic, prevented us from using all or a significant portion of our facilities, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time and/or could result in the loss of commercial inventory or inventory and supplies required for our clinical trials. We do not have a disaster recovery or business continuity plan in place and may incur substantial expenses as a result of the absence or limited nature of our internal or third party service provider disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business. Furthermore, integral parties in our supply chain are operating from single sites, increasing their vulnerability to natural disasters or other sudden, unforeseen and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our ability to conduct our clinical trials, our development plans and business.

International expansion of our business exposes us to business, regulatory, political, operational, financial and economic risks associated with doing business outside the United States.

Because we intend to market our products outside the United States, if cleared, authorized or approved, our business is subject to risks associated with doing business outside the United States, including an increase in our expenses and diversion of our management’s attention from the development of future products. Accordingly, our business and financial results in the future could be adversely affected due to a variety of factors, including:

- failure by us or our distributors to obtain regulatory clearance, authorization or approval for the use of our products in various countries;
- multiple, conflicting and changing laws and regulations such as privacy security and data use regulations, tax laws, export and import restrictions, economic sanctions and embargoes, employment laws, anti-corruption laws, regulatory requirements, reimbursement or payor regimes and other governmental approvals, permits and licenses;
- additional potentially relevant third-party patent rights;

- complexities and difficulties in obtaining intellectual property protection and maintaining, defending and enforcing our intellectual property;
- difficulties in staffing and managing foreign operations;
- employment risks related to hiring employees outside the United States;
- logistics and regulations associated with shipping samples, including infrastructure conditions and transportation delays;
- limits in our ability to penetrate international markets if we are not able to sell our products locally;
- financial risks, such as longer payment cycles, difficulty collecting accounts receivable, the impact of local and regional financial crises on demand and payment for our products and exposure to foreign currency exchange rate fluctuations;
- natural disasters, political and economic instability, including wars, terrorism and political unrest, outbreak of disease, boycotts, curtailment of trade and other business restrictions;
- regulatory and compliance risks that relate to maintaining accurate information and control over sales and distributors' activities that may fall within the purview of the U.S. Foreign Corrupt Practices Act (FCPA), its books and records provisions, or its anti-bribery provisions, or laws similar to the FCPA in other jurisdictions in which we may now or in the future operate, such as the United Kingdom's Bribery Act of 2010 (U.K. Bribery Act); and
- onerous anti-bribery requirements of several member states in the EU, the United Kingdom, and other countries that are constantly changing and require disclosure of information to which U.S. legal privilege may not extend.

Any of these factors could significantly harm our future international expansion and operations and, consequently, our revenue and results of operations.

We may never obtain authorization to market our tests in any other foreign country for any of our products and, even if we do, we may never be able to commercialize them in any other jurisdiction, which would limit our ability to realize their full market potential.

In order to eventually market any of our products in any particular foreign jurisdiction, we must establish and comply with numerous and varying regulatory requirements on a jurisdiction-by-jurisdiction basis regarding quality, safety, performance and efficacy. In addition, clinical trials or clinical investigations conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory clearance, authorization or approval in one country does not guarantee regulatory clearance, authorization or approval in any other country. For example, the performance characteristics of our products may need to be validated separately in specific ethnic and genetic populations. Marketing authorization processes vary among countries and can involve additional product testing and validation and additional administrative review periods.

Seeking foreign regulatory clearance, authorization or approval could result in difficulties and costs for us and our collaborators and require additional preclinical studies, clinical trials or clinical investigations which could be costly and time-consuming. Regulatory requirements and ethical approval obligations can vary widely from country to country and could delay or prevent the introduction of our products in those countries. The foreign regulatory clearance, authorization or approval process involves all of the risks and uncertainties associated with FDA clearance, authorization or approval. We have no experience in obtaining regulatory clearance, authorization or approval in international markets. If we or our collaborators fail to comply with regulatory requirements in international markets or to obtain and maintain required regulatory clearances, authorizations

or approvals in international markets, or if those approvals are delayed, our target market will be reduced and our ability to realize the full market potential of our products will be unrealized.

We may not have adequate insurance coverage.

We may not have adequate insurance coverage. The successful assertion of one or more large claims against us that exceeds our available insurance coverage, or results in changes to our insurance policies (including premium increases or the imposition of large deductible or co-insurance requirements), could have an adverse effect on our business. In addition, we cannot be sure that our existing insurance coverage and coverage for errors and omissions will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim.

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 have entered into licenses, collaborations and strategic alliances, and may enter into additional arrangements like these in the future, and we may not realize the anticipated benefits of such arrangements.

The development and potential commercialization of products will require substantial additional capital to fund expenses. We may form or seek further strategic alliances, create joint ventures or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to any products that we may develop and commercialize, including in territories outside the United States. These transactions can entail numerous operational and financial risks, including exposure to unknown liabilities, disruption of our business and diversion of our management's time and attention in order to manage a collaboration or develop acquired technologies, incurrence of substantial debt or dilutive issuances of equity securities to pay transaction consideration or costs, higher than expected collaboration, acquisition or integration costs, write-downs of assets or goodwill or impairment charges, increased amortization expenses, difficulty and cost in facilitating the collaboration or combining the operations and personnel of any acquired business, impairment of relationships with key suppliers, manufacturers or customers of any acquired business due to changes in management and ownership and the inability to retain key employees of any acquired business. As a result, if we enter into acquisition or in-license agreements or strategic partnerships, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations and company culture, or if there are materially adverse impacts on our or the counterparty's operations resulting from COVID-19, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction or such other benefits that led us to enter into the arrangement.

Additionally, we sometimes collaborate with academic institutions. Typically, these institutions provide us with an option to negotiate a license to any of the institution's rights in technology resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue our program. If we are unable to successfully obtain rights to required third-party intellectual property or to maintain the existing intellectual property rights we have, we may have to abandon development of such program and our business and financial condition could suffer.

Further, rights to certain of the components and technology incorporated into our products are, and in the future, may be held by others, such as one of our suppliers, thinXXS Microtechnology AG (thinXXS). We may be unable to in-license any rights to components, methods of use, processes or other third party intellectual property rights from third parties that we identify. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, which would harm our business. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. In that event, or if we lose access to components or technologies controlled by others, we may be required to expend significant time and resources to develop or license replacement technology. Any such redevelopment or any delays in entering into new collaborations or strategic partnership agreements related to our technologies could delay the development and commercialization of our products in certain geographies, which could harm our business prospects, financial condition, and results of operations.

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

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. 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 regulatory matters

We intend to seek to market our products for point-of-care clinical diagnostic use and will be required to obtain marketing authorizations before they can be marketed. Any such regulatory process would be expensive, time-consuming and uncertain both in timing and in outcome. If we fail to obtain or maintain necessary marketing authorizations, or if such authorizations for future products are delayed or not issued, it will negatively affect our business, financial condition and results of operations.

While we are focused initially on the development of the Talis One platform with COVID-19 test, pursuant to an EUA, our strategy is to expand our product line to encompass products that are intended to be used as point-of-care diagnostics for a variety of infectious diseases. Such products will be subject to regulation by the FDA as medical devices, including requirements for regulatory clearance or approval of such products before they can be marketed. Accordingly, we will be required to obtain marketing authorization in order to sell our future products in a manner consistent with FDA laws and regulations. Such processes are expensive, time-consuming and uncertain; our efforts may never result in any marketing authorization; and failure by us to obtain or comply with such marketing authorizations could have an adverse effect on our business, financial condition or operating results.

The FDA or other regulators can delay, limit, or deny clearance, approval, or other form of marketing authorization 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 our Talis One platform and any tests we propose for use with it, are substantially equivalent to a legally marketed predicate device or safe or effective for their proposed intended uses, or meet other standards required to obtain relevant marketing authorizations;
- the disagreement of the FDA with the design or implementation of any clinical trials or the interpretation of data from preclinical studies or clinical trials;
- serious and unexpected adverse device effects experienced by participants in our clinical trials;
- the data from preclinical studies or 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 regulations to which we are subject are complex and have tended to become more stringent over time. Regulatory changes could result in restrictions on our ability to carry on or expand our operations, higher than anticipated costs or lower than anticipated sales. The FDA enforces these regulatory requirements through, among other means, periodic unannounced inspections. We do not know whether we will be found compliant in

connection with any future regulatory inspections. Moreover, 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;
- operating restrictions, partial suspension or total shutdown of production;
- denial of our requests for regulatory clearance or PMA approval or other marketing authorization of new products, new intended uses or modifications to existing products;
- withdrawal of marketing authorization that have already been granted; or
- criminal prosecution.

If any of these events were to occur, it would negatively affect our business, financial condition and results of operations.

In addition, a Clinical Laboratory Improvement Amendments of 1988 (CLIA)-waived designation by the FDA is required for our products to be used at the point-of-care, and outside of the clinical laboratory setting. Laboratory tests regulated under CLIA are categorized by the FDA as waived, moderate complexity or high complexity based on set criteria. Tests that are waived by regulation, or cleared, approved, or otherwise authorized by the FDA for home use or a point-of-care test, are deemed waived following marketing authorization. Otherwise, a manufacturer of a test categorized as moderate complexity may request categorization of the test as waived through a CLIA Waiver by Application submission to the FDA. The manufacturer must provide evidence to the FDA that a test meets the CLIA statutory criteria for waiver, including, among other things, that the test employs methodologies that are so simple and accurate as to render the likelihood of erroneous results by the user negligible. When a test is categorized as waived, it may be performed by laboratories with a Certificate of Waiver, which is issued by the Centers for Medicare & Medicaid Services (CMS), the federal agency responsible for the oversight of clinical laboratories, which includes issuing waiver certificates. If we fail to obtain, or experience significant delays in obtaining, a waiver approval by the FDA for our tests, our tests will only be able to be performed by CLIA certified and state licensed laboratories, which may limit our commercial success and have an adverse effect on our business, financial condition or operations.

Our commercial success could be compromised if our customers do not receive coverage and adequate reimbursement for our products, if authorized for marketing.

The potential end-users of our Talis One platform and diagnostic tests include large elder care chains where vulnerable residents have unmet needs for millions of high sensitivity assays per year; urgent care chains that serve on the front lines of COVID-19 diagnosis, needing millions of rapid tests to triage symptomatic patients; and traditional medical establishments including independent practice associations, accountable care organizations, and public health clinics that need rapid and high-quality testing to best serve their patients. If these end-users do not receive adequate reimbursement for the cost of our products from their patients' healthcare insurers or payors, the use of our products could be negatively impacted. Furthermore, the net sales of our products could also be adversely affected by changes in reimbursement policies of government or private healthcare payors.

Hospitals, physicians and other healthcare providers who purchase diagnostic products in the United States generally rely on third-party payors, such as private health insurance plans, Medicare and Medicaid, to

reimburse all or part of the cost of the product. Due to the overall escalating cost of medical products and services, especially in light of the COVID-19 outbreak and its straining of healthcare systems across the globe, there is increased pressure on the healthcare industry, both foreign and domestic, to reduce the cost of products and services. Given the efforts to control and reduce healthcare costs in the United States, available levels of reimbursement may change for our products, if authorized for marketing. Third-party reimbursement and coverage may not be available or adequate in either the United States or international markets, current reimbursement amounts may be decreased in the future and future legislation, and regulation or reimbursement policies of third-party payors, may reduce the demand for our products or our ability to sell our products on a profitable basis.

In the United States, if our products receive clearance or approval from the FDA, we expect that our customers will use standard industry billing codes, known as CPT codes, to bill for our tests. If these codes were to change, there is a risk of an error being made in the claim adjudication process. Such errors can occur with claims submission, third-party transmission or in the processing of the claim by the payer. Claim adjudication errors may result in a delay in payment processing or a reduction in the amount of the payment received, either of which may materially impact the demand for our testing products. If we introduce new testing products, we may need to apply for new codes to describe our tests, which may not be approved or if approved, may not have adequate reimbursement rates, any of which could result in reduced demand for our tests or additional pricing pressures.

We also cannot predict whether future healthcare initiatives will be implemented at the federal or state level or in countries outside of the United States in which we may do business in the future, or the effect any future legislation or regulation will have on us. Although we cannot predict the full effect of the recent legislative changes discussed above, such changes individually or in the aggregate may result in decreased profits to us and/or lower reimbursement by payers for our tests, which may adversely affect our business, financial condition and results of operations.

In addition, the coverage and reimbursement market is ever changing and we are not in control of how our competitors' coverage and pricing strategies are established. Some of our competitors have widespread brand recognition and substantially greater financial and technical resources and development, production and marketing capabilities than we do. Others may develop lower-priced, less complex tests that payors and physicians could view as functionally equivalent to our products, which could force us to lower the list price of our tests and impact our operating margins and our ability to achieve and maintain profitability. In addition, technological innovations that result in the creation of enhanced diagnostic tools that are more effective than ours may enable other hospitals, physicians or medical providers to provide specialized diagnostic tests similar to ours in a more patient-friendly, efficient or cost-effective manner than is currently possible. If we cannot compete successfully against current or future competitors, we may be unable to increase or create market acceptance and sales of our products, which could prevent us from increasing or sustaining our revenue or achieving or sustaining profitability.

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

Modifications to any products for which we receive clearance, approval, or other marketing authorization may require new regulatory approvals, clearances, or marketing authorizations, including 510(k) clearances or PMA approvals, or in the case of our COVID-19 test, new EUAs, or require us to recall or cease marketing the modified systems until these clearances, approvals, or other marketing authorizations 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. For a product subject to 510(k) 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, approval, or marketing authorization is required. If the FDA disagrees and requires new clearances, approvals, or other marketing authorizations for the modifications, we may be required to recall and to stop marketing the modified products, which could require us to seek new marketing authorizations and harm our operating results. In these circumstances, we may be subject to significant enforcement actions. Moreover, even if we seek new clearances, approvals, or other marketing authorizations for our modifications, we may not obtain clearance, approval, or other marketing authorizations in a timely manner, if 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 products in a timely manner, which in turn would harm our future growth.

Clinical trials may be necessary to support future product submissions to the FDA. The clinical trials that may be required for our products are expensive and time-consuming, their outcome is uncertain, and if our clinical trials do not meet the stated endpoints in their evaluations, or if we experience significant delays in any of these tests or trials, our ability to commercialize our products and our financial position will be impaired.

Clinical development is a long, expensive and uncertain process with several clinical trials involved, any of which is subject to significant delays. Due to known or unknown circumstances beyond our control, it may take us several years to complete our testing, and failure can occur at any stage of testing. Delays associated with products for which we are directly conducting preclinical or clinical trials may cause us to incur additional operating expenses.

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. The results of preclinical studies and clinical trials of our products conducted to date and ongoing or future studies and trials of our current, planned or future products may not be predictive of the results of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Our interpretation of data and results from our clinical trials do not ensure that we will achieve similar results in future clinical trials. In addition, preclinical and clinical data are often susceptible to various interpretations and analyses, and many companies that have believed their products performed satisfactorily in preclinical studies and earlier clinical trials have nonetheless failed to replicate results in later clinical trials. Products in later stages of clinical trials may fail to show the desired safety and efficacy despite having progressed through nonclinical studies and earlier clinical trials. Failure can occur at any stage of clinical testing. Our clinical studies may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical and non-clinical testing in addition to those we have planned.

The commencement and rate of completion of clinical trials may be delayed by many factors, including, for example:

- we may be required to submit an Investigational Device Exemption (IDE) application to the FDA, which must become effective prior to commencing certain human clinical trials of medical devices, and the FDA may reject our IDE application and notify us that we may not begin clinical trials;
- regulators and other comparable foreign regulatory authorities may disagree as to the design or implementation of our clinical trials;
- regulators and/or an Institutional Review Board (IRB), or other reviewing bodies may not authorize us or our investigators to commence a clinical trial, or to conduct or continue a clinical trial at a prospective or specific trial site;

- we may not reach agreement on acceptable terms with prospective contract research organizations (CROs), and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- the number of subjects or patients required for clinical trials may be larger than we anticipate, enrollment in these clinical trials may be insufficient or slower than we anticipate, and the number of clinical trials being conducted at any given time may be high and result in fewer available patients for any given clinical trial, or patients may drop out of these clinical trials at a higher rate than we anticipate;
- our third party contractors, including those manufacturing products or conducting clinical trials on our behalf, may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- we might have to suspend or terminate clinical trials for various reasons, including a finding that the subjects are being exposed to unacceptable health risks;
- we may have to amend clinical trial protocols or conduct additional studies to reflect changes in regulatory requirements or guidance, which we may be required to submit to an IRB and/or regulatory authorities for re-examination;
- regulators, IRBs, or other parties may require or recommend that we or our investigators suspend or terminate clinical research for various reasons, including safety signals or noncompliance with regulatory requirements;
- the cost of clinical trials may be greater than we anticipate;
- clinical sites may not adhere to the clinical protocol or may drop out of a clinical trial;
- we may be unable to recruit a sufficient number of clinical trial sites;
- regulators, IRBs, or other reviewing bodies may fail to approve or subsequently find fault with our manufacturing processes or facilities of third party manufacturers with which we enter into agreement for clinical and commercial supplies, the supply of devices or other materials necessary to conduct clinical trials may be insufficient, inadequate or not available at an acceptable cost, or we may experience interruptions in supply;
- approval policies or regulations of the FDA or applicable foreign regulatory agencies may change in a manner rendering our clinical data insufficient for approval; and
- our current or future products may have undesirable side effects or other unexpected characteristics.

In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in initiating, enrolling, conducting or completing our planned and ongoing clinical trials. Clinical trials must be conducted in accordance with the laws and regulations of the FDA and other applicable regulatory authorities' legal requirements, regulations or guidelines, and are subject to oversight by these governmental agencies and IRBs at the medical institutions where the clinical trials are conducted. 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 products or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts.

We depend on our collaborators and on medical institutions and CROs to conduct our clinical trials in compliance with good clinical practice (GCP) requirements. To the extent our collaborators or the CROs fail to enroll participants for our clinical trials, fail to conduct the study to GCP standards or are delayed for a significant time in the execution of trials, including achieving full enrollment, we may be affected by increased costs, program delays or both. In addition, clinical trials that are conducted in countries outside the United States may subject us to further delays and expenses as a result of increased shipment costs, additional regulatory requirements and the engagement of non-U.S. CROs, as well as expose us to risks associated with clinical investigators who are unknown to the FDA, and different standards of diagnosis, screening and medical care.

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 products 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.

Even if we receive marketing authorization for a planned product, we and our suppliers will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense and subject us to penalties if we fail to comply with applicable regulatory requirements.

Any product for which we obtain clearance, approval, or other marketing authorization, and the manufacturing processes, post-market surveillance, post-approval clinical data and promotional activities for such product, will be subject to continued regulatory review, oversight, requirements, and periodic inspections by the FDA and other domestic and foreign regulatory bodies. In particular, unless exempt, we and our suppliers are required to comply with the FDA's Quality System Regulation (QSR) and other regulations enforced outside the United States which cover the manufacture of our products and the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, storage and shipping of medical devices. 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, any 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, refunds;
- recall, detention or seizure of our products;

- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying our requests for an EUA, 510(k) clearance or PMA approval of new products or modified products;
- operating restrictions;
- withdrawal of EUAs, 510(k) clearances on PMA approvals that have already been granted;
- refusal to grant export approval for our products; or
- criminal prosecution.

If any of these actions were to occur it would harm our reputation and cause our product 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 products on a timely basis and in the required quantities, if at all.

In addition, we are required to conduct costly post-market testing and surveillance to monitor the safety or effectiveness of our products, and we must comply with medical device reporting requirements, including the reporting of adverse events and malfunctions related to our products. Later discovery of previously unknown problems with our products, including unanticipated adverse events or adverse events of unanticipated severity or frequency, manufacturing problems, or failure to comply with regulatory requirements such as the QSR, may result in changes to labeling, restrictions on such products or manufacturing processes, withdrawal of the products 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.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response, and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize and generate revenue from our products. If regulatory sanctions are applied or if regulatory clearance or approval is withdrawn, it would have a material adverse effect on our business, financial condition and results of operations.

Our products may cause or contribute to adverse medical events or be subject to failures or malfunctions that we are required to report to the FDA, and if we fail to do so, we would be subject to sanctions that could harm our reputation, business, financial condition and results of operations. The discovery of serious safety issues with our products, or a recall of our products either voluntarily or at the direction of the FDA or another governmental authority, could have a negative impact on us.

We are subject to the FDA's medical device reporting regulations and similar foreign regulations, which require us to report to the FDA when we receive or become aware of information that reasonably suggests that one or more of our products may have caused or contributed to a death or serious injury or malfunctioned in a way that, if the malfunction were to recur, it could cause or contribute to a death or serious injury. The timing of our obligation to report is triggered by the date we become aware of the adverse event as well as the nature of the event. We may fail to report adverse events of which we become aware within the prescribed timeframe. We may also fail to recognize that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of the product. If we fail to comply with our reporting obligations, the FDA could take action, including warning letters, untitled letters, administrative actions, criminal prosecution, imposition of civil monetary

penalties, revocation of our device clearance or approval, seizure of our products or delay in clearance or approval of future products.

The FDA and foreign regulatory bodies have the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture of a product or in the event that a product poses an unacceptable risk to health. The FDA's authority to require a recall must be based on a finding that there is reasonable probability that the device could cause serious injury or death. We may also choose to voluntarily recall a product if any material deficiency is found. A government-mandated or voluntary recall by us could occur as a result of an unacceptable risk to health, component failures, malfunctions, manufacturing defects, labeling or design deficiencies, packaging defects or other deficiencies or failures to comply with applicable regulations. Product defects or other errors may occur in the future.

Depending on the corrective action we take to redress a product's deficiencies or defects, the FDA may require, or we may decide, that we will need to obtain new clearances or approvals for the device before we may market or distribute the corrected device. Seeking such clearances or approvals may delay our ability to replace the recalled devices in a timely manner. Moreover, if we do not adequately address problems associated with our devices, we may face additional regulatory enforcement action, including FDA warning letters, product seizure, injunctions, administrative penalties or civil or criminal fines.

Companies are required to maintain certain records of recalls and corrections, even if they are not reportable to the FDA. We may initiate voluntary withdrawals or corrections for our products in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, it could require us to report those actions as recalls and we may be subject to enforcement action. A future recall announcement could harm our reputation with customers, potentially lead to product liability claims against us and negatively affect our sales. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business and may harm our reputation and financial results.

Changes in funding or disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved or commercialized in a timely manner, or at all, or otherwise prevent those agencies from performing normal business functions on which the operation of our business may rely, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including government budget and funding levels, ability to hire and retain key personnel and accept the payment of user fees, and statutory, regulatory, and policy changes, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies on which our operations may rely, including those that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new product applications to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in recent years, including for 35 days beginning on December 22, 2018, the U.S. government shut down several times and certain regulatory agencies, including the FDA, had to furlough critical employees and stop critical activities. Separately, in response to the COVID-19 pandemic, on March 10, 2020 the FDA announced its intention to postpone most inspections of foreign manufacturing facilities. On March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities and provided guidance regarding the conduct of clinical trials. Subsequently, on July 10, 2020 the FDA announced

its intention to resume certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA intends to use this risk-based assessment system to identify the categories of regulatory activity that can occur within a given geographic area, ranging from mission critical inspections to resumption of all regulatory activities. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

We expect to rely on third parties in conducting future clinical studies of diagnostic products that may be required by the FDA or other regulatory authorities, and those third parties may not perform satisfactorily.

We do not have the ability to independently conduct clinical trials that may be required to obtain FDA and other regulatory clearance or approval for future diagnostic products. Accordingly, we expect that we would rely on third parties, such as, laboratories, clinical investigators, CROs, consultants, and collaborators to conduct such studies if needed. Our reliance on these third parties for clinical and other development activities would reduce our control over these activities but will not relieve us of our responsibilities. We will remain responsible for ensuring that each of our clinical studies is conducted in accordance with the general investigational plan and protocols for the study. Moreover, the FDA requires us to comply with standards, commonly referred to as GCPs, for conducting, recording and reporting the results of clinical studies to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of patients in clinical studies are protected. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors. To the extent our collaborators or the CROs fail to enroll participants for our clinical trials, fail to conduct the study to current GCP standards or are delayed for a significant time in the execution of trials, including achieving full enrollment, including on account of the outbreak of infectious disease, such as the COVID-19 pandemic, or otherwise, we may be affected by increased costs, program delays or both, any resulting data may be unreliable or unusable for regulatory purposes, and we may be subject to enforcement action.

If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced or if the quality or accuracy of the data they obtain is compromised, our preclinical 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 products on a timely basis, if at all, and our business, operating results and prospects may be adversely affected.

We are subject to stringent privacy laws, information security laws, regulations, policies and contractual obligations related to data privacy and security and changes in such laws, regulations, policies and contractual obligations could adversely affect our business.

We are subject to numerous state and federal laws and regulations that govern the collection, transmission, storage, dissemination, use, privacy, confidentiality, security, availability, integrity, and other processing of individually identifiable information. The legislative and regulatory landscape for privacy and data protection continues to evolve in jurisdictions worldwide, and there has been an increasing focus on privacy and data protection issues with the potential to affect our business. Failure to comply with any of these laws and regulations could result in enforcement actions against us, including 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.

As we seek to expand our business, we are, and will increasingly become, subject to various laws, regulations and standards, as well as contractual obligations, relating to the collection, use, retention, security, disclosure, transfer and other processing of sensitive and personal information in the jurisdictions in which we operate. In many cases, these laws, regulations and standards apply not only to third-party transactions, but also to transfers of information between or among us and other parties with which we have commercial relationships. These laws, regulations and standards may be interpreted and applied differently over time and from jurisdiction to jurisdiction, and it is possible that they will be interpreted and applied in ways that will materially and adversely affect our business, financial condition and results of operations. The regulatory framework for data privacy, data security and data transfers worldwide is rapidly evolving and, as a result, interpretation and implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future.

There are numerous U.S. federal and state laws and regulations related to the privacy and security of personal information. These laws and regulations include the Health Insurance Portability and Accountability Act of 1996 (HIPAA), as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), which establishes a set of national privacy and security standards for the protection of 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 that involve the creation, receipt, maintenance or transmission of PHI for or on behalf of a covered entity or another business associate. HIPAA requires covered entities and business associates to develop and maintain policies and procedures with respect to PHI that is used or disclosed, including the adoption of administrative, physical and technical safeguards to protect such information and ensure the confidentiality, integrity and availability of electronic PHI. For instance, we plan to offer cloud-based portal software to help our customers more efficiently use our products. The software will maintain security safeguards that are designed to be consistent with HIPAA, as amended by HITECH, but we cannot guarantee that these safeguards will not fail or that they will not be deemed inadequate in the future. In addition, we could be subject to periodic audits for compliance with the HIPAA Privacy and Security Standards by the U.S. Department of Health and Human Services (HHS) and our customers. The HHS Office for Civil Rights may impose significant penalties on entities subject to HIPAA for a failure to comply with a requirement of HIPAA. Penalties will vary significantly depending on factors such as the date of the violation, whether the entity knew or should have known of the failure to comply, or whether the entity's failure to comply was due to willful neglect. A single breach incident can result in violations of multiple standards. A person who knowingly obtains or discloses individually identifiable health information in violation of HIPAA may face significant criminal penalties and imprisonment. 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. Additionally, if we are unable to properly protect the privacy and security of the PHI of our customers, we could be found to have breached our contracts. Determining whether PHI has been handled in compliance with applicable privacy standards and our contractual obligations can be complex and we cannot be sure how these regulations will be interpreted, enforced or applied to our operations.

In addition, many states in which we operate have laws that protect the privacy and security of sensitive and personal information, including health-related information. Certain state laws may be more stringent or broader in scope, or offer greater individual rights, with respect to sensitive and personal information than federal, international or other state laws, and such laws may differ from each other, which may complicate compliance efforts. For example, the California Consumer Privacy Act of 2018 (CCPA), which increases privacy rights for California residents and imposes stringent data privacy and security obligations on companies that process their personal information, came into effect on January 1, 2020. Among other things, the CCPA requires covered companies to provide new disclosures to California consumers and provide such consumers new data

protection and privacy rights, including the ability 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 certain data breaches that result in the loss of personal information. This private right of action may increase the likelihood of, and risks associated with, data breach litigation. The CCPA has been amended from time to time, and it is possible that further amendments will be enacted, but even in its current form it remains unclear how various provisions of the CCPA will be interpreted and enforced. New legislation proposed or enacted in Illinois, Massachusetts, Nevada, New Jersey, New York, Rhode Island, Washington and other states, and a proposed right to privacy amendment to the Vermont Constitution, imposes, or has the potential to impose, additional obligations on companies that collect, store, use, retain, disclose, transfer and otherwise process confidential, sensitive and personal information, and will continue to shape the data privacy environment nationally. State laws are changing rapidly and there is continuing discussion in Congress of a new federal data protection and privacy law to which we would become subject if it is enacted. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time, may require us to modify our data processing practices and policies, divert resources from other initiatives and projects, and could restrict the way products involving data are offered, all of which may have a material and adverse impact on our business, financial condition and results of operations.

Laws, regulations and standards in many jurisdictions apply broadly to the collection, use, retention, security, disclosure, transfer and other processing of personal information, which impose significant compliance obligations. For example, in the European Economic Area (EEA), and the United Kingdom, the collection and use of personal data, including clinical trial data, is governed by the provisions of the General Data Protection Regulation (GDPR), which came into effect in May 2018. The GDPR imposes stringent data privacy and security requirements on companies in relation to the processing of personal data of data subjects within the EEA and the United Kingdom. The GDPR, together with national legislation, regulations and guidelines of the EEA member states and the United Kingdom governing the processing of personal data, impose strict obligations and restrictions on the ability to collect, use, retain, protect, disclose, transfer and otherwise process personal data, including health data from clinical trials and adverse event reporting. The law is also developing rapidly and, in July 2020, the Court of Justice of the EU limited how organizations could lawfully transfer personal data from the EEA to the U.S. Further, while the United Kingdom enacted the Data Protection Act 2018 in May 2018 that supplements the GDPR and has publicly announced that it will continue to regulate the protection of personal data in the same way post-Brexit for a period of time, Brexit has created uncertainty with regard to the future regulation of data and data protection in the United Kingdom. Other countries also are considering or have passed legislation requiring local storage, processing or security of data, or similar requirements, which could increase the cost and complexity of delivering our products.

We will make public statements about our use and disclosure of personal information through our privacy policy, information provided on our internet platform and press statements. Although we endeavor to comply with our public statements and documentation, 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 statements that provide promises and assurances about data privacy and security can subject us to potential government or legal action if they are found to be deceptive, unfair or misrepresentative of our actual practices. Any failure, real or perceived, by us to comply with our posted privacy policies or with any legal or regulatory requirements, standards, certifications or orders or other privacy or consumer protection-related laws and regulations applicable to us could cause our customers to reduce their use of our products and could materially and adversely affect our business, financial condition and results of operations. In many jurisdictions, enforcement actions and consequences for non-compliance can be significant and are rising. In addition, from time to time, concerns may be expressed about whether our products or processes compromise the privacy of customers and others. Concerns about our practices with regard to the collection, use, retention, security, disclosure, transfer and other processing of personal

information or other privacy-related matters, even if unfounded, could damage our reputation and materially and adversely affect our business, financial condition and results of operations.

Many statutory requirements, both in the United States and abroad, include obligations for companies to notify individuals of security breaches involving certain personal information, which could result from breaches experienced by us or our third-party service providers. For example, laws in all 50 U.S. states and the District of Columbia require businesses to provide notice to consumers whose unencrypted personal information has been disclosed as a result of a data breach. These laws are not consistent, and compliance in the event of a widespread data breach is difficult and may be costly. Moreover, states have been frequently amending existing laws, requiring attention to changing regulatory requirements. We also may be contractually required to notify customers or other counterparties of a security breach. Although we may have contractual protections with our third-party service providers, contractors and consultants, any actual or perceived security breach could harm our reputation and brand, expose us to potential liability or require us to expend significant resources on data security and in responding to any such actual or perceived breach. Any contractual protections we may have from our third-party service providers, contractors or consultants may not be sufficient to adequately protect us from any such liabilities and losses, and we may be unable to enforce any such contractual protections.

We expect that there will continue to be new proposed laws and regulations concerning data privacy and security, and we cannot yet determine the impact such future laws, regulations and standards may have on our business. New laws, amendments to or re-interpretations of existing laws, regulations, standards and other obligations may require us to incur additional costs and restrict our business operations. Because the interpretation and application of health-related and data protection laws, regulations, standards and other obligations are still uncertain, and often contradictory and in flux, it is possible that the scope and requirements of these laws may be interpreted and applied in a manner that is inconsistent with our practices and our efforts to comply with the evolving data protection rules may be unsuccessful. If so, this could result in government-imposed fines or orders requiring that we change our practices, which could adversely affect our business.

In addition to the possibility of fines, lawsuits, regulatory investigations, public censure, other claims and penalties, and significant costs for remediation and damage to our reputation, we could be materially and adversely affected if legislation or regulations are expanded to require changes in our data processing practices and policies or if governing jurisdictions interpret or implement their legislation or regulations in ways that negatively impact our business. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business. Any inability to adequately address data privacy or security-related concerns, even if unfounded, or to comply with applicable laws, regulations, standards and other obligations relating to data privacy and security, could result in additional cost and liability to us, harm our reputation and brand, damage our relationships with customers and have a material and adverse impact on our business.

Our employees, principal investigators, consultants, and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.

We are exposed to the risk of fraud or other misconduct by our employees, principal investigators, consultants, and commercial partners. Misconduct by these parties could include intentional failures to comply with the regulations of the FDA and non-United States regulatory authorities, comply with healthcare fraud and abuse laws and regulations in the United States and abroad, report financial information or data accurately, or disclose unauthorized activities to us. In particular, sales, marketing, and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, 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. Such misconduct could also involve the improper use of information obtained in

the course of clinical studies, which could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and our code of conduct and the other 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 comply with these 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 result in the imposition of significant fines or other sanctions, which could have a significant impact on our business. Whether or not we are successful in defending against such actions or investigations, we could incur substantial costs, including legal fees, and divert the attention of management in defending ourselves against any of these actions or investigations.

We may be subject to federal and state healthcare fraud and abuse laws and regulations and could face substantial penalties if we are unable to fully comply with such laws.

We and our collaborators and strategic partners may be subject to broadly applicable healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we develop, market, sell, and distribute our products. These health care laws and regulations include, for example:

- the federal Anti-Kickback Statute (AKS), which prohibits, among other things, persons or entities from soliciting, receiving, offering or providing remuneration, directly or indirectly, overtly or covertly, in cash or in kind, in return for or to induce either the referral of an individual for, or the purchase, lease, order or recommendation of, any good, facility, item or services for which payment may be made under a federal health care program such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of the federal Anti- Kickback Statute or specific intent to violate it in order to have committed a violation;
- the federal civil and criminal false claims laws, such as the False Claims Act (FCA), and civil monetary penalty laws, which imposes significant penalties and can be enforced by private citizens through civil qui tam actions, prohibits individuals or entities from, among other things, knowingly presenting, or causing to be presented, false, fictitious or fraudulent claims for payment or approval by the federal government, and knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim, or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government. In addition, the government may assert that a claim including items or services resulting from a violation of the federal AKS constitutes a false or fraudulent claim for purposes of the civil FCA;
- HIPAA, which established additional federal civil and criminal liability for, among other things, knowingly and willfully executing a scheme to defraud any health care benefit program or making false statements in connection with the delivery of or payment for health care benefits, items or services. Similar to the federal AKS, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation;
- the federal Physician Payments Sunshine Act requirements under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, (collectively, the ACA), which require certain manufacturers of drugs, devices, biologics and medical supplies to report to the CMS, information related to payments and other transfers of value made to or at the request of covered recipients, such as physicians, as defined by such law, and teaching hospitals, and certain ownership and investment interests held by physicians and their immediate family members. Beginning in 2022, applicable manufacturers also will be required to report such information regarding its relationships with physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists and certified nurse midwives during the previous year; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws, which may apply to items or services reimbursed by any third-party payor, including commercial insurers.

Because of the breadth of these laws and the narrowness of the statutory exceptions and regulatory safe harbors available, it is possible that some of our business activities, including our planned reagent rental program or other sales and marketing practices, could be subject to challenge under one or more of such laws. Any action brought against us for violation of these laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of these laws and regulations, we may be subject to any applicable penalty associated with the violation, including, among others, significant administrative, civil and criminal penalties, damages, fines, disgorgement, imprisonment, integrity oversight and reporting obligations, and exclusion from participation in government funded healthcare programs such as Medicare and Medicaid. Additionally, we could be required to refund payments received by us, and we could be required to curtail or cease our operations. Any of the foregoing consequences could seriously harm our business, financial condition, and results of operations. In addition, if any of the physicians or other 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 significant civil, criminal and administrative sanctions, including exclusion from government funded healthcare programs.

Legislative or regulatory reforms may make it more difficult and costly for us to obtain marketing authorization for any future products and to manufacture, market and distribute our products after marketing authorization is obtained.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the marketing authorization, manufacture and marketing of regulated products or the reimbursement thereof. In addition, the FDA may change its policies, adopt additional regulations or revise existing regulations, or take other actions, which may prevent or delay marketing authorization of our future products under development or impact our ability to modify any then-marketed products on a timely basis. Any new regulations or revisions or reinterpretations of existing laws and regulations may impose additional costs or lengthen review times of planned or future products. 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.

For example, over the last several years, the FDA has proposed reforms to its 510(k) clearance process, and such proposals could include increased requirements for clinical data and a longer review period, or could make it more difficult for manufacturers to utilize the 510(k) clearance process for their products. For example, in November 2018, FDA officials announced forthcoming steps that the FDA intends to take to modernize the pre-market notification pathway under Section 510(k) of the FDCA. Among other things, the FDA announced that it planned to develop proposals to drive manufacturers utilizing the 510(k) pathway toward the use of newer predicates. These proposals included plans to potentially sunset certain older devices that were used as predicates under the 510(k) clearance pathway, and to potentially publish a list of devices that have been cleared on the basis of demonstrated substantial equivalence to predicate devices that are more than 10 years old. The FDA also announced that it intended to finalize guidance to establish a pre-market review pathway for "manufacturers of certain well-understood device types" as an alternative to the 510(k) clearance pathway and that such pre-market review pathway would allow manufacturers to rely on objective safety and performance criteria recognized by the FDA to demonstrate substantial equivalence, obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process.

In May 2019, the FDA solicited public feedback on its plans to develop proposals to drive manufacturers utilizing the 510(k) pathway toward the use of newer predicates, including whether the FDA should publish a list of devices that have been cleared on the basis of demonstrated substantial equivalence to predicate devices that are more than 10 years old. The FDA requested public feedback on whether it should consider certain actions that might require new authority, such as whether to sunset certain older devices that were used as predicates under the 510(k) clearance pathway. These proposals have not yet been finalized or adopted, and the FDA may work with Congress to implement such proposals through legislation. Accordingly, it is unclear the extent to which any proposals, if adopted, could impose additional regulatory requirements on us that could delay our ability to obtain new 510(k) clearances, increase the costs of compliance, or restrict our ability to maintain our current clearances, or otherwise create competition that may negatively affect our business.

More recently, in September 2019, the FDA finalized the aforementioned guidance to describe an optional “safety and performance based” pre-market review pathway for manufacturers of “certain, well-understood device types” to demonstrate substantial equivalence under the 510(k) clearance pathway, by demonstrating that such device meets objective safety and performance criteria established by the FDA, obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process. The FDA intends to maintain a list device types appropriate for the “safety and performance based pathway” and develop product-specific guidance documents that identify the performance criteria for each such device type, as well as the testing methods recommended in the guidances, where feasible. The FDA may establish performance criteria for classes of devices for which we or our competitors seek or currently have received clearance, and it is unclear the extent to which such performance standards, if established, could impact our ability to obtain new 510(k) clearances or otherwise create competition that may negatively affect our business.

In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. Any new statutes, regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of any future products or make it more difficult to obtain clearance or approval for, manufacture, market or distribute our products. We cannot determine what effect changes in regulations, statutes, legal interpretation or policies, when and if promulgated, enacted or adopted may have on our business in the future. Such changes could, among other things, require: additional testing prior to obtaining clearance or approval; changes to manufacturing methods; recall, replacement or discontinuance of our products; or additional record keeping.

The FDA’s and other regulatory authorities’ policies may change and additional government regulations may be promulgated that could prevent, limit or delay regulatory clearance or approval of our products. We cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative action, either in the United States or abroad.

Any change in the laws or regulations that govern the clearance and approval, or other marketing authorization, relating to our current, planned and future products could make it more difficult and costly to obtain marketing authorization for new products or to produce, market and distribute existing products. Significant delays in or the failure to receive marketing authorization for any new products would have an adverse effect on our ability to expand our business. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing authorization that we may have obtained and we may not achieve or sustain profitability.

The misuse or off-label use of our Talis One platform using our COVID-19 test may harm our reputation in the marketplace, result in false test results that lead to product liability suits or result in costly investigations, fines or sanctions by regulatory bodies if we are deemed to have engaged in the promotion of these uses, any of which could be costly to our business.

We plan to initially seek an EUA for our point-of-care Talis One platform with COVID-19 test for the automated detection of nucleic acid from the SARS-CoV-2 virus in nasal swab samples from individuals suspected of COVID-19 by their healthcare provider. If such marketing authorization is obtained, we would not be permitted to market our Talis One platform and COVID-19 diagnostic test for use in screening of asymptomatic populations, for use in pooling samples for testing, or for use with different specimen samples (other than nasal swab samples). Such uses would be considered "off-label." We plan to train our marketing and direct sales force to not promote the Talis One platform and COVID-19 test for uses outside of the FDA-authorized indications for use. We cannot, however, prevent a physician from using our products off-label, when in the physician's independent professional medical judgment he or she deems it appropriate. There may be increased risk of inaccurate results if physicians attempt to use our tests off-label. Furthermore, such off-label uses could harm our reputation in the marketplace among physicians and patients.

If the FDA or any foreign regulatory body determines that our promotional materials or training constitute promotion of an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance or imposition of an untitled letter, which is used for violators that do not necessitate a warning letter, injunction, seizure, civil fine or criminal penalties, or withdrawal of any EUA or other marketing authorization we obtain. It is also possible that other federal, state or foreign enforcement authorities might take action under other regulatory authority if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil and administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs and the curtailment of our operations.

A significant portion of the funding for the development of our Talis One platform comes from U.S. federal government grants, and if the cognizant federal agencies were to eliminate, reduce or delay funding from our agreements, this could have a significant, negative impact on our revenues and cash flows, and we may be forced to suspend or terminate our development programs or obtain alternative sources of funding.

We have received grant funding from the U.S. federal government, including through a grant from the National Institutes of Health (NIH), National Institute of Allergy and Infectious Diseases (NIAID), a sub-award from the Biomedical Advanced Research and Development Authority (BARDA) Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) program, a sub-award from the NIH Rapid Acceleration of Diagnostics (RADx) program, and an NIH RADx grant. We anticipate that a portion of the funding for the development of our technologies will come from these agreements, which provide for grant funds ultimately from the government. Our ability to receive the remaining funding provided for under the agreements is dependent on the government and the higher-tier grantees in connection with our sub-awards exercising additional options under the agreements, which they may do or not do at their sole discretion. In addition, activities covered under the base periods and exercised options may ultimately cost more than is covered by the grants and sub-awards or require a longer performance periods to complete than are remaining on our agreements; if we are unable to secure additional funding or allow for additional time for completion, we would have to incur additional costs to complete the activities or terminate the activities before completion. Moreover, the continuation of our agreements depends in large part on our ability to meet development milestones previously agreed to and on our compliance with certain operating procedures and protocols. For instance, work under the CARB-X program is subject to certain unique commercialization, regulatory approval, and access requirements related to developed products and technology, and public access to research results. These agreements may be suspended or terminated should we fail to achieve key milestones, or fail to comply

with the operating procedures and processes approved by the government and its audit agencies. There can be no assurance that we will be able to achieve these milestones or continue to comply with these procedures and protocols. Moreover, changes in government budgets and agendas may result in a decreased and deprioritized emphasis on supporting the development of our programs. While the NIH has provided funding for and has indicated a potential for future funding for many activities associated with combating COVID-19, the availability and focus for any NIH funding will likely be finite and may require us to compete with other technologies, both similar and disparate. If our agreements are terminated or suspended, if there is any reduction or delay in funding under our agreements, or if the government or higher-tier grantees determine not to exercise some or all of the options provided for under the agreements, our revenues and cash flows would be significantly and negatively impacted and we may be forced to seek alternative sources of funding, which may not be available on non-dilutive terms, terms favorable to us or at all. If alternative sources of funding are not available, we may be forced to suspend or terminate certain of our related development activities. Furthermore, should we be unable to deploy personnel or derive a benefit from fixed study costs or generate data from clinical sites and studies reimbursed through the agreements, our cash flows would be negatively impacted or we may have to initiate furloughs and layoffs which would likely prove disruptive to our management and operations. This in turn would impair our ability to recommence and complete studies if and when the COVID-19 crisis subsides and we are able to restart many suspended or delayed activities.

Unfavorable provisions in government contracts, including in our grant and sub-award agreements, may harm our business, financial condition and operating results.

U.S. government contracts and grants typically contain unfavorable provisions and are subject to audit and modification by the government at its sole discretion, which will subject us to additional risks. For example, under our grant and sub-award agreements, the U.S. government and higher-tier grantees, in certain circumstances, have the power to unilaterally:

- suspend or prevent us for a set period of time from receiving new government contracts or grants or extending our existing agreements based on violations or suspected violations of laws or regulations;
- claim and exercise nonexclusive, nontransferable rights to products manufactured and intellectual property and data developed and generated under the agreements and may, under certain circumstances, license such inventions to third parties without our consent;
- impose U.S. manufacturing requirements for products that embody inventions conceived or first reduced to practice under such contracts and grants;
- cancel, terminate or suspend our agreements based on violations or suspected violations of laws or regulations;
- terminate our agreements in whole or in part for convenience for any reason or no reason, including if funds become unavailable;
- reduce the scope and value of our agreements;
- decline to exercise an option to continue the agreements;
- direct the course of the development of the programs in a manner not chosen by us;
- require us to perform the option periods provided for under the agreements even if doing so may cause us to forego or delay the pursuit of other program opportunities with greater commercial potential;
- take actions that result in longer development timelines than expected; and
- change certain terms and conditions in our agreements.

Generally, government contracts and grants, including our grant and sub-award agreements, contain provisions permitting unilateral termination or modification, in whole or in part. Termination-for-convenience provisions generally enable us to recover only our costs incurred or committed, plus a portion of the agreed fee (if a fee has been negotiated) and settlement expenses on the work completed prior to termination. Except for the amount of services received by the government, termination-for-default provisions do not permit recovery of fees and may subject us to damages, including reprocurement expenses. In addition, in the event of termination or upon expiration of our agreements, the U.S. government or higher-tier grantees may dispute wind-down and termination costs and may question prior expenses under the agreements and deny payment of those expenses. Should we choose to challenge those denials, such a challenge could subject us to substantial additional expenses that we may or may not recover. Further, if our agreements are terminated for convenience, or if we default by failing to perform in accordance with the schedule and terms, a significant negative impact on our cash flows and operations could result.

In addition, government contracts and grants normally contain additional requirements that may increase our costs of doing business and expose us to liability for failure to comply with these terms and conditions. These requirements include, for example:

- public disclosures of certain contract information, which may enable competitors to gain insights into our research program;
- mandatory internal control systems and policies; and
- mandatory socioeconomic compliance requirements, including labor standards, prioritization of subcontracts to small businesses and others, non-discrimination and affirmative action programs and environmental compliance requirements.

If we fail to maintain compliance with these requirements, we may be subject to potential liability and to the termination of our agreements.

Furthermore, we have entered into and will continue to enter into agreements and subcontracts with third parties, including suppliers, consultants and other third-party contractors, in order to satisfy our contractual obligations under our agreements. Negotiating and entering into such arrangements can be time-consuming and we may not be able to reach agreement with such third parties. Any such agreement must also be compliant with the terms of our grant and sub-award agreements. Any delay or inability to enter into such arrangements or entering into such arrangements in a manner that is non-compliant with the terms, may result in violations of our agreements.

In addition, under the agreements, the government and higher-tier grantees will regularly review our development efforts and clinical activities. Under certain circumstances, they may advise us to delay certain activities and invest additional time and resources before proceeding. If we follow such advice, overall program delays and costs associated with additional resources for which we had not planned may result. Also, the costs associated with following such advice may or may not be reimbursed under our agreement. Finally, we may decide not to follow the advice provided and instead pursue activities that we believe are in the best interests of our programs and our business, even if those would not be reimbursed under our agreement.

As a result of the unfavorable provisions in our agreements, we must undertake significant compliance activities. The diversion of resources from our development and commercial programs to these compliance activities, as well as the exercise by the U.S. government or higher-tier grantees of any rights under these provisions, could materially harm our business.

Laws and regulations affecting government contracts and grants, including our grants and sub-award agreements, make it more costly and difficult for us to successfully conduct our business. Failure to comply with these laws and regulations could result in significant civil and criminal penalties and adversely affect our business.

We must comply with numerous laws, regulations, and agency-specific policies and procedures relating to the administration and performance of our grant and sub-award agreements. Among the most significant are:

- the Federal Acquisition Regulation (FAR) and agency-specific regulations supplemental to the FAR, which comprehensively regulate the procurement, formation, administration and performance of government contracts;
- the business ethics and public integrity obligations, which govern conflicts of interest and the hiring of former government employees, restrict the granting of gratuities and funding of lobbying activities and incorporate other requirements such as the AKS, the Procurement Integrity Act, the FCA and the FCPA; and
- laws, regulations and executive orders restricting the exportation of certain products and technical data.

In addition, as a U.S. government contractor, we are required to comply with applicable laws, regulations and standards relating to our accounting practices, including unique accounting requirements regarding allowable and unallowable costs, and are subject to periodic audits and reviews. As part of any such audit or review, the U.S. government may review the adequacy of, and our compliance with, our internal control systems and policies, including those relating to our purchasing, property, estimating, compensation and management information systems. Based on the results of its audits, the U.S. government may adjust our agreement-related costs and fees, including allocated indirect costs. This adjustment could impact the amount of revenues reported on a historic basis and could impact our cash flows under the contract prospectively. In addition, in the event the U.S. government determines that certain costs and fees were unallowable or determines that the allocated indirect cost rate was higher than the actual indirect cost rate, it would be entitled to recoup any overpayment from us as a result. In addition, if an audit or review uncovers any improper or illegal activity, we may be subject to civil and criminal penalties and administrative sanctions, including termination of our agreements, forfeiture of profits, suspension of payments, fines and suspension or prohibition from doing business with the U.S. government. We could also suffer serious harm to our reputation if allegations of impropriety were made against us, which could cause our stock price to decline. Further, as a U.S. government contractor, we are subject to an increased risk of investigations, criminal prosecution, civil fraud, whistleblower lawsuits and other legal actions and liabilities as compared to private sector commercial companies. In addition, the qui tam provisions of the civil FCA authorize a private person to file civil actions on behalf of the federal and state governments and retain a share of any recovery, which can include treble damages and civil penalties.

If we or our third party manufacturing partners fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

We and our suppliers and manufacturers are subject to numerous environmental, health and safety laws and regulations, including those governing the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations, and the manufacturer of our products, involve the production and use of hazardous and flammable materials and waste, including chemicals and biological and radioactive materials. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

Our manufacturers are subject to federal, state and local laws and regulations in the U.S. governing the use, manufacture, storage, handling and disposal of medical and hazardous materials. Although we believe that our manufacturers' procedures for using, handling, storing and disposing of these materials comply with legally prescribed standards, we cannot completely eliminate the risk of contamination or injury resulting from medical or hazardous materials. As a result of any such contamination or injury, we may incur liability or local, city, state or federal authorities may curtail the use of these materials and interrupt our business operations. In the event of an accident, we could be held liable for damages or penalized with fines, and the liability could exceed our resources. We do not have any insurance for liabilities arising from medical or hazardous materials. Compliance with applicable environmental laws and regulations is expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, prospects, financial condition or results of operations.

Healthcare policy changes may have a material adverse effect on our business, financial condition and results of operations.

The ACA, enacted in March 2010, made a number of substantial changes in the way healthcare is financed by both governmental and private insurers. Among other ways in which the ACA may significantly impact our business, the ACA includes: provisions regarding coordination and promotion of research on comparative clinical effectiveness of different technologies and procedures; initiatives to revise Medicare payment methodologies; and initiatives to promote quality indicators in payment methodologies.

On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas (Texas District Court Judge) ruled that the entire ACA is invalid based primarily on the fact that the legislation enacted on December 22, 2017, informally known as Tax Cuts and Jobs Act (TCJA), repealed the tax-based shared responsibility payment imposed by the ACA, on certain individuals who fail to maintain qualifying health coverage for all or part of a year, which is commonly referred to as the "individual mandate." Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the Texas District Court Judge's ruling that that the individual mandate was unconstitutional and remanded the case back to the district court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the United States Supreme Court granted the petitions for writs of certiorari to review this case. It is unclear how such litigation and other efforts to challenge, repeal or replace the ACA will impact the ACA or our business.

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 aggregate reductions to Medicare payments to providers and suppliers of 2% per fiscal year, starting in 2013, and, due to subsequent legislative amendments to the statute, will remain in effect through 2030, with the exception of a temporary suspension from May 1, 2020 through December 31, 2020, unless additional congressional action is taken. Furthermore, on January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

In addition, there has been numerous governmental reform activity in response to the COVID-19 pandemic. For example, the Families First Coronavirus Response Act authorized state Medicaid programs to provide access to coverage for certain medically necessary testing, testing-related services and treatment related to COVID-19 at

no cost to the individual during the emergency period. Such programs are evolving and vary among state Medicaid programs. In addition, the California Department of Health Care Services implemented a new COVID-19 Uninsured Group program on August 28, 2020. Under the program, California covers COVID-19 diagnostic testing, testing-related services, and treatment services, including hospitalization and all medically necessary care, at no cost to the individual, for up to 12 months or the end of the public health emergency, whichever comes first. Further, on August 6, 2020, the Trump administration issued another executive order that instructs the federal government to develop a list of "essential" medicines and then buy them and other medical supplies from U.S. manufacturers instead of from companies around the world, including China. The order is meant to reduce regulatory barriers to domestic pharmaceutical manufacturing and catalyze manufacturing technologies needed to keep drug prices low and the production of drug products in the United States. It is possible that additional governmental action is taken to address the COVID-19 pandemic, which may impact our business.

We cannot predict whether future healthcare initiatives will be implemented at the federal or state level, or how any future legislation or regulation may affect us. The expansion of government's role in the U.S. healthcare industry as a result of the ACA's implementation, and changes to the reimbursement amounts paid by Medicare and other payors for our tests and our planned future tests, may reduce our profits, if any, and have a materially adverse effect on our business, financial condition, results of operations and cash flows.

We cannot predict the impact changes to these laws or the implementation of, or changes to, any other laws applicable to us in the future may have on our business, financial condition and results of operations.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

We have incurred substantial losses during our history and do not expect to become profitable in the near future, and we may never achieve profitability. Unused U.S. federal net operating losses (NOLs) for taxable years beginning before January 1, 2018, may be carried forward to offset future taxable income, if any, until such unused NOLs expire. Under the TCJA, as modified by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), U.S. federal NOLs incurred in taxable years beginning after December 31, 2017, can be carried forward indefinitely, but the deductibility of such U.S. federal NOLs in taxable years beginning after December 31, 2020, is limited to 80% of taxable income. It is uncertain if and to what extent various states will conform to the TCJA or the CARES Act.

As of December 31, 2019, we had $30.9 million of U.S. federal NOLs that were generated in 2017 and prior periods that will expire at various dates through 2033, and $45.4 million of U.S. federal NOLs that can be carried forward indefinitely under current law. As of December 31, 2019, we also had aggregate U.S. federal research and development (R&D) credits of approximately $2.0 million. Our NOL carryforwards and R&D credits are subject to review and possible adjustment by the U.S. and state tax authorities.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (Code), and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50 percentage point change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards, R&D credits and certain other tax attributes to offset its post-change income or taxes may be limited. This could limit the amount of NOLs, R&D credit carryforwards or other applicable tax attributes that we can utilize annually to offset future taxable income or tax liabilities. Subsequent ownership changes and changes to the U.S. tax rules in respect of the utilization of NOLs, R&D credits and other applicable tax attributes carried forward may further affect the limitation in future years. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed. For example, California recently imposed limits on the usability of California state NOL carryforwards to offset taxable

income in tax years beginning after 2019 and before 2023. As a result, we may be unable to use all or a material portion of our NOL carryforwards and other tax attributes, which could adversely affect our future cash flows.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could adversely affect our business operations and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the TCJA enacted many significant changes to the U.S. tax laws, and the CARES Act modified certain provisions of the TCJA. Future guidance from the Internal Revenue Service and other tax authorities with respect to the TCJA may affect us, and certain aspects of the TCJA could be repealed or modified in future legislation. In addition, it is uncertain if and to what extent various states will conform to the TCJA or any other federal tax legislation. Changes in corporate tax rates, the realization of net deferred tax assets relating to our operations, the taxation of foreign earnings, and the deductibility of expenses could have a material impact on the value of our deferred tax assets, could result in significant one-time charges, and could increase our future U.S. tax expense.

Risks related to our intellectual property

We may be, in the future, subject to claims against us alleging that we are infringing, misappropriating or otherwise violating the intellectual property rights of third parties, the outcome of which could have a material adverse effect on our business.

Our commercial success depends in part upon our ability to develop, manufacture, market and sell our products and use our technology without infringing, misappropriating or otherwise violating the patents, trademarks or other intellectual property or proprietary rights of third parties. We cannot assure you that technologies we may develop will not infringe existing or future patents owned by third parties. Litigation relating to infringement, misappropriation or other violations of intellectual property rights in biotechnology industry is common, unpredictable and generally expensive and time consuming, including patent infringement lawsuits, trade secret lawsuits, interferences, oppositions, and *inter-partes* review, post-grant review and reexamination proceedings before the United States Patent and Trademark Office (USPTO), and corresponding international patent offices. The various markets in which we plan to operate are subject to frequent and extensive litigation regarding patents and other intellectual property rights. In addition, many companies in intellectual property-dependent industries, including the biotechnology industry, have employed intellectual property litigation as a means to gain an advantage over their competitors. 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.

In the future, we may also be subject to third-party claims and adversarial proceedings or litigation regarding infringement, misappropriation or other violation by us of patent, trademark or other intellectual property rights of third parties. We cannot provide any assurances that third-party patents do not exist which might be enforced against our products, resulting in either an injunction prohibiting our sales, or, with respect to our sales, an obligation on our part to pay royalties and/or other forms of compensation to third parties. If any such claim or proceeding is brought against us, our collaborators or our third-party service providers, our development, manufacturing, marketing, sales and other commercialization activities could be similarly adversely affected. Even if we believe third-party intellectual property claims are without merit, 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 third party patents asserted against us are valid, enforceable, and infringed, which could materially and adversely affect our ability to develop, manufacture, market, sell and

commercialize any of our products. To successfully challenge the validity of any such U.S. 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 U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. If we are found to infringe any third party's patents or other intellectual property rights, and we are unsuccessful in demonstrating that such patents or other intellectual property are invalid or unenforceable, we could be required to obtain a license from such third party to continue developing, manufacturing, marketing, selling and commercializing our products. However, we may not be able to obtain any required license on commercially reasonable terms or at all, and if we are unable to obtain a necessary license to a third-party patent on commercially reasonable terms, our ability to commercialize our products may be impaired or delayed, which could in turn significantly harm our business. Even if we were able to obtain a license, it could be non-exclusive, which would give our competitors and other third parties access to the same technologies licensed to us, and it could require us to make substantial licensing, royalty and other payments. We also could be forced, including by court order, to cease developing, manufacturing, marketing, selling and commercializing the infringing product or technology. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations, and prospects.

There may be third-party patents of which we are currently unaware with claims to compositions, formulations, methods of manufacture, or methods of use or treatment that cover our products. It is also possible that patents owned by third parties of which we are aware, but which we do not believe are relevant to the technologies we may develop, could be found to be infringed by our technology. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our products may infringe. In addition, third parties, our competitors in both the United States and abroad, many of which have substantially greater resources and have made substantial investments in patent portfolios and competing technologies, may obtain patents in the future that may prevent, limit or otherwise interfere with our ability to make, use and sell our products, and may claim that use of our technologies or the manufacture, use, or sale of our products infringes upon these patents.

Some claimants may have substantially greater resources than we do and may be able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than we could. In addition, patent holding companies that focus solely on extracting royalties and settlements by enforcing patent rights may target us. In addition, if the breadth or strength of protection provided by the patents and patent applications we own or in-license is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future technology. In addition, intellectual property litigation, regardless of its outcome, may cause negative publicity, adversely impact prospective customers, cause product shipment delays or prohibit us from manufacturing, marketing, selling or otherwise commercializing our products and technology. We may receive, and expect to receive, communications from various industry participants alleging our infringement of their patents, trade secrets or other intellectual property rights and/or offering licenses to such intellectual property.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that our confidential information could be compromised by disclosure during this type of litigation. There could also 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 material adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or commercialization activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Uncertainties resulting from patent and other intellectual property litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace, our ability to raise additional funds, and could otherwise have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may be, in the future, involved in lawsuits to defend or enforce our patents and proprietary rights. Such disputes could result in substantial costs or loss of productivity, delay or prevent the development and commercialization of our technology, products, prohibit our use of proprietary technology or sale of products, or put our patents and other proprietary rights at risk.

Competitors and other third parties may infringe, misappropriate or otherwise violate our patents and intellectual property rights or the patents and intellectual property rights of our licensors. The enforcement of such claims can be expensive and time consuming and divert the time and attention of our management and scientific personnel. Our pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless and until a patent issues from such applications. In an infringement proceeding, a court may decide that a patent owned or in-licensed 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 owned and in-licensed patents do not cover the technology in question. An adverse result in any litigation proceeding could put one or more of our owned or in-licensed patents at risk of being invalidated or interpreted narrowly.

If we were to initiate legal proceedings against any other third party to enforce a patent covering our technology, the defendant could assert that our patent is invalid or unenforceable. If we or one of our licensing partners initiate legal proceedings against a third party to enforce a patent covering our technologies, the defendant could counterclaim we infringe their patents or that the patent covering our technology is invalid or unenforceable, or both. In patent litigation in the United States and Europe, defendants alleging invalidity or unenforceability are common. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, for example, lack of novelty, obviousness, lack of written description or non-enablement. Third parties might allege unenforceability of our patents because during prosecution of the patent an individual connected with such prosecution withheld relevant information, or made a misleading statement. There is a risk that a court will decide that a patent of ours is invalid or unenforceable, in whole or in part, and that we do not have the right to stop the other party from using the invention at issue. Third parties may also raise challenges to the validity of our patent claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter-partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). Such proceedings could result in the revocation of, cancellation of, or amendment to our patents in such a way that they no longer cover our technology or products and that we do not have the right to stop the other party from using the invention at issue. The outcome of proceedings involving assertions of invalidity and unenforceability, including during patent litigation, is unpredictable. With respect to the validity of patents, for example, we cannot be certain that there is no invalidating prior art of which we and the patent examiner were unaware during prosecution, but that an adverse third party may identify and submit in support of such assertions of invalidity. If a defendant 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 technology. There is also a risk that, even if the validity of such patents is upheld, the court will construe the patent's claims narrowly or decide that we do not have the right to stop the other party from using the invention at issue on the grounds that our patent claims do not cover the invention, or decide that the other

party's use of our patented technology falls under the safe harbor to patent infringement under 35 U.S.C. §271(e)(1). Such a loss of patent protection could have a material adverse effect on our business. Our patents and other intellectual property rights also will not protect our technology if competitors design around our protected technology without infringing our patents or other intellectual property rights. Interference or derivation proceedings provoked by third parties or brought by the USPTO may be necessary to determine the priority of inventions with respect to, or the correct inventorship of, our patents or patent applications or those of our licensors.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our personnel from their normal responsibilities, and the court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may or may not be an adequate remedy. In addition, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that our confidential information could be compromised by disclosure during this type of litigation. There could also 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 material adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing, or commercialization activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Uncertainties resulting from patent and other intellectual property litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace, our ability to raise additional funds, and could otherwise have a material adverse effect on our business, financial condition, results of operations, and prospects. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid or unenforceable, or that the party against whom we have asserted trademark infringement has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such trademarks.

If we are not able to obtain, maintain, defend or enforce patent and other intellectual property protection for products, or if the scope of the patent and other intellectual property protection obtained is not sufficiently broad, our competitors could develop and commercialize products and technology similar or identical to ours, which could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

Our success depends in part on our ability to obtain, maintain, defend and enforce patents and other forms of intellectual property rights, including in-licenses of intellectual property rights of others, for our products, as well as our ability to preserve our trade secrets, to prevent third parties from infringing, misappropriating or otherwise violating our intellectual property and proprietary rights. Our ability to protect our products from unauthorized use by third parties depends on the extent to which valid and enforceable patents cover them or they are effectively protected as trade secrets. While we have a number of issued patents in the United States and foreign countries, several aspects of our patent portfolio are in much earlier stages of prosecution in the United States and foreign countries. Moreover, we do not own or license any issued patents related to certain aspects of our products and technology, including certain structures and components used in our instruments and established molecular biology techniques. For information regarding our patent portfolio, please see "Business—Intellectual property." 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. As a result, the issuance, scope, validity, enforceability, and commercial value of our patent rights are highly uncertain. There can be no assurance that our patent rights will not be invalidated or held to be unenforceable, will adequately protect our technology, products or provide any competitive advantage, or that any of our

pending or future patent applications will issue as valid and enforceable patents. Our ability to obtain and maintain patent protection for our products is uncertain due to a number of factors, including that:

- we or our licensors may not have been the first to invent the technology covered by our pending patent applications or issued patents;
- we or our licensors may not be the first to file all patent applications covering our methods or products, as patent applications in the United States and most other countries are confidential for a period of time after filing;
- our products and related methods may not be patentable;
- our disclosures in patent applications may not be sufficient to meet the statutory requirements for patentability;
- any or all of our pending patent applications may not result in issued patents;
- others may independently develop identical, similar or alternative technologies;
- others may design around our patent claims to produce competitive technologies or methods or products that fall outside of the scope of our patents;
- we may fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection;
- parties with access to patentable aspects of our research and development output, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, may disclose such results before a patent application is filed, thereby jeopardizing our ability to seek patent protection;
- we may not seek or obtain patent protection in countries that may eventually provide us a significant business opportunity;
- any patents issued to us may not provide a basis for commercially viable products or methods, may not provide any competitive advantages or may be successfully challenged by third parties;
- the patents of others could harm our business;
- a third party may challenge our patents and, if challenged, a court may hold that our patents are invalid;
- a third party may challenge our patents in various patent offices and, if challenged, we may be compelled to limit the scope of our allowed or granted claims or lose the allowed or granted claims altogether;
- our competitors could conduct research and development activities in countries where we will not have enforceable patent rights and then use the information learned from such activities to develop competitive methods or products for sale in our major commercial markets; and
- the growing scientific and patent literature relating to molecular testing, including our own patents and publications, may make it increasingly difficult or impossible to patent new products and methods in the future.

Even if we have or obtain patents covering our products or methods, we may still be barred from making, using and selling such products or methods because of the patent rights of others. Others may have filed, and in the future may file, patent applications covering compositions, products or methods that are similar or identical to ours, which could materially affect our ability to successfully develop our technology or to successfully

commercialize any approved products alone or with collaborators. Patent applications in the U.S. and elsewhere are generally published approximately 18 months after the earliest filing for which priority is claimed, with such earliest filing date being commonly referred to as the priority date. Therefore, patent applications covering our methods and products could have been filed by others without our knowledge. Additionally, pending claims in patent applications which have been published can, subject to certain limitations, be later amended in a manner that could cover our platform technologies or related products. These patent applications may have priority over patent applications filed by us.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. We may be subject to third party pre-issuance submissions of prior art to the USPTO, or become involved in opposition, derivation, revocation, reexamination, post-grant and *inter-partes* review, or interference proceedings challenging our patent rights. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our products and technology 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. Moreover, we, or our licensors, may have to participate in interference proceedings declared by the USPTO to determine priority of invention or in post-grant challenge proceedings, such as oppositions in a foreign patent office, that challenge priority of invention or other features of patentability. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to stop others from using or commercializing similar or identical products and technology, or limit the duration of the patent protection of our products and technology. Such proceedings also may result in substantial cost and require significant time from our employees and management, even if the eventual outcome is favorable to us.

Furthermore, we cannot guarantee that any patents will be issued from any of our pending or future patent applications. The standards applied by the USPTO and foreign patent offices in granting patents are not always applied uniformly or predictably. For example, there is no uniform worldwide policy regarding patentable subject matter or the scope of claims allowable in diagnostic patents. As such, we do not know the degree of future protection that we will have on our proprietary products and technology. Thus, even if our patent applications issue as patents, they may not issue in a form that will provide us with meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. While we will endeavor to protect our technology with intellectual property rights such as patents, as appropriate, the process of obtaining patents is time-consuming, expensive and sometimes unpredictable.

In addition, third parties may be able to develop technology that is similar to, or better than, ours in a way that is not covered by the claims of our patents, or may have blocking patents that could prevent us from marketing our products or practicing our own patented technology. Moreover, patents have a limited lifespan. In the United States, if all maintenance fees are paid timely, the natural expiration of a patent is generally 20 years after it is filed and the life of a patent, and the protection it affords, is limited. In addition, although upon issuance in the United States a patent's life can be increased based on certain delays caused by the USPTO, this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. Without patent protection for current or future methods and related products, we may face competing technology. Given the amount of time required for the development and testing, and regulatory review where necessary, patents protecting such technology might expire before or shortly after such technology is commercialized. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing technology similar or identical to that we or our collaborators may develop.

Moreover, certain of our patents and patent applications are, and others 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 use or 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 business, financial conditions, results of operations, and prospects.

We depend on intellectual property licensed from third parties and we are currently party to several in-license agreements under which we acquired rights to use, develop, manufacture and/or commercialize certain of our platform components. If we breach our obligations under these agreements or if any of these agreements is terminated, or otherwise experience disruptions to our business relationships with our licensors, we may be required to pay damages, lose our rights to such intellectual property and technology, or both, which would harm our business.

We are dependent on patents, know-how, and proprietary technology, both our own and licensed from others. We are a party to a number of intellectual property license agreements that are important to our business and expect to enter into additional license agreements in the future. For example, we have licensed technology related to frangible seals and reagent plugs in our Talis One cartridges, under an agreement with thinXXS. Our existing license agreements impose (under certain circumstances), and we expect that future license agreements will impose, various diligence, milestone payment, royalty and other obligations on us. If we fail to comply with our obligations under these agreements, including due to the impact of the COVID-19 pandemic on our business operations or our use of the intellectual property licensed to us in an unauthorized manner, or we are subject to a bankruptcy, we may be required to pay damages and the licensor may have the right to terminate the license. Any termination of these licenses could result in the loss of significant rights and could harm our ability to develop, manufacture and/or commercialize our platform or product candidates.

In addition, the agreements under which we license intellectual property or technology to or 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 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 that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates. Our business also would suffer if any current or future licensors fail to abide by the terms of the license, if the licensors fail to enforce licensed patents against infringing third parties, if the licensed patents or other rights are found to be invalid or unenforceable, or if we are unable to enter into necessary licenses on acceptable terms. Moreover, our licensors may own or control intellectual property that has not been licensed to us and, as a result, we may be subject to claims, regardless of their merit, that we are infringing or otherwise violating the licensor's rights.

In addition, while we cannot currently determine the amount of the royalty obligations we would be required to pay on sales of future products, if any, the amounts may be significant. The amount of our future royalty obligations will depend on the technology and intellectual property we use in products that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize products, we may be unable to achieve or maintain profitability.

The growth of our business may depend, in part, on our ability to acquire or in-license additional proprietary rights, including to advance the development or commercialization of our products. In that event, we may be

required to expend considerable time and resources to license such technology. From time to time, in order to avoid infringing third-party patents, we may be required to license technology from additional third parties to further develop or commercialize our products. We may be unable to acquire or in-license any relevant third-party intellectual property rights, including any such intellectual property rights required to manufacture, use or sell our products, that we identify as necessary or important to our business operations. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all, and as a result we may be unable to develop or commercialize the affected product candidates, and we may have to abandon development of the relevant products, which would harm our business. We may need to cease use of the compositions or methods covered by such third-party intellectual property rights, and may need to seek to develop alternative approaches that do not infringe on such intellectual property rights which may entail additional costs and development delays, even if we were able to develop such alternatives, which may not be feasible. Even if we are able to obtain a license under such intellectual property rights, any such license may be non-exclusive, which may allow our competitors' access to the same technologies licensed to us.

The licensing and acquisition of third-party intellectual property rights is a competitive practice, and companies that may be more established, or have greater resources than we do, may also be pursuing strategies to license or acquire third-party intellectual property rights that we may consider necessary or attractive in order to commercialize our products. More established companies may have a competitive advantage over us due to their larger size and cash resources or greater clinical development and commercialization capabilities. There can be no assurance that we will be able to successfully complete such negotiations and ultimately acquire the rights to the intellectual property surrounding the additional products that we may seek to acquire.

Disputes may also arise between us and our licensors regarding intellectual property subject to a license agreement. If disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on acceptable terms, we may be unable to successfully develop and commercialize the affected product. We are generally also subject to all of the same risks with respect to protection of intellectual property that we license as we are for intellectual property that we own, which are described below. If we or our licensors fail to adequately protect this intellectual property, our ability to commercialize our products could suffer.

We depend, in part, on our licensors to file, prosecute, maintain, defend, and enforce patents and patent applications that are material to our business.

Patents relating to certain components of our Talis One cartridge are controlled by a third party. Such third party has rights to file, prosecute, maintain, and defend the patents we have licensed from such licensor. If our licensors or any future licensees having rights to file, prosecute, maintain, and defend patent rights that are critical to our products fail to conduct these activities, including due to the impact of the COVID-19 pandemic on our licensors' business operations, our ability to develop and commercialize our products may be adversely affected and we may not be able to prevent competitors from making, using, or selling competing products. We cannot be certain that such activities by our licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents or other intellectual property rights. Pursuant to the terms of the license agreements with some of our licensors, the licensors may have the right to control enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents and, even if we are permitted to pursue such enforcement or defense, we cannot ensure the cooperation of our licensors. We cannot be certain that our licensors will allocate sufficient resources or prioritize their or our enforcement of such patents or defense of such claims to protect our interests in the licensed patents. Even if we are not a party to these legal actions, an adverse outcome could harm our business because it might prevent us from continuing to license intellectual property that we may need in our business. In addition, even when we have the right to control patent prosecution of licensed patents and patent applications, enforcement of licensed patents, or defense of claims asserting the invalidity of those patents, we

may still be adversely affected or prejudiced by actions or inactions of our licensors and their counsel that took place prior to or after our assuming control. In the event we breach any of our obligations related to such prosecution, we may incur significant liability to our licensing partners.

We may not identify relevant third-party patents or may incorrectly interpret the relevance, scope or expiration of a third-party patent, which might adversely affect our ability to develop and market our products.

We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third-party patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by a third-party patent or may incorrectly predict whether a third-party's pending application will issue with claims of relevant scope. Our determination of the expiration date of any patent in the United States or abroad that we consider relevant may be incorrect, which may negatively impact our ability to develop and market our product candidates. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our products.

One aspect of the determination of patentability of our inventions depends on the scope and content of the "prior art," information that was or is deemed available to a person of skill in the relevant art prior to the priority date of the claimed invention. For example, we have identified certain third party patents that may be asserted against us with respect to our technology. These patents may expire prior to commercial launch of our products, if authorized for marketing. We believe that the relevant claims of these third party patents are likely invalid or unenforceable, and we may choose to challenge those patents, though the outcome of any challenge that we may initiate in the future is uncertain. We may also decide in the future to seek a license to those third party patents, but we might not be able to do so on reasonable terms. There may be prior art of which we are not aware that may affect the patentability of our patent claims or, if issued, affect the validity or enforceability of a patent claim. Further, we may not be aware of all third-party intellectual property rights potentially relating to our product candidates or their intended uses, and as a result the impact of such third-party intellectual property rights upon the patentability of our own patents and patent applications, as well as the impact of such third-party intellectual property upon our freedom to operate, is highly uncertain. Because patent applications in the United States and most other countries are confidential for typically a period of 18 months after filing, or may not be published at all, we cannot be certain that we were the first to file any patent application related to our product candidates. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights are highly uncertain. Furthermore, for U.S. applications in which all claims are entitled to a priority date before March 16, 2013, an interference proceeding can be provoked by a third party or instituted by the USPTO to determine who was the first to invent any of the subject matter covered by the patent claims of our applications. For U.S. applications containing a claim not entitled to priority before March 16, 2013, there is a greater level of uncertainty in the patent law in view of the passage of the America Invents Act, which brought into effect significant changes to the U.S. patent laws, including new procedures for challenging pending patent applications and issued patents.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Obtaining and maintaining a patent portfolio entails significant expense, including periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and patent applications. These

expenditures can be at numerous stages of prosecuting patent applications and over the lifetime of maintaining and enforcing issued patents. We may or may not choose to pursue or maintain protection for particular intellectual property in our portfolio. If we choose to forgo patent protection or to allow a patent application or patent to lapse purposefully or inadvertently, our competitive position could suffer. Furthermore, we employ reputable law firms and other professionals to help us comply with the various procedural, documentary, fee payment and other similar provisions we are subject to and, in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. There are situations, however, in which failure to make certain payments or noncompliance with certain requirements in the patent process can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market, which would have a material adverse effect on our business.

Legal action that may be required to enforce our patent rights can be expensive and may involve the diversion of significant management time. There can be no assurance that we will have sufficient financial or other resources to file and pursue infringement claims, which typically last for years before they are concluded. In addition, these legal actions could be unsuccessful and result in the invalidation of our patents, a finding that they are unenforceable or a requirement that we enter into a licensing agreement with or pay monies to a third party for use of technology covered by our patents. We may or may not choose to pursue litigation or other actions against those that have infringed on our patents, or have used them without authorization, due to the associated expense and time commitment of monitoring these activities. If we fail to successfully protect or enforce our intellectual property rights, our competitive position could suffer, which could harm our results of operations.

Some of our intellectual property has been discovered through government funded programs and thus may be subject to federal regulations such as "march-in" rights, certain reporting requirements and a preference for U.S.-based companies, and compliance with such regulations may limit our exclusive rights and our ability to contract with non-U.S. manufacturers.

Our intellectual property rights may be subject to a reservation of rights by one or more third parties. For example, certain intellectual property rights that we have been generated through the use of U.S. government funding and are therefore subject to certain federal regulations. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future processes and related products pursuant to the Bayh-Dole Act of 1980 (Bayh-Dole Act). These U.S. government rights include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has what are referred to as "march-in" rights to, under certain limited circumstances, require the licensor to grant exclusive, partially exclusive or non-exclusive licenses to any of these inventions to a third party if it determines that (1) adequate steps have not been taken to commercialize the invention and achieve practical application of the government-funded technology, (2) government action is necessary to meet public health or safety needs, (3) government action is necessary to meet requirements for public use under federal regulations or (4) we fail to meet requirements of federal regulations. The U.S. government also has the right to take title to these inventions if we or our licensors fail to disclose the invention to the government or fail to file an application to register the intellectual property within specified time limits. These rights may permit the government to disclose our confidential information to third parties. In addition, our rights in such inventions may be subject to certain requirements to manufacture products embodying such inventions in the United States. Intellectual property generated under a government funded program is also subject to certain reporting requirements, compliance with which may require us to expend substantial resources. To the extent any of our future owned or licensed intellectual property is also generated through the use of U.S. government funding, the provisions of the Bayh-Dole Act may similarly apply. Any exercise by the government of such rights could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs, and 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 or narrow the scope of our owned and licensed patents. There are numerous recent changes to the patent laws and proposed changes to the rules of the USPTO which may have a significant impact on our ability to protect our technology and enforce our intellectual property rights. For example, the Leahy-Smith America Invents Act (AIA), enacted in September 2011, resulted in significant changes to the U.S. patent system. An important change introduced by the AIA is that, as of March 16, 2013, the United States transitioned from a "first-to-invent" to a "first-to-file" system for deciding which party should be granted a patent when two or more patent applications are filed by different parties claiming the same invention. Under a "first-to-file" system, assuming the other requirements for patentability are met, the first inventor to file a patent application generally will be entitled to a patent on the invention regardless of whether another inventor had made the invention earlier. A third party that files a patent application in the USPTO after that date but before us could therefore be awarded a patent covering an invention of ours even if we made the invention before it was made by the third party. Circumstances could prevent us from promptly filing patent applications on our inventions. Since patent applications in the United States and most other countries are confidential for a period of time after filing or until issuance, we cannot be certain that we or our licensors were the first to either (1) file any patent application related to our product candidates and other proprietary technologies we may develop or (2) invent any of the inventions claimed in our or our licensor's patents or patent applications. Even where we have a valid and enforceable patent, we may not be able to exclude others from practicing the claimed invention where the other party can show that they used the invention in commerce before our filing date or the other party benefits from a compulsory license.

The AIA provided opportunities for third parties to challenge any issued patent in the USPTO. Those provisions apply to all of our U.S. patents, regardless of when issued. Because of a lower evidentiary standard in USPTO proceedings compared to the evidentiary standard in U.S. federal courts necessary to invalidate a patent claim, a third party could potentially provide evidence in a USPTO proceeding sufficient for the USPTO to hold a claim invalid even though the same evidence would be insufficient to invalidate the claim if first presented in a district court action. Accordingly, a third party may attempt to use the USPTO procedures to invalidate our patent claims that would not have been invalidated if first challenged by the third party as a defendant in a district court action. These provisions could increase the uncertainties and costs surrounding the prosecution of our or our licensors' patent applications and the enforcement or defense of our or our licensors' issued patents.

Depending on decisions by the U.S. Congress, the federal courts and the USPTO, the laws and regulations governing U.S. patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. For example, in the 2013 case *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, the U.S. Supreme Court held that certain claims to naturally-occurring substances are not patentable. Although we do not believe that any of the patents owned or licensed by us will be found invalid based on this decision, we cannot predict how future decisions by Congress, the federal courts or the USPTO may impact the value of our patents. In addition, the European patent system is relatively stringent in the type of amendments that are allowed during prosecution, but the complexity and uncertainty of European patent laws has also increased in recent years. Complying with these laws and regulations could limit our ability to obtain new patents in the future that may be important for our business.

In addition, changes in, or different interpretations of, patent laws in the United States and other countries may permit others to use our discoveries or to develop and commercialize our technology without providing any compensation to us, or may limit the scope of patent protection that we are able to obtain. The laws of some

countries do not protect intellectual property rights to the same extent as U.S. laws, and those countries may lack adequate rules and procedures for defending our intellectual property rights.

If the patent applications we hold or have in-licensed with respect to our current and future technology fail to issue, if the validity, breadth or strength of protection of our patent rights is threatened, or if such patent rights fail to provide meaningful exclusivity for our methods and related products that we or our collaborators may develop, it could dissuade companies from collaborating with us, encourage competitors to develop competing technology and threaten our or our collaborators' ability to commercialize future products or services. Any such outcome could have a material adverse effect on our business.

We will not seek to protect our intellectual property rights in all jurisdictions throughout the world, and we may not be able to adequately enforce our intellectual property rights even in the jurisdictions where we seek protection.

Filing, prosecuting and defending patents in all countries and jurisdictions throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States could be less extensive than those in the United States, assuming that rights are obtained in the United States. In-licensing patents covering our technology in all countries throughout the world may similarly be prohibitively expensive, if such opportunities are available at all. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States, even in jurisdictions where we do pursue patent protection. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, even in jurisdictions where we do pursue patent protection, or from selling or importing our technology in and into the United States or other jurisdictions.

We generally apply for patents in those countries where we intend to make, have made, use, offer for sale or sell products and where we assess the risk of infringement to justify the cost of seeking patent protection. However, we may not seek protection in all countries where we will commercialize our products and we may not accurately predict all the countries where patent protection would ultimately be desirable. If we fail to timely file a patent application in any such country or major market, we may be precluded from doing so at a later date. Competitors may use our technology in jurisdictions where we do not pursue and obtain patent protection to develop their own assays and products and may export otherwise infringing assays and products to territories where we have patent protection, but where our ability to enforce our patent rights is not as strong as in the United States. These assays and products may compete with technologies that we or our collaborators may develop, and our patents or other intellectual property rights may not be effective or sufficient to prevent such competition.

The laws of some other countries do not protect intellectual property rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than U.S. law does. Patent protection must ultimately be sought on a country-by-country basis, which is an expensive and time-consuming process with uncertain outcomes. Accordingly, we may choose not to seek patent protection in certain countries, and we will not have the benefit of patent protection in such countries. In addition, the legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to biopharmaceuticals or biotechnologies. As a result, many companies have encountered significant difficulties in protecting and defending intellectual property rights in certain jurisdictions outside the United States. Such issues may make it difficult for us to stop the infringement of our patents, if obtained, or the misappropriation of our other intellectual property rights. For example, many other countries, including countries in the EU, have compulsory licensing laws under which a patent owner must grant licenses to third parties. In addition, many countries limit the enforceability of patents against third parties, including government agencies or government

contractors. In these countries, patents may provide limited or no benefit. In those countries, we and our licensors may have limited remedies if patents are infringed or if we or our licensors are compelled to grant a license to a third party, which could materially diminish the value of those patents and could limit our potential revenue opportunities. Accordingly, our and our licensors' efforts to enforce intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we own or license. Similarly, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business.

Furthermore, proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, subject our patents to the risk of being invalidated or interpreted narrowly, subject our patent applications to the risk of not issuing or 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 to us, if any, may not be commercially meaningful, while the damages and other remedies we may be ordered to pay such third parties may be significant. 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. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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

In addition to seeking patent protection for certain aspects of our technology, we also consider trade secrets, including confidential and unpatented know-how, important to the maintenance of our competitive position. We protect trade secrets and confidential and unpatented know-how, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to such knowledge, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants that obligate them to maintain confidentiality and assign their inventions to us. We cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes or that the assignment agreements that have been entered into are self-executing. Despite these efforts, any of these parties may breach the agreements, intentionally or inadvertently, and disclose our proprietary information, including our trade secrets, or claim ownership in intellectual property that we believe is owned by us. Monitoring unauthorized uses and disclosures of our intellectual property is difficult, and we do not know whether the steps we have taken to protect our intellectual property will be effective. In addition, 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 in the U.S. and certain foreign jurisdictions are less willing or unwilling to protect trade secrets.

Moreover, our competitors or other third parties may independently develop knowledge, methods and know-how equivalent to our trade secrets or seek to reverse engineer our technology for which we do not have patent protection. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third parties, 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, our competitive position would be harmed.

We are also subject both in the U.S. and outside the U.S. to various regulatory schemes regarding requests for the information we provide to regulatory authorities, which may include, in whole or in part, trade secrets or

confidential commercial information. While we are likely to be notified in advance of any disclosure of such information and would likely object to such disclosure, there can be no assurance that our challenge to the request would be successful. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may be subject to claims that our employees, consultants, or advisors have wrongfully used or disclosed trade secrets or other confidential information of their current or former employers or claims asserting inventorship or ownership of what we regard as our own intellectual property.

Many of our employees, consultants, and advisors are currently or were previously employed at universities or other healthcare, biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we try to ensure that our employees, consultants, and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

We may be subject to claims that former employees, collaborators, or other third parties have an interest in our patents or other intellectual property as an inventor or co-inventor. The failure to name the proper inventors on a patent application can result in the patents issuing thereon being unenforceable. Inventorship disputes may arise from conflicting views regarding the contributions of different individuals named as inventors, the effects of foreign laws where foreign nationals are involved in the development of the subject matter of the patent, conflicting obligations of third parties involved in developing our product candidates or as a result of questions regarding co-ownership of potential joint inventions. For example, we may have inventorship disputes arise from conflicting obligations of consultants or others who are involved in developing our product candidates. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. Litigation may be necessary to defend against these and other claims challenging inventorship. If we 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, valuable intellectual property. Such an outcome could have a material adverse effect on our business. 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.

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 to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property 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. Such claims could have a material adverse effect on our business, financial condition, results of operations, and prospects.

If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

Our trademarks or trade names may be challenged, opposed, infringed, circumvented, invalidated, cancelled, declared generic, determined to be not entitled to registration, or determined to be infringing on other marks. During trademark registration proceedings, we may receive rejections of our applications by the USPTO or in

other foreign jurisdictions. 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 trademarks, and our trademarks may not survive such proceedings. For example, our application to register the trademark TALIS in the United States is subject to an ongoing opposition before the USPTO with Talis Clinical, LLC, which alleges that our application for registration of the trademark TALIS should not be registered because it is likely to be confused with the prior unregistered trademark TALIS used in connection with medical software and related goods and services. In the event this opposition is successful, or if we enter into a settlement agreement with Talis Clinical, LLC, we could lose rights to this trademark. Any trademark litigation could be expensive. In addition, we could be found liable for significant monetary damages, including treble damages, disgorgement of profits and attorneys' fees, if we are found to have willfully infringed a trademark. We may not be able to protect our exclusive right to these trademarks and trade names or may be forced to stop using these names, which we need for name recognition by potential collaborators or customers in our markets of interest. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively and our business may be adversely affected. We may license our trademarks and trade names to third parties, such as distributors. Though these license agreements may provide guidelines for how our trademarks and trade names may be used, a breach of these agreements or misuse of our trademarks and tradenames by our licensees may jeopardize our rights in or diminish the goodwill associated with our trademarks and trade names.

Our use of "open source" software could subject our proprietary software to general release, adversely affect our ability to sell our products, and subject us to possible litigation.

A portion of our products incorporate so-called "open source" software and we may incorporate open source software into other products or technologies in the future. Such open source software is generally licensed by its authors or other third parties under open source licenses. Some open source licenses contain requirements that we disclose source code for modifications we make to the open source software and that we license such modifications to third parties at no cost. In some circumstances, distribution of our software in connection with open source software could require that we disclose and license some or all of our proprietary code in that software as well as distribute our products that use particular open source software at no cost to the user. We monitor our use of open source software in an effort to avoid uses in a manner that would require us to disclose or grant licenses under our proprietary source code, however, there can be no assurance that such efforts will be successful. Open source license terms are often ambiguous and such use could inadvertently occur. There is little legal precedent governing the interpretation of many of the terms of certain of these licenses, and the potential impact of these terms on our business may result in unanticipated obligations regarding our products and technologies. Companies that incorporate open source software into their products have, in the past, faced claims seeking enforcement of open source license provisions and claims asserting ownership of open source software incorporated into their product. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of an open source license, we could incur significant legal costs defending ourselves against such allegations. In the event such claims were successful, we could be subject to significant damages or be enjoined from the distribution of our products. In addition, if we combine our proprietary software with open source software in certain ways, under some open source licenses we could be required to release the source code of our proprietary software, which could substantially help our competitors develop products that are similar to or better than ours and otherwise have a material adverse effect on our business.

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 products or provide services that are similar to ours but that are not protected by our intellectual property;
- we or our licensors might not have been the first to make the inventions covered by our patents;
- we or our licensors 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 pending patent applications or those that we may own in the future will not lead to issued patents;
- issued patents for which we have rights may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products in our commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- if enforced, a court may not hold that our patents are valid, enforceable and infringed;
- we cannot predict the scope of protection of any patent issuing based on our patent applications, including whether the patent applications that we own or in-license will result in issued patents with claims that cover our product candidates or uses thereof in the United States or in other foreign countries;
- the claims of any patent issuing based on our patent applications may not provide protection against competitors or any competitive advantages, or may be challenged by third parties;
- we may need to initiate litigation or administrative proceedings to enforce and/or defend our patent rights which will be costly whether we win or lose;
- we may fail to adequately protect and police our trademarks and trade secrets;
- the patents of others may harm our business, including if others obtain patents claiming subject matter similar to or improving that covered by our patents and patent applications; and
- we or our licensors 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.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Risks related to our financial condition and capital requirements

We have incurred significant losses since our inception and we anticipate that we will continue to incur losses for the foreseeable future, which could harm our future business prospects.

We have historically incurred substantial net losses, including net losses of $21.3 million and $27.5 million, $ million and $ million for the years ended December 31, 2018 and 2019 and the nine months

ended September 30, 2019 and 2020, respectively. As of December 31, 2019 and September 30, 2020, we had an accumulated deficit of $81.8 million and $ million, respectively. We expect our losses to continue as we continue to devote a substantial portion of our resources to efforts to the commercial launch of the Talis One platform and COVID-19 test, and thereafter to increase the adoption of our products, improve these products, scale our manufacturing capabilities and research, develop and commercialize new products. We have devoted a substantial portion of our resources to the development and commercialization of the Talis One platform, a molecular diagnostic platform, including clinical and regulatory initiatives to obtain regulatory clearance. These losses have had, and will continue to have, an adverse effect on our working capital, total assets, and stockholders' equity. Because of the numerous risks and uncertainties associated with our research, development and commercialization efforts, we are unable to predict when we will become profitable, and we may never become profitable. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our inability to achieve and then maintain profitability would negatively affect our business, financial condition, results of operations, and cash flows.

Our recurring losses from operations and negative cash flows have raised substantial doubt regarding our ability to continue as a going concern.

Our recurring losses from operations and negative cash flows raise substantial doubt about our ability to continue as a going concern. As a result, our independent registered public accounting firm on our financial statements as of and for the year ended December 31, 2019 included an explanatory paragraph indicating that there is substantial doubt about our ability to continue as a going concern. If we are unable to raise sufficient capital in this offering or otherwise as and when needed, our business, financial condition and results of operations will be materially and adversely affected, and we will need to significantly modify our operational plans to continue as a going concern. If we are unable to continue as a going concern, we may have to liquidate our assets, and the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements. The inclusion of a going concern explanatory paragraph by our independent registered public accounting firm, our lack of cash resources and our potential inability to continue as a going concern may materially adversely affect our share price and our ability to raise new capital, enter into critical contractual relations with third parties and otherwise execute our development strategy.

We may need to raise additional capital to fund our existing operations, further develop our diagnostic platform, commercialize new products, and expand our operations.

We may seek to sell common or preferred equity or convertible debt securities, enter into another credit facility or another form of third-party funding, or seek other debt financing. We may also need to raise capital sooner or in larger amounts than currently anticipated for numerous reasons, including because of lower demand for our COVID-19 test or as a result of failure to obtain regulatory approvals for our other test panels, or other risks described in this prospectus. In addition, we intend to pursue a reagent rental model where the customer does not purchase our Talis One instrument, which will require substantial additional working capital.

We may also consider raising 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 facilitate market adoption of our products and address competitive developments;
- fund development and marketing efforts of any future products;
- further expand our operations outside the United States;
- acquire, license or invest in technologies, including information 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 successfully launch our product, initially with our COVID-19 test, under an EUA;
- our ability to secure and maintain domestic and international regulatory approval for our products;
- our rate of progress in, and cost of the sales and marketing activities associated with, establishing adoption of our products;
- our rate of progress in, and cost of research and development activities associated with, products in research and early development;
- the effect of competing technological and market developments; and
- the potential cost of and delays in research and development as a result of any regulatory oversight applicable to our products.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, our stockholders' ownership interests will be diluted. Any equity securities we issue could also 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. If we raise funds through borrowings pursuant to a credit agreement, the incurrence of such indebtedness would result in increased fixed payment obligations and could involve restrictive covenants, such as limitations on our ability to incur additional debt and acquire or license intellectual property rights, and other operating restrictions that could adversely impact our ability to conduct our business. If we raise funds through collaborations and alliances and licensing arrangements, we might be required to relinquish significant rights to our platform or technologies or to grant licenses on terms that are unfavorable to us.

Additional equity or debt financing might not be available on reasonable terms, if at all. If we cannot secure additional funding when needed, we may have to delay, reduce the scope of, or eliminate one or more research and development programs or sales and marketing initiatives. In addition, we may have to work with a partner on one or more of our development programs, which could lower the economic value of those programs to us.

Lastly, if we are unable to obtain the requisite amount of financing needed to fund our planned operations, it could have a material adverse effect on our business and ability to continue operating as a going concern.

Risks related to our common stock and the offering

Prior to this offering, there has been no public market for shares of our common stock and an active trading market for our common stock may never develop or be sustained.

No public market for our common stock currently exists. An active public trading market for our common stock may not develop following the completion of this offering, or if developed, it may not be sustained. The lack of an active market may impair your ability to sell your shares at the time you wish to sell them or at a price that you consider reasonable. The lack of an active market may also reduce the fair value of your shares. An inactive market may also impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire other companies or technologies by using our shares as consideration. The initial public offering price of shares of our common stock has been determined by negotiation between us and the

underwriters and may not be indicative of prices that will prevail following the completion of this offering. The market price of shares of our common stock may decline below the initial public offering price, and you may not be able to resell your shares of our common stock at or above the initial public offering price.

Our stock price may be volatile, and the value of our common stock may decline.

The market price of our common stock may be highly volatile and may fluctuate or decline substantially as a result of a variety of factors, some of which are beyond our control, including, but not limited to:

- actual or anticipated fluctuations in our financial condition or results of operations;
- variance in our financial performance from expectations of securities analysts;
- changes in the pricing of our products;
- changes in our projected operating and financial results;
- changes in laws or regulations applicable to our products;
- changes to the proportion of our customers directly purchasing the Talis One platform as compared to utilizing our planned reagent rental model;
- announcements by us or our competitors of significant business developments, acquisitions, or new offerings;
- changes in the structure of healthcare payment systems;
- significant data breaches of our company, providers, vendors or pharmacies;
- our involvement in litigation;
- future sales of our common stock by us or our stockholders, as well as the anticipation of lock-up releases;
- changes in senior management or key personnel;
- negative publicity, such as whistleblower complaints or unsupported allegations made by short sellers, about us or our products;
- the trading volume of our common stock;
- changes in investor perceptions of us or our industry;
- changes in the anticipated future size and growth rate of our market;
- general economic, political, regulatory, industry, and market conditions; and
- natural disasters or major catastrophic events.

These and other factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In recent years, stock markets in general, and the market for life science technology companies in particular (including companies in the genomics, biotechnology, diagnostics and related sectors), have experienced significant price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously 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 stock shortly following this offering. Following periods of such volatility in the market price of a company's securities, securities class action litigation has often been brought against that company. Because of the potential volatility of our stock price, we may become the target of securities litigation in the future. Securities litigation could result in substantial costs and divert management's attention and resources from our business.

Future sales of our common stock in the public market could cause the market price of our common stock to decline.

Sales of a substantial number of shares of our common stock in the public market following the completion of this offering, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities.

All of our directors and officers and the holders of substantially all of our capital stock and securities convertible into our capital stock are subject to lock-up agreements that restrict their ability to transfer shares of our capital stock for 180 days from the date of this prospectus. These lock-up agreements limit the number of shares of capital stock that may be sold immediately following this offering. Subject to certain limitations, substantially all of these shares will become eligible for sale upon expiration of the 180-day lock-up period. J.P. Morgan Securities LLC and BofA Securities, Inc. may, in their sole discretion, permit our stockholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements.

In addition, there were shares of common stock issuable upon the exercise of options outstanding as of September 30, 2020. We intend to register all of the shares of common stock issuable upon exercise of such outstanding options or other equity incentives we may grant in the future, for public resale under the Securities Act of 1933, as amended (Securities Act). The shares of common stock will become eligible for sale in the public market to the extent such options are exercised, subject to the lock-up agreements described above and compliance with applicable securities laws.

Further, based on shares outstanding as of September 30, 2020, holders of approximately shares, or % of our capital stock after the completion of this offering, will have rights, subject to some conditions, to require us to file registration statements covering the sale of their shares or to include their shares in registration statements that we may file for ourselves or other stockholders.

The issuance of shares in connection with any subsequent issuance could depress the market price of our common stock. We are unable to predict the effect that such issuances and/or sales may have on the prevailing market price of our common stock.

If you purchase shares of common stock in this offering, you will experience immediate and substantial dilution in your investment. You will experience further dilution if we issue additional equity or equity-linked securities in the future.

The initial public offering price of our common stock is substantially higher than the pro forma net tangible book value per share of our common stock immediately after this offering. If you purchase shares of our common stock in this offering, you will suffer immediate dilution of $ per share, representing the difference between our pro forma as adjusted net tangible book value per share after giving effect to the sale of shares of common stock in this offering and an anticipated public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus. See the section entitled "Dilution."

If we issue additional shares of common stock, or securities convertible into or exchangeable or exercisable for shares of common stock, our stockholders, including investors who purchase shares of common stock in this

offering, will experience additional dilution, and any such issuances may result in downward pressure on the price of our common stock.

We are an emerging growth company and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act, as amended (JOBS Act). For so long as we remain an emerging growth company, we are permitted by Securities and Exchange Commission (SEC) rules and plan to rely on exemptions from certain disclosure requirements that are applicable to other SEC-registered public companies that are not emerging growth companies.

These exemptions include not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes–Oxley Act of 2002, as amended (Sarbanes-Oxley Act), not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, reduced disclosure obligations regarding executive compensation and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. As a result, the information we provide stockholders will be different from the information that is available with respect to other public companies. In this prospectus, we have not included all of the executive compensation related information that would be required if we were not an emerging growth company. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions.

In addition, as an emerging growth company the JOBS Act allows us to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies, unless we later irrevocably elect not to avail ourselves of this exemption. We have elected to use this extended transition period under the JOBS Act; however, we may choose to early adopt new or revised accounting pronouncements, if permitted under such pronouncements.

Even after we no longer qualify as an emerging growth company, we may still qualify as a "smaller reporting company" which may allow us to take advantage of many of the same exemptions from disclosure requirements including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley 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 be more volatile.

We do not expect to pay any dividends for the foreseeable future. Investors in this offering may never obtain a return on their investment.

You should not rely on an investment in our common stock to provide dividend income. We have never declared or paid cash dividends on our capital stock, and we do not anticipate that we will pay any dividends to holders of our common stock in the foreseeable future. Instead, we plan to retain all available funds and future earnings to fund the development and expansion of our business. In addition, any future credit facility or financing we obtain may contain, terms prohibiting or limiting the amount of dividends that may be declared or paid on our common stock. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any return on their investment. As a result, investors seeking cash dividends should not purchase our common stock.

If securities analysts do not publish research or reports about our business or if they publish negative evaluations of our common stock, the price of our common stock could decline.

The trading market for our common stock will rely in part on the research and reports that industry or securities analysts publish about us or our business. We do not currently have and may never obtain research coverage by industry or securities analysts. If no or few analysts commence coverage of us, the trading price of our common stock could decrease. Even if we do obtain analyst coverage, if one or more of the analysts covering our business downgrade their evaluations of our common stock, the price of our common stock could decline. If one or more of these analysts cease to cover our common stock, we could lose visibility in the market for our common stock, which in turn could cause the price of our common stock to decline.

We will incur increased costs as a result of operating as a public company, and our management will be required to devote substantial time to compliance with our public company responsibilities and corporate governance practices.

As a public company, we will incur significant legal, accounting, and other expenses that we did not incur as a private company, which we expect to further increase after we are no longer an emerging growth company. The Sarbanes–Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Stock Market (Nasdaq), and other applicable securities rules and regulations impose various requirements on public companies. Our management and other personnel devote a substantial amount of time to compliance with these requirements. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time- consuming and costly. We cannot predict or estimate the amount of additional costs we will incur as a public company or the specific timing of such costs.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We will have broad discretion in the application of the net proceeds to us from this offering, including for any of the purposes described in the section titled “Use of proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, our ultimate use may vary substantially from our currently intended use. Investors will need to rely upon the judgment of our management with respect to the use of proceeds. Pending use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities, such as money market accounts, certificates of deposit, commercial paper, and guaranteed obligations of the United States government that may not generate a high yield for our stockholders. If we do not use the net proceeds that we receive in this offering effectively, our business, financial condition, results of operations and prospects could be harmed, and the market price of our common stock could decline.

Our principal stockholder owns a very significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

As of September 30, 2020, our executive officers, directors and five percent or greater stockholders and their respective affiliates, beneficially own, in the aggregate, approximately % of our outstanding voting stock, assuming the conversion of all our outstanding convertible preferred stock. Upon the closing of this offering, assuming that we sell the number of shares reflected on the cover page of this prospectus, that same group will beneficially own, in the aggregate, approximately % of our outstanding voting stock. Further, % of our outstanding voting stock is owned by entities affiliated with Baker Bros. Advisors LP (Baker Bros.) and, upon the closing of this offering, assuming that we sell the number of shares reflected on the cover page of this prospectus, Baker Bros. will beneficially own, in the aggregate, approximately % of our outstanding voting stock. In addition, at any time following the third anniversary of the closing of this offering, the holders of our Series 1 convertible preferred stock, which is a voting common stock equivalent,

may elect to convert shares of Series 1 convertible preferred stock into shares of Series 2 convertible preferred stock, which is a non-voting common stock equivalent. These shares of Series 2 convertible preferred stock are then convertible into shares of our common stock, subject to certain beneficial ownership limitations. See the section entitled “Description of capital stock.”

We also have a nominating agreement with Baker Bros. that provides that, following this offering, and for so long as it continues to own a certain number of shares of our common stock, we have the obligation to support the nomination of, and to cause our board of directors to include in the slate of nominees recommended to our stockholders for election, one or two individuals designated by Baker Bros. As a result, Baker Bros. will be able to exercise considerable influence over matters requiring stockholder approval, including the election of directors, amendments of our organizational documents and approval of any merger, sale of substantially all our assets or other significant corporate transactions following the closing of this offering and for the foreseeable future. For more information regarding this nominating agreement, see the section entitled “Management—Board composition—Nominating agreement.” This concentration of ownership may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you or other stockholders may feel are in your or their best interest as one of our stockholders.

As a result of being a public company, we are obligated to develop and maintain proper and effective internal controls over financial reporting, and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

We will be required, pursuant to 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 for the fiscal year ending December 31, 2021, which is the year covered by the second annual report following the completion of our initial public offering. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. In addition, our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting in our first annual report required to be filed with the SEC following the date we are no longer an emerging growth company if we are not a non-accelerated filer at such time. We are commencing the costly and challenging process of compiling the information systems, processes and internal controls documentation necessary to perform the evaluation needed to comply with Section 404 of the Sarbanes–Oxley Act, but we may not be able to complete our evaluation, testing and any required remediation in a timely fashion once initiated. Our compliance with Section 404 of the Sarbanes–Oxley Act will require that we incur substantial accounting expenses and expend significant management efforts. We currently do not have an internal audit group, and we will need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge and compile the system and process documentation necessary to perform the evaluation needed to comply with Section 404 of the Sarbanes–Oxley Act.

If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Our amended and restated certificate of incorporation, currently, and the restated version that we intend to adopt effective upon the closing of this offering will designate the state courts in the State of Delaware or, if no state court located within the State of Delaware has jurisdiction, the federal court for the District of Delaware, as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could discourage lawsuits against us or our directors, officers, or employees.

Our amended and restated certificate of incorporation that we intend to adopt effective upon the completion of this offering will provide that, to the fullest extent permitted by law, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, any state court located within the State of Delaware, or if all such state courts lack jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (1) any derivative action or proceeding brought on our behalf; (2) any action asserting a breach of a fiduciary duty owed by any current or former director, officer or other employee, to us or our stockholders; (3) any action or proceeding asserting a claim against us or any of our current or former directors, officers or other employees, arising out of or pursuant to any provisions of the Delaware General Corporation Law, our amended and restated certificate of incorporation, or our amended and restated bylaws; (4) any action or proceeding to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or our amended and restated bylaws; (5) any action or proceeding as to which the Delaware General Corporation Law confers jurisdiction to the Court of Chancery of the State of Delaware; and (6) any action asserting a claim against us, or any of our directors, officers or other employees, that is governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants. The amended and restated certificate of incorporation we intend to adopt effective upon closing of this offering states that these choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Securities Act, the Securities Exchange Act of 1934 (Exchange Act) or any other claim for which the federal courts have exclusive jurisdiction. This amended and restated certificate of incorporation will further provide that, unless we consent in writing to the selection of an alternative forum, 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 Securities Act.

These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees and may discourage these types of lawsuits. Furthermore, if a court were to find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect at the completion of this offering could make a merger, tender offer or proxy contest difficult, thereby depressing the trading price of our common stock.

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to and upon the completion of this offering, respectively, may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control);

- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that the board of directors or any individual director may only be removed with cause and the affirmative vote of the holders of at least 66 2/3% of the voting power of all of our then outstanding common stock;
- 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;
- divide our board of directors into three classes;
- 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;
- 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 notice in writing in a timely manner and also specify requirements as to the form and content of a stockholder's notice;
- do 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); and
- provide that special meetings of our stockholders may be called only by the chairman of the board, our Chief Executive Officer or by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the holders of at least 66 2/3% of our then-outstanding common stock.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time. A Delaware corporation may opt out of this provision by express provision in its original certificate of incorporation or by amendment to its certificate of incorporation or bylaws approved by its stockholders. However, we have not opted out of this provision.

These and other provisions in our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law could make it more difficult for stockholders or potential acquirors to obtain control of our board of directors or initiate actions that are opposed by our then-current board of directors, including delay or impede a merger, tender offer or proxy contest involving our company. The existence of these provisions could negatively affect the price of our common stock and limit opportunities for you to realize value in a corporate transaction.

For information regarding these and other provisions, see "Description of capital stock."

Special note regarding forward-looking statements

This prospectus contains forward-looking statements. The forward-looking statements are contained principally in the sections entitled “Prospectus summary,” “Risk factors,” “Management’s discussion and analysis of financial condition and results of operations” and “Business.” These statements relate to future events or to our future financial performance and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our expectations regarding our revenue, expenses and other operating results;
- the timing or outcome of any of our domestic and international regulatory submissions;
- our expectations of the reliability, accuracy and performance of our products and services, as well as expectations of the benefits to patients, clinicians and providers of our products and services;
- future investments in our business, our anticipated capital expenditures and our estimates regarding our capital requirements, future revenues, expenses, reimbursement rates and needs for additional financing;
- impact from future regulatory, judicial, and legislative changes or developments in the United States and foreign countries;
- our ability to establish a sales force and acquire customers;
- our expectations regarding our sales models;
- the costs and success of our marketing efforts, and our ability to promote our brand;
- our ability to increase demand for our products and services, obtain favorable coverage and reimbursement determinations from third-party payers and expand geographically;
- our efforts to successfully develop and commercialize our products and services, including our ability to successfully conduct clinical trials;
- our ability to successfully develop additional revenue opportunities and expand our product and service offerings, including our recently launched offerings;
- the performance of our third-party suppliers and manufacturers;
- our ability to effectively manage our growth, including our ability to retain and recruit personnel, and maintain our culture;
- our ability to compete effectively with existing competitors and new market entrants;
- the impact on our business of economic or political events or trends;
- the size and growth potential of the markets for our products and services, and our ability to serve those markets; and
- the rate and degree of market acceptance of our products and services.

In some cases, you can identify these statements by terms such as “anticipate,” “believe,” “could,” “estimate,” “expects,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes. These forward-

looking statements reflect our management's beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this prospectus and are subject to risks and uncertainties. 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. We discuss many of the risks associated with the forward-looking statements in this prospectus in greater detail under the heading "Risk factors." Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, 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 any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements.

You should carefully 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, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

Use of proceeds

We estimate that we will receive net proceeds of approximately $ million (or approximately $ million if the underwriters' option to purchase additional shares is exercised in full) from the sale of the shares of common stock offered by us in this offering, based on an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) the net proceeds to us from this offering 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 and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, a one million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us by $, assuming the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to obtain additional capital to support our operations, to create a public market for our common stock and to facilitate our future access to the public equity markets. We anticipate that we will use the net proceeds of this offering, together with our existing cash, cash equivalents and short-term investments, as follows:

- to ; and
- for working capital and other general corporate purposes, including the additional costs associated with being a public company.

We may also use a portion of the net proceeds from this offering to in-license, acquire, or invest in complementary businesses, technologies, products or assets. However, we have no current plans, commitments or obligations to do so.

We believe that the net proceeds from this offering and our existing cash and short-term investments, together with interest thereon, will be sufficient to fund our operations through at least the next months, although there can be no assurance in that regard.

Our expected use of net proceeds from this offering represents our current intentions based upon our present plans and business condition. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering, or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual use of the net proceeds will vary depending on numerous factors, including the progress, cost and results of our preclinical and clinical development programs, our ability to obtain additional financing, and other factors described under "Risk factors" in this prospectus, as well as the amount of cash used in our operations and any unforeseen cash needs. We may find it necessary or advisable to use the net proceeds for other purposes, and our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds from this offering.

Pending their use, we plan to 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 U.S. government.

Dividend policy

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business. We do not intend to pay cash dividends on our common stock for the foreseeable future. Any future determination related to our dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant, and subject to the restrictions contained in any future financing instruments. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Capitalization

The following table sets forth our cash and our capitalization as of September 30, 2020 as follows:

- on an actual basis;
- on a pro forma basis to reflect (1) the conversion of all outstanding shares of our convertible preferred stock as of September 30, 2020 into shares of our common stock and shares of our Series 1 convertible preferred stock and the related reclassification of the carrying value of the convertible preferred stock to permanent equity in connection with the completion of this offering, and (2) the filing of our amended and restated certificate of incorporation immediately prior to the completion of this offering; and
- on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of common stock in this offering at an assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma and pro forma as adjusted information below is illustrative only, and our cash and capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our financial statements and the related notes included in this prospectus and the "Management's discussion and analysis of financial condition and results of operations" section and other financial information contained in this prospectus.

	As of September 30, 2020		
(in thousands, except share and per share data)	**Actual**	**Pro forma**	**Pro forma as adjusted(1)**
Cash	$	$	$
Convertible preferred stock, $0.0001 par value, shares authorized and shares issued and outstanding actual; no shares authorized, issued or outstanding pro forma or pro forma adjusted			
Stockholders' (deficit) equity:			
Series 1 convertible preferred stock, $0.0001 par value, shares authorized and shares issued and outstanding actual; shares authorized and shares issued and outstanding pro forma; shares authorized and shares issued and outstanding pro forma adjusted			
Series 2 convertible preferred stock, $0.0001 par value, shares authorized and shares issued and outstanding actual; shares authorized and shares issued and outstanding pro forma; shares authorized and shares issued and outstanding pro forma adjusted			
Common stock, $0.0001 par value, shares authorized, shares issued and outstanding, actual; shares issued and outstanding, pro forma; shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital			
Accumulated deficit			
Total stockholders' (deficit) equity			
Total capitalization	$	$	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) would increase (decrease) the pro forma as adjusted cash, additional paid-in capital, total stockholders' (deficit) equity and total capitalization after this offering by approximately $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. An increase of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted cash after this offering by approximately $, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, a decrease of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted cash, additional paid-in capital, total stockholders' (deficit) equity and total capitalization after this offering by approximately $, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

The number of shares in the table above excludes, as of September 30, 2020:

- shares of common stock issuable upon the exercise of outstanding stock options as of September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding stock options granted after September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock reserved for future issuance under our 2020 equity incentive plan (2020 Plan) which will become effective upon the execution and delivery of the underwriting agreement for this offering (including shares of common stock reserved for issuance under our 2013 equity incentive plan, as amended (2013 Plan) which shares will be added to the shares reserved under the 2020 Plan upon its effectiveness); and
- shares of common stock reserved for future issuance under our 2020 employee stock purchase plan (ESPP) which will become effective upon the execution and delivery of the underwriting agreement for this offering.

Dilution

If you invest in our common stock in this offering, your ownership interest will be immediately diluted 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 after this offering.

As of September 30, 2020, we had a historical net tangible book deficit of $ million, or $ per share of common stock. Our historical net tangible book deficit per share represents the amount of our total tangible assets less total liabilities and convertible preferred stock, divided by the total number of shares of common stock outstanding at September 30, 2020.

After giving effect to the conversion of all outstanding shares of our convertible preferred stock as of September 30, 2020 into shares of our common stock and shares of Series 1 convertible preferred stock and the related reclassification of the carrying value of the outstanding convertible preferred stock to permanent equity in connection with the completion of this offering, our pro forma net tangible book value as of September 30, 2020 is $ million, or $ per share of our common stock.

After giving further effect to the sale of shares of common stock that we are offering at the initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2020 is $ million, or approximately $ per share. This amount represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of approximately $ per share to new investors participating in this offering.

Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution:

Assumed initial public offering price per share		$
Historical net tangible book deficit per share at September 30, 2020, before giving effect to this offering	$	
Pro forma increase in historical net tangible book value per share attributable to conversion of all outstanding shares of convertible preferred stock		
Pro forma net tangible book value per share at September 30, 2020, before giving effect to this offering	$	
Increase in pro forma net tangible book value per share attributable to investors participating in this offering		
Pro forma as adjusted net tangible book value per share after this offering		
Dilution per share to new investors participating in this offering		$

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

An increase of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by approximately $ and decrease the dilution to investors participating in this offering by approximately $ per share, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us. Similarly, a decrease of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease the pro forma as adjusted net tangible book value per share after this offering by approximately $ and increase the dilution to investors participating in this offering by approximately $ per share, assuming that the assumed initial public offering price remains the same, and after deducting the estimated underwriting discounts and commissions and the estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares of our common stock in full in this offering, the pro forma as adjusted net tangible book value after the offering would be $ per share, the increase in pro forma as adjusted net tangible book value per share to existing stockholders would be $ per share and the dilution per share to new investors would be $ per share, in each case assuming an initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus).

The following table summarizes on a pro forma as adjusted basis as of September 30, 2020, the number of shares of common stock purchased or to be purchased from us, the total consideration paid or to be paid to us in cash and the average price per share paid by existing stockholders for shares issued prior to this offering and the price to be paid by new investors in this offering. The calculation below is based on the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus), before deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table below shows, investors participating in this offering will pay an average price per share substantially higher than our existing stockholders paid.

	Shares purchased		Total consideration		Average price per share
	Number	Percent	Amount	Percent	
Existing stockholders			$		$
Investors participating in this offering					
Total		100.0%		100.0%	

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

Similarly, a one million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid by investors participating in this offering, total consideration paid by all stockholders and the average price per share paid by all stockholders by approximately $ million, $ million and $, respectively, assuming the assumed initial public offering price of $ per share (the midpoint of the price range set forth on the cover page of this prospectus) remains the same, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The foregoing tables and calculations are based on shares of common stock outstanding as of September 30, 2020, after giving effect to the conversion of our outstanding shares of convertible preferred stock into shares of common stock and shares of Series 1 convertible preferred stock, and excludes:

- shares of common stock issuable upon the exercise of outstanding stock options as of September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock issuable upon the exercise of outstanding stock options granted after September 30, 2020, at a weighted-average exercise price of $ per share;
- shares of common stock reserved for future issuance under our 2020 Plan which will become effective upon the execution and delivery of the underwriting agreement for this offering (including shares of common stock reserved for issuance under our 2013 Plan which shares will be added to the shares reserved under the 2020 Plan upon its effectiveness); and
- shares of common stock reserved for future issuance under our ESPP which will become effective upon the execution and delivery of the underwriting agreement for this offering.

We may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent we issue additional shares of common stock or other equity or convertible debt securities in the future, there will be further dilution to investors participating in this offering.

Selected financial data

The following selected statements of operations data for the years ended December 31, 2018 and 2019 and the balance sheet data as of December 31, 2018 and 2019 are derived from our audited financial statements and notes appearing elsewhere in this prospectus. The following selected statements of operations data for the nine months ended September 30, 2019 and 2020 and the selected balance sheet data as of September 30, 2020 have been derived from our unaudited interim condensed financial statements and notes included elsewhere in this prospectus. The unaudited interim condensed financial statements have been prepared in accordance with generally accepted accounting principles in the United Stated of America and on the same basis as the audited financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary to present fairly our financial position of such financial data. You should read these data together with our financial statements and related notes appearing elsewhere in this prospectus and the information in "Management's discussion and analysis of financial condition and results of operations." Our historical results are not necessarily indicative of the results to be expected for any other period in the future and the results of statement of operations data for the nine months ended September 30, 2020 are not necessarily indicative of the results to be expected for the year ended December 31, 2020 or any other period in the future.

	Years ended December 31,		Nine months ended September 30,	
(in thousands, except share and per share data)	**2018**	**2019**	**2019**	**2020**
			(unaudited)	
Statement of Operations Data:				
Grant revenue	$ 2,390	$ 3,977		
Operating expenses:				
Research and development	18,388	23,812		
General and administrative	5,432	6,864		
Total operating expenses	23,820	30,676		
Loss from operations	(21,430)	(26,699)		
Other income (expense):				
Change in estimated fair value of convertible notes	—	(817)		
Interest and other (expense)/income	93	42		
Total other income (expense):	93	(775)		
Net loss and comprehensive loss	$ (21,337)	$ (27,474)		
Net (loss) income attributable to Class A Common Stockholders	$ (21,337)	$ 26,382		
Net (loss) income per share:				
Basic	$ (28.41)	$ 24.01		
Diluted	$ (28.41)	$ (8.93)		
Weighted average shares used in the calculation of net (loss) income per share attributable to Class A common stockholders:				
Basic	751,121	1,098,795		
Diluted	751,121	3,075,473		
Pro forma net loss per share attributable to Class A Common Stockholders, basic and diluted (unaudited)		$ (6.22)		
Pro forma weighted average Class A Common Stock outstanding, basic and diluted (unaudited)		4,413,771		

(in thousands)	As of December 31, 2018	As of December 31, 2019	As of September 30, 2020 (unaudited)
Balance Sheet Data:			
Cash	$ 6,895	$ 21,604	
Working capital(1)	5,968	20,070	
Total assets	11,378	25,733	
Convertible preferred stock	59,696	42,755	
Total stockholders' deficit	(52,002)	(21,140)	

(1) We define working capital as current assets less current liabilities. See our audited financial statements and unaudited interim condensed financial statements and related notes included elsewhere in this prospectus for details regarding our current assets and current liabilities.

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 "Selected financial data" and our financial statements and related notes appearing elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in the "Risk factors" section of this prospectus, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. You should carefully read the "Risk factors" section of this prospectus to gain an understanding of the important factors that could cause actual results to differ materially from our forward-looking statements. Please also see the section entitled "Special note regarding forward-looking statements."

Overview

Our primary focus is to transform diagnostic testing through innovative molecular diagnostic products that enable customers to deploy accurate, reliable, low cost and rapid molecular testing at the point-of-care for infectious diseases and other conditions.

We are developing the Talis One Platform (Talis One, the Talis One Platform or platform), which leverages expertise across chemistry, biology, engineering and software, to create a fully integrated, and cloud-enabled, portable molecular diagnostic solution that customers can rapidly deploy when are where needed. The Talis One Platform incorporates core proprietary technologies into a compact, easy-to-use instrument, that utilizes single use test cartridges and software, including a central cloud database, which are designed to work together to provide levels of testing accuracy equivalent to a central laboratory. We intend to commercialize Talis One as an integrated platform comprising single use consumables, an instrument and software. Our commercial strategy will focus on building and expanding an installed base of Talis One instruments and driving utilization of our Talis One tests to generate revenue from the purchase of such products. Subject to marketing authorization, our first commercial test will be a rapid point-of-care molecular diagnostic to detect SARS-CoV-2 directly from a patient sample in approximately 25 minutes (COVID-19 test). We are also developing assays for the detection of other respiratory infections that could be included as a panel test with our COVID-19 test as well as tests for infections related to women's health and sexually transmitted infections.

Our products will require marketing authorization from the FDA prior to commercialization. Due to the COVID-19 global pandemic, we plan to pursue marketing authorization for our COVID-19 test under an EUA rather than initially pursuing 510(k) clearance or other forms of marketing authorization under the FDA's standard medical device authorities.

We have invested in automated cartridge manufacturing lines capable of producing one million cartridges per month, which are scheduled to begin to come on-line in 2020 and we expect will scale to full capacity by the middle of 2021. These manufacturing lines will be located at our contract manufacturers' sites and operated by our contract manufacturing partners. We have also ordered 5,000 Talis One instruments from our contract manufacturers to be delivered beginning in the fourth quarter of 2020 through the first half of 2021.

Since our inception in 2013, we have devoted substantially all our efforts to research and development activities, manufacturing capabilities, raising capital, building our intellectual property portfolio and providing general and administrative support for these operations. We have principally financed our operations through the issuance and sale of shares of our convertible preferred stock to outside investors in private equity

financings as well as the issuance of convertible promissory notes and receipts from government grants. To date, we have received gross proceeds of approximately $228.9 million from investors in our preferred stock financings and the sale of convertible promissory notes that converted in such financings.

We have incurred recurring losses since our inception, including net losses of $21.3 million and $27.5 million for the years ended December 31, 2018 and 2019, respectively. As of December 31, 2019, we had an accumulated deficit of $81.8 million. We expect to continue to generate operating losses and negative operating cash flows for the foreseeable future if and as we:

- continue the research and development of our platform and assays for additional infectious diseases;
- initiate clinical trials for, or additional preclinical development of, our platform;
- further develop and refine the manufacturing processes for our platform;
- change or add manufacturers or suppliers of materials used for our platform;
- seek marketing authorizations if our platform successfully completes development;
- seek to identify and validate diagnostic assays for other disease states;
- obtain, maintain, protect and enforce our intellectual property portfolio;
- hire and deploy a salesforce;
- seek to attract and retain new and existing skilled personnel;
- create additional infrastructure to support our operations as a public company and incur increased legal, accounting, investor relations and other expenses; and
- experience delays or encounter issues with any of the above.

In addition, if we obtain marketing authorization for our platform, we expect to incur significant commercialization expenses related to product manufacturing, marketing, sales and distribution. As a result, we will need substantial additional funding to support our operating activities. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operating activities through a combination of equity offerings, debt and grant revenue. Adequate funding may not be available to us on acceptable terms, or at all.

If we are unable to obtain funding, we will be forced to delay, reduce or eliminate some or all of our research and development programs, product portfolio expansion or commercialization efforts, which could adversely affect our business prospects, or we may be unable to continue operations. Although we continue to pursue these plans, there is no assurance that we will be successful in obtaining sufficient funding on terms acceptable to us to fund continuing operations, if at all.

In June 2020 and July 2020, we received net proceeds of $99.8 million and $8.9 million, respectively, related to the our issuances of Series E convertible preferred stock in June 2020 and the NIH contract executed in July 2020, respectively (see Note 15). As of September 30, 2020, we had cash of $ million. To finance our operations beyond that point we will need to raise additional capital, which cannot be assured. Without giving effect to the anticipated net proceeds from this offering, based on our current operating plan, we have concluded that circumstances exist that raise substantial doubt about our ability to continue as a going concern. See Note 1 to our annual financial statements for additional information on our assessment. See “—Liquidity and capital resources.”

We generally outsource all of our manufacturing. Design work, prototyping and pilot manufacturing are performed in-house before outsourcing to third party contract manufacturers. Our outsourced production strategy is intended to drive cost leverage and scale, and avoid the high capital outlays and fixed costs related to constructing and operating a manufacturing facility. Certain of our suppliers of components and materials are single source suppliers. To support our anticipated commercial launch, we have invested in automated cartridge manufacturing lines capable of producing one million cartridges per month, which are scheduled to begin to come on-line in 2020 and we expect will scale to full capacity by the middle of 2021.

COVID-19 pandemic

Since it was reported to have surfaced in December 2019, a novel strain of coronavirus (COVID-19) has spread across the world and has been declared a pandemic by the World Health Organization. Efforts to contain the spread of COVID-19 have intensified and governments around the world, including in the United States, Europe and Asia, have implemented travel restrictions, social distancing requirements, stay-at-home orders and have delayed the commencement of non-COVID-19-related clinical trials, among other restrictions. As a result, the current COVID-19 pandemic has presented a substantial public health and economic challenge around the world and is affecting our employees, patients, communities and business operations, as well as contributing to significant volatility and negative pressure on the U.S. economy and in financial markets.

We expect that COVID-19 precautions will directly or indirectly impact the timeline for some of our planned clinical trials for our non-COVID-19 related products in development and we are continuing to assess the potential impact of the COVID-19 pandemic on our current and future business and operations, including our expenses and clinical trials, as well as on our industry and the healthcare system.

As a result of the outbreak, many companies have experienced disruptions in their operations and in markets served. We are considered an essential business and therefore the impact to our operations has been limited. To date, we have initiated some and may take additional temporary precautionary measures intended to help ensure our employees' well-being and minimize business disruption. For the safety of our employees and their families, we have temporarily reduced the presence of our employees in our labs. Certain of our third-party service providers have also experienced shutdowns or other business disruptions. We are continuing to assess the impact of the COVID-19 pandemic on our current and future business and operations, including our expenses and planned clinical trial and other development timelines, as well as on our industry and the healthcare system.

As a result of the COVID-19 pandemic, or similar pandemics and outbreaks, we have and may in the future experience severe disruptions, including:

- interruption of or delays in receiving products and supplies from the third parties we rely on to, among other things, manufacture components of our instruments, due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems, which may impair our ability to sell our products and consumables;
- limitations on our business operations by the local, state, or federal government that could impact our ability to sell or deliver our instruments and consumables;
- delays in customers' purchasing decisions and negotiations with customers and potential customers;
- business disruptions caused by workplace, laboratory and office closures and an increased reliance on employees working from home, travel limitations, cyber security and data accessibility limits, or communication or mass transit disruptions; and

- limitations on employee resources that would otherwise be focused on the conduct of our activities, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people.

Components of our results of operations

Revenue

To date, we have not generated any revenue from sales of our Talis One platform. If our development efforts for our platform are successful and result in regulatory approval, we expect to generate revenue in the future from product sales of our Talis One instruments and single use cartridges. Our business model is focused on driving the adoption of the Talis One platform. Customers would gain access to our platform via a direct sales model or a reagent rental model. Under direct platform sales, our customers would directly purchase our Talis One instrument and make subsequent independent purchases of our cartridges. This would include, during our early customer engagements, a fully paid workflow license to practice the desired workflow(s) in a specific field of use. In addition, we would also offer platform support to the extent customers require further system and workflow optimization following platform implementation. When we place a system under a reagent rental agreement, we plan to install equipment in the customer's facility without a fee and the customer agrees to purchase our cartridges at a stated price over the term of the reagent rental agreement. Some of these agreements could include minimum purchase commitments. Under a reagent rental model, we plan to retain title to the equipment and such title is transferred to the customer at no additional charge at the conclusion of the initial arrangement. The cost of the instrument under the agreement is expected to be recovered in the fees charged for consumables, to the extent sold, over the term of the agreement.

We cannot predict if, when, or to what extent we will generate revenue from the commercialization and sale of our platform. We may never succeed in obtaining regulatory approval for our platform. Growth and predictability of recurring revenue is impacted by the mix between these options. It is our goal and expectation that recurring revenue will grow over time, both in absolute dollars and as a percentage of our revenue.

Grant revenue

To date, all of our revenue has been derived from government grants, which includes a April 2018 subaward grant from Boston University as part of the CARB-X initiative and a May 2018 grant from the NIH to support our advancement of a Diagnostics via Rapid Enrichment, Identification, and Phenotypic Antibiotic Susceptibility Testing of Pathogens from Blood project (NIH grant). The CARB-X and NIH grant included initial funding of $4.4 million through September 2019, and $1.3 million through April 2019, respectively. The initial funding term of the CARB-X grant was extended through September 30, 2020 and our initial funding was increased by $1.2 million. We also exercised our first one-year option under the NIH grant, extending the term through April 30, 2020. Under the CARB-X and NIH grant there is the possibility of an additional $4.2 million of funding through June 2021 and an additional $4.4 million of funding through April 2023, respectively.

These grants are not in scope of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers* (ASC 606) as the government entities and/or government-sponsored entities are not customers under the agreements.

Grant funds received from third parties are recorded as revenue if we are deemed to be the principal participant in the arrangement. If we are not the principal participant, the funds from grants are recorded as a reduction to research and development expense. Reimbursable costs paid prior to being billed are recorded as unbilled grant receivables. Funds received in advance are recorded as deferred grant revenue. Our management has determined that we are the principal participant under our grant agreements, and accordingly, we record amounts earned under these arrangements as grant revenue.

Operating expenses

Research and development expenses

Research and development expenses consist primarily of internal and external costs incurred for our research activities, the development of our platform, investment in manufacturing capabilities as well as costs incurred pursuant to our government grants and include:

- salaries, benefits and other related costs, including stock-based compensation expense, for personnel engaged in research and development functions;
- the cost of laboratory supplies and developing and manufacturing of our platform;
- contract services, other outside costs and costs to develop our technology capabilities;
- facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs;
- cost of outside consultants, including their fees and related travel expenses, engaged in research and development functions;
- expenses related to regulatory affairs; and
- fees related to our scientific advisory board.

We expense research and development costs as incurred. Costs for external development activities are recognized based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our financial statements as prepaid or accrued research and development expenses. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are recorded as prepaid expenses and expensed as the related goods are delivered or the services are performed.

Until future commercialization is considered probable and the future economic benefit is expected to be realized we do not capitalize pre-launch inventory costs prior to completion of marketing authorization unless the regulatory review process has progressed to a point that objective and persuasive evidence of regulatory approval is sufficiently probable, and future economic benefit can be asserted. We record such costs to research and development costs, or if used in marketing evaluations reported to general and administrative expense. A number of factors are taken into consideration, based on management's judgment, including the current status in the regulatory approval process, potential impediments to the approval process, anticipated R&D initiatives and risk of technical feasibility, viability of commercialization and marketplace trends.

Research and development activities are central to our business model. We expect that our research and development expenses will continue to increase for the foreseeable future as we initiate clinical trials for our platform, ramp-up our manufacturing and commercialization efforts and continue to discover and develop platforms and assays for other infectious diseases and disease states. There are numerous factors associated with the successful commercialization of any assay we may develop in the future for other diseases or disease states, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development.

General and administrative expenses

General and administrative expenses consist primarily of salaries and other related costs, including stock-based compensation, for personnel in our executive, finance, corporate and business development and administrative

functions. General and administrative expenses also include professional fees for legal, patent, accounting, information technology, auditing, tax and consulting services, travel expenses and facility-related expenses, which include direct depreciation costs and allocated expenses for rent and maintenance of facilities and other operating costs.

We expect that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research and development and potential commercialization and sales of our platform. We also expect to incur increased expenses associated with being a public company, including costs of accounting, audit, legal, regulatory and tax compliance services, director and officer insurance costs, and investor and public relations costs.

Other income (expense)

Interest income (expense), net primarily consists of interest expense on a convertible promissory note held during 2019 as well as the change in estimated fair value of our convertible notes. We elected the fair value option to account for these convertible notes and fluctuations in the estimated fair value of our convertible notes were based on the remeasurement at each reporting period until conversion and/or settlement. In December 2019, we converted the convertible notes' aggregate principal amount, plus accrued and unpaid interest, of $19.0 million into 6,937,252 shares of Series D-2 convertible preferred stock at a conversion price of $2.74 per share.

Future public company expenses

We expect our operating expenses to increase when we become a public company following this offering.

We expect our accounting, legal and personnel-related expenses and directors' and officers' insurance costs reported within general and administrative to increase as we establish more comprehensive compliance and governance functions, maintain and review internal controls over financial reporting in accordance with the Sarbanes-Oxley Act and prepare and distribute periodic reports as required by the rules and regulations of the SEC. As a result, our historical results of operations may not be indicative of our results of operations in future periods.

Results of operations

Comparison for the years ended December 31, 2018 and 2019

The following table summarizes our results of operations:

	Year ended December 31,		
(in thousands)	**2018**	**2019**	**Change**
Grant revenue	$ 2,390	$ 3,977	$ 1,587
Operating expenses:			
Research and development	18,388	23,812	5,424
General and administrative	5,432	6,864	1,432
Total operating expenses	23,820	30,676	6,856
Loss from operations	(21,430)	(26,699)	(5,269)
Other income (expense), net	93	(775)	(868)
Net loss and comprehensive loss	$ (21,337)	$ (27,474)	$ (6,137)

Grant revenue

Our revenue for the years ended December 31, 2018 and 2019 relates to the CARB-X and NIH grants. During the year ended December 31, 2018, $1.9 million and $0.5 million of revenue was recognized related to the CARB-X and NIH grants, respectively. During the year ended December 31, 2019, $3.2 million and $0.9 million of revenue was recognized related to the CARB-X and NIH grants, respectively. The changes in revenue recognized period over period were a result of the levels of related expenditures incurred and paid by us in those periods.

Research and development expenses

Research and development expenses incurred for the year ended December 2018 and 2019 were primarily related to the development of our Talis One Platform and programs for detecting sexually transmitted infections.

Research and development expenses were $23.8 million for the year ended December 31, 2019, compared to $18.4 million for the year ended December 31, 2018, an increase of $5.4 million. The increase was primarily due to a net increase of $2.9 million in preclinical and development expenses, facilities and supplies expenses and consultant and other related expenses as we engaged consultants for expertise needed for short-term projects and increased testing and development of prototypes and test parts. Additionally, payroll and related expenses increased by $2.8 million, including stock compensation expenses, as we increased full-time and temporary headcount. The increases were partially offset by a decrease of $0.3 million related to a licensing fee that was incurred during year ended December 31, 2018 and no such license fees being incurred during the year ended December 31, 2019. We expect our research and development expenses to increase significantly over the near term as we scale up our manufacturing capacity in anticipation of commercial launch of the Talis One platform. The ramp up of these manufacturing efforts, which began in the middle of 2020, is expected to result in a significant increase in our research and development expenses until regulatory approval or clearance is received or probable, at which point the future economic benefit of these costs can be asserted. As of September 30, 2020, we have incurred approximately $ million related to such manufacturing scale-up costs and expect to incur an additional approximately $ million in the near term. See “Liquidity and capital resources—Future funding requirements” below for additional information.

General and administrative expenses

General and administrative expenses were $6.9 million for the year ended December 31, 2019, compared to $5.4 million for the year ended December 31, 2018, an increase of $1.4 million. The increase was primarily due to increased payroll and related expenses of $0.9 million, including stock compensation expenses, as we hired new administrative employees, increased intellectual property and legal expenses of $0.5 million related to corporate and intellectual property activities.

Other income (expense)

Other expense of $0.8 million for the year ended December 31, 2019, compared to interest income of $0.1 million for the year ended December 31, 2018. The decrease of $0.9 million was primarily due to the change in fair value of the convertible notes of $0.8 million between their issuance in March and August 2019 and their conversion into Series D-2 convertible preferred stock in December 2019. The overall change in fair value was primarily driven by the increase in the estimated fair value of our preferred stock over this period.

Liquidity and capital resources

Sources of liquidity

Since inception and through December 31, 2019, we have raised $103.9 million from the sale of convertible preferred stock and the issuance of convertible promissory notes, which we have used to fund our operations. In the first half of 2020, we received proceeds of $24.9 million related to issuances of our Series C-1, D-1, and D-2 convertible preferred stock. In June 2020, we issued and sold 513,746 shares and 11,187,189 shares of our Series E-1 and Series E-2 convertible preferred stock, respectively, during the Series E initial closing for combined net proceeds of $86.7 million. In July 2020, we conducted a rights offering in which we issued and sold 1,776,153 shares of our Series E-1 convertible preferred stock for net proceeds of $13.1 million.

In July 2020, we were awarded a $25.4 million contract from the NIH for Phase 2 of its RADx initiative, of which, $8.9 million has been received to date.

Between June 2020 and August 2020, we executed and amended a standby letter of credit (LOC) loan with JPMorgan Chase Bank, N.A. (JPMC) for up to $33.0 million, as terms of collateral that were required by one of our contract manufacturing organizations, expiring on December 31, 2020. Interest on any borrowings under the LOC agreement is equal to the lesser of (a) Prime plus 2% and (b) the highest rate permitted by applicable law and is payable on demand. The LOC requires us to maintain a cash balance of $34.7 million as collateral.

As of September 30, 2020, we had cash of $ million.

Future funding requirements

We do not have any commercial-scale manufacturing facilities, and expect to rely on third parties to manufacture the Talis One platform and related cartridges. We have entered into, and expect to enter into additional, agreements with contract manufacturers to support our manufacturing scale up. We will also need engage third-party logistics providers to manage the movement of materials between suppliers and contract manufacturers and for finished goods warehousing. We also intend to invest in additional manufacturing capacity to meet market demand if the Talis One platform is approved for marketing. The ramp up of these manufacturing efforts, which began in the middle of 2020, is expected to result in a significant increase in our research and development expenses until regulatory approval or clearance is received or probable, at which point the future economic benefit of these costs can be asserted. From January 1, 2020 through September 30, 2020, we have incurred approximately $ million related to such manufacturing scale-up costs and expect to incur an additional approximately $ million in the near term.

We do not yet have any products approved for sale, and we have never generated any revenue from contracts with customers. We do not expect to generate any meaningful revenue unless and until we obtain regulatory approval of and commercialize our Talis One Platform. Until we can generate a sufficient amount of revenue from the commercialization of Talis One Platform, if ever, we expect to finance our future cash needs through public or private equity offerings or debt financings.

To date, our primary uses of cash have been to fund operating expenses, primarily research and development expenditures. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our outstanding accounts payable and accrued expenses. Other than the LOC we entered into with JPMC in August 2020, we currently have no other ongoing material financing commitments, such as other lines of credit or guarantees. We have recently increased our spending on automated cartridge manufacturing scale-up and instrument manufacturing, and expect expenses related to manufacturing to increase significantly as we prepare for a potential commercial launch as early as the first quarter of 2021. We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the

research and development of, continue or initiate clinical trials of, and seek marketing approval for, our platform. In addition, if we obtain marketing approval for our platform, we expect to incur significant commercialization expenses related to program sales, marketing, manufacturing and distribution to the extent that such sales, marketing and distribution are not the responsibility of any future collaborators. Furthermore, following the completion of this offering, we expect to incur additional costs associated with operating as a public company. Accordingly, we may choose to obtain additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

Since our inception, we have incurred significant losses and negative cash flows from operations. We have an accumulated deficit of $81.8 million through December 31, 2019. We expect to incur substantial additional losses in the future as we conduct and expand our research and development, manufacturing and commercialization activities. These conditions raise substantial doubt about our ability to continue as a going concern for a period of one year from the date of the issuance of our 2019 financial statements. The accompanying financial statements have been prepared assuming that we will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The financial statements do not reflect any adjustments relating to the recoverability and classification of assets or amounts and classification of liabilities that might be necessary if we are unable to continue as a going concern.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of the Talis One Platform, we are unable to estimate the exact amount of our operating capital requirements. Our future capital requirements will depend on many factors, including:

- our ability to receive, and the timing of receipt of, an EUA for our COVID-19 test;
- the amount of capital, and related timing of payments, required to build sufficient inventory of our Talis One platform and test cartridges in advance of and during commercial launch;
- the costs and timing of future commercialization activities, including manufacturing, marketing, sales and distribution, for our platform if we receive marketing approval;
- limitations of, or interruptions in, the quality or quantity of materials from our third party suppliers;
- our ability to implement an effective manufacturing, marketing and commercialization operation;
- the scope, progress, results and costs of our ongoing and planned operations;
- the costs associated with expanding our operations;
- the number and development requirements of assays for other diseases or disease states that we may pursue;
- intervention, interruptions or recalls by government or regulatory agencies;
- enhancements and disruptive advances in the diagnostic testing industry;
- our estimates and forecasts of the market size addressable by our Talis One platform;
- security breaches, data losses or other disruptions affecting our information systems;
- the regulatory and political landscape upon the launch of our commercialization of the Talis One platform;

- the revenue, if any, received from commercial sales of our products if approved, including additional working capital requirements if we pursue a reagent rental model for our Talis One instrument;
- our ability to establish strategic collaborations; and
- the costs and timing of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending any intellectual property-related claims.

Cash flows

The following table summarizes our cash flows for the years ended December 31, 2018 and 2019:

	Year ended December 31,	
(in thousands)	**2018**	**2019**
Cash used in operating activities	$ (20,943)	$ (24,326)
Cash used in investing activities	(533)	(578)
Cash provided by financing activities	8	39,613
Net (decrease) increase in cash	$ (21,468)	$ 14,709

Operating activities

During the year ended December 31, 2018, cash used in operating activities was $20.9 million, resulting primarily from our net loss of $21.3 million and an increase in unbilled grant receivables of $2.0 million, primarily offset by non-cash items of $1.3 million (primarily stock-based compensation and depreciation expense) and an increase in accounts payable and accrued expenses and other liabilities of $1.0 million.

During the year ended December 31, 2019, cash used in operating activities was $24.3 million, resulting primarily from our net loss of $27.5 million, primarily offset by non-cash items of $2.5 million (primarily changes in the estimated fair value of convertible notes, stock-based compensation, and depreciation expense) and a net increase of $0.6 million in accounts payable and accrued expenses and other liabilities.

Investing activities

During the years ended December 31, 2018 and 2019, we used $0.5 million and $0.6 million of cash, respectively, for investing activities related to purchases of property and equipment.

Financing activities

During the year ended December 31, 2018, net cash provided by financing activities was less than $0.1 million, resulting from exercises of options to purchase our Class A Common Stock (common stock).

During the year ended December 31, 2019, net cash provided by financing activities was $39.6 million, primarily consisting of $15.0 million of proceeds from the issuance of convertible notes that were subsequently converted into Series D-2 convertible preferred stock, $18.1 million of net proceeds from the sale of our Series C-1 convertible preferred stock in, $1.9 million of net proceeds from the sale of our Series D-1 convertible preferred stock, and $4.6 million of net proceeds from the sale of our Series D-2 convertible preferred stock.

Contractual obligations and commitments

The following table summarizes our non-cancellable contractual obligations at December 31, 2019, and the effects that such obligations are expected to have on our liquidity and cash flows in future periods:

		Payments due by period	
(in thousands)	Total	Less than 1 year	1 to 3 years
Operating leases(1)	$1,078	$ 807	$ 271
Total	$1,078	$ 807	$ 271

(1) Represents minimum contractual lease payments on our real estate lease in Menlo Park, California

Apart from the contracts with payment commitments that we have reflected in the table, we have entered into other contracts in the normal course of business with certain contract manufacturing organizations and other third parties for manufacturing services. Payments due upon cancellation consist only of payments for services provided and expenses incurred, including non-cancelable obligations of our service providers, up to the date of cancellation.

In August 2020, we entered into a LOC with JPMC for up to $33.0 million, as terms of collateral that were required by one of our contract manufacturing organizations, expiring on December 31, 2020.

Critical accounting policies and significant judgments and estimates

This management's discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States. The preparation of our financial statements and related disclosures requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, costs and expenses and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. We evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in greater detail in Note 2 to our financial statements appearing at the end of this prospectus, we believe that the following accounting policies are those most critical to the judgments and estimates used in the preparation of our financial statements.

Equity transactions

We record convertible preferred stock at fair value on the dates of issuance, net of issuance costs. We have classified convertible preferred stock as temporary equity in the accompanying balance sheets due to terms that may require redemption of the shares in cash upon certain change in control events that are not solely within our control, including our sale or transfer. The carrying values of the convertible preferred stock will be adjusted to their liquidation preferences at such time it becomes probable that such a redemption triggering event will occur. We also evaluate our convertible preferred stock to determine where any of their contractual terms require bifurcation and separate recognition from the underlying shares in accordance with the embedded derivative accounting guidance.

Between November 2019 and December 2019, we entered into a series of transactions with our existing preferred equity stockholders and new investors to (i) raise new capital in a sale of three new series of

convertible preferred stock and (ii) condense our capital structure (Equity Transactions). All existing holders of our convertible preferred stock were given the opportunity to participate in the new financing but existing convertible preferred stockholders that did not participate in the financing were subject to dilution. The steps of the Equity Transactions that impacted the existing stockholders were evaluated as a single transaction because they occurred concurrently and in contemplation of each other. We concluded that the these combined transactions resulted in the extinguishment of our Series A convertible preferred stock, Series B convertible preferred stock, and Series C convertible preferred stock (Pre-existing Preferred Stock) because the equity instruments held by our existing investors after the transaction were considered to be substantially different from what they held before the transaction. In determining if an extinguishment or modification of these shares occurred, we elected a policy to evaluate if changes to the preferred shares adds, removes, or significantly changes a substantive contractual term (e.g., one that is at least reasonably possible of being exercised), or fundamentally changes the nature of the preferred shares. This evaluation includes the consideration of both the expected economics as well as the business purpose for the amendment. More specifically, the Series C-1 convertible preferred stock received by existing stockholders has a significantly higher liquidation preference than the Pre-existing Preferred Stock. Together with the Series C-1 convertible preferred stock, existing stockholders also received common stock and paid additional cash through the Equity Transactions, causing the equity investments held by our preferred stockholders after the Equity Transaction to be substantially different than their equity investments prior to the Equity Transactions.

When mezzanine equity-classified preferred shares are extinguished, the difference between (1) the fair value of the consideration transferred to the holders of the preferred shares (i.e., the cash or the fair value of new instruments issued) and (2) the carrying amount of the preferred shares (net of issuance costs) are subtracted from (or added to) net income (loss) to arrive at income available to common stockholders in the calculation of earnings per share attributable to our common stockholders. In addition to the effect on earnings per share attributable to our common stockholders, extinguishment accounting will result in adjustments within equity but will not result in recognition of any amounts in net income (loss).

The estimated fair value of our convertible preferred stock, for purposes of evaluating the extinguishment resulting from the Equity Transactions, was based on the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation. The estimated fair value of the convertible preferred stock was based on a hybrid between the probability weighted expected return and option pricing methods, estimating the probability weighted value across multiple scenarios, but using the option pricing method to estimate the allocation of value within one or more of those scenarios. The assumptions we use in the valuation model are based on future expectations combined with management judgment. In the absence of a public trading market for our convertible preferred stock, our management exercised significant judgment and considered numerous objective and subjective factors to determine the fair value of convertible preferred stock, including the following factors:

- a contemporaneous independent valuation of our common stock performed at periodic intervals by an independent third-party valuation firm;
- prices at which we sold shares of convertible preferred stock and the superior rights and preferences of the convertible preferred stock relative to our common stock;
- timing and likelihood of achieving a liquidity event, such as an initial public offering or sale of our company in light of prevailing market conditions;
- volatility as estimated based on the average volatility for comparable publicly traded diagnostic companies over a period equal to the expected term of a liquidity event (comparable companies are chosen based on their similar size, stage in the life cycle or area of specialty); and

- a risk-free interest rate based on the U.S. Treasury zero coupon issues corresponding with the estimated period of time to a liquidity event.

The assumptions underlying these valuations represent our management's best estimates based on application of these approaches and careful consideration of advice from a third-party valuation firm. Such estimates involve inherent uncertainties and the application of significant judgment.

Research and development expenses

Research and development costs are expensed as incurred. Research and development expenses include certain payroll and personnel expenses, laboratory supplies, consulting costs, regulatory affairs, external contract research and development expenses, and allocated overhead, including rent, equipment depreciation, and utilities and relate to both programs sponsored by us as well as costs incurred pursuant to grants. Nonrefundable advance payments for goods or services that will be used or rendered for future research and development activities on our behalf are deferred and expensed as the goods are delivered or the related services are performed. Costs to develop software are recorded as research and development expense unless the criteria to be capitalized as internal-use software costs is met.

Until future commercialization is considered probable and the future economic benefit is expected to be realized we do not capitalize pre-launch inventory costs prior to completion of 510(k) clearance or EUA unless the regulatory review process has progressed to a point that objective and persuasive evidence of regulatory approval is sufficiently probable, and future economic benefit can be asserted. We record such costs to research and development costs, or if used in marketing evaluations reported to general and administrative expense. A number of factors are taken into consideration based on our management's judgment, including the current status in the regulatory approval process, potential impediments to the approval process, anticipated R&D initiatives and risk of technical feasibility, viability of commercialization and marketplace trends.

For certain research and development services where we have not yet been invoiced or otherwise notified of actual cost from the third-party contracted service providers, we are required to estimate the extent of the services that have been performed on our behalf and the associated costs incurred at each reporting period. The majority of our service providers invoice us monthly in arrears for services performed. We make estimates of our accrued expenses as of each balance sheet date in our financial statements based on facts and circumstances known to us at that time. We periodically confirm the accuracy of our estimates with the service providers and make adjustments if necessary.

Although we do not expect our estimates to be materially different from amounts actually incurred, our understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to our prior estimates of accrued research and development expenses.

Fair value option

We have elected the fair value option to account for our convertible notes that were issued during and settled during 2019 and recorded these convertible notes at fair value with changes in fair value recorded as a component of other income (expense), net in the statement of operations and comprehensive loss. As a result of applying the fair value option, direct costs and fees related to the convertible notes were expensed as incurred and were not deferred. We concluded that it was appropriate to apply the fair value option to the convertible notes because there were no non-contingent beneficial conversion options related to the

convertible notes. The scenario-based model used in estimating the fair value of our convertible debt is based on significant unobservable inputs, including but not limited to:

- Timing and probability of a qualified financing event, which is defined as financing event through the issuance of shares for total gross proceeds of at least $45.0 million in cash;
- probability of default;
- discount rates; and
- fair value of the underlying convertible preferred stock.

Increases or decreases in the fair value of the convertible notes can result from updates to assumptions such as the expected timing or probability of a qualified financing event, or changes in discount rates. Judgment is used in determining these assumptions as of the initial valuation date and at each subsequent reporting period. Updates to assumptions could have a significant impact on our results of operations in any given period. The convertible notes were settled in December 2019.

Stock-based compensation

We measure stock-based compensation expense for stock options granted to our employees and directors on the date of grant and recognize the corresponding compensation expense of those awards over the requisite service period, which is generally the vesting period of the respective award. Our stock-based payments include stock options. Stock-based compensation expense is recognized over the requisite service period, which is generally the vesting period, on a straight-line basis. Stock-based compensation expense is classified in the accompanying statements of operations and comprehensive loss based on the function to which the related services are provided. We recognize stock-based compensation expense for the portion of awards that have vested. Forfeitures are recorded as they occur.

We estimate the fair value of stock options granted to our employees and directors on the grant date, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model requires the use of subjective assumptions which determine the fair value of stock option awards. These assumptions include:

- *Expected term*. The expected term of options represents the period of time that options are expected to be outstanding. Our historical stock option exercise experience does not provide a reasonable basis upon which to estimate an expected term due to lack of sufficient data. For granted “at-the-money” stock options, we estimate the expected term by using the simplified method. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the options.
- *Expected volatility*. As there has been no public market for our common stock to date, and as a result we do not have any trading history of our common stock, expected volatility is estimated based on the average volatility for comparable publicly traded diagnostic companies over a period equal to the expected term of the stock option grants. The comparable companies are chosen based on their similar size, stage in the life cycle or area of specialty.
- *Risk-free interest rate*. The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of the stock option grants.
- *Expected dividend yield*. We have never paid dividends on our common stock and have no plans to pay dividends on our common stock. Therefore, we use an expected dividend yield of zero.

As there has been no public market for our common stock to date, the estimated fair value of the common stock underlying our stock options was determined by our board of directors, with input from management, considering our most recently available third-party valuations of common stock and our board of directors' assessment of additional objective and subjective factors that it believed were relevant, and factors that may have changed from the date of the most recent valuation through the date of the grant, which intended all options granted to be exercisable at a price per share not less than the per share fair value of our common stock underlying those options on the date of grant. We believe that our board of directors has the relevant experience and expertise to determine the fair value of our common stock. Prior to our initial public offering, given the absence of a public trading market for our common stock, the valuations of our common stock were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. 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 accordance with the Practice Aid, our board of directors considered the following methods:

- *Current value method*. Under the Current Value Method, our value is determined based on our balance sheet. This value is then first allocated based on the liquidation preference associated with preferred stock issued as of the valuation date, and then any residual value is assigned to the common stock.
- *Option-pricing method*. Under the option-pricing method, 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 estimated fair values of the preferred and common stock are inferred by analyzing these options.
- *Probability-weighted expected return method*. The probability-weighted expected return method, is a scenario-based analysis that estimates value per share based on the probability-weighted present value of expected future investment returns, considering each of the possible outcomes available to us, as well as the economic and control rights of each share class.

The assumptions we use in the valuation model are based on future expectations combined with management judgment. In the absence of a public trading market, our board of directors with input from management exercised significant judgment and considered numerous objective and subjective factors to determine the fair value of our common stock as of the date of each option grant, including the following factors:

- contemporaneous independent valuations performed at periodic intervals by an independent third-party valuation firm;
- the prices at which we sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to our common stock at the time of each grant;
- the progress of our research and development programs, including the status and results of preclinical studies for our platform;
- our stage of development and commercialization and our business strategy;
- external market conditions affecting the diagnostics industry and trends within the diagnostics industry;
- the lack of an active public market for our common stock; and
- the likelihood of achieving a liquidity event, such as an initial public offering or sale of our company in light of prevailing market conditions.

The assumptions underlying these valuations represented our board of directors and management develop best estimates based on application of these approaches and the assumptions underlying these valuations, giving

careful consideration to the advice from our third-party valuation expert. Such estimates involve inherent uncertainties and the application of significant judgment. As a result, if factors or expected outcomes change and we use significantly different assumptions or estimates, our equity-based compensation could be materially different. Following the closing of this offering, our board of directors will determine the fair market value of our common stock based on its closing price as reported on the date of grant on the primary stock exchange on which our common stock is traded.

In March 2020, we repriced stock options for the purchase of 582,717 shares of common stock by modifying the exercise price of all outstanding stock options to $1.05 per share from a weighted average exercise price of $10.85 per share.

The intrinsic value of all outstanding options as of September 30, 2020 was approximately $ million, based on the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, of which approximately $ million is related to vested options and approximately $ million is related to unvested options.

Off-balance sheet arrangements

As of December 31, 2019, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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 2 to our financial statements appearing at the end of this prospectus.

Quantitative and qualitative disclosures about market risks

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities.

Interest rate sensitivity

As of December 31, 2019, we had cash of $21.6 million. Our exposure to interest rate sensitivity is impacted by changes in the underlying U.S. bank interest rates. We have not entered into investments for trading or speculative purposes. Due to the conservative nature of our investment portfolio, which is predicated on capital preservation of investments with short-term maturities, we do not believe an immediate one percentage point change in interest rates would have a material effect on the fair market value of our portfolio, and therefore we do not expect our operating results or cash flows to be significantly affected by changes in market interest rates.

In August 2020, we entered into a LOC with JPMC for up to $33.0 million, as terms of collateral that were required by one of our contract manufacturing organizations, expiring on December 31, 2020. Interest on any borrowings under the LOC agreement is equal to the lesser of (a) Prime plus 2% and (b) the highest rate permitted by applicable law and is payable on demand. To date, we have not drawn on the LOC.

Emerging growth company status

In April 2012, the JOBS Act was enacted. Section 107 of the JOBS Act provides that an emerging growth company may 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. Therefore, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected to avail ourselves of this extended transition period and, as a result, we may adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-public companies instead of the dates required for other public companies. However, we may early adopt these standards.

In addition, as an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- reduced disclosure about the compensation paid to our executive officers;
- not being required to submit to our stockholders' advisory votes on executive compensation or golden parachute arrangements;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act; and
- an exemption from new or revised financial accounting standards until they would apply to private companies and from compliance with any new requirements adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotation.

We may take advantage of these exemptions for up to the last day of the fiscal year ending after the fifth anniversary of this offering or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (1) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (2) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (3) the date on which we have issued more than $1.0 billion in nonconvertible debt during the previous three years; or (4) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions.

Business

Overview

Talis aims to transform diagnostic testing by developing and commercializing innovative products that are designed to enable accurate, reliable, low cost and rapid molecular testing for infectious diseases and other conditions at the point-of-care. While timely diagnosis of infectious diseases is critically important to enable effective treatment, testing is primarily performed in centralized laboratories, which require samples to be shipped for processing, delaying the return of results by days. Point-of-care testing solves this problem by delivering the timely information necessary for clinical care. We are developing the Talis One platform, a sample-to-answer, cloud-enabled molecular diagnostic platform that, once authorized, could be rapidly deployed to distributed diagnostic settings in the United States and around the world to diagnose infectious disease at the point-of-care. The Talis One platform comprises a compact instrument, single-use test cartridges and software, including a central cloud database, which work together and are designed to provide central laboratory levels of accuracy and be operated by an untrained user.

We are developing Talis One tests for respiratory infections, infections related to women's health and sexually transmitted infections. We intend to submit around year end 2020 a request for an Emergency Use Authorization (EUA) to the U.S. Food and Drug Administration (FDA) for our point-of-care Talis One platform with COVID-19 molecular diagnostic assay for the automated detection of nucleic acid from the SARS-CoV-2 virus in nasal swab samples from individuals suspected of COVID-19 by their healthcare provider. We are also developing influenza A and influenza B tests to be included as part of a respiratory panel with our COVID-19 test. In addition, we plan to initiate a clinical trial to support clearance of a pre-market notification under Section 510(k) of the Federal Food, Drug, and Cosmetic Act (FDCA) of our Talis One instrument with a test for chlamydia and gonorrhea in the middle of 2021 and submit a 510(k) pre-market notification in the first half of 2022. To support our anticipated commercial launch of our COVID-19 test, we have invested in automated cartridge manufacturing lines capable of producing one million cartridges per month, which are scheduled to begin to come on-line in 2020 and we expect will scale to full capacity by the middle of 2021. We estimate that the potential annualized market opportunity for COVID-19 point-of-care diagnostic tests in the United States exceeds $7.0 billion. We estimate that the potential annualized market opportunity in the United States for women's health diagnostics and sexually transmitted infection diagnostics in our development pipeline was approximately $3.9 billion in 2019.

The COVID-19 crisis is accelerating the adoption of point-of-care platforms in both traditional and non-traditional care settings, and we believe the Talis One platform is well positioned to meet this growing demand. While a variety of technologies are commercially available, we believe that few, if any, sufficiently meet the needs of healthcare providers in order to drive broad adoption of, and transition to, point-of-care testing for infectious diseases. For example, antigen detection technologies, which detect proteins from the pathogen, are rapid and relatively low cost, but they have higher limits of detection. Molecular technologies that detect nucleic acids are generally considered highly accurate for infectious disease testing. However, we believe that some currently available point-of-care molecular technologies have sacrificed accuracy to increase speed. Lower accuracy limits a test's utility, particularly in the case of testing for dangerous infectious diseases, such as COVID-19, for which an incorrect test result can have severe consequences. We believe that the ideal point-of-care technology for diagnosing infectious diseases would not only be highly accurate and rapid, but would also be easy to use, low cost, cloud-compatible and enable multiplexing to detect multiple pathogens at the same time.

We are developing the Talis One platform to address limitations of existing point-of-care diagnostic testing technologies for infectious diseases. Our platform combines robust sample preparation with highly-optimized and rapid isothermal nucleic acid amplification technology to enable rapid detection of infectious pathogens in

a variety of unpurified patient sample types. The Talis One platform is designed to have the following capabilities which we believe would create a competitive advantage over other commercially available point-of-care technologies:

Highly accurate—The Talis One platform incorporates a shelf-stable, single-use test cartridge that is designed to fully integrate a nucleic acid amplification test (NAAT) with sample preparation, including nucleic acid extraction and purification. Sample preparation is well known to be a critical factor to achieve high sensitivity and specificity, along with low limits of detection for target pathogens, in molecular diagnostics. We believe this sample preparation step, which is performed in an automated fashion on our cartridge, has the potential to result in higher sensitivity and specificity than point-of-care technologies that do not perform the sample preparation step. Our Talis One COVID-19 test reaches limits of detection as low as 150 copies of genomic SARS-CoV-2 RNA per milliliter. We can achieve similarly high performance on the Talis One platform for bacteria with limits of detection of bacterial pathogens as low as one infectious unit per milliliter (IFU/mL) in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. In a preclinical assessment comparing the Talis One platform to a reference lab test on 60 matched anterior or mid-turbinate nasal specimens, the Talis One test exactly matched the reference lab results with 100% positive percentage agreement (PPA) and 100% negative percentage agreement (NPA) for detection of SARS-CoV-2, the virus that causes COVID-19. The high PPA and NPA is suggestive of clinical sensitivity and specificity in the broader clinical population and is driven by the very low limits of detection possible on the Talis One platform.

Rapid turnaround time—The Talis One platform is designed to provide a positive or negative result in approximately 25 minutes, depending upon the test and the concentration of the pathogen in the sample. We believe this turnaround time meets target customers' needs for a platform fast enough to fit into their clinical practice.

Ease of use—We designed the Talis One platform to be operated by untrained users and to function in a Clinical Laboratory Improvement Amendments of 1988 (CLIA)-waived environment such as physicians' offices, urgent care clinics, elder care and assisted living facilities, cancer treatment and dialysis centers, and potentially in workplaces, schools and other facilities. The Talis One platform is designed to be a fully integrated sample-to-answer system requiring two minutes or less of hands-on time by users running the test. The intuitive workflow of the Talis One platform is also designed to facilitate the chain of custody of the sample without extensive tracking or handling by the user.

Multiplex capability—The cartridge is designed to support up to 14 separate assay chambers, which we believe could potentially enable a full menu of detection modes, from single organism to syndromic panel tests. The test cartridge for our anticipated commercial launch offers five separate assay chambers.

Cloud-enabled—Unlike other point-of-care instruments, the Talis One platform incorporates a cellular modem in the instrument designed to connect to the cloud to help customers manage clinical data and workflow. The cloud is designed to be remotely and securely accessed to obtain key data required to collect, screen, collate, report and monitor disease infection and pandemic spread on a micro and macro level. This could enable the creation of a public health interface and automatic transmission of "reportable infections," such as COVID-19, to public health authorities in order to facilitate tracking of infectious diseases. The cloud capability is also designed to enable us to remotely manage instruments in the field, such as providing automated software updates and enable customers to track and manage instruments they have across their networks. While we expect all instruments, if authorized for commercial sale, to be sold with cellular capability, the cloud database would not initially be available on devices distributed pursuant to our EUA, if obtained. This capability is expected to be enabled with an upcoming software upgrade in 2021 for all installed instruments.

Scalable for different throughput requirements—The Talis One platform was designed to provide a scalable platform for different volume and throughput requirements. The instruments are portable and designed for multi-instrument deployments to satisfy different testing volume requirements and to be stacked three instruments by three instruments without disturbing the cellular connection to the cloud.

Low cost to manufacture—We designed the Talis One platform to be low-cost and manufactured at scale. We believe this could facilitate scale-up in manufacturing and provide a competitive advantage in cost-sensitive environments. We believe this could also facilitate customers acquiring multiple Talis One instruments to meet their volume requirements.

If we receive an EUA from the FDA for our COVID-19 test, we intend to commercialize the Talis One platform in the United States through our enterprise account management team and direct sales force. As we increase adoption in the market place, we anticipate that this will establish a sales channel through which we can drive future sales of our test menu. Over time we intend to pursue commercialization strategies outside of the United States.

Our strategy

Our strategy is to improve medical care through the transformation of diagnostic testing by enabling customers in distributed diagnostic locations to deploy accurate, reliable, low cost and rapid molecular testing for infectious diseases and other conditions. To achieve this, we intend to:

Pursue marketing authorization and commercialization of our COVID-19 Test in the United States

- We are currently planning to seek an EUA for our COVID-19 test using our Talis One platform, for which we plan to submit our EUA application around year end 2020.
- If we receive an EUA, we intend to commercialize the Talis One platform through an enterprise account management team and a direct sales force focused initially on placing platforms with potential customers that place high value on accuracy, and our broader test menu in development. Target customer segments include (but are not limited to): (1) large elder care chains where vulnerable residents have unmet needs for millions of high sensitivity assays per year; (2) urgent care chains that serve on the front lines of COVID-19 diagnosis, needing millions of rapid tests to triage symptomatic patients; and (3) traditional medical establishments, including independent practice associations, accountable care organizations, and public health clinics that that need rapid and high-quality testing to best serve their patients.

Increase our low-cost manufacturing capacity for our Talis One instrument and COVID-19 test cartridges

- We have ordered 5,000 instruments from our instrument contract manufacturing partners to be delivered beginning in the fourth quarter of 2020 through the first quarter of 2021.
- We have invested in automated cartridge manufacturing lines that are scheduled to begin to introduce automation in 2020 and reach capacity of approximately one million tests per month in the middle of 2021 and we intend to invest in further scale-up in 2021.
- As we improve and scale manufacturing and automation, we expect to drive substantial reductions of cost of goods for our tests.

Complete development of and, if marketing authorizations are obtained, commercialize other Talis One tests for other respiratory infections, infections related to women's health and sexually transmitted infections in the United States

- We are developing additional tests for respiratory infections, including influenza A and influenza B, with the intention to pursue marketing authorizations and to commercialize a respiratory panel with our COVID-19 test. We intend to initiate discussions with the FDA on whether the EUA pathway may be available for marketing this test panel. The current established pathway for marketing of a flu test is through the 510(k) clearance pathway. The FDA's marketing authorization requirements for the combination of an influenza A, influenza B and COVID-19 test will impact the timing to develop and commercialize this panel, if authorized.
- We are also developing a full menu of tests for infections related to women's health and sexually transmitted infections. We are focusing initially on our test to detect chlamydia and gonorrhea (CT/NG), for which we plan to initiate a clinical study in the middle of 2021 to support a 510(k) submission in the first half of 2022. We are subsequently targeting other sexually transmitted infections (STIs), such as a panel for sexually transmitted inflection that would include CT/NG, *Trichomonas* and *Mycoplasma genitalium*, a panel for bacterial vaginosis (BV), urinary tract infections (UTI), *Group B streptococcus*, and herpes simplex virus (HSV). If we obtain marketing authorization from the FDA, we intend to focus our commercialization efforts both on existing customers that may value our broader test menu, as well as obstetricians and gynecologists, the most common purchasers of these tests. We believe that a rapid, affordable and accurate point-of-care platform would enable these physicians to better diagnose and treat patients, practice value-based care, and create revenue opportunities by testing in-house rather than sending out tests to centralized laboratories.

Pursue marketing authorization and, if authorized, commercialize our products and expand our operations in selected geographies globally

- If we receive marketing authorization in the United States for our CT/NG test, we intend to pursue authorization to affix a CE Mark to enable commercialization of our test in Europe as early as the end of 2022 or approximately six months after U.S. clearance, if received. We also anticipate that we will pursue marketing authorization to commercialize our CT/NG test in selected countries in Asia, following our expansion into Europe.
- We will evaluate opportunities to commercialize other products in markets outside of the United States through a direct sales force or distributors, depending on the geography.

Continue to invest in capabilities to drive sustainable growth

- We intend to focus on innovation to improve the technical performance of our Talis One platform and develop an expanded the available test menu.
- We intend to continue our research and development activities and leverage proprietary innovations to develop additional platforms in the future designed to solve diagnostic challenges for our customers.
- We intend to strive for operational efficiencies and manufacturing capabilities to further drive economies of scale and lower manufacturing costs.
- We intend to recruit the best talent and to foster an innovative environment attractive to the innovators of the future.

Industry background

Infectious disease remains among the top health problems facing populations around the world. While infectious disease is an enduring concern for public health, in 2020 the world has been challenged by the

COVID-19 global pandemic. As of October 5, 2020, Johns Hopkins University estimates that over 35 million people globally, approximately 7.5 million of whom are in the United States, have been infected, leading to over one million deaths worldwide and over 200,000 deaths in the United States.

While the current pandemic presents a large and acute need for testing for COVID-19, the mortality rate for all infectious disease in the United States ranged between 42 and 63 deaths per 100,000 population, accounting for 5.4% of overall mortality for the period of 1980-2014.

The drawbacks of centralized laboratory testing

The need to send samples to a central location for testing introduces delays in treatment or incentivizes prescribing treatment in the absence of a definitive diagnosis. The turnaround time for centralized lab tests is typically one to five days, and can often be longer. Therefore, physicians are faced with one of two choices: either wait days for test results before initiating treatment and risk that an infected patient may continue to spread the infection and suffer increasingly negative health effects from delayed treatment, or treat empirically while the patient is in front of them. Treatment could include, for example, prescribing antibiotics for a bacterial infection or, in the case of COVID-19, isolating the individual suspected with infection. Delayed test results profoundly limit infection control, as infection can continue to spread while waiting for results or if the empiric treatment were not properly targeted at the right infection, and patient outcomes. This is particularly problematic in the case of patients with COVID-19, where multiple day delays in test results significantly hampers contact tracing and the ability to isolate infected individuals to avoid further viral transmission. Smaller hospital and clinic laboratories, many in rural settings, may not have the testing volume to justify investing in high throughput molecular diagnostic instruments, requiring smaller hospitals to send out molecular testing to reference laboratories and wait for the results.

The benefits of point-of-care testing extend beyond COVID-19. We believe that immediate access to high-quality diagnostic test results will improve medical treatment of disease and avoid inappropriate prescription of antibiotics, which can amplify the growing problem of antibiotic resistant bacteria. In a 2016 study of 1,103 emergency room patients at St. John Hospital & Medical Center in Detroit, 440 patients who had a suspected chlamydia or gonorrhea infection were treated with antibiotics even though the vast majority, 323 patients (74%), ultimately tested negative for the infection. Similarly, in some cases, test result delays lead to patients who do not return after the initial visit, resulting in the health care provider losing these patients to follow-up and unnecessarily exposing additional individuals to detectable and treatable infections. This is particularly problematic in pediatric care and for urgent care and community care clinics.

Limitations of current point-of-care diagnostic technologies

There are a broad range of point-of-care technologies available that are used in physician offices for a variety of applications, ranging from glucose strips for diabetes to lateral flow immunoassays for detecting high pathogen load infections, such as Strep A or influenza. Molecular testing is less common in point-of-care settings, despite being highly accurate. We believe that this is due to a lack of available point-of-care molecular technologies that sufficiently balance speed, accuracy and cost to meet customer needs and drive broad adoption.

For COVID-19, there are currently two types of tests available: tests that detect antibodies against the SARS-CoV-2 virus, and tests that detect the SARS-CoV-2 virus itself. Tests that detect antibodies (antibody tests) are serology-based tests used to determine whether a person’s body has produced antibodies in response to a past SARS-CoV-2 infection. While antibody tests may have a role in detecting prior infection, such antibody tests are not ideal for diagnosing current SARS-CoV-2 infections because antibodies take one to three weeks to be

produced by the immune system at a detectable level after the SARS-CoV-2 infection first appears in the body. Furthermore, other coronaviruses have been shown to produce positive results on SARS-CoV-2 antibody tests. Even if the patient does have antibodies to the virus that causes COVID-19, there is no definitive study data suggesting how long antibodies may provide protection from repeat COVID-19 infection. We believe that the value of antibody tests is hampered both for diagnosis of active infection and for identifying individuals resistant to infection by SARS-CoV-2.

Tests that detect the SARS-CoV-2 virus itself are further separated into two categories: tests that detect viral proteins (antigen tests), and tests that detect viral nucleic acid, or viral RNA (molecular tests). Antigen tests are less expensive to manufacture than tests that detect viral RNA. However, the Centers for Disease Control and Prevention (CDC) considers these tests to be of moderate sensitivity for detection of SARS-CoV-2. As of September 30, 2020, the FDA had issued EUAs for four COVID-19 antigen diagnostic tests and, in each case, the test is labeled only for symptomatic patients shortly after development of symptoms. According to the CDC, in most cases, negative antigen diagnostic test results are considered presumptive and the CDC recommends confirming negative antigen test results with a reverse transcription polymerase chain reaction test when the pretest probability of COVID-19 infection is relatively high, especially if the patient is symptomatic or has a known exposure to a person confirmed to have COVID-19. The accuracy of antigen tests for SARS-CoV-2 has not been proven in large-scale studies. However, in the context of other respiratory pathogens such as influenza, antigen tests are known to have inferior sensitivity, that is, they do not detect some of the infected individuals and inferior specificity, that is, they erroneously determine that a non-infected individual is infected, relative to the tests detecting viral RNA. We believe that this characterization of lower sensitivity and specificity could be observed in these tests for COVID-19 as well, thereby limiting the value of antigen testing to specific and narrow use cases.

Molecular diagnostic tests are generally considered higher accuracy than antigen tests and the CDC describes nucleic acid testing as the “gold standard” for clinical diagnostic detection of SARS-CoV-2. However, we believe that molecular diagnostic solutions that are currently being marketed for use at the point-of-care each have one or more of the following limitations:

- *Low performance as measured by sensitivity, specificity and limit of detection can result in misdiagnosis and poor clinical outcomes.* Several point-of-care molecular diagnostic platforms provide results in less than 30 minutes but achieve this speed by performing nucleic acid amplification on samples, foregoing sample preparation, which is known to limit the sensitivity, specificity and limit of detection of these nucleic acid tests. A recent study estimating the potential benefit of point-of-care testing for chlamydia indicated that a test with 90% clinical sensitivity combined with prompt treatment has the potential to reduce prevalence of the disease by 7% to 10%, but a point-of-care test with 99% clinical sensitivity could decrease prevalence by as much as 15% to 20%, avoiding in the range of 50,000 infections and over 10,000 cases of pelvic inflammatory disease per year.
- *Slow turnaround time can extend beyond the time a patient will wait for results and potentially result in loss of patient to follow-up.* Other available point-of-care systems may provide reliable, high performance results, but these tests can take 45 to 90 minutes to return a result. While results returned within hours is better than days, we believe that the longer a test takes, the less willing patients will be to wait at the clinical site for results, thereby risking patients failing to return after the initial visit and unnecessarily exposing additional individuals to a detectable infectious agent.
- *Platforms that can require significant user interaction or monitoring will not work well with clinical workflow.* Some platforms sold as point-of-care solutions require users to transfer solutions midway through a run or handle the instrument, test cartridge and/or sample multiple times in order to process one

test. The typical physician's office does not have laboratory personnel that can monitor an instrument, nor personnel trained in sample custody tracking.

- *Platforms that are difficult to manufacture at low cost or at scale can limit adoption*. We believe that the cost of purchasing and using diagnostic testing platforms and consumables is a primary concern for customers.
- *Limited test menus fail to meet the needs of clinicians*. The adoption of diagnostic technologies is contingent upon the technology having both clinical utility as well as economic rationale. Without a broad and relevant testing menu, testing platforms may not sufficiently meet the clinical needs of customers to justify the expense. We believe the ability to develop our planned additional assays will create a competitive barrier to entry for other platforms. While some platforms have developed a menu sufficient to drive adoption, we believe that these platforms make trade-offs in other areas either in terms of speed, cost or accuracy.

The Talis One platform

We are developing the Talis One platform to address limitations of existing point-of-care diagnostic testing technologies for infectious diseases. Our platform combines robust sample preparation with highly-optimized and rapid isothermal nucleic acid amplification technology to enable rapid detection of infectious pathogens in a variety of unpurified patient sample types. The Talis One is an integrated platform that includes a compact instrument, single-use test cartridges and software, including a central cloud database.

Talis One cartridge

At the core of our platform is the Talis One cartridge, a versatile shelf-stable and single-use test cartridge that is designed to fully integrate proprietary highly-optimized nucleic acid isothermal amplification assays with

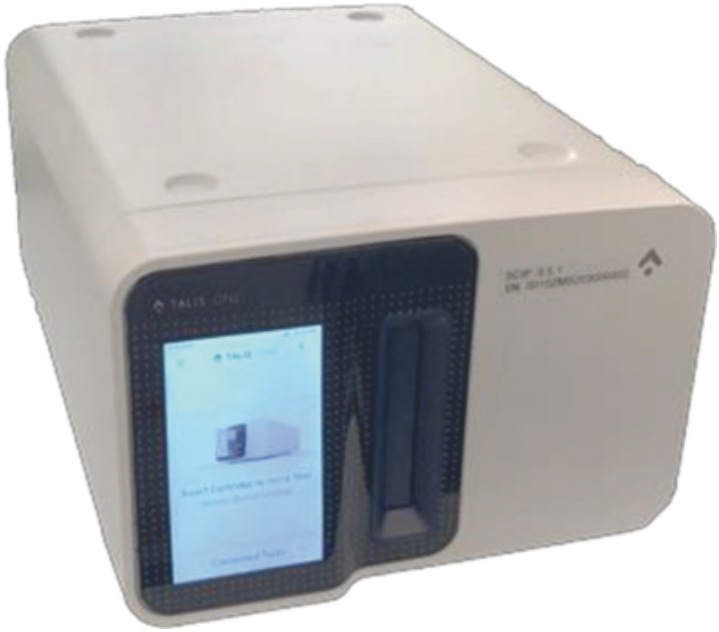
sample preparation. The cartridge is designed to handle a wide range of sample types, including nasal swab, vaginal swab, saliva, urine, whole blood, plasma, serum and sputum, to be compatible with lysis by bead beating in order to process a wide range of pathogens, including viral, bacterial and hard-to-lyse fungal pathogens, and to enable multiplex (multiple pathogen) testing. The cartridge design incorporates a patented rotary valve that integrates sample purification and is easily adaptable to alternate fluidic layouts to accommodate alternate testing methods that may require pre-treatment of specimens, pre-amplification and/or multiple purification steps to facilitate expansion of the testing menu. The cartridge also incorporates a reagent plug technology licensed from a contract manufacturing partner, which is designed to enable implementation of new tests on the same cartridge backbone simply by inserting plugs with different target assay reagents. The reagent plugs in our cartridges are optically clear, permitting the instrument to visualize and detect fluorescent signals from the amplification assay. Patented assay wells employ a fluidic design and include a mechanism to heat-seal the cartridge for amplicon containment designed to prevent contamination of the work surfaces.

The cartridge is designed to support up to 14-well multiplexing, which we believe will enable development of expanded panels and syndromic applications. The specific cartridge that we are developing for the COVID-19 test provides 5-fold multiplexing, which we believe is sufficient to combine our COVID-19 test with tests for other respiratory pathogens, such as influenza A and influenza B, into a multiplex respiratory panel.

Talis One instrument

The Talis One instrument is designed to enable sample-to-answer capabilities without user intervention. We designed the instrument to be low cost, portable and easy to use. We believe the modular design, which is divided into major subsystems for performing cartridge handling, sample preparation, amplification and detection, will facilitate automated assembly and low-cost manufacturing. The compact size, approximately 7 x 10 x 14 inches, is designed to enable portability and use in various front-line locations. The instrument incorporates a touchpad interface for easily communicating instructions, information and results to the user. An integrated camera that reads and enables registration of a label on the cartridge, facilitates sample custody by linking an image of the cartridge label with test results. The instruments are designed for multi-instrument

deployments to satisfy different testing volume requirements and can be stacked three instruments by three instruments without disturbing the cellular connection to the cloud.



Talis One software and IT

The Talis One platform incorporates software and information technology (IT) capabilities. The instrument is designed to communicate test results to a central cloud database that can be remotely and securely accessed to obtain key data required to collect, screen, collate, report, and monitor disease infection and pandemic spread on a micro and macro level. The cellular connectivity built into each Talis One instrument is also designed to enable Health Insurance Portability and Accountability Act of 1996 (HIPAA)-compliant transmission, storage, and review, and we expect to make such features available with a planned post-launch software upgrade. Such centralized storage could permit (i) creation of a public health interface granting access to select information to governmental entities and/or (ii) automatic transmission of “reportable infections,” such as COVID-19, to public health authorities. The cloud-based data could serve to help institutions better manage clinical practice and also to improve infection control. With substantially increased adoption over time, the data may offer a mapping of infection patterns that can be used by public health and research institutions to address care on a larger scale. Additionally, for organizations that may desire multiple instrument placements, such as in multiple exam rooms, multiple departments or distributed testing sites, authorized administrators may be able to monitor, in real-time, the status of any instrument in the organization, as well as manage users, passwords, and certain security features. The continuous connectivity of the Talis One instruments is also designed to enable us to provide automated updates including security patches, instrument configurations, and firmware and software updates, the latter of which could be deployed to enable the instrument to recognize and run newly released tests.

*Talis One workflow**

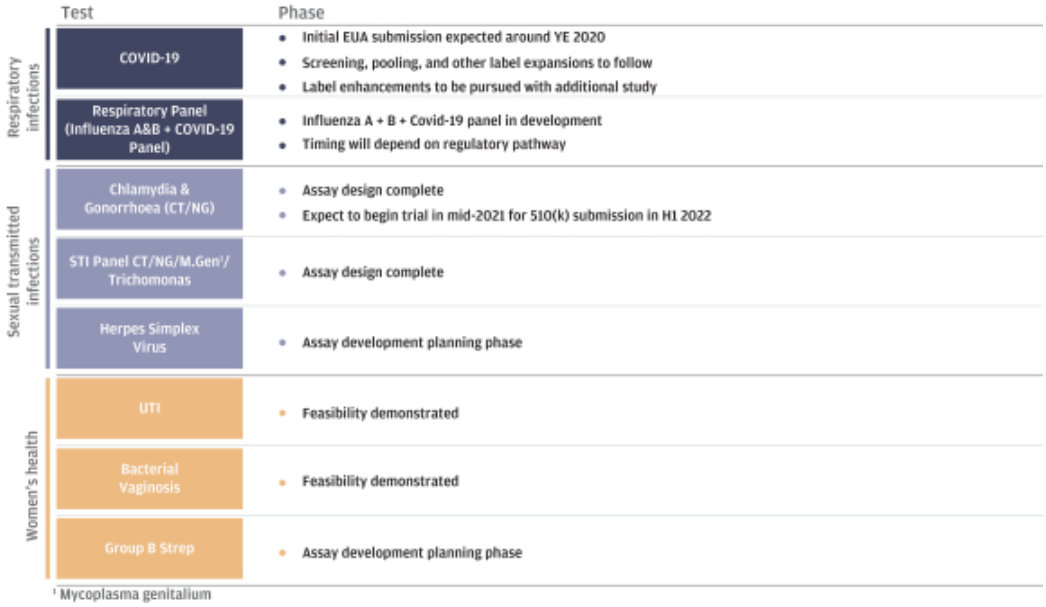
The Talis One platform is capable of being integrated into the clinical workflow as follows:

* May vary depending on sample type.

The Talis One workflow follows a few simple steps from sample preparation to results. The platform is designed to return results in approximately 25 minutes, with two minutes or less of hands-on time for the operator. After the sample is collected and the cartridge is introduced into the instrument, the instrument confirms the operability of the cartridge, runs the assay and communicates the test result to the instrument display. We believe the ease of use, compact size and speed could enable near-patient diagnosis in a broad range of settings.

Talis One tests

As reflected in the table below, we are developing Talis One tests for respiratory infections, infections related to women's health and sexually transmitted infections. Our initial focus is on the detection of SARS-CoV-2, the virus that causes COVID-19. We are also developing additional tests for the detection of other respiratory infections, such as a respiratory panel test to detect influenza A and influenza B plus COVID-19. We intend to submit for a 510(k) clearance to commercialize our Talis One platform with a test for *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoeae* (NG) in the first half of 2022. For other tests that are not eligible for an EUA, we intend to complete the requirements for and submit a 510(k) pre-market notification to the FDA (if available to us; otherwise we would plan to submit another form of marketing authorization under the FDA's standard medical device authorities). We chose our assay development roadmap to address the most common clinically relevant tests which require high sensitivity and specificity and for which timely results provide significant clinical benefit.



Respiratory infections

The Talis One COVID-19 test

The Talis One COVID-19 test is our first assay in development for respiratory infections. The test cartridge for COVID-19 diagnosis contains a NAAT designed for optimal sensitivity and specificity to provide highly accurate results. The assay on the Talis One cartridge is an isothermal NAAT targeting two physically separated locations in the SARS-CoV-2 genome to increase sensitivity and inclusivity. While natural evolution of the SARS-CoV-2 virus is to be expected, the inclusion of two distinct targets reduces the likelihood that natural mutations in the virus would cause a false negative result when using the Talis One COVID-19 test.

We intend to submit a request for an EUA to the FDA for our Talis One COVID-19 test around year end 2020. After the emergency period is declared to be over, we expect that the FDA will require companies operating under an EUA to submit a 510(k) pre-market notification for tests such as our COVID-19 test, but we believe the FDA will provide a grace period for such submissions. Accordingly, we intend to complete the requirements for

and submit a 510(k) pre-market notification to the FDA for our Talis One COVID-19 test to enable continued marketing when the public health emergency period is declared to be over.

Performance of the Talis One COVID-19 test

As part of our development of our COVID-19 test we assessed the performance of the Talis One platform using anterior or mid-turbinate nasal specimens to tests conducted in a centralized laboratory using the CDC quantitative polymerase chain reaction assay. In a preclinical assessment comparing the Talis One platform to a reference lab test on 60 matched anterior or mid-turbinate nasal specimens, the Talis One test results exactly matched the central lab results with 100% positive percentage agreement (PPA) and 100% negative percentage agreement (NPA) for detection of SARS-CoV-2, the virus that causes COVID-19. The high PPA and NPA is suggestive of clinical sensitivity and specificity in the broader clinical population and is driven by the very low limits of detection possible on the Talis One platform, e.g. 150 copies of genomic SARS-CoV-2 RNA per milliliter. We can achieve similarly high performance on the Talis One platform for bacteria with limits of detection of bacterial pathogens as low as one IFU/mL in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. The following figure illustrates the results. Confidence interval (95% CI) is a statistical measure the reliability of the result: If one were to repeat the particular study an infinite number of times, the resulting PPA/NPA of 95% of these repeats would fall within the Confidence Interval. Given the small sample size of this study, we do not anticipate that the clinical sensitivity and specificity will be 100%.

		Comparator Test (CDC)			
		Detected	**Not detected**	**% Agreement**	**95% CI**
Talis One	Detected	29	0	PPA 100	88.3-100
	Not Detected	0	31	NPA 100	88.7-100

Respiratory panels

We also anticipate developing respiratory panels incorporating our COVID-19 test. We are developing tests targeting influenza A and influenza B. If we successfully commercialize the Talis One platform for the diagnosis of COVID-19, we plan to incorporate these flu tests with the COVID-19 test in an upper respiratory panel on a single cartridge and seeking marketing authorizations for such multi-panel tests, whether through the EUA process, if available to us, or through a 510(k) clearance process once available to us.

Infections related to women's health and sexually transmitted infections

We are also developing our Talis One platform to be used for infections related to women's health and sexually transmitted infections. Immediately prior to the current pandemic, we were beginning the process of verification, validation and conducting clinical trials of our Talis One platform for CT/NG. While we have postponed our CT/NG program to focus on the COVID-19 test, we intend to complete clinical development in this indication and submit a 510(k) pre-market notification to the FDA in the first half of 2022 and pursue authorization to affix a CE Mark from the European Medicines Agency (EMA) by the end of 2022 or approximately six months after 510(k) clearance, if obtained. If cleared or otherwise authorized for marketing, this would be our first commercial offering in our women's health menu. We are planning to develop additional tests for infections related to women's health, including a panel for sexually transmitted infections (STIs) and other infections, such as bacterial vaginosis (BV), urinary tract infections (UTI) and herpes simplex virus (HSV).

Future applications

We are developing new algorithms and a bioinformatics pipeline to design rapid isothermal assays that are based on isothermal amplification chemistries. On the Talis One platform, we have observed limits of detection of bacterial pathogens as low as one IFU/mL in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. We have also demonstrated, in a research setting, rapid detection of similarly low concentrations for a variety of bacterial, fungal, parasitic and viral pathogens.

Our potential competitive advantages

We believe the Talis One platform provides the following competitive advantages:

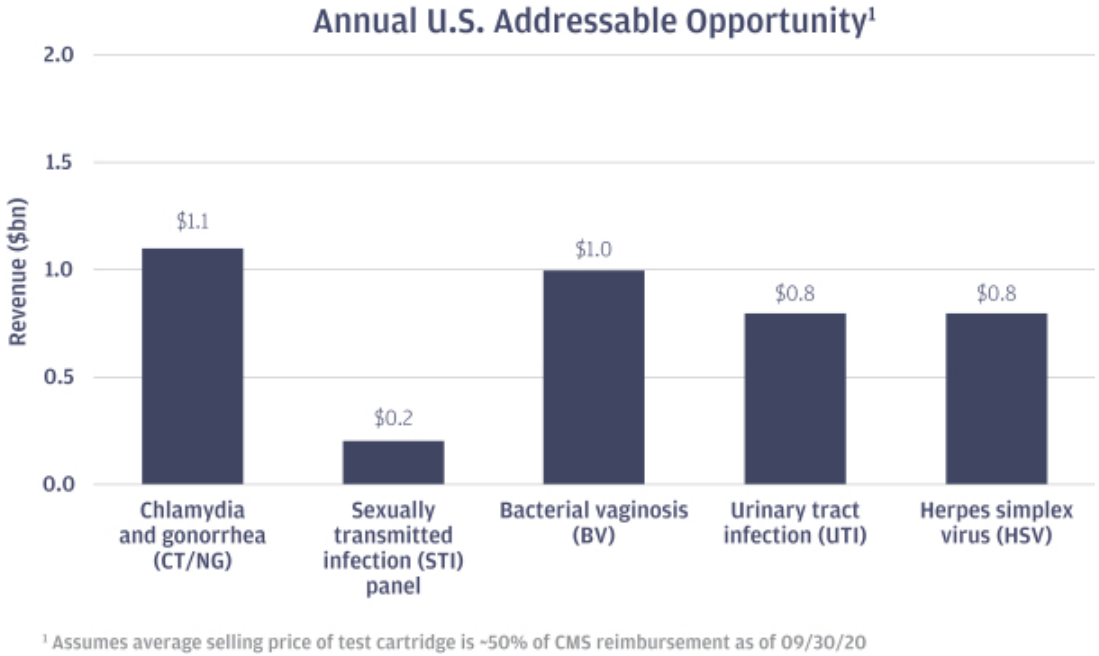
- ***The Talis One platform has the potential to provide a compelling and differentiated value proposition for key stakeholders.*** We believe the Talis One platform could, if authorized for marketing, empower more healthcare providers to deliver better care, improve the patient experience, respond to public health threats and ultimately lower healthcare costs for payors by providing an accurate and timely diagnosis at the point-of-care. Additionally, our platform may create revenue and profit opportunities for healthcare providers who currently use centralized laboratories for their testing by enabling them to bring testing in-house. We believe the tests that we are developing for our Talis One platform have established reimbursement codes, which would enable healthcare providers to submit for reimbursement.
- ***We designed the Talis One platform to provide central lab levels of accuracy at the point-of-care.*** Our single-use test cartridge is designed to fully integrate nucleic acid amplification and detection with sample preparation, including nucleic acid extraction and purification. We believe this could result in higher sensitivity and specificity than other alternatives that omit the sample preparation step. The large sample volume input (1 mL) is designed to enable detection of pathogens at low concentrations, which is critical for sensitivity. We developed bioinformatics software to design isothermal assays which we applied to design primers for the detection of SARS-CoV-2. Implemented on a cartridge, our COVID-19 test has demonstrated a limit of detection for SARS-CoV-2 of £150 copies of genomic RNA per milliliter. The Talis One platform has detected bacterial pathogens at concentrations as low as one IFU/mL in a variety of unpurified patient sample types, including nasal swab, vaginal swab, saliva and urine. We believe this demonstrates the power of our platform to detect disease at high sensitivity and specificity and the technical capability to rapidly develop additional assays on the Talis One platform.
- ***The Talis One platform is designed to be rapid and easy to use.*** The Talis One platform is designed to provide actionable information to clinicians in approximately 25 minutes. Faster turnaround time can inform quicker clinical decision making, which is critical for COVID-19 patients, as well as patients with other infectious diseases, where immediate treatment is important to reduce community transmission and achieve optimal outcomes. In addition, our platform is designed to be operated by untrained personnel and incorporate safety and convenience features, including automated cartridge-based sample preparation for reliable results, closed cartridges to mitigate contamination, room-temperature cartridge storage for convenient storage, and cloud connectivity for easily accessed results and records. The Talis One platform is designed to require two minutes or less of hands-on time for the operator to run a test.
- ***The Talis One platform is designed to enable efficient menu expansion.*** The Talis One platform is designed to enable single organism as well as multiplex detection for a plurality of infectious pathogens from one point-of-care system, which increases the potential value proposition of the platform for our customers. The modular design and multiplex capability of the single-use test cartridges is intended to enable us to use such cartridges for each of the tests we develop, which we believe could enable us to rapidly expand our test menu to meet customer needs and produce an attractive platform for a variety of providers and facilities. Following

receipt of marketing authorization, we plan to launch our COVID-19 test and we have additional tests in development for other respiratory infections, infections related to women's health and STIs.

- ***The Talis One instrument includes a cellular connection and capacity for a cloud-based reporting and management system.*** The cellular connectivity built into the Talis One instrument is designed to enable HIPAA-compliant transmission, storage, review and printing of results, which we expect to be released with an upcoming software upgrade in 2021 for all installed instruments. We believe such centralized storage and information management could provide for (i) improved clinical workflow at healthcare sites and institutions, (ii) the creation of a public health interface granting access to select information to governmental entities and/or (iii) the automatic transmission of "reportable infections," such as COVID-19, to public health authorities. Additionally, administrators could remotely monitor, in real-time, the status of any instrument in an organization, as well as manage users and certain security features.
- ***The Talis One platform is designed to be scalable for different throughput requirements***. The portable and compact design enables the Talis One instruments to be stacked on top of, and be located next to, additional Talis One instruments, with the goal of increasing testing throughput capability at the point-of-care. Instruments are designed to be stacked three by three, in groups of nine without impact to the cellular connection.
- ***We designed the Talis One platform to enable scalable low-cost manufacturing from raw material supply through the entire supply chain***. We believe the scalable and low-cost manufacturing features of the Talis One platform could enable us to maintain our margins, offer attractive pricing to our customers and be competitive in price sensitive environments. The modular design of the single-use test cartridges requires only swapping target-specific assay reagents on small plug-in components inserted into the cartridge to change the assay.

Market opportunity

We are currently developing Talis One tests for COVID-19, other respiratory infections, infections related to women's health and STIs. We estimate that the total potential annualized addressable market opportunity for COVID-19 tests in the United States exceeds $7.0 billion, based on an estimate of daily testing demand of 750,000 tests as of June 2020 and an estimated price of $25 per COVID-19 test, which is roughly 50% of the CMS reimbursed price of approximately $50. We estimate that the potential annualized addressable market opportunity in the United States for our Talis One tests in development for infections related to women's health and STIs was approximately $3.9 billion in 2019. We believe the market opportunity outside the United States for our tests in development is at least as large as the domestic market.



COVID-19 and other respiratory infections

We believe that the demand for COVID-19 diagnostic testing will evolve over three phases as the pandemic progresses:

Initial phase: As of September 30, 2020, we believe we are in the initial phase of the COVID-19 pandemic which is characterized by diagnostic testing predominantly of individuals suspected of COVID-19 by their healthcare providers in centralized locations. In the current phase, there is insufficient supply of tests to meet the demand and according to the US Department of Health and Human Services, as of July 31, 2020, there were an average of 810,000 tests conducted across the United States per day. In this current phase, testing has primarily been carried out through the use of centralized laboratories or with point-of-care and rapid molecular or antigen tests. While the testing capacity using these currently available options may ultimately surpass the daily testing need, we believe these current tests lack the capabilities to meet the testing needs as the COVID-19 pandemic evolves, most importantly due to limitations providing highly accurate and actionable diagnosis in a timely manner. We believe that the preferred approach for COVID-19 diagnostic testing will be to deliver the highest testing accuracy and results in a timely manner, which we believe can only be met by a point-of-care, molecular-based approach.

Second phase: We believe that the demand for COVID-19 testing will grow from the initial phase because point-of-care testing will become available for screening individuals and testing of individuals suspected of COVID-19 infection will shift to the point-of-care. Included in the broader group of potential customers that will adopt point-of-care diagnostic technologies will be institutions caring for vulnerable populations, urgent care centers, employers, and schools. We expect that this will drive a shift of testing towards the point-of-care and significant demand for point-of-care technologies, with a high importance by customers placed on accuracy and speed.

Third phase: We believe that an additional phase of the COVID-19 pandemic may emerge and which could extend into the foreseeable future. In this phase, there may be the presence of vaccines which could result in a lower incidence of COVID-19. However, we believe that there will continue to be a high focus on safety supporting demand for COVID-19 testing, especially as it relates to demand from potential customers testing individuals suspected of COVID-19 infection and of vulnerable populations. Additionally, there may be demand for rapid point-of-care testing as a means to determine eligibility for COVID-19 therapies that may be shown to be effective only in a narrow timeframe after initial exposure or onset of symptoms, and this could particularly apply to people who were not vaccinated or had an insufficient or waning vaccine response. We anticipate that this phase will drive demand for panel-based tests which incorporate additional respiratory viruses, for example a flu and COVID-19 panel. Respiratory infections, including COVID-19, can be difficult to diagnose and having a panel-based test to diagnose for and rule-out different pathogens can improve the chances of a definitive diagnosis on the first test.

Infections related to women's health and sexually transmitted infections

We are currently developing Talis One tests for CT/NG, BV, STIs, UTIs, HSVs, and *Group B streptococcus* for which we estimate there is a combined annual testing market opportunity of approximately $3.9 billion based on current Medicare reimbursement rates. Our initial focus is on CT/NG.

The American Congress of Obstetricians and Gynecologists (ACOG) recommends annual CT/NG screening of all sexually active women age 25 and younger and for women over age 25 with risk factors. In addition to promoting our test menu to our existing customers we will engage in a focused commercialization effort directed towards obstetricians and gynecologists where we estimate that a substantial majority of CT/NG testing occurs. Traditionally, testing is carried out by centralized laboratories and we believe that there is a significant opportunity to move these tests to the point-of-care at the office of the obstetrician and gynecologist or in urgent care clinics or primary care facilities. We believe testing at the point-of-care and could improve decision making and enable the provider to use this information to treat the patient in the same visit. We believe this could improve the patient experience, and empower providers and patients to adhere to screening guidelines and improve outcomes. We also believe that care providers may be able to create profit opportunities by bringing testing in-house to the point-of-care. We believe the tests that we are developing for our Talis One platform have established reimbursement codes, enabling healthcare providers to submit for reimbursement.

Sales and marketing

Subject to receipt of marketing authorization for our COVID-19 test using our Talis One platform, our initial sales strategy will focus on driving adoption of the Talis One platform in two customer types: enterprise accounts and health care providers. We initially plan to launch Talis One through an enterprise account management team and a direct sales force with approximately 25 sales representatives dedicated to driving adoption in both categories. With respect to direct sales, we intend to commercialize the Talis One platform through a sales force focused initially on placing platforms with potential customers that place high value on accuracy and our broader test menu in development. Target customer segments include: (1) large elder care

chains where vulnerable residents have unmet needs for millions of high sensitivity assays per year; (2) urgent care chains that serve on the front lines of COVID-19 diagnosis, needing millions of rapid tests to triage symptomatic patients; and (3) traditional medical establishments, including hospitals, physician groups and public health clinics that that need rapid and high-quality testing to best serve their patients. These customers represent large and concentrated testing opportunities for COVID-19. For example, we estimate that a single large elder care chain could represent a COVID-19 testing opportunity of over a million tests per year. In addition, the sales team will directly target smaller accounts including public health clinics, obstetrician and gynecologist practices, primary care doctors and mid-sized physician networks. We may also consider sales to organizations such as schools and school districts as well as corporate customers.

We intend to offer our Talis One platform to customers via direct purchase of the instrument or through a reagent rental program. Under these options we expect to generate revenue in the form of instrument sales or rentals, test cartridge sales and service and support fees.

We designed our platform for the institutional healthcare provider category, particularly those that serve populations who are especially vulnerable to infectious diseases, such as COVID-19. We believe that this market category could be a significant driver of our growth both near and longer-term due to the many types and significant number of potential institutional healthcare providers. Institutional healthcare providers typically represent sizeable patient populations, allowing a relatively large number of patients to be targeted with a limited number of account managers. Although institutional healthcare providers may require a sales cycle lasting several weeks or months, fixed-price arrangements from certain of these customers may provide us with a steady and predictable revenue stream.

While institutional healthcare providers are an important selling focus initially, we believe establishment of a direct sales force will enhance our growth, increase the number of institutional referrals, and expand the footprint of our brand within the U.S. market.

Competition

The in vitro diagnostics industry is characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary intellectual property. Due to the significant interest and growth in diagnostics, we expect ongoing intense competition. However, we believe our proprietary and adaptable technology platform, our process capabilities and our manufacturing scale will distinguish us from our competitors.

We anticipate facing competition primarily from centralized laboratories and diagnostic companies offering both point-of-care and at-home solutions. Competitors include those offering molecular, antibody and antigen tests. Competitors in the reference lab category include Laboratory Corporation of America Holdings (commonly referred to as LabCorp) and Quest Diagnostics Incorporated, along with many hospital laboratories. Competitors with point-of-care diagnostic technology platforms that are either currently available or that are in development include:

- the following company with antibody testing technology: Assure Tech. (Hangzhou) Co., Ltd.;
- the following companies with antigen testing technology: Becton, Dickinson and Company (commonly referred to as BD), Abbott Laboratories, LumiraDx UK Limited and Quidel Corporation; and
- the following companies with molecular testing technology: Abbott Laboratories, Cue Health Inc., Visby Medical, Inc., Cepheid (a subsidiary of Danaher Corporation), Mesa Biotech, Inc. and F. Hoffmann-La Roche AG.

All of the above-listed companies, as well as numerous others, have received an EUA for a point-of-care COVID-19 test. There are also smaller or earlier-stage companies developing tests that may also prove to be significant competitors. Many of our current or potential competitors, either alone or with their collaboration partners, have significantly greater financial resources and expertise in research and development, manufacturing, regulatory clearance approval and compliance, and sales and distribution than we do. Mergers and acquisitions involving diagnostics companies may result in even more resources being concentrated among a smaller number of our competitors. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies or customer networks. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize diagnostic products or services that are more accurate, more convenient to use or more cost-effective than our products or services. Our competitors also may obtain FDA or other regulatory clearance or approval for their products more rapidly than we may obtain clearance or approval or other marketing authorizations for ours, which could result in our competitors establishing a strong market position before we are able to enter a particular market.

We believe key competitive factors impacting our success include the accuracy, utility, turnaround time and economics of our products, and commercial execution. We also believe our success in the future depends on the timing of obtaining regulatory clearances and approvals, as well as the timing of our ability to deliver instruments and consumables into the marketplace in significant volumes.

Operations

Manufacturing process

Our products are manufactured by several third parties, including a single contract manufacturer that provisions the parts and assembles our instrument. The instrument assembly is largely manual with some automation in testing. Our instrument contract manufacturer is scaling up to be able to make up to 500 instruments per week. We have various suppliers that provide molded parts and reagents that are assembled by two contract manufacturers for the cartridge. We are investing approximately $95.0 million dollars to scale up cartridge manufacturing. This investment includes high cavity count molding capability and automation of significant portions of the cartridge assembly process. Our operations consist of demand forecast planning, raw material procurement, and quality oversight. The operations team is responsible for ensuring adherence to our Quality Management System to meet or exceed applicable standards to support manufacturing, testing and distribution of our products.

Supply chain management

We utilize industry-leading vendors for our supply chain. Currently, many of the materials, enzymes and reagents used in our systems and cartridges are from single source suppliers. However, we are evaluating redundancy vendors for reagents and other materials where possible. To further mitigate risk, we are implementing multi-month, multi-lot safety stock strategy to promote an uninterrupted supply of critical or scarce reagents and other materials. Initially we plan to source many of the test cartridge materials and provide them to our contract manufacturers. Over time, we plan to transfer acquisition of these materials to our contract manufacturing partners. We plan to engage a third-party logistics company to manage the movement of materials between suppliers and for finished goods warehousing.

Supply Agreement with thinXXS Microtechnology AG (thinXXS)

In May 2020, we entered into a supply agreement with thinXXS (thinXXS Agreement), for the purchase of certain materials, including single-use cartridges for use with the Talis One platform and components and subassemblies of such single-use cartridges. Pursuant to the thinXXS Agreement, we are required to submit an

annual forecast of expected purchase volumes with portions of such annual forecast constituting a binding commitment based on certain percentages set forth in the thinXXS Agreement. We are also required to submit non-binding rolling forecasts to thinXXS. The prices we pay were initially fixed upon execution of the thinXXS Agreement and may not be increased until a specified date. Following such specified date, the purchase prices will be negotiated by the parties. Additionally, subject to certain criteria, thinXXS has the right to be our exclusive supplier of the cartridges, up to a specified annual volume.

The initial term of the thinXXS Agreement is 10 years, after which the thinXXS Agreement will remain in effect unless we provide two years' prior written notice of non-renewal. The thinXXS Agreement can also be terminated (i) after May 2027, by us for convenience, upon two years' prior written notice, (ii) subject to certain conditions, by either party upon 90 days' prior written notice of an uncured material breach of the thinXXS Agreement, and (iii) by either party upon bankruptcy or insolvency of the other party.

Intellectual property

Patents

Our intellectual property strategy is focused on protecting our core technologies, including target-specific amplification reagents, integrated cartridges and components thereof, and related instrumentation and software applications through patents and other intellectual property rights. In addition, we protect our ongoing research and development into the detection of infectious diseases and potential therapeutic interventions through patents and other intellectual property rights. As of October 1, 2020, we solely own eight issued U.S. patents, 18 pending U.S. patent applications, 12 issued foreign patents, 41 pending foreign patent applications, and four pending PCT international patent applications. We co-own three issued U.S. patents, one pending U.S. patent application, and 11 pending foreign patent applications with Caltech. We exclusively in-license nine issued U.S. patents, three pending U.S. patent applications, 16 issued foreign patents and five pending foreign patent applications from the University of Chicago and/or Caltech. Our patent portfolio generally includes patents and patent applications relating microfluidic systems, our rapid isothermal amplification method, integrated cartridges and instrument, as well as components thereof and methods of operating the same. Issued U.S. patents in our portfolio of company-owned and in-licensed patents and patent applications (if issued) are expected to expire between 2030 and 2040.

Trademarks

Our trademark portfolio is designed to protect the brands of our current and future products and includes U.S. trademark applications for registration for our company name, Talis, and the product name Talis One. Our trademark applications may not proceed to registration, and our intellectual property rights may be invalidated, circumvented or challenged. For instance, we are currently subject to ongoing opposition before the United States Patent and Trademark Office filed by Talis Clinical, LLC, which alleges that our application for registration of the trademark TALIS should not be registered because it is likely to be confused with the prior unregistered trademark TALIS used in connection medical software and related goods and services. In the event this opposition is successful, or if we enter into a settlement agreement with Talis Clinical, LLC, we could lose rights to this trademark. We cannot predict the outcome of this action or if we will be subject to similar claims in the future.

Trade secrets

We also rely on trade secrets, including know-how, unpatented technology and other proprietary information, to strengthen our competitive position. We have determined that certain technologies, such as aspects of our amplification chemistry, some bioinformatics, data processing and analysis techniques, and manufacturing

processes are better kept as trade secrets, rather than pursuing patent protection. To prevent disclosure of trade secrets to others, it is our policy to enter into nondisclosure, invention assignment and confidentiality agreements with parties who have access to trade secrets, such as our employees, collaborators, outside scientific collaborators, consultants, advisors and other third parties. These agreements also provide that all inventions resulting from work performed for us or relating to our business and conceived or completed during the period of employment or assignment, as applicable, are our exclusive property. In addition, we take other appropriate precautions, such as physical and technological security measures, to guard against misappropriation of our proprietary information by third parties.

We intend to pursue additional intellectual property protection to the extent we believe it would advance our business objectives. Notwithstanding these efforts, there can be no assurance that we will adequately protect our intellectual property or determine the likelihood that these efforts will provide any competitive advantage. We cannot provide any assurance that any patents will be issued from our pending or any future applications or that any issued patents will adequately protect our products or technology. Our intellectual property rights may be invalidated, circumvented or challenged. In addition, the laws of various foreign countries where our products are distributed may not protect our intellectual property rights to the same extent as laws in the United States. Furthermore, it may be difficult to protect our trade secrets. While we have confidence in the measures we take to protect and preserve our trade secrets, they may be inadequate and can be breached, and we may not have adequate remedies for violations of such measures. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. For more information regarding risks related to intellectual property, please see “Risk factors—Risks related to our intellectual property.”

Government regulation and product approval

Our products under development and our operations are subject to significant government regulation. In the United States, our products are regulated as medical devices by the FDA and other federal, state, and local regulatory authorities.

FDA regulation of medical devices

The FDA and other U.S. and foreign governmental agencies regulate, among other things, with respect to medical devices:

- design, development and manufacturing;
- testing, labeling, content and language of instructions for use and storage;
- clinical trials;
- product safety;
- marketing, sales and distribution;
- pre-market clearance and approval;
- record keeping procedures;
- advertising and promotion;
- recalls and field safety corrective actions;
- post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury;

- post-market approval studies; and
- product import and export.

In the United States, numerous laws and regulations govern all the processes by which medical devices are brought to market and marketed. These include the FDCA and the FDA's implementing regulations, among others.

FDA pre-market clearance and approval requirements

Each medical device we seek to commercially distribute in the United States must first receive 510(k) clearance, *de novo* classification, or approval of a pre-market approval (PMA) application, from the FDA, unless specifically exempted. In addition, devices may receive Emergency Use Authorizations (EUAs), such as those issued for in vitro diagnostics to detect SARS-CoV-2, which are time-limited authorizations under the public health emergency provisions of the FDCA.

The FDA classifies all medical devices into one of three classes—Class I, Class II or Class III—depending on the degree of risk associated with each medical device and the extent of manufacturer and regulatory control needed to ensure its safety and effectiveness. Class I includes devices with the lowest risk to the patient and are those for which safety and effectiveness can be assured by adherence to the FDA's General Controls for medical devices, which include compliance with the applicable portions of the Quality System Regulation(QSR), facility registration and product listing, reporting of adverse medical events, and truthful and non-misleading labeling, advertising, and promotional materials. Class II devices are subject to the FDA's General Controls, and special controls as deemed necessary by the FDA to ensure the safety and effectiveness of the device. These special controls can include performance standards, post-market surveillance, patient registries and additional conditions set forth in FDA guidance documents. While most Class I devices are exempt from the 510(k) pre-market notification requirement, manufacturers of most Class II devices are required to submit to the FDA a pre-market notification under Section 510(k) of the FDCA requesting permission to commercially distribute the device. The FDA's permission to commercially distribute a device subject to a 510(k) pre-market notification is generally known as 510(k) clearance. Devices deemed by the FDA to pose the greatest risks, such as life-sustaining, life-supporting or some implantable devices are placed in Class III, requiring approval of a PMA application. Some pre-amendment devices are unclassified, but are subject to the FDA's pre-market notification and clearance process in order to be commercially distributed.

In addition, EUAs and other forms of approval or clearance may be limited to use of tests by authorized laboratories certified under CLIA to perform moderate and high-complexity tests. In order to for a test to be used at the point-of-care, the FDA must grant the test waived status under CLIA, which would permit any laboratory with a Certificate of Waiver to perform the test.

Emergency Use Authorization

Section 564 of the FDCA authorizes the U.S. Secretary of the Department of Health and Human Services (HHS) to declare public health emergencies that have a significant potential to affect national security or the health and security of U.S. citizens. Before an EUA may be issued, the Secretary must declare an emergency based on one of the following grounds:

- a determination by the Secretary of the Department of Homeland Security that there is a domestic emergency, or a significant potential for a domestic emergency, involving a heightened risk of attack with a specified biological, chemical, radiological or nuclear agent or agents;

- a determination by the Secretary of the Department of Defense that there is a military emergency, or a significant potential for a military emergency, involving a heightened risk to U.S. military forces of attack with a specified biological, chemical, radiological, or nuclear agent or agents; or
- a determination by the Secretary of the HHS of a public health emergency that effects or has the significant potential to affect, national security, and that involves a specified biological, chemical, radiological, or nuclear agent or agents, or a specified disease or condition that may be attributable to such agent or agents.

Prior such public health emergencies have included declarations regarding the Zika virus (2016), Ebola virus (2014), and Avian flu virus (2013). On February 4, 2020, the novel coronavirus was declared a public health emergency, and it was declared that circumstances existed justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of the novel coronavirus that causes COVID-19. These EUAs will terminate upon declaration that the public health emergency circumstances have ceased, or the product provided pursuant to EUA has otherwise achieved commercial authorization for the emergency indication for use, such as through 510(k) clearance or PMA approval.

In order to be the subject of an EUA, the FDA Commissioner (under authority delegated by the Secretary of the HHS) must conclude that, based on the totality of scientific evidence available, it is reasonable to believe that the product may be effective in diagnosing, treating, or preventing a disease attributable to the agents described above, that its known and potential benefits outweigh its known and potential risks, and that there is no adequate, approved and available alternative. The applicant's request for an EUA includes available scientific evidence, and the FDA engages in interactive review of the request with the applicant. If and once authorized, products subject to an EUA must comply with the conditions of an EUA, including informing healthcare professionals and patients of the risks and benefits of the product, adverse event reporting and recordkeeping, and may include distribution and advertising controls and limitations. The FDA may revise or revoke an EUA to protect the public health.

510(k) clearance process

To obtain 510(k) clearance, we must submit a pre-market notification to the FDA demonstrating that the proposed device is substantially equivalent to a previously-cleared 510(k) device, a device that was in commercial distribution before May 28, 1976 for which the FDA has not yet called for the submission of PMA applications, or is a device that has been reclassified from Class III to either Class II or I. In rare cases, Class III devices may be cleared through the 510(k) process. The FDA's 510(k) clearance process usually takes from three to 12 months from the date the application is submitted and filed with the FDA, but may take significantly longer. Although many 510(k) pre-market notifications are cleared without clinical data, in some cases, the FDA requires significant clinical data to support substantial equivalence. In reviewing a pre-market notification submission, the FDA may request additional information, including clinical data, which may significantly prolong the review process.

If the FDA agrees that the device is substantially equivalent to a predicate device currently on the market, it will grant 510(k) clearance to commercially market the device. If the FDA determines that the device is "not substantially equivalent" to a previously cleared device, the device is automatically designated as a Class III device. The device sponsor must then fulfill more rigorous PMA requirements, or can request a risk-based classification determination for the device in accordance with the *de novo* classification process, which is a route to market for novel medical devices that are low to moderate risk and are not substantially equivalent to a predicate device. Once a *de novo* application is reviewed and approved, it results in the device having a Class II status and future devices from the company or a competitor may use the company's *de novo*-classified device as a 510(k) predicate.

After a device receives 510(k) clearance, any subsequent modification of the device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, will require a new 510(k) clearance or could require a PMA. The FDA requires each manufacturer to make this determination initially, but the FDA may review any such decision and may disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA may require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or approval of a PMA is obtained. Under these circumstances, the FDA may also subject a manufacturer to significant regulatory fines or other penalties.

Over the last several years, the FDA has proposed reforms to its 510(k) clearance process, and such proposals could include increased requirements for clinical data and a longer review period, or could make it more difficult for manufacturers to utilize the 510(k) clearance process for their products. For example, in November 2018, FDA officials announced forthcoming steps that the FDA intends to take to modernize the pre-market notification pathway under Section 510(k) of the FDCA. Among other things, the FDA announced that it planned to develop proposals to drive manufacturers utilizing the 510(k) pathway toward the use of newer predicates. These proposals included plans to potentially sunset certain older devices that were used as predicates under the 510(k) clearance pathway, and to potentially publish a list of devices that have been cleared on the basis of demonstrated substantial equivalence to predicate devices that are more than 10 years old. The FDA also announced that it intends to finalize guidance to establish a pre-market review pathway for "manufacturers of certain well-understood device types" as an alternative to the 510(k) clearance pathway and that such pre-market review pathway would allow manufacturers to rely on objective safety and performance criteria recognized by the FDA to demonstrate substantial equivalence, obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process.

In May 2019, the FDA solicited public feedback on its plans to develop proposals to drive manufacturers utilizing the 510(k) pathway toward the use of newer predicates, including whether the FDA should publish a list of devices that have been cleared on the basis of demonstrated substantial equivalence to predicate devices that are more than 10 years old. The FDA requested public feedback on whether it should consider certain actions that might require new authority, such as whether to sunset certain older devices that were used as predicates under the 510(k) clearance pathway. These proposals have not yet been finalized or adopted, and the FDA may work with Congress to implement such proposals through legislation. More recently, in September 2019, the FDA finalized the aforementioned guidance to describe an optional "safety and performance based" pre-market review pathway for manufacturers of "certain, well-understood device types" to demonstrate substantial equivalence under the 510(k) clearance pathway, by demonstrating that such device meets objective safety and performance criteria established by the FDA, obviating the need for manufacturers to compare the safety and performance of their medical devices to specific predicate devices in the clearance process. The FDA intends to maintain a list of device types appropriate for the "safety and performance based pathway" and develop product-specific guidance documents that identify the performance criteria for each such device type, as well as the testing methods recommended in the guidance documents, where feasible.

De novo classification process

Medical device types that the FDA has not previously classified as Class I, II, or III are automatically classified into Class III regardless of the level of risk they pose. The Food and Drug Administration Modernization Act of 1997 established a new route to market for low to moderate risk medical devices that are automatically placed into Class III due to the absence of a predicate device called the "Request for Evaluation of Automatic Class III Designation," or the *de novo* classification procedure. 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 (FDASIA) in July 2012, a medical device could only be eligible for *de novo* classification if the manufacturer first submitted a 510(k) pre-market 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) pre-market notification to the FDA and receiving a not substantially equivalent determination. Under FDASIA, FDA is required to classify the device within 120 days following receipt of the *de novo* application. If the manufacturer seeks reclassification into Class II, the manufacturer must include a draft proposal for special controls that are necessary to provide a reasonable assurance of the safety and effectiveness of the medical device. In addition, the FDA may reject the reclassification petition if it identifies a legally marketed predicate device that would be appropriate for a 510(k) or determines that the device is not low to moderate risk or that general controls would be inadequate to control the risks and special controls cannot be developed.

Pre-market approval process

A PMA application must be submitted if the medical device is in Class III (although the FDA has the discretion to continue to allow certain pre-amendment Class III devices to use the 510(k) process) or cannot be cleared through the 510(k) process. A PMA application must be supported by, among other things, extensive technical, preclinical, and clinical trials, as well as manufacturing and labeling data to demonstrate to the FDA's satisfaction the safety and effectiveness of the device.

Following receipt of a PMA, the FDA determines whether the application is sufficiently complete to permit a substantive review. If the FDA accepts the application for review, it has 180 days under the FDCA to complete its review of a PMA, although in practice, the FDA's review often takes significantly longer, and can take up to several years. During this review period, the FDA may request additional information or clarification of information already provided. Also during the review period, an advisory panel of experts from outside the FDA may be convened to review and evaluate the application and provide recommendations to the FDA as to the approvability of the device. The FDA may or may not accept the panel's recommendation. In addition, the FDA will generally conduct a pre-approval inspection of the manufacturing facility to ensure compliance with QSR, which imposes elaborate design development, testing, control, documentation and other quality assurance procedures in the design and manufacturing process.

The FDA will approve the new device for commercial distribution if it determines that the data and information in the PMA constitute valid scientific evidence and that there is reasonable assurance that the device is safe and effective for its intended use(s). The FDA may approve a PMA application with post-approval conditions intended to ensure the safety and effectiveness of the device including, among other things, restrictions on labeling, promotion, sale and distribution and collection of long-term follow-up data from patients in the clinical study that supported approval. Failure to comply with the conditions of approval can result in materially adverse enforcement action, including the loss or withdrawal of the approval. New PMA applications or supplements are required for significant modifications to the manufacturing process, labeling of the product and design of a device that is approved through the PMA process. PMA supplements often require submission of the same type of information as an original PMA application, except that the supplement is limited to information needed to support any changes from the device covered by the original PMA application, and may not require as extensive clinical data or the convening of an advisory panel.

Clinical trials

A clinical trial is typically required to support a PMA application and is sometimes required for a 510(k) pre-market notification. Clinical trials generally require submission of an application for an Investigational Device Exemption (IDE), to the FDA. The IDE application must be supported by appropriate data, such as animal

and laboratory testing results, showing that it is safe to test the device in humans and that the investigational protocol is scientifically sound. The IDE application must be approved in advance by the FDA for a specified number of patients, unless the product is deemed a non-significant risk device and eligible for more abbreviated IDE requirements.

In addition, the study must be approved by, and conducted under the oversight of, an Institutional Review Board (IRB), for each clinical site. The IRB is responsible for the initial and continuing review of the IDE and may pose additional requirements for the conduct of the study. If an IDE application is approved by the FDA and one or more IRBs, human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA, but must still follow abbreviated IDE requirements, such as monitoring the investigation, ensuring that the investigators obtain informed consent, and labeling and record-keeping requirements. Acceptance of an IDE application for review does not guarantee that the FDA will allow the IDE to become effective and, if it does become effective, the FDA may or may not determine that the data derived from the trials support the safety and effectiveness of the device or warrant the continuation of clinical trials. An IDE supplement must be submitted to, and approved by, the FDA before a sponsor or investigator may make a change to the investigational plan that may affect its scientific soundness, study plan or the rights, safety or welfare of human subjects.

During a study, the sponsor is required to comply with the applicable FDA requirements, including, for example, trial monitoring, selecting clinical investigators and providing them with the investigational plan, ensuring IRB review, adverse event reporting, record keeping and prohibitions on the promotion of investigational devices or on making safety or effectiveness claims for them. The clinical investigators in the clinical study are also subject to FDA regulations and must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of the investigational device, and comply with all reporting and recordkeeping requirements. Additionally, after a trial begins, we, the FDA or the IRB could suspend or terminate a clinical trial at any time for various reasons, including a belief that the risks to study subjects outweigh the anticipated benefits.

Pervasive and continuing U.S. Food and Drug Administration regulation

After a medical device is placed on the market, numerous FDA regulatory requirements apply, including, but not limited to the following:

- the QSR, which requires manufacturers to follow design, testing, control, documentation and other quality assurance procedures during the manufacturing process;
- establishment registration, which requires establishments involved in the production and distribution of medical devices, intended for commercial distribution in the United States, to register with the FDA;
- medical device listing, which requires manufacturers to list the devices they have in commercial distribution with the FDA;
- clearance or approval of product modifications to 510(k)-cleared devices that could significantly affect safety or effectiveness or that would constitute a major change in intended use of one of our cleared devices;
- medical device reporting regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;

- correction, removal and recall reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FDCA that may present a risk to health;
- complying with the new federal law and regulations requiring Unique Device Identifiers (UDI) on devices and also requiring the submission of certain information about each device to the FDA's Global Unique Device Identification Database;
- the FDA's recall authority, whereby the agency can order device manufacturers to recall from the market a product that is in violation of governing laws and regulations;
- labeling regulations, which prohibit "misbranded" devices from entering the market, as well as prohibit the promotion of products for unapproved or "off-label" uses and impose other restrictions on labeling; and
- post-market surveillance including Medical Device Reporting, which requires manufacturers report to the FDA if their device may have caused or contributed to a death or serious injury, or malfunctioned in a way that would likely cause or contribute to a death or serious injury if it were to recur.

The FDA enforces these requirements by inspection and market surveillance. Failure to comply with applicable regulatory requirements may result in enforcement action by the FDA, which may include one or more of the following sanctions:

- untitled letters or warning letters;
- customer notifications for repair, replacement or refunds;
- fines, injunctions, consent decrees and civil penalties;
- mandatory recall or seizure of our products;
- administrative detention or banning of our products;
- operating restrictions, partial suspension or total shutdown of production;
- refusing our request for 510(k) clearance or PMA of new product versions;
- revocation of 510(k) clearance or PMAs previously granted; and
- criminal prosecution and penalties.

International regulation

Sales of medical devices outside the United States are subject to foreign government regulations, which vary substantially from country to country. In order to market our products in other countries, we must obtain regulatory approvals and comply with extensive safety and quality regulations in other countries. The time required to obtain approval by a foreign country may be longer or shorter than that required for FDA clearance or approval, and the requirements may differ significantly.

Other healthcare laws

Our current and future business activities are subject to healthcare regulation and enforcement by the federal government and the states and foreign governments in which we conduct our business. These laws include, without limitation, state and federal anti-kickback, fraud and abuse, false claims and physician sunshine laws and regulations.

The federal Anti-Kickback Statute prohibits, among other things, any person from knowingly and willfully offering, soliciting, receiving or providing remuneration, directly or indirectly, overtly or covertly, in cash or in kind, to induce either the referral of an individual, for an item or service or the purchasing, leasing, ordering, or

arranging for or recommending the purchase, lease or order of any good, facility, item or service, for which payment may be made, in whole or in part, under federal healthcare programs such as the Medicare and Medicaid programs. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all its facts and circumstances. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the Anti-Kickback Statute has been violated. In addition, a person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation.

Additionally, the civil False Claims Act prohibits, among other things, knowingly presenting or causing the presentation of a false or fraudulent claim for payment to, or approval by, the U.S. government. In addition to actions initiated by the government itself, the statute authorizes actions to be brought on behalf of the federal government by a private party having knowledge of the alleged fraud. Because the complaint is initially filed under seal, the action may be pending for some time before the defendant is even aware of the action. If the government intervenes and is ultimately successful in obtaining redress in the matter, or if the plaintiff succeeds in obtaining redress without the government's involvement, then the plaintiff will receive a percentage of the recovery. The federal government is using the False Claims Act, and the accompanying threat of significant liability, in its investigation and prosecution of life sciences companies throughout the country, for example, in connection with the promotion of products for unapproved uses and other sales and marketing practices. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act. The government has obtained multi-million and multi-billion dollar settlements under the False Claims Act in addition to individual criminal convictions under applicable criminal statutes. Given the significant size of actual and potential settlements, it is expected that the government will continue to devote substantial resources to investigating healthcare providers' and manufacturers' compliance with applicable fraud and abuse laws.

The civil monetary penalties statute imposes penalties against any person or entity that, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The majority of states also have anti-kickback laws which establish similar prohibitions and, in some cases, may apply to items or services reimbursed by any third-party payor, including commercial insurers.

HIPAA created new federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Like the Anti-Kickback Statute, a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Moreover, the federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to report annually to the Centers for Medicare & Medicaid Services (CMS), information related to payments or other transfers of value made to physicians (defined to include

doctors, dentists, optometrists, podiatrists and chiropractors), and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians (as defined under the statute) and their immediate family members. Beginning in 2022, applicable manufacturers will also be required to report such information regarding payments and transfers of value provided, as well as ownership and investment interests held, during the previous year to physician assistants, nurse practitioners, clinical nurse specialists, certified nurse anesthetists and certified nurse-midwives. The Physician Payments Sunshine Act includes in its reporting requirements a broad range of transfers of value including, but not limited to, consulting fees, speaker honoraria, charitable contributions, research payments and grants. Failure to report could subject companies to significant financial penalties. Tracking and reporting the required payments and transfers of value may result in considerable expense and additional resources. Several states currently have similar laws and more states may enact similar legislation, some of which may be broader in scope. For example, certain states require the implementation of compliance programs, compliance with industry ethics codes, implementation of gift bans and spending limits, and/or reporting of gifts, compensation and other remuneration to healthcare professionals.

The shifting commercial compliance environment and the need to build and maintain robust and expandable systems to comply with different compliance and/or reporting requirements in multiple jurisdictions increase the possibility that a healthcare company may violate one or more of the requirements. If our future operations are found to be in violation of any of such laws or any other governmental regulations that apply to us, we may be subject to significant penalties, including, without limitation, civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, exclusion from participation in federal and state healthcare programs and imprisonment.

Coverage and reimbursement

Sales of our products will depend in large part on the availability of adequate coverage and reimbursement from third-party payors, including government programs such as Medicare and Medicaid, private insurance plans and managed care programs. These third-party payors are increasingly limiting coverage and reducing reimbursement for medical products and services. In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost-containment programs, including price controls and restrictions on coverage and reimbursement. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit our net revenue and results.

Hospitals, clinical laboratories and other healthcare provider customers that may purchase our product candidates, if approved, generally bill various third-party payors to cover all or a portion of the costs and fees associated with diagnostic tests, including the cost of the purchase of our product candidates. If our product candidates are cleared or approved by the FDA as point-of-care tests and deemed CLIA-waived following market authorization, we expect that the majority of our diagnostic tests will be performed in physician offices and other point-of-care settings and billed using existing Current Procedural Terminology (CPT) codes. Our healthcare provider customers may not purchase our tests unless third-party payors cover and provide adequate reimbursement for a substantial portion of the price of the tests. If we are not able to obtain coverage and an acceptable level of reimbursement for our tests from third-party payors, there would typically be a greater co-insurance or co-payment requirement from the patient for whom the test is ordered or the patient may be forced to pay the entire cost of the test out-of-pocket, which could dissuade practitioners from ordering our tests and, if ordered, could result in a delay in or decreased likelihood of collecting payment, whether from patients or from third-party payors. Our customers' access to adequate coverage and reimbursement for our products and/or product candidates by government and private insurance plans is central to the acceptance of our products. We may be unable to sell our products on a profitable basis if third-party payors deny coverage or

reduce their current levels of payment, or if our costs of production increase faster than increases in reimbursement levels.

Healthcare reform

In the United States and foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes to the healthcare system seeking, among other things, to reduce healthcare costs that could affect our future results of operations as we begin to directly commercialize our products.

By way of example, in the United States, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (collectively, the ACA) which was signed into law in March 2010, substantially changed the way healthcare is delivered and financed by both governmental and private insurers. Among other things, the ACA:

- established a new Patient-Centered Outcomes Research Institute to oversee and identify priorities in comparative clinical effectiveness research in an effort to coordinate and develop such research; and
- implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians and other providers to improve the coordination, quality and efficiency of certain healthcare services through bundled payment models.

Since its enactment, there have been judicial and political challenges to certain aspects of the ACA. For example, the Tax Cuts and Jobs Act of 2017 (Tax Act), includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment 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.” On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas (Texas District Court Judge), ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it was repealed as part of the Tax Act, the remaining provisions of the ACA are invalid as well. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit ruled that that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. On March 2, 2020, the U.S. Supreme Court granted the petitions for writs of certiorari to review this case, although it is unclear when or how the Supreme Court will rule. It is also unclear how other efforts to challenge, repeal or replace the ACA will impact the law.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. On August 2, 2011, the Budget Control Act of 2011 was enacted, which, among other things, included aggregate reductions to Medicare 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, with the exception of a temporary suspension from May 1, 2020 through December 31, 2020, unless additional Congressional action is taken. In addition, on January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressure.

Data privacy and security

Numerous state, federal and foreign laws, including consumer protection laws and regulations, govern the collection, dissemination, use, access to, confidentiality and security of personal information, including health-related information. In the United States, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws and regulations 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 partners. For example, HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, and regulations implemented thereunder, imposes privacy, security and breach notification obligations on certain health care providers, health plans, and health care clearinghouses, known as covered entities, as well as their business associates and their subcontractors that perform certain services that involve creating, receiving, maintaining or transmitting individually identifiable health information for or on behalf of such covered entities. Entities that are found to be in violation of HIPAA as the result of a breach of unsecured protected health information (PHI), a complaint about privacy practices or an audit by HHS, may be subject to significant civil, criminal and administrative fines and penalties and/or additional reporting and oversight obligations if required to enter into a resolution agreement and corrective action plan with HHS to settle allegations of HIPAA non-compliance. Further, entities that knowingly obtain, use, or disclose individually identifiable health information maintained by a HIPAA covered entity in a manner that is not authorized or permitted by HIPAA may be subject to criminal penalties.

Further, various states, such as California and Massachusetts, have implemented similar privacy laws and regulations, such as the California Confidentiality of Medical Information Act, that impose restrictive requirements regulating the use and disclosure of health information and other personally identifiable information, and the California Consumer Privacy Act, which came into effect on January 1, 2020, creates new data privacy rights for users. These laws and regulations are not necessarily preempted by HIPAA, particularly if a state affords greater protection to individuals than HIPAA. Where state laws are more protective, we may have to comply with the stricter provisions. In addition to fines and penalties imposed upon violators, some of these state laws also afford private rights of action to individuals who believe their personal information has been misused. The interplay of federal and state laws may be subject to varying interpretations by courts and government agencies, creating complex compliance issues for us and our clients, and potentially exposing us to additional expense, adverse publicity and liability. Further, as regulatory focus on privacy issues continues to increase and laws and regulations concerning the protection of personal information expand and become more complex, these potential risks to our business could intensify. Changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as PHI or personally identifiable information along with increased demands for enhanced data security infrastructure, could greatly increase our costs of providing our services, decrease demand for our services, reduce our revenue and/or subject us to additional risks.

Even when HIPAA does not apply, according to the Federal Trade Commission (FTC), violating consumers' privacy rights or failing to take appropriate steps to keep consumers' personal information secure may constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act. The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards.

In addition, certain state and non-U.S. laws, such as the General Data Protection Regulation (GDPR) govern the privacy and security of health information in certain circumstances, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, thus

complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. For example, California recently enacted legislation, the California Consumer Privacy Act (CCPA), which went into effect January 1, 2020. The CCPA, among other things, creates new data privacy obligations for covered companies and provides new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also creates a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. In Europe, the GDPR went into effect in May 2018 and introduces strict requirements for processing the personal data of individuals within the European Economic Area (EEA). In addition, the GDPR increases the scrutiny of transfers of personal data from clinical trial sites located in the EEA to the United States and other jurisdictions that the European Commission does not recognize as having "adequate" data protection laws. Companies that must comply with the GDPR face increased compliance obligations and risk, including more robust regulatory enforcement of data protection requirements and potential fines for noncompliance of up to €20 million or 4% of the annual global revenues of the noncompliant company, whichever is greater. Additionally, following the United Kingdom's withdrawal from the European Union and the EEA, companies have to comply with the GDPR and the GDPR as incorporated into United Kingdom national law, the latter regime having the ability to separately fine up to the greater of £17.5 million or 4% of global turnover. The relationship between the United Kingdom and the European Union in relation to certain aspects of data protection law remains unclear, for example around how data can lawfully be transferred between each jurisdiction, which may introduce further compliance risk.

Employees and human capital resources

As of September 30, 2020, we had a total of 115 employees, 113 of whom were full-time employees. Our employees are located in Menlo Park, California and other locations inside and outside the United States. None of our employees are represented by any collective bargaining agreements. We believe that we maintain good relations with our employees.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing and integrating our existing and additional employees. The principal purposes of our equity incentive plans are to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards.

Facilities

Our corporate headquarters are located in Menlo Park, California, where we occupy approximately 24,000 square feet of office and laboratory space under a lease that ends in October 2021. We also occupy office space in a number of rooms at a co-working facility in Chicago, Illinois, pursuant to a month-to-month agreement. We believe our existing facilities meet our current needs. We will need additional 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

From time to time, we may become involved in legal proceedings arising in the ordinary course of our business. Regardless of outcome, litigation can have an adverse impact on us due to defense and settlement costs, diversion of management resources, negative publicity, reputational harm and other factors, and there can be no assurances that favorable outcomes will be obtained. We are currently not a party to any material legal proceedings.

Management

The following table sets forth information about our executive officers and directors as of September 30, 2020.

Name	Age	Position(s)
Executive Officers		
Brian Coe	51	Chief Executive Officer and Director
J. Roger Moody, Jr.	53	Chief Financial Officer
Karen E. Flick, J.D., Ph.D.	51	Chief of Staff, Senior Vice President, Legal
Robert Kelley	48	Chief Commercial Officer
Douglas Liu	59	Senior Vice President, Operations
Ramesh Ramakrishnan, Ph.D.	61	Senior Vice President, Research and Development
Non-Employee Directors		
Felix Baker, Ph.D.	51	Director
Raymond Cheong, M.D., Ph.D.	39	Director
Rustem F. Ismagilov, Ph.D.	47	Director
Kim Popovits	61	Director
Matt Posard	53	Director
Randal Scott, Ph.D.	62	Director

(1) Member of the audit committee.

(2) Member of the compensation committee.

(3) Member of the nominating and corporate governance committee.

Executive officers

Brian Coe is one of our co-founders and has served as our Chief Executive Officer and a member of our board of directors since our reorganization into a corporate entity in June 2013. From July 1995 until its acquisition by The Laboratory Corporation of America (LabCorp) in November 2006, Mr. Coe was the co-founder and Chief Executive Officer of Litholink Corporation, a CLIA laboratory focused on kidney stone disease. From November 2006 to August 2012, Mr. Coe was employed by LabCorp, most recently as Senior Vice President. Mr. Coe received a B.A. in Neuroscience and Psychology from Brandeis University and an M.B.A. from the University of Chicago. Our board of directors believes that Mr. Coe's experience as our Chief Executive Officer and expertise in the medical diagnostics field qualify him to serve on our board of directors.

J. Roger Moody, Jr. has served as our Chief Financial Officer since May 2020. From August 2017 to May 2020, Mr. Moody was Chief Financial Officer of Clinical Genomics, Inc., a colorectal cancer diagnostics company. From July 2015 to August 2017, Mr. Moody was Chief Executive Officer and a member of the board of directors of GlySure Limited, a medical device company, and from February 2015 to July 2015 he was Chief Operating Officer of GlySure. Prior to GlySure, Mr. Moody served as the Chief Financial Officer and Vice President of Finance & Administration of Nanosphere, Inc., a publicly held molecular diagnostics platform company, from May 2007 to February 2015. Mr. Moody received a B.S. in Finance from Syracuse University and an M.B.A. from the University of Chicago.

Karen E. Flick, J.D., Ph.D. has served as our Chief of Staff and Senior Vice President, Legal since February 2020. Previously, Dr. Flick served as our Vice President, Legal from April 2019 to February 2020 and as our Intellectual Property Counsel from January 2015 to April 2019. Prior to joining us, Dr. Flick practiced law as a patent attorney from 2002 to December 2014 at several prominent law firms, including Foley & Lardner LLP, Fish & Richardson P.C. and Cooley LLP. Dr. Flick received an A.B. in Biochemistry from Harvard University and a J.D. and a Ph.D. in Biochemistry from the University of California, Berkeley.

Robert Kelley has served as our Chief Commercial Officer since September 2020. From October 2017 to August 2020, Mr. Kelley was Vice President, Sales and Commercial Development of Genalyte, Inc., a healthcare analytics and point-of-care diagnostics company. Prior to Genalyte, Mr. Kelley was Vice President, Marketing of Cardiff Oncology, Inc. (formerly Trovagene, Inc.), a publicly held liquid biopsy company (Cardiff), from March 2015 to May 2017. From December 2008 to March 2015, Mr. Kelley held various positions of increasing responsibility with Illumina Inc., a publicly held biotechnology company (Illumina), including Global Sales Manager for clinical applications of NGS and Director, Market Development, New and Emerging Opportunities. Mr. Kelley received a B.S. in Biology from Duke University and an M.B.A. from the UCLA Anderson School of Management.

Douglas Liu has served as our Senior Vice President, Operations since September 2020. From July 2005 to September 2020, Mr. Liu was Senior Vice President, Global Operations at QIAGEN N.V., a publicly held biotechnology company. From July 1996 to July 2005, Mr. Liu was Director of Operations at Bayer AG, a publicly held pharmaceutical company. Prior to Bayer AG, Mr. Liu served as Project Manager, Research and Development at Abbott Laboratories, a publicly held medical device and healthcare company, from May 1986 to July 1996. Mr. Liu received a B.S. in Agriculture from the University of Illinois at Urbana-Champaign and an M.B.A. from Boston University.

Ramesh Ramakrishnan, Ph.D. has served as our Senior Vice President, Research and Development since May 2019. From August 2017 to March 2019, Dr. Ramakrishnan was Senior Vice President, Research and Development at Dovetail Genomics LLC, a genomics company. From January 2005 to August 2017, Dr. Ramakrishnan held various positions of increasing responsibility with Fluidigm Corporation, a publicly held biological research equipment company, most recently as Executive Vice President of Research and Development. Dr. Ramakrishnan received a B.Sc. from National College in Bangalore, an M.S. from the University of Baroda in India and, as a Fulbright Scholar, a Ph.D. in Zoology from the University of Poona, India and Georgetown University. Dr. Ramakrishnan completed his molecular biology postdoctoral work in the human genetics department at the University of Michigan, Ann Arbor.

Non-employee directors

Felix Baker, Ph.D. has served as a member of our board of directors since June 2013. Dr. Baker is a Managing Member of Baker Bros. Advisors LP. (Baker Bros.). Dr. Baker and his brother, Julian C. Baker, started their fund management careers in 1994 when they co-founded a biotechnology investing partnership with the Tisch Family. In 2000, they founded Baker Bros. Dr. Baker has served on the board of directors of Seagen, Inc. (previously Seattle Genetics, Inc.) since July 2003, Alexion Pharmaceuticals, Inc. since June 2015, Kodiak Sciences, Inc. since September 2015 and Kiniksa Pharmaceuticals, Ltd. since October 2015. From July 2012 to November 2019, Dr. Baker also served on the board of directors of Genomic Health, Inc., a publicly held genetic research company, and from October 2000 to June 2015 served on the board of directors of Synageva BioPharma Corp., a former publicly held biopharmaceutical company. Dr. Baker received a B.S. and a Ph.D. in Immunology from Stanford University, where he also completed two years of medical school. Our board of directors believes Dr. Baker's extensive experience in the biotechnology industry and experience working with and serving on the boards of directors of public companies qualify him to serve on our board of directors.

Raymond Cheong, M.D., Ph.D. has served on our board of directors since June 2020. Dr. Cheong is a Principal at Baker Bros., where he has worked since 2013. Dr. Cheong has also served on the board of directors of Istari Oncology, Inc., a biotechnology company focused on immuno-oncology and immunotherapy platforms, since December 2018. Dr. Cheong received a B.S. in Chemical Engineering from the University of Maryland, College Park, and an M.D. and a Ph.D. in Biomedical Engineering from Johns Hopkins University, where he was awarded the Michael A. Shanoff Award for best thesis research. Our board of directors believes Dr. Cheong's scientific and medical background and experience in the biotechnology industry qualify him to serve on our board of directors.

Rustem F. Ismagilov, Ph.D. is one of our co-founders and has served on our board of directors since June 2013. Dr. Ismagilov is a Professor of Chemistry and Chemical Engineering and the Director of the Jacobs Institute for Molecular Engineering for Medicine at the California Institute of Technology, where he has been employed since July 2011. From July 2001 to June 2011, Dr. Ismagilov held various positions of increasing responsibility at the University of Chicago, including as a Professor in the Department of Chemistry. Dr. Ismagilov received a B.S. from the Russian Academy of Sciences and a Ph.D. from the University of Wisconsin, Madison. Our board of directors believes Dr. Ismagilov's experience as one of our co-founders, as well has his deep scientific expertise, qualify him to serve on our board of directors.

Kimberly J. Popovits has served on our board of directors since March 2020. Ms. Popovits served as President and Chief Executive Officer of Genomic Health from January 2009, and as Chair of the board of directors from March 2012, until its acquisition by Exact Sciences Corporation in November 2019. Ms. Popovits has served on the board of directors of 10x Genomics, Inc., a public biotechnology company, since March 2020, Kiniksa Pharmaceuticals, a public biopharmaceutical company, since February 2018 and MyoKardia, Inc., a public clinical-stage biopharmaceutical company, since March 2017. Ms. Popovits also served on the board of directors of ZS Pharma Inc., a public biopharmaceutical company. Ms. Popovits received a B.A. in Business from Michigan State University. Our board of directors believes Ms. Popovits' significant leadership, operations and commercial experience qualify her to serve on our board of directors.

Matthew L. Posard has served on our board of directors since March 2016. Mr. Posard is a Founding Principal at Explore-DNA, Inc., a life sciences and diagnostics consulting firm, a position he has held since March 2016. Mr. Posard served as President and Chief Commercial Officer of GenePeeks, Inc., a genetic research company, from February 2017 to April 2018 and as Executive Vice President and Chief Commercial Officer of Cardiff from March 2015 to May 2016. Mr. Posard also held various executive roles at Illumina from February 2006 to February 2015, including most recently as Senior Vice President, General Manager of New and Emerging Markets. Mr. Posard has served on the board of directors of Halozyme Therapeutics, Inc. since March 2013, DermTech, Inc. since July 2016, and Nautilus Biotechnology, Inc. since January 2019. Mr. Posard has also served as the Executive Chair of both Stemson Therapeutics, LLC since March 2019 and GALT, Inc. since February 2020. Mr. Posard received a B.A. in Management Science from the University of California, San Diego. Our board of directors believes Mr. Posard's extensive experience as an executive and director of multiple biotechnology companies qualify him to serve on our board of directors.

Randal Scott, Ph.D. has served on our board of directors since February 2016. Dr. Scott is a co-founder and Chair of the board of directors of Genome Medical, Inc., a genomic medicine company founded in August 2016. Previously, Dr. Scott was a co-founder of Invitae Corporation, a publicly held genetic information company, where he served as Chair of the board of directors and Chief Executive Officer from August 2012 to January 2017 and Executive Chair from January 2017 to August 2019. Prior to Invitae, Dr. Scott co-founded Genomic Health, where he served as Chair of the board of directors and Chief Executive Officer from August 2000 to 2009 and Executive Chair from 2009 to August 2012. Dr. Scott has also served on the board of directors of BridgeBio Pharma, Inc., a publicly held genetic disease-focused company, since June 2020 and Freenome Holdings, Inc., a private health technology company, since December 2017. Dr. Scott received a B.S. in Chemistry from Emporia

State University and a Ph.D. in Biochemistry from the University of Kansas. Our board of directors believes Dr. Scott's extensive experience building and leading successful biopharmaceutical companies qualify him to serve on our board of directors.

Board composition

Our business and affairs are organized under the direction of our board of directors, which currently consists of seven members. 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 on an ad hoc basis as required.

Our board of directors has determined that all of our directors other than Mr. Coe, Dr. Baker, Dr. Cheong and Dr. Ismagilov are independent directors, as defined by Rule 5605(a)(2) of the Nasdaq Stock Market (Nasdaq) Listing Rules.

In accordance with the terms of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to and upon the completion of this offering, respectively, we will divide our board of directors into three classes, as follows:

- Class I, which will consist of , and , whose terms will expire at our first annual meeting of stockholders following this offering;
- Class II, which will consist of and , whose terms will expire at our second annual meeting of stockholders following this offering; and
- Class III, which will consist of and , whose terms will expire at our third annual meeting of stockholders following this offering.

At each annual meeting of stockholders to be held after the initial classification, the successors to directors whose terms then expire will serve until the third annual meeting following their election and until their successors are duly elected and qualified. The authorized size of our board of directors is currently seven members. The authorized number of directors may be changed only by resolution of our board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed between the three classes so that, as nearly as possible, each class will consist of one-third of the directors. This classification of our board of directors may have the effect of delaying or preventing changes in our control or management. Our directors may be removed for cause by the affirmative vote of the holders of at least % of our voting stock.

Nominating agreement

On November 1, 2019, we entered into a nominating agreement (Nominating Agreement), with Baker Brothers Life Sciences, L.P. and 667, L.P. (together, Baker Brothers). Pursuant to the Nominating Agreement, during the period beginning at the closing of this offering until when Baker Brothers no longer beneficially owns at least 76,034,504 shares (subject to adjustment for stock splits, combinations, recapitalizations and similar transactions) of our common stock (Initial Period), we will have the obligation to support the nomination of, and to cause our board of directors to include in the slate of nominees recommended to our stockholders for election, two individuals designated by Baker Brothers (each, a Baker Designee) and during the period beginning at the closing of this offering until when Baker Brothers no longer beneficially owns at least 28,512,939 shares (subject to adjustment for stock splits, combinations, recapitalizations and similar transactions) of our common stock (together with the Initial Period, the Nominating Period), we will have the obligation to support the nomination of, and to cause our board of directors to include in the slate of nominees

recommended to our stockholders for election one Baker Designee, unless a majority of our disinterested directors reasonably and in good faith determines that such Baker Designee would not be qualified to serve as our director under law, rules of the stock exchange on which our shares are listed, our amended and restated bylaws, or any of our company policies. In such case, we would notify Baker Brothers sufficiently in advance of the date on which the proxy materials related to such Baker Designee are to be mailed to enable Baker Brothers to propose a replacement Baker Designee. If a Baker Designee resigns his or her seat on our board of directors or is removed or does not become a director for any reason, the vacancy will be filled by the election or appointment of another Baker Designee as soon as reasonably practicable, subject to compliance with applicable laws, rules and regulations. Furthermore, during the Nominating Period, we will have the obligation to invite one board of directors observer designee of Baker Brothers, to attend all meetings of our board of directors and all meetings of the committees of our board of directors as a nonvoting observer. The Nominating Agreement automatically terminates upon the earlier of when Baker Brothers, together with its affiliates, no longer beneficially owns at least 19,008,626 shares (subject to adjustment for stock splits, combinations, recapitalizations and similar transactions) of our common stock or the consummation of our acquisition in a change of control transaction as such terms are defined in our amended and restated certificate of incorporation, or upon mutual consent of the parties.

Board leadership structure

Our board of directors is currently chaired by , who has authority, among other things, to call and preside over board of directors meetings, to set meeting agendas and to determine materials to be distributed to the board of directors. Accordingly, the Chairman has substantial ability to shape the work of the board of directors. We believe that separation of the positions of Chairman and Chief Executive Officer reinforces the independence of the board of directors in its oversight of our business and affairs. In addition, we have a separate chair for each committee of our board of directors. The chair of each committee is expected to report annually to our board of directors on the activities of their committee in fulfilling their responsibilities as detailed in their respective charters or specify any shortcomings should that be the case.

Role of the board in risk oversight

The audit committee of our board of directors is primarily responsible for overseeing our risk management processes on behalf of our board of directors. Going forward, we expect that the audit committee will receive reports from management at least quarterly regarding our assessment of risks. In addition, the audit committee reports regularly to our board of directors, which also considers our risk profile. The audit committee and our board of directors focus on the most significant risks we face and our general risk management strategies. While our board of directors oversees our risk management, management is responsible for day-to-day risk management processes. Our board of directors expects management to consider risk and risk management in each business decision, to proactively develop and monitor risk management strategies and processes for day-to-day activities and to effectively implement risk management strategies adopted by the audit committee and our board of directors. We believe this division of responsibilities is the most effective approach for addressing the risks we face and that our board of directors' leadership structure, which also emphasizes the independence of our board of directors in its oversight of its business and affairs, supports this approach.

Board committees

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee.

Audit committee

Our audit committee consists of , and . Our board of directors has determined that each of and satisfy the listing standards of Nasdaq and SEC independence requirements. serves as the chair of our audit committee. We intend to comply with the listing requirement of Nasdaq regarding the composition of our audit committee within the transition period for newly public companies. is not "independent" due to , and we are relying on the phase-in schedules set forth in Nasdaq listing rule 5615(b)(1) with respect to 's service on the audit committee. The functions of this committee include, among other things:

- evaluating the performance, independence and qualifications of our independent registered public accounting firm and determining whether to retain our existing independent registered public accounting firm or engage a new independent registered public accounting firm;
- reviewing and approving the engagement of our independent registered public accounting firm to perform audit services and any permissible non-audit services;
- monitoring the rotation of partners of our independent registered public accounting firm on our engagement team as required by law;
- prior to engagement of any independent auditor, and at least annually thereafter, reviewing relationships that may reasonably be thought to bear on their independence, and assessing and otherwise taking the appropriate action to oversee the independence of our independent auditor;
- reviewing our annual and quarterly financial statements and reports, including the disclosures contained under the caption "Management's discussion and analysis of financial condition and results of operations," and discussing the statements and reports with our independent registered public accounting firm and management;
- reviewing, with our independent registered public accounting firm and management, significant issues that arise regarding accounting principles and financial statement presentation and matters concerning the scope, adequacy and effectiveness of our financial controls;
- reviewing with management and our independent registered public accounting firm any earnings announcements and other public announcements regarding material developments;
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters and other matters;
- preparing the report that the SEC requires in our annual proxy statement;
- reviewing and providing oversight of any related-person transactions in accordance with our related person transaction policy and reviewing and monitoring compliance with legal and regulatory responsibilities, including our code of business conduct and ethics;
- reviewing our major financial risk exposures, including the guidelines and policies to govern the process by which risk assessment and risk management are implemented;
- reviewing related person transactions;
- reviewing on a periodic basis our investment policy; and
- reviewing and evaluating on an annual basis the performance of the audit committee and the audit committee charter.

Our board of directors has determined that qualifies as an audit committee financial expert within the meaning of SEC regulations and meets the financial sophistication requirements of the Nasdaq Listing Rules. In making this determination, our board has considered prior experience, business acumen and independence. Both our independent registered public accounting firm and management periodically meet privately with our audit committee.

We believe that the composition and functioning of our audit committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Compensation committee

Our compensation committee consists of , and . The chair of our compensation committee is . Our board of directors has determined that each of and is independent under the listing standards of Nasdaq and a "non-employee director" as defined in Rule 16b-3 promulgated under the Securities Exchange Act of 1934 (Exchange Act). is not "independent" due to and we are relying on the phase-in schedules set forth in Nasdaq listing rule 5615(b)(1) with respect to 's service on the compensation committee. We are permitted to phase in our compliance with the independent compensation committee requirements set forth by Nasdaq listing standards as follows: (1) one independent member at the time of listing, (2) a majority of independent members within 90 days of listing and (3) all independent members within one year of listing. We intend to comply with the listing requirement of Nasdaq regarding the composition of our compensation committee within the transition period for newly public companies. Within one year of our listing on The Nasdaq Global Market, we expect that will have resigned from our compensation committee and that each new director added to the compensation committee will be independent under Nasdaq listing rules and a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act.

The functions of this committee include, among other things:

- reviewing, modifying and approving (or if it deems appropriate, making recommendations to the full board of directors regarding) our overall compensation strategy and policies;
- reviewing and making recommendations to the full board of directors regarding the compensation and other terms of employment of our executive officers;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full board of directors regarding) performance goals and objectives relevant to the compensation of our executive officers and assessing their performance against these goals and objectives;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full board of directors regarding) the equity incentive plans, compensation plans and similar programs advisable for us, as well as modifying, amending or terminating existing plans and programs;
- evaluating risks associated with our compensation policies and practices and assessing whether risks arising from our compensation policies and practices for our employees are reasonably likely to have a material adverse effect on us;
- reviewing and making recommendations to the full board of directors regarding the type and amount of compensation to be paid or awarded to our non-employee board members;
- establishing policies with respect to votes by our stockholders to approve executive compensation as required by Section 14A of the Exchange Act and determining our recommendations regarding the frequency of advisory votes on executive compensation, to the extent required by law;

- reviewing and assessing the independence of compensation consultants, legal counsel and other advisors as required by Section 10C of the Exchange Act;
- administering our equity incentive plans;
- establishing policies with respect to equity compensation arrangements;
- reviewing the competitiveness of our executive compensation programs and evaluating the effectiveness of our compensation policy and strategy in achieving expected benefits to us;
- reviewing and making recommendations to the full board of directors regarding the terms of any employment agreements, severance arrangements, change in control protections and any other compensatory arrangements for our executive officers;
- reviewing with management and approving our disclosures under the caption "Compensation discussion and analysis" in our periodic reports or proxy statements to be filed with the SEC, to the extent such caption is included in any such report or proxy statement;
- preparing the report that the SEC requires in our annual proxy statement; and
- reviewing and assessing on an annual basis the performance of the compensation committee and the compensation committee charter.

We believe that the composition and functioning of our compensation committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Nominating and corporate governance committee

Our nominating and corporate governance committee consists of , and . serves as the chair of our nominating and corporate governance committee. Our board of directors has determined that is "independent" as defined under the applicable Nasdaq listing standards and SEC rules and regulations. is not "independent" due to and we are relying on the phase-in schedules set forth in Nasdaq listing rule 5615(b)(1) with respect to 's service on the nominating and corporate governance committee. We are permitted to phase in our compliance with the independent nominating and corporate governance committee requirements set forth by the Nasdaq listing standards as follows: (1) one independent member at the time of listing, (2) a majority of independent members within 90 days of listing and (3) all independent members within one year of listing. Within one year of our listing on The Nasdaq Global Market, we expect that will have resigned from our nominating and corporate governance committee and that any new directors added to the nominating and corporate governance committee will be independent under Nasdaq listing rules.

The functions of this committee include, among other things:

- identifying, reviewing and evaluating candidates to serve on our board of directors consistent with criteria approved by our board of directors;
- determining the minimum qualifications for service on our board of directors;
- evaluating director performance on the board and applicable committees of the board and determining whether continued service on our board is appropriate;
- evaluating, nominating and recommending individuals for membership on our board of directors;

- evaluating nominations by stockholders of candidates for election to our board of directors;
- considering and assessing the independence of members of our board of directors;
- developing a set of corporate governance policies and principles, including a code of business conduct and ethics, periodically reviewing and assessing these policies and principles and their application and recommending to our board of directors any changes to such policies and principles;
- considering questions of possible conflicts of interest of directors as such questions arise; and
- reviewing and assessing on an annual basis the performance of the nominating and corporate governance committee and the nominating and corporate governance committee charter.

We believe that the composition and functioning of our nominating and corporate governance committee complies with all applicable requirements of the Sarbanes-Oxley Act, and all applicable SEC and Nasdaq rules and regulations. We intend to comply with future requirements to the extent they become applicable to us.

Compensation committee interlocks and insider participation

None of our current or former executive officers serve as a member of the compensation committee. None of our officers serve, or have served during the last completed fiscal year, on the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more of its executive officers serving as a member of our board of directors or our compensation committee. Prior to establishing the compensation committee, our full board of directors made decisions relating to compensation of our officers. For a description of transactions between us and members of our compensation committee and affiliates of such members, please see “Certain relationships and related person transactions.”

Code of business conduct and ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or person performing similar functions. Following this offering, a current copy of the code will be available on the Corporate Governance section of our website, http://talis.bio.

Limitation of liability and indemnification

Our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, limits the liability of directors to the maximum extent permitted by Delaware law. Delaware law allows a corporation to eliminate the personal liability of directors of a corporation to the corporation and its stockholders for monetary damages for breach of their fiduciary duties as directors, except for liability for any:

- breach of his or her duty of loyalty to the corporation or its stockholders;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- transaction from which the director derived an improper personal benefit.

Our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, does not eliminate a director’s duty of care and, in appropriate circumstances,

equitable remedies, such as injunctive or other forms of non-monetary relief, will remain available under Delaware law. These limitations also do not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Our amended and restated bylaws, which will become effective upon the completion of this offering, provide that we will indemnify our directors and executive officers and may indemnify other officers, employees and other agents, to the fullest extent permitted by law. Our amended and restated bylaws, which will become effective upon the completion of this offering, also provide that we are obligated to advance expenses incurred by a director or officer in advance of the final disposition of any action or proceeding and also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our amended and restated bylaws permit such indemnification. We have obtained a policy of directors' and officers' liability insurance.

We have entered, and intend to continue to enter, into separate indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our amended and restated bylaws. These agreements, among other things, will require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of our directors or executive officers or any other company or enterprise to which the person provides services at our request. We believe that these bylaw provisions and indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may be harmed to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

We believe that these provisions in our amended and restated certificate of incorporation and amended and restated bylaws and these indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

Except as otherwise disclosed under the heading "Legal proceedings" in the "Business" section of this prospectus, at present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Executive and director compensation

The following table summarizes information regarding the compensation awarded to, earned by, or paid to our principal executive officer and our two other most highly compensated executive officers during 2019, who we refer to in this prospectus as our named executive officers. Brian Coe, our Chief Executive Officer, Ramesh Ramakrishnan, Ph.D., our Senior Vice President, Research and Development and Martin Goldberg, Ph.D., our former Senior Vice President, Operations were our only executive officers during the year ended December 31, 2019 and accordingly, are our only named executive officers for the year ended December 31, 2019. Dr. Goldberg served as our Senior Vice President, Research and Development until May 2019, when he transitioned to Senior Vice President, Operations until his resignation in January 2020. Dr. Ramakrishnan commenced employment with us as our Senior Vice President, Research and Development in May 2019.

In February 2020, we promoted Karen E. Flick to the position of Chief of Staff, Senior Vice President, Legal, and in May 2020, J. Roger Moody, Jr. commenced employment as our Chief Financial Officer. Although each of Dr. Flick and Mr. Moody were not named executive officers for 2019, we have included information in the following narrative regarding their compensation where it may be material to an understanding of our executive compensation program.

2019 summary compensation table

The following table sets forth information regarding compensation earned with respect to the fiscal year ended December 31, 2019 by our named executive officers.

Name and principal position	Year	Salary ($)	Bonus ($)(1)	Option awards ($)(2)	All other compensation ($)(3)	Total ($)
Brian Coe *Chief Executive Officer*	2019	340,000	136,000	—	16,081	492,081
Ramesh Ramakrishnan, Ph.D. *Senior Vice President, Research and Development(4)*	2019	190,000	57,156	248,704	8,415	504,275
Martin Goldberg, Ph.D. *Former Senior Vice President, Research and Development(5)*	2019	321,893	97,537	—	17,433	436,863

(1) Amount shown represents the cash bonus amount earned by the applicable named executive officer for 2019 performance and paid in 2020. For more information, see "—Bonus opportunity" below.

(2) In accordance with Securities and Exchange Commission rules, this column reflects the aggregate grant date fair value of the stock option awards granted during 2019. This amount has been computed in accordance with Financial Accounting Standards Board, Accounting Standards Codification Topic 718, *Compensation—Stock Compensation*. Assumptions used in the calculation of this amount are described in Note 10 to our audited financial statements and notes appearing elsewhere in this prospectus. This amount does not reflect the actual economic value that will be realized by Dr. Ramakrishnan upon the vesting of the stock options, the exercise of the stock options, or the sale of the common stock underlying such stock options.

(3) Amounts shown represent the following: (a) for Mr. Coe, $15,280 for 401(k) matching contributions in 2019 and $800 in life insurance premiums paid on behalf of Mr. Coe, (b) for Dr. Ramakrishnan, $7,175 for 401(k) matching contributions in 2019 and $1,241 in life insurance premiums paid on behalf of Dr. Ramakrishnan, and (c) for Dr. Goldberg, $15,255 for 401(k) matching contributions in 2019 and $2,178 in life insurance premiums paid on behalf of Dr. Goldberg.

(4) Dr. Ramakrishnan commenced employment as our Senior Vice President, Research and Development in May 2019.

(5) Dr. Goldberg resigned from employment with us in January 2020.

Narrative to the summary compensation table

Annual base salary

The base salary of our executive officers is generally determined and approved by our board of directors in connection with the commencement of employment of the executive officer and may be adjusted from time to time thereafter as the board of directors determines appropriate. The 2019 annual base salary for Mr. Coe, Dr. Ramakrishnan and Dr. Goldberg was $340,000, $285,000 and $325,012, respectively. Effective May 26, 2020, Mr. Coe's annual base salary was increased to $375,000 and effective April 1, 2020, Dr. Ramakrishnan's annual base salary was increased to $296,400.

Dr. Flick's annual base salary was increased to $330,000 in February 2020 in connection with her promotion. Mr. Moody's current annual base salary of $360,000 was determined in connection with his commencement of employment with us in May 2020.

Bonus opportunity

In addition to base salaries, each of our executive officers is eligible to receive annual cash bonuses, which are designed to provide appropriate incentives to our executive officers to achieve defined annual corporate goals and to reward our executive officers for their individual achievements. The annual bonus awarded to each executive officer may be based in part on the extent to which we achieve corporate goals. At the end of the year, our board of directors reviews our performance against each corporate goal and considers the extent to which we achieved each of our corporate goals.

There is no minimum bonus percentage or amount established for our named executive officer or other executive officers and, as a result, the bonus amounts vary from year to year based on corporate and, when applicable, individual performance.

For 2019, each of Mr. Coe, Dr. Ramakrishnan and Dr. Goldberg was eligible for a target bonus equal to 40%, 30% and 30% of base salary, respectively. After consideration of our corporate goals, each of Mr. Coe, Dr. Ramakrishnan and Dr. Goldberg earned a 2019 annual cash bonus in the amount of $136,000, $57,156 and $97,537, respectively, which were paid in cash in 2020.

For 2020, the target bonus percentages for Mr. Coe, Dr. Ramakrishnan, Dr. Flick and Mr. Moody are 40%, 30%, 30% and 40% of base salary, respectively.

Equity-based incentive awards

Our equity-based incentive awards are designed to align our executive officers' interests with those of our stockholders and to retain and incentivize our executive officers over the long-term. Our board of directors is responsible for approving equity grants. Vesting of equity awards is generally tied to continuous service with us and serves as an additional retention measure. Our executive officers generally are awarded an initial new hire grant upon commencement of employment. Additional grants may occur periodically in order to specifically incentivize our executive officers with respect to achieving certain corporate goals or to reward our executive officers for exceptional performance.

Prior to this offering, we have granted all equity awards pursuant to the 2013 Plan, the terms of which are described below under "—Equity benefit plans." All options are granted with a per share exercise price equal to no less than the fair market value of a share of our common stock on the date of the grant of such award. Generally our option awards vest over a four-year period subject to the holder's continuous service to us, as further described under "—Outstanding equity awards at fiscal year end" below.

In May 2019, our board of directors granted an option to purchase 25,000 shares to Dr. Ramakrishnan in connection with Dr. Ramakrishnan's commencement of employment with us. The option had an exercise price per share of $13.07 and vests as follows: 25% of the shares vest on May 1, 2020, and the balance vests in 36 equal monthly installments thereafter, subject to Dr. Ramakrishnan's continued services to us. In addition, the option provides for "double trigger" vesting acceleration if upon or within 12 months following a change in control of the company Dr. Ramakrishnan experiences an involuntary termination without cause (and not due to death or disability) or a voluntary termination with good reason. Dr. Ramakrishnan's May 2019 option was repriced in March 2020, as described below.

We did not grant any equity awards to Mr. Coe or Dr. Goldberg in 2019.

In February 2020, our board of directors granted options to purchase 1,169,000 shares to Mr. Coe, 215,000 shares to Dr. Ramakrishnan and 215,000 shares to Dr. Flick, each with an exercise price per share of $1.05. The options vest monthly over four years beginning on November 1, 2019, subject to the executive officer's continued services to us. In addition, the options provide for "double trigger" vesting acceleration, as described above. In February 2020, our board of directors also granted Mr. Coe an option to purchase 346,000 shares at an exercise price per share of $1.05; the option was most recently amended in October 2020 and vests in full upon the first commercial sale of the company's first product, subject to Mr. Coe's continued services to us.

In addition, in March 2020, we amended certain outstanding options, including options held by Mr. Coe, Dr. Ramakrishnan and Dr. Flick, which were "underwater," meaning the exercise price per share of these options was greater than the current fair market value of our common stock. The amendment reduced the exercise price per share of such options to $1.05, the fair market value of our common stock as determined by our board of directors on the date of the repricing. We believe that repricing these underwater options was important for the growth and development of our business in order to provide appropriate retention and motivation incentives for our employees holding these options. Mr. Coe's and Dr. Ramakrishnan's repriced options are further discussed below under "—Outstanding equity awards at fiscal year end."

In May 2020, our board of directors granted an option to purchase 433,000 shares to Mr. Moody in connection with his commencement of employment with us. The option has an exercise price per share of $1.05 and vests as follows: 25% of the shares vest on May 4, 2021, and the balance vests in 36 equal monthly installments thereafter, subject to Mr. Moody's continued services to us. The option also provides for "double trigger" vesting acceleration, as described above.

In August 2020, our board of directors granted options to purchase 840,308 shares to Mr. Coe, 116,593 shares to Dr. Ramakrishnan, 192,758 shares to Dr. Flick and 210,354 shares to Mr. Moody, each with an exercise price per share of $4.37. The options vest as follows: 25% of the shares vest on August 4, 2021, and the balance vests in 36 equal monthly installments thereafter, subject to the executive officer's continued services to us. In addition, the options provide for "double trigger" vesting acceleration, as described above.

Employment agreements with our executive officers

We do not currently maintain a written employment agreement or offer letter agreement with Mr. Coe.

We entered into an offer letter with Dr. Ramakrishnan in April 2019 that provides for his initial base salary and annual target bonus and initial stock option grant, each as described above under "—Annual base salary," "—Bonus opportunity" and "—Equity-based incentive awards."

We entered into an offer letter with Dr. Goldberg in February 2014 that provided for his initial base salary, which was subsequently increased, most recently to the amount described above under "—Annual base salary," an annual target bonus as described under "—Bonus opportunity" and an initial stock option grant to purchase 197,500 shares, which was granted in April 2014.

We entered into an offer letter with Dr. Flick in December 2014 when she first joined us as IP Counsel that provided for an initial base salary, annual target bonus and an initial stock option grant. Dr. Flick's base salary and target bonus have been subsequently increased to the amount described above under "—Annual base salary" and "—Bonus opportunity."

We entered into an offer letter with Mr. Moody in April 2020 which provides for his initial base salary and annual target bonus and initial stock option grant, each as described above under "—Annual base salary," "—Bonus opportunity" and "—Equity-based incentive awards." In addition, the offer letter provides for the grant of an additional option to purchase 208,000 shares based on certain financing conditions, which did not occur. Instead, Mr. Moody was granted a stock option in August 2020 as described above under "—Equity-based incentive awards." Mr. Moody's offer letter also provides for certain severance benefits, as described below under "—Potential payments upon termination or change in control."

Each of our current executive officer's employment is "at will" and may be terminated by us at any time. For a discussion of the severance and other benefits to be provided in connection with a termination of employment and/or a change in control under the arrangements with our named executive officers, Dr. Flick and Mr. Moody, please see "—Potential payments upon termination or change in control" below.

Potential payments upon termination or change in control

Regardless of the manner in which service terminates, each of our executive officers is entitled to receive amounts earned during his or her term of service, including unpaid salary and unused vacation, as applicable.

Pursuant to Mr. Moody's offer letter, if we terminate Mr. Moody's employment without cause, he will be entitled to receive a grossed up severance payment equal to six months of his base salary, plus his accrued target bonus as of his termination date (but not less six months of target bonus), plus the cost of COBRA for six months, that will be paid within one month of his termination. If Mr. Moody's employment is terminated without cause within 12 months of a change of control in which we are acquired by another company, Mr. Moody will instead be entitled to a grossed up severance payment equal to 12 months of his base salary, plus his accrued target bonus as of his termination date, plus the cost of COBRA for 12 months, that will be paid within one month of his termination. However, if a change in control occurs and Mr. Moody becomes employed by the acquirer, then all ongoing severance obligations under his offer letter will terminate.

Dr. Goldberg was not entitled to, and did not receive, any severance payments or benefits in connection with his cessation of services with us in January 2020.

Each of Mr. Coe, Dr. Ramakrishnan, Dr. Flick and Mr. Moody hold options that were granted subject to the terms of our 2013 Plan. A description of the termination and change in control provisions in our 2013 Plan and applicable to the options granted to our executive officers is provided below under "—Equity benefit plans" and, with respect to our named executive officers, "—Outstanding equity awards at fiscal year end" and above under "—Equity-based incentive awards." In addition, all of Mr. Coe's, Dr. Ramakrishnan's, Dr. Flick's and Mr. Moody's time-vesting option grants (including the repriced awards) provide for "double trigger" acceleration as described above under "—Equity-based incentive awards." Dr. Goldberg no longer holds any outstanding options as a result of his cessation of services in January 2020.

Outstanding equity awards at fiscal year end

The following table sets forth certain information regarding equity awards granted to our named executive officers that remain outstanding as of December 31, 2019.

		Option awards(1)			
	Vesting commencement date	Number of securities underlying unexercised options exercisable (#)	Number of securities underlying unexercised options unexercisable (#)	Option exercise price ($)(2)(3)	Option expiration date
Brian Coe	7/1/2013	72,416	—	5.00	12/18/2023
	7/30/2015	47,583	—	10.90	7/29/2025
	8/1/2017	20,160	14,400	12.00	7/11/2027
	5/1/2018	4,022	6,139	12.40	5/20/2028
	10/1/2018	14,583	35,417	12.40	11/4/2028
Ramesh Ramakrishnan, Ph.D	5/1/2019	—	25,000	13.70	5/21/2029
Martin Goldberg, Ph.D	4/1/2014	16,750	—	5.00	3/31/2024(4)
	7/30/2015	6,912	—	10.90	7/29/2025(4)
	8/1/2017	2,916	2,084	12.00	7/11/2027(4)
	10/1/2018	1,761	4,280	12.40	11/4/2028(4)

(1) All of the option awards were granted under the 2013 Plan, the terms of which plan are described below under "—Equity benefit plans."

(2) Each option vests as follows: 25% of the shares subject to the option vest on the 12-month anniversary of the vesting commencement date, and the balance of the shares vest in 36 equal monthly installments over the next three years, subject to the executive officer's continued services to us, and with respect to Mr. Coe's and Dr. Ramakrishnan's options, subject to full vesting acceleration, if a change in control occurs and the executive officer's continuous service terminates due to an involuntary termination (not including death or disability) without cause or due to a voluntary termination with good reason as of or within 12 months after such change in control, then the vesting and exercisability of the option will be accelerated in full.

(3) Reflects the option exercise price per share in place as of December 31, 2019. Each of Mr. Coe's and Dr. Ramakrishnan's options were amended in March 2020 to reduce the exercise price per share to $1.05, as described above under "—Equity-based incentive awards."

(4) As a result of Dr. Goldberg's resignation in January 2020, these options terminated on April 10, 2020.

Perquisites, health, welfare and retirement benefits

Each of our executive officers are eligible to participate in our employee benefit plans, including our medical, dental, vision, life, long term disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of our other employees. We pay the premiums for the life, disability, accidental death and dismemberment insurance for all of our employees. In addition, we provide the opportunity to participate in a 401(k) plan to our employees, including each of our executive officers, as discussed in the section below entitled "—401(k) plan."

401(k) plan

We maintain a defined contribution employee retirement plan (401(k) plan), for our employees. Our executive officers are each eligible to participate in the 401(k) plan on the same basis as our other employees. The 401(k) plan is intended to qualify as a tax-qualified plan under Section 401(k) of the U.S. Internal Revenue Code of 1986, as amended (Code). The 401(k) plan provides that each participant may contribute up to the lesser of 100% of his or her compensation or the statutory limit, which is $19,000 and $19,500 for calendar years 2019 and 2020, respectively. Participants that are 50 years or older can also make "catch-up" contributions, which in calendar years 2019 and 2020 may be up to an additional $6,000 and $6,500, respectively, above the statutory

limit. Participant contributions are held and invested, pursuant to the participant's instructions, by the plan's trustee. We provide an automatic matching contribution as follows: one-for-one with respect to the first 3% of an employee's contributions, and 50 cents on the dollar for the next 2% of the employee's contributions, up to a maximum company match of 4%. We may also elect to provide for discretionary profit sharing contributions, but we did not provide any such contributions in 2019. In general, eligible compensation for purposes of the 401(k) plan includes an employee's earnings reportable on IRS Form W-2 subject to certain adjustments and exclusions required under the Code. The 401(k) plan currently does not offer the ability to invest in our securities.

We do not provide perquisites or personal benefits to our executive officers, except in limited circumstances. We did not provide any such perquisites or personal benefits to Mr. Coe in 2019.

Equity benefit plans

The principal features of our equity plans are summarized below. These summaries are qualified in their entirety by reference to the actual text of the plans, which are filed as exhibits to the registration statement of which this prospectus is a part.

2020 Equity Incentive Plan

Our board of directors adopted our 2020 Equity Incentive Plan (2020 Plan) in , and our stockholders approved our 2020 Plan in . Our 2020 Plan is a successor to and continuation of our 2013 Equity Incentive Plan (2013 Plan) (as described below). Our 2020 Plan will become effective on the date of the underwriting agreement related to this offering. The 2020 Plan came into existence upon its adoption by our board of directors, but no grants will be made under the 2020 Plan prior to its effectiveness. Once the 2020 Plan is effective, no further grants will be made under the 2013 Plan.

Awards. Our 2020 Plan provides for the grant of incentive stock options (ISOs) within the meaning of Section 422 of the Internal Revenue Code of 1984, as amended, to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options (NSOs), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of awards to employees, directors and consultants, including employees and consultants of our affiliates.

Authorized shares. Initially, the maximum number of shares of our common stock that may be issued under our 2020 Plan will not exceed shares of our common stock, which is the sum of (1) new shares, plus (2) any shares that remain available for the issuance of awards under our 2013 Plan as of immediately prior to the time our 2020 Plan becomes effective, plus (3) any shares subject to outstanding stock options or other stock awards granted under our 2013 Plan that, on or after the 2020 Plan becomes effective, terminate or expire prior to exercise or settlement; are not issued because the award is settled in cash; are forfeited because of the failure to vest; or are reacquired or withheld (or not issued) to satisfy a tax withholding obligation or the purchase or exercise price, if any, as such shares become available from time to time. In addition, the number of shares of our common stock reserved for issuance under our 2020 Plan will automatically increase on January 1 of each calendar year, starting on January 1, 20 through January 1, 20 , in an amount equal to (i) % of the total number of shares of our common stock outstanding on December 31 of the fiscal year before the date of each automatic increase, or (ii) a lesser number of shares determined by our board of directors prior to the applicable January 1. The maximum number of shares of our common stock that may be issued on the exercise of ISOs under our 2020 Plan is shares.

Shares subject to stock awards granted under our 2020 Plan that expire or terminate without being exercised in full or that are paid out in cash rather than in shares do not reduce the number of shares available for issuance

under our 2020 Plan. Shares withheld under a stock award to satisfy the exercise, strike or purchase price of a stock award or to satisfy a tax withholding obligation do not reduce the number of shares available for issuance under our 2020 Plan. If any shares of our common stock issued pursuant to a stock award are forfeited back to or repurchased or reacquired by us (1) because of a failure to meet a contingency or condition required for the vesting of such shares, (2) to satisfy the exercise, strike or purchase price of an award or (3) to satisfy a tax withholding obligation in connection with an award, the shares that are forfeited or repurchased or reacquired will revert to and again become available for issuance under the 2020 Plan. Any shares previously issued which are reacquired in satisfaction of tax withholding obligations or as consideration for the exercise or purchase price of a stock award will again become available for issuance under the 2020 Plan.

Plan administration. Our board of directors, or a duly authorized committee of our board of directors, will administer our 2020 Plan and is referred to as the "plan administrator" herein. Our board of directors may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified stock awards and (2) determine the number of shares subject to such stock awards. Under our 2020 Plan, our board of directors has the authority to determine award recipients, grant dates, the numbers and types of stock awards to be granted, the applicable fair market value, and the provisions of each stock award, including the period of exercisability and the vesting schedule applicable to a stock award.

The plan administrator has the power to modify outstanding awards under our 2020 Plan. Subject to the terms of our 2020 Plan, the plan administrator has the authority to reprice any outstanding stock award, cancel and re-grant any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

Stock options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2020 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under the 2020 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the 2020 Plan, up to a maximum of 10 years. Unless the terms of an optionholder's stock option agreement, or other written agreement between us and the recipient approved by the plan administrator, provide otherwise, if an optionholder's service relationship with us or any of our affiliates ceases for any reason other than disability, death, or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. This period may be extended in the event that either an exercise of the option or an immediate sale of shares acquired upon exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 18 months following the date of death. If an optionholder's service relationship with us or any of our affiliates ceases due to disability, the optionholder may generally exercise any vested options for a period of 12 months following the cessation of service. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, or (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options or stock appreciation rights generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer, an option may be transferred pursuant to a domestic relations order, official marital settlement agreement, or other divorce or separation instrument.

Tax limitations on ISOs. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an award holder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our parent or subsidiary corporations unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

Restricted stock unit awards. Restricted stock unit awards are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock unit awards may be granted in consideration for any form of legal consideration that may be acceptable to our board of directors and permissible under applicable law. A restricted stock unit award may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a restricted stock unit award. Except as otherwise provided in the applicable award agreement, or other written agreement between us and the recipient approved by the plan administrator, restricted stock unit awards that have not vested will be forfeited once the participant's continuous service ends for any reason.

Restricted stock awards. Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, past or future services to us, or any other form of legal consideration that may be acceptable to our board of directors and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ends for any reason, we may receive any or all of the shares of common stock held by the participant that have not vested as of the date the participant terminates service with us through a forfeiture condition or a repurchase right.

Stock appreciation rights. Stock appreciation rights are granted under stock appreciation right agreements adopted by the plan administrator. The plan administrator determines the purchase price or strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. A stock appreciation right granted under the 2020 Plan vests at the rate specified in the stock appreciation right agreement as determined by the plan administrator. Stock appreciation rights may be settled in cash or shares of common stock or in any other form of payment as determined by the Board and specified in the stock appreciation right agreement.

The plan administrator determines the term of stock appreciation rights granted under the 2020 Plan, up to a maximum of 10 years. If a participant's service relationship with us or any of our affiliates ceases for any reason other than cause, disability, or death, the participant may generally exercise any vested stock appreciation right for a period of three months following the cessation of service. This period may be further extended in the event that exercise of the stock appreciation right following such a termination of service is prohibited by applicable securities laws. If a participant's service relationship with us, or any of our affiliates, ceases due to disability or death, or a participant dies within a certain period following cessation of service, the participant or a beneficiary may generally exercise any vested stock appreciation right for a period of 12 months in the event

of disability and 18 months in the event of death. In the event of a termination for cause, stock appreciation rights generally terminate immediately upon the occurrence of the event giving rise to the termination of the individual for cause. In no event may a stock appreciation right be exercised beyond the expiration of its term.

Performance awards. The 2020 Plan permits the grant of performance awards that may be settled in stock, cash or other property. Performance awards may be structured so that the stock or cash will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. Performance awards that are settled in cash or other property are not required to be valued in whole or in part by reference to, or otherwise based on, the common stock.

The performance goals may be based on any measure of performance selected by the board of directors. The performance goals may be based on company-wide performance or performance of one or more business units, divisions, affiliates, or business segments, and may be either absolute or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the board of directors at the time the performance award is granted, the board will appropriately make adjustments in the method of calculating the attainment of performance goals as follows: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects; (iii) to exclude the effects of changes to generally accepted accounting principles; (iv) to exclude the effects of any statutory adjustments to corporate tax rates; (v) to exclude the effects of items that are “unusual” in nature or occur “infrequently” as determined under generally accepted accounting principles; (vi) to exclude the dilutive effects of acquisitions or joint ventures; (vii) to assume that any portion of our business which is divested achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (viii) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (ix) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (x) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (xi) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles.

Other stock awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the stock award (or cash equivalent) and all other terms and conditions of such awards.

Changes to capital structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split, or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2020 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued on the exercise of ISOs, and (4) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Corporate transactions. The following applies to stock awards under the 2020 Plan in the event of a corporate transaction, unless otherwise provided in a participant’s stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a corporate transaction, any stock awards outstanding under the 2020 Plan may be assumed, continued or substituted for by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor

(or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then (i) with respect to any such stock awards that are held by participants whose continuous service has not terminated prior to the effective time of the corporate transaction, or current participants, the vesting (and exercisability, if applicable) of such stock awards will be accelerated in full to a date prior to the effective time of the corporate transaction (contingent upon the effectiveness of the corporate transaction), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the corporate transaction), and (ii) any such stock awards that are held by persons other than current participants will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction, except that any reacquisition or repurchase rights held by us with respect to such stock awards will not terminate and may continue to be exercised notwithstanding the corporate transaction.

In the event a stock award will terminate if not exercised prior to the effective time of a corporate transaction, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the per share amount payable to holders of common stock in connection with the corporate transaction, over (ii) any per share exercise price payable by such holder, if applicable. In addition, any escrow, holdback, earn out or similar provisions in the definitive agreement for the corporate transaction may apply to such payment to the same extent and in the same manner as such provisions apply to the holders of common stock.

Under the 2020 Plan, a corporate transaction is generally defined as the consummation of: (i) a sale of all or substantially all of our assets, (ii) the sale or disposition of at least 50% of our outstanding securities, (iii) a merger or consolidation where we do not survive the transaction, or (iv) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

Change in control. Awards granted under the 2020 Plan may be subject to acceleration of vesting and exercisability upon or after a change in control (as defined in the 2020 Plan) as may be provided in the applicable stock award agreement or in any other written agreement between us or any affiliate and the participant, but in the absence of such provision, no such acceleration will automatically occur.

Under the 2020 Plan, a change in control is generally defined as: (i) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding stock; (ii) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity) in substantially the same proportions as their ownership immediately prior to such transaction; (iii) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction; or (iv) when a majority of our board of directors becomes comprised of individuals who were not serving on our board of directors on the date the 2020 Plan was adopted by the board of directors, or the incumbent board, or whose nomination, appointment, or election was not approved by a majority of the incumbent board still in office.

Plan amendment or termination. Our board of directors has the authority to amend, suspend, or terminate our 2020 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date our board of directors adopts our 2020 Plan. No stock awards may be granted under our 2020 Plan while it is suspended or after it is terminated.

2013 Equity incentive plan

Our board of directors and stockholders adopted our 2013 Plan in June 2013. The 2013 Plan was most recently amended by our board of directors and stockholders in October 2020. As of September 30, 2020, there were shares remaining available for the future grant of stock awards under our 2013 Plan. As of September 30, 2020, there were outstanding stock options covering a total of shares of our common stock that were granted under our 2013 Plan. Any shares of common stock remaining available for issuance under the 2013 Plan upon the 2020 Plan's effectiveness in connection with this offering will become available for issuance under the 2020 Plan.

Stock awards. Our 2013 Plan provides for the grant of ISOs within the meaning of Section 422 of the Code to employees, including employees of any parent or subsidiary, and for the grant of NSOs, stock appreciation rights, restricted stock awards, restricted stock unit awards and other forms of stock awards to employees, directors and consultants, including employees and consultants of our affiliates. To date, we have only granted options under the 2013 Plan.

Authorized shares. Subject to certain capitalization adjustments, the aggregate number of shares of common stock that may be issued pursuant to stock awards under the 2013 Plan will not exceed 10,800,000 shares. The maximum number of shares of our common stock that may be issued pursuant to the exercise of ISOs under our 2013 Plan is 10,800,000 shares.

Shares subject to stock awards granted under our 2013 Plan that expire or otherwise terminate without being exercised in full or that are settled in cash rather than in shares do not reduce or otherwise offset the number of shares available for issuance of awards under our 2013 Plan. Additionally, if any shares issued pursuant to a stock award are forfeited back to or repurchased because of the failure to meet a contingency or condition required to vest or are reacquired in satisfaction of a tax withholding obligation or as consideration for the exercise price of a stock award, then the shares that are forfeited, repurchased or reacquired will revert to and again become available for issuance of awards under the 2013 Plan.

Plan administration. Our board of directors, or a duly authorized committee of our board of directors to which the board delegates its administrative authority, will administer our 2013 Plan and is referred to as the "plan administrator" herein. The plan administrator may also delegate to one or more of our officers the authority to (1) designate employees (other than officers) to receive specified options and stock appreciation rights (and to the extent permitted by applicable law, other stock awards) and (2) determine the number of shares subject to such stock awards; provided, however, that the board resolutions regarding such delegation must specify the total number of shares that may be subject to awards granted by such officer, and provided further, that no officer may grant an award under the 2013 Plan to himself or herself. Under our 2013 Plan, the plan administrator has the authority to, among other things, determine award recipients, dates of grant, the numbers and types of stock awards to be granted, the applicable fair market value and the provisions of each stock award, including the period of their exercisability and the vesting schedule applicable to a stock award, to construe and interpret the 2013 Plan and awards granted thereunder (and to establish, amend and revoke any rules and regulations for the administration of the 2013 Plan and any such awards), or to accelerate the vesting of awards.

Under the 2013 Plan, the plan administrator also generally has the authority to effect, with the consent of any adversely affected participant, (A) the reduction of the exercise, purchase, or strike price of any outstanding award; (B) the cancellation of any outstanding award and the grant in substitution therefor of other awards, cash, or other consideration; or (C) any other action that is treated as a repricing under generally accepted accounting principles.

Stock options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of the 2013 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant (or 110% of the fair market value for certain major stockholders). Options granted under the 2013 Plan vest at the rate specified in the stock option agreement as determined by the plan administrator.

The plan administrator determines the term of stock options granted under the 2013 Plan, up to a maximum of 10 years (or five years, for certain major stockholders). If an optionholder's service relationship with us or any of our affiliates ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of up to three months following the cessation of service. This period may be extended in the event that either an exercise of the option or an immediate sale of shares acquired upon exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of our affiliates ceases due to death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of up to 18 months following the date of death. If an optionholder's service relationship with us or any of our affiliates ceases due to disability, the optionholder may generally exercise any vested options for a period of up to 12 months following the cessation of service. In the event of a termination for cause, options generally terminate upon the termination date. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order payable to us, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionholder, (4) a net exercise of the option if it is an NSO, (5) a deferred payment arrangement, or (6) other legal consideration approved by the plan administrator and specified in the stock award agreement.

Unless the plan administrator provides otherwise, options generally are not transferable except by will or the laws of descent and distribution. Subject to approval of the plan administrator or a duly authorized officer in each case, (i) an option may be transferred pursuant to a domestic relations order, official marital settlement agreement, or other divorce or separation instrument and (ii) an optionholder may designate a beneficiary who may exercise the option following the optionholder's death.

Tax limitations on ISOs. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an optionholder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

Changes to capital structure. In the event of a capitalization adjustment, the plan administrator will make appropriate and proportionate adjustments to (1) the class and maximum number of shares reserved for issuance under the 2013 Plan, (2) the class and maximum number of shares that may be issued on the exercise of ISOs, and (3) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Corporate transactions. Our 2013 Plan provides that in the event of a corporate transaction, unless otherwise provided in an award agreement or other written agreement between us and the award holder, the plan administrator may take one or more of the following actions with respect to such stock awards:

- arrange for the assumption, continuation, or substitution of a stock award by a surviving or acquiring corporation;
- arrange for the assignment of any reacquisition or repurchase rights held by us to the surviving or acquiring corporation;
- accelerate the vesting, in whole or in part, of the stock award and provide for its termination if not exercised (if applicable) at or before the effective time of the transaction;
- arrange for the lapse, in whole or in part, of any reacquisition or repurchase rights held by us;
- cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised before the effective time of the transaction, in exchange for such cash consideration, if any, as our board of directors, in its sole discretion, may consider appropriate; and
- make a payment equal to the excess, if any, of (A) the value of the property the participant would have received on exercise of the award immediately before the effective time of the transaction, over (B) any exercise price payable by the participant in connection with the exercise.

The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to treat all participants in the same manner.

Under the 2013 Plan, a corporate transaction is generally defined as the consummation of: (i) a sale or other disposition of all or substantially all of our assets, (ii) the sale or disposition of at least 50% of our outstanding securities, (iii) a merger or consolidation where we do not survive the transaction, or (iv) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

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 an applicable award agreement or other written agreement, but in the absence of such provision, no such acceleration will occur.

Under the 2013 Plan, a change in control is generally defined as: (i) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding stock; (ii) a consummated merger, consolidation or similar transaction in which our stockholders immediately before the transaction do not own, directly or indirectly, more than 50% of the combined voting power of the surviving entity (or the parent of the surviving entity) in substantially the same proportions as their ownership immediately prior to such transaction; or (iii) a consummated sale, lease, exclusive license or other disposition of all or substantially all of our assets other than to an entity more than 50% of the combined voting power of which is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction.

Plan amendment or termination. Our board of directors has the authority to amend, suspend, or terminate our 2013 Plan, provided that such action does not impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. Unless terminated sooner, the 2013 Plan will automatically terminate on June 25, 2023. No stock awards may be granted under our 2013 Plan while it is suspended or after it is terminated. Once the 2020 Plan is effective, no further grants will be made under the 2013 Plan.

2020 Employee Stock Purchase Plan

Our board of directors adopted our 2020 Employee Stock Purchase Plan (ESPP), in , and our stockholders approved our ESPP in . The ESPP will become effective immediately prior to and contingent upon the date of the underwriting agreement related to this offering. The purpose of the ESPP is to secure the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and that of our affiliates. The ESPP includes two components. One component is designed to allow eligible U.S. employees to purchase our common stock in a manner that may qualify for favorable tax treatment under Section 423 of the Code. In addition, purchase rights may be granted under a component that does not qualify for such favorable tax treatment because of deviations necessary to permit participation by eligible employees who are foreign nationals or employed outside of the United States while complying with applicable foreign laws.

Share reserve. Following this offering, the ESPP authorizes the issuance of shares of our common stock under purchase rights granted to our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 20 , through January 1, 20 , by the lesser of (1) % of the total number of shares of our common stock outstanding on the last day of the fiscal year before the date of the automatic increase, and (2) shares; provided that before the date of any such increase, our board of directors may determine that such increase will be less than the amount set forth in clauses (1) and (2). As of the date hereof, no shares of our common stock have been purchased under the ESPP.

Administration. Our board of directors administers the ESPP and may delegate its authority to administer the ESPP to our compensation committee. The ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the ESPP, we may specify offerings with durations of not more than 27 months, and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. An offering under the ESPP may be terminated under certain circumstances.

Payroll deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the ESPP and may contribute, normally through payroll deductions, up to % of their earnings (as defined in the ESPP) for the purchase of our common stock under the ESPP. Unless otherwise determined by our board of directors, common stock will be purchased for the accounts of employees participating in the ESPP at a price per share that is at least the lesser of (1) 85% of the fair market value of a share of our common stock on the first date of an offering, or (2) 85% of the fair market value of a share of our common stock on the date of purchase.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the ESPP, as determined by our board of directors, including: (1) being customarily employed for more than 20 hours per week, (2) being customarily employed for more than five months per calendar year, or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed two years). No employee may purchase shares under the ESPP at a rate in excess of $25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each calendar year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the ESPP if immediately after such rights are granted, such employee has voting power over 5% or more of our outstanding capital stock measured by vote or value under Section 424(d) of the Code.

Changes to capital structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend,

dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of shares, exchange of shares, change in corporate structure, or similar transaction, the board of directors will make appropriate adjustments to: (1) the class(es) and maximum number of shares reserved under the ESPP, (2) the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (3) the class(es) and number of shares subject to and purchase price applicable to outstanding offerings and purchase rights, and (4) the class(es) and number of shares that are subject to purchase limits under ongoing offerings.

Corporate transactions. In the event of certain significant corporate transactions, any then-outstanding rights to purchase our stock under the ESPP may be assumed, continued, or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within 10 business days before such corporate transaction, and such purchase rights will terminate immediately after such purchase.

Under the ESPP, a corporate transaction is generally the consummation of: (1) a sale of all or substantially all of our assets, (2) the sale or disposition of more than 50% of our outstanding securities, (3) a merger or consolidation where we do not survive the transaction, and (4) a merger or consolidation where we do survive the transaction but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction.

ESPP amendment or termination. Our board of directors has the authority to amend or terminate our ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our ESPP as required by applicable law or listing requirements.

Director compensation

The following table sets forth in summary form information concerning the compensation that we paid or awarded during the year ended December 31, 2019 to each of our non-employee directors.

Name(1)	Fees earned or paid in cash ($)	Option awards ($)(2)	Stock awards ($)	All other compensation ($)	Total ($)
Felix Baker, Ph.D.	—	—	—	—	—
Rustem F. Ismagilov, Ph.D.	—	—	—	75,000(3)	75,000
Matt Posard	24,000	—	—	—	24,000
Randal Scott, Ph.D.	24,000	—	—	—	24,000

(1) Ms. Popovits and Dr. Cheong joined our board of directors in March 2020 and June 2020, respectively, and so are not included in the table above.

(2) As of December 31, 2019, the aggregate number of shares underlying outstanding options to purchase our common stock held by our non-employee directors were: Dr. Scott, 19,992 and Mr. Posard, 19,992. None of our other non-employee directors held options to purchase our common stock as of December 31, 2019. None of our non-employee directors held other unvested stock awards as of December 31, 2019.

(3) Consists of consulting fees paid pursuant to a consulting agreement with Dr. Ismagilov for his service as a member of our scientific advisory board, as described under "Certain relationships and related person transactions—Consulting arrangements."

In February 2016, we entered into letter agreements with each of Mr. Posard and Dr. Scott confirming their appointment to the board of directors, pursuant to which each is entitled to a stipend of $24,000 per year, which was paid on a quarterly basis. Pursuant to the letters, Mr. Posard and Dr. Scott were each entitled to an option to purchase 12,350 shares of our common stock, which were granted in February 2016 and have fully vested.

We did not grant equity awards to our non-employee directors for service on our board of directors in 2019. In February 2020, our board of directors granted options to purchase 415,139 shares to Dr. Ismagilov, 118,388 shares to Mr. Posard and 118,388 shares to Mr. Scott, each with an exercise price per share of $1.05. The options vest monthly over four years beginning on November 1, 2019, subject to the director's continued services to us.

In addition, in March 2020, we amended certain outstanding underwater options held by Mr. Posard and Dr. Scott. The amendment reduced the exercise price per share of such options to $1.05, the fair market value of our common stock as determined by our board of directors on the date of the repricing. The repricing is further described above under "—Equity-based incentive awards."

In May 2020, our board of directors granted an option to purchase 121,000 shares to Ms. Popovits in connection with her commencement of services with us at an exercise price per share of $1.05. The option vests as follows: 25% of the shares vest on March 19, 2021, and the balance vests in 36 equal monthly installments thereafter, subject to Ms. Popovits' continued services to us.

In August 2020, our board of directors granted options to purchase 67,227 shares to Mr. Posard, 67,227 shares to Dr. Scott, 58,783 shares to Ms. Popovits and 201,677 shares to Dr. Ismagilov, each at an exercise price per share of $4.37. The options vest as follows: 25% of the shares vest on August 4, 2021, and the balance vests in 36 equal monthly installments thereafter, subject to the director's continued services to us.

In September 2020, our board of directors granted an option to purchase 114,348 shares to Dr. Ismagilov at an exercise price per share of $4.37. The option vests as follows: one-sixth of the shares vest on September 1, 2020, and the balance vests in five equal monthly installments thereafter, subject to Dr. Ismagilov's continued services to us.

Outstanding equity awards held by our non-employee directors are subject to the terms of our 2013 Plan, as described above under "—Equity benefit plans—2013 Equity Incentive Plan."

We have reimbursed and will continue to reimburse all of our non-employee directors for their travel, lodging and other reasonable expenses incurred in attending meetings of our board of directors and committees of our board of directors.

Non-employee director compensation policy

Our board of directors adopted a non-employee director compensation policy in that will become effective upon the execution and delivery of the underwriting agreement related to this offering and will be applicable to all of our non-employee directors. This compensation policy provides that each such non-employee director will receive the following compensation for service on our board of directors:

- an annual cash retainer of $;
- an additional annual cash retainer of $ for service as non-employee chairman of the board of directors or lead independent director;
- an additional annual cash retainer of $, $ and $ for service as a member of the audit committee, compensation committee and the nominating and corporate governance committee, respectively;
- an additional annual cash retainer of $, $ and $ for service as chair of the audit committee, chair of the compensation committee and chair of the nominating and corporate governance committee, respectively (in lieu of the committee member retainer above);

- an initial option grant to purchase shares of our common stock, vesting in equal monthly installments; and
- an annual option grant to purchase shares of our common stock, vesting on the earlier of (i) the one year anniversary of the date of grant and (ii) the day before the next annual meeting.

Each of the option grants described above will be granted under our 2020 Plan, the terms of which are described in more detail below under "Executive and director compensation—Equity benefit plans—2020 Equity Incentive Plan." Each such option grant will vest and become exercisable subject to the director's continuous service with us, provided that each option will vest in full upon a change in control (as defined in the 2020 Plan) of the company. The term of each option will be 10 years, subject to earlier termination as provided in the 2020 Plan.

Certain relationships and related person transactions

The following includes a summary of transactions since January 1, 2017 to which we have been a party, in which the amount involved in the transaction exceeded $120,000 or, if less, 1% of the average of our total assets as of December 31, 2018 and 2019, and in which any of our directors, executive officers or, to our knowledge, beneficial owners of more than 5% of our capital stock or any member of the immediate family of any of the foregoing persons had or will have a direct or indirect material interest, other than equity and other compensation, termination, change in control and other arrangements, which are described under “Executive and director compensation.”

Convertible note financing

From March 2019 through August 2019, we issued and sold convertible promissory notes (Convertible Notes) in the aggregate principal amount of $15.0 million. The Convertible Notes accrued interest at a rate of 6.5% per annum and were subject to installment adjustments whereby upon the issuance of each Convertible Note, the principal owed increased by 10.0% of the face value of such Convertible Note. An additional 5.0% installment adjustment was applied based on the outstanding principal and accrued interest owed on each Convertible Note issued in March 2019 (Initial Closing Date) on each of the 150th, 180th and 210th day after the Initial Closing Date. In November 2019, the aggregate principal amount of the Convertible Notes and accrued interest totaling approximately $19.0 million were converted into 6,937,252 shares of our Series D-2 convertible preferred stock at a conversion price of $2.74 per share. The participants in the convertible note financing included entities affiliated with members of our board of directors and holders of more than 5% of our capital stock. The following table sets forth the principal amount of Convertible Notes issued to these related persons.

Name of stockholder	Principal amount of notes
Entities affiliated with Baker Bros. Advisors LP(1)	$ 15,000,000

(1) Consists of (i) $1,236,150 in Convertible Notes issued to 667, L.P. and (ii) $13,763,850 in Convertible Notes issued to Baker Brothers Life Sciences, L.P. Dr. Baker, a managing member of Baker Bros. Advisors (GP) LLC, the sole general partner of Baker Bros., and Dr. Cheong, an employee of Baker Bros., are both members of our board of directors.

Convertible preferred stock financings

From October 2017 to December 2017, pursuant to a Series C preferred stock purchase agreement, we issued and sold an aggregate of approximately 1,070,867 shares of our Series C convertible preferred stock at a purchase price of $27.356 per share, and received gross proceeds of approximately $29.3 million.

From November 2019 to December 2019, pursuant to a Series C-1 preferred stock and Series D-1 preferred stock purchase agreement, we issued and sold shares of our Series C-1 convertible preferred stock, Series D-1 convertible preferred stock, and Series D-2 convertible preferred stock. The purchase price for this financing was to be funded in three separate tranches, with a proportional number of shares subject to forfeiture should any tranche not be called or funded. The first and second tranches were funded and the timeline to call the third tranche expired and the corresponding shares were forfeited. Taking into account such forfeitures, we issued and sold an aggregate of 13,404,197 shares of our Series C-1 convertible preferred stock, 1,437,178 shares of our Series D-1 convertible preferred stock, and 10,372,452 shares of our Series D-2 convertible preferred stock, each at a purchase price of $2.74 per share, and received gross proceeds of approximately $69.1 million, including the conversion of the Convertible Notes.

From June 2020 to July 2020, pursuant to a Series E preferred stock purchase agreement, we issued and sold an aggregate of 2,289,899 shares of our Series E-1 convertible preferred stock and 11,187,189 shares of our

Series E-2 convertible preferred stock, each at a purchase price of $7.42 per share, and received gross proceeds of approximately $100.0 million.

The participants in our convertible preferred stock financing included entities affiliated with members of our board of directors and holders of more than 5% of our capital stock. The following table sets forth the aggregate number of shares of convertible preferred stock issued to these related persons.

Name of stockholder	Series C preferred	Series C-1 preferred	Series D-1 preferred	Series D-2 preferred	Series E-1 preferred	Series E-2 preferred	Aggregate consideration
Entities affiliated with Baker Bros. Advisors LP(1)	731,101	11,183,572	—	10,372,452	3,304	11,187,189	$ 143,088,892(2)
Entities affiliated with ArrowMark Fundamental Opportunity Fund, LP(3)	310,717	1,833,240	—	—	1,020,631	—	$ 21,096,158
Randal Scott, Ph.D.(4)	—	—	1,076,643	—	534,402	—	$ 6,915,265
Kimberly J. Popovits(5)	—	31,519	—	—	431,642	—	$ 3,289,146

(1) Consists of shares purchased by 667, L.P., Baker Brothers Life Sciences, L.P., FBB Associates and FBB3 LLC. Dr. Baker, a managing member of Baker Bros. Advisors (GP) LLC, the sole general partner of Baker Bros., and Dr. Cheong, an employee of Baker Bros., are both members of our board of directors.

(2) Excludes the aggregate principal amount of the convertible notes and accrued interest of $19.0 million that were converted into an aggregate of 6,937,252 shares of our Series D-2 convertible preferred stock.

(3) Consists of shares purchased by ArrowMark Fundamental Opportunity Fund, LP, ArrowMark Life Science Fund, LP, Iron Horse Investments, LLC, Lookfar Investments, LLC, Meridian Growth Fund, Meridian Small Cap Growth Fund, THB Iron Rose LLC, THB Iron Rose, LLC Life Science Portfolio and Tony Yao.

(4) Consists of shares purchased by Randal W. Scott and Eileen M. Scott, Trustees of the OG Family Trust, u/d/t May 30, 2014 (OG Trust). Dr. Scott, a member of our board of directors, is a trustee of the OG Trust and has a financial interest in the OG Trust.

(5) Consists of shares purchased by MSL FBO Kimberly J. Popovits Patrick J. Popovits TTEE U/A/D 05-17-2010 FBO Popovits 2010 Trust (Popovits Trust) and Ms. Popovits. Ms. Popovits, a member of our board of directors, is a trustee of the Popovits Trust and has a financial interest in the Popovits Trust.

Investor agreements

In connection with our Series E convertible preferred stock financing, we entered into an investors' rights agreement, voting agreement and right of first refusal and co-sale agreement containing registration rights, information rights, voting rights and rights of first refusal and co-sale, among other things, with certain of our stockholders. The foregoing agreements will terminate upon the closing of this offering, except for the registration rights set forth in the investors' rights agreements, as more fully described below in "Description of capital stock—Registration rights."

Consulting arrangements

In January 2019, we entered into a consulting agreement with Rustem F. Ismagilov, one of our co-founders and a member of our board of directors, pursuant to which Dr. Ismagilov provides general scientific, and strategic consulting regarding our development and commercialization efforts and serves as chair of our Scientific Advisory Board (SAB). Pursuant to his consulting agreement, Dr. Ismagilov receives a consulting fee of $75,000 per year for services rendered, as requested from time to time and for his service on the SAB. Unless terminated earlier, the consulting agreement will expire on December 31, 2020.

Equity grants

We have granted stock options to our executive officers and certain members of our board of directors. For a description of these options, see "Executive and director compensation."

Nominating agreement

In November 2019, we entered into the Nominating Agreement with the Baker Brothers pursuant to which we have the obligation to support the nomination of, and to cause our board of directors to include in the slate of nominees recommended to our stockholders for election, individuals designated by the Baker Brothers. The Nominating Agreement also provides the Baker Brothers the right to designate a nonvoting observer to attend all meetings of our board of directors and all meetings of the committees of our board of directors subject to certain conditions and exceptions. For more information regarding this agreement, see the section entitled “Management—Board composition—Nominating agreement.”

Indemnification agreements

Our amended and restated certificate of incorporation, which will be effective upon the completion of this offering, will contain provisions limiting the liability of directors, and our amended and restated bylaws, which will be effective upon the completion of this offering, will provide that we will indemnify each of our directors to the fullest extent permitted under Delaware law. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide our board of directors with discretion to indemnify our officers and employees when determined appropriate by our board of directors.

We have entered, and intend to continue to enter, into separate indemnification agreements with each of our directors and executive officers, as described in the section entitled “Management—Limitation of liability and indemnification.” The indemnification agreements will provide that we will indemnify each of our directors, executive officers and such other employees against any and all expenses incurred by that director, executive officer or other employee because of his or her status as one of our directors, executive officers or other employees, to the fullest extent permitted by Delaware law, our amended and restated certificate of incorporation and our amended and restated bylaws. In addition, the indemnification agreements will provide that, to the fullest extent permitted by Delaware law, we will advance all expenses incurred by our directors, executive officers and other employees in connection with a legal proceeding involving his or her status as a director, executive officer or employee.

Policies and procedures for transactions with related persons

We have adopted a written related-person transactions policy that sets forth our policies and procedures regarding the identification, review, consideration and oversight of “related-person transactions.” For purposes of our policy only, a “related-person transaction” is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any “related person” are participants involving an amount that exceeds $120,000 or, if less, 1% of the average of our total assets at year end for the prior two completed fiscal years. Transactions involving compensation for services provided to us as an employee, consultant or director are not considered related-person transactions under this policy. A related person is any executive officer, director, nominee to become a director or a holder of more than five percent of our common stock, including any of their immediate family members and affiliates, including entities owned or controlled by such persons.

Under the policy, where a transaction has been identified as a related-person transaction, management must present information regarding the proposed related-person transaction to our audit committee (or, where review by our audit committee would be inappropriate, to another independent body of our board of directors) for review. The presentation must include a description of, among other things, all of the parties thereto, the direct and indirect interests of the related persons, the purpose of the transaction, the material facts, the benefits of the transaction to us and whether any alternative transactions are available, an assessment of

whether the terms are comparable to the terms available from unrelated third parties and management's recommendation. To identify related-person transactions in advance, we rely on information supplied by our executive officers, directors and certain significant stockholders. In considering related-person transactions, our audit committee or another independent body of our board of directors takes into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties.

In the event a director has an interest in the proposed transaction, the director must recuse himself or herself from the deliberations and approval. All of the transactions described in this section occurred prior to the adoption of this policy.

Principal stockholders

The following table sets forth information regarding beneficial ownership of our capital stock by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our common stock or our Series 1 convertible preferred stock;
- each of our directors;
- each of our named executive officers; and
- all of our current executive officers and directors as a group.

The percentage ownership information under the column entitled “Before Offering” is based on shares of common stock and shares of our Series 1 convertible preferred stock outstanding as of , 2020, assuming conversion of all outstanding shares of our convertible preferred stock into shares of common stock and shares of Series 1 convertible preferred stock, which will occur in connection with the completion of this offering. The percentage ownership information under the column entitled “After Offering” is based on the sale of shares of common stock in this offering.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than 5% of our common stock. We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options that are either immediately exercisable or exercisable on or before , 2020, which is 60 days after , 2020. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each person or entity listed in the table is c/o Talis Biomedical Corporation, 230 Constitution Drive, Menlo Park, California 94025.

	Beneficial ownership before the offering					Beneficial ownership after the offering				
	Common stock		Series 1 convertible preferred stock		% of total outstanding capital stock before the offering	Common stock		Series 1 convertible preferred stock		% of total outstanding capital stock after the offering
	Shares	%	Shares	%		Shares	%	Shares	%	
5% or Greater Stockholders										
Entities affiliated with Baker Bros. Advisors LP(1)										
Entities affiliated with ArrowMark Fundamental Opportunity Fund, LP(2)										
Named Executive Officers and Directors:										
Brian Coe(3)										
Ramesh Ramakrishnan, Ph.D.(4)										
Martin Goldberg, Ph.D.(5)										
Felix Baker, Ph.D.(1)										
Raymond Cheong, M.D., Ph.D.										
Rustem F. Ismagilov, Ph.D.(6)										
Kim Popovits(7)										
Matt Posard(8)										
Randal Scott, Ph.D.(9)										
All current executive officers and directors as a group (12 persons)(10)										

* Represents beneficial ownership of less than 1%.

(1) Consists of (i) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock, shares of Series 1 convertible preferred stock issuable upon conversion of shares of Series D-2 convertible preferred stock and shares of Series 1 convertible preferred stock issuable upon conversion of shares of E-2 convertible preferred stock in each case held by 667, L.P. (667), (ii) shares of common stock, shares of common stock issuable upon conversion of Series C-1 convertible preferred stock, shares of Series 1 convertible preferred stock issuable upon conversion of shares of Series D-2 convertible preferred stock and shares of Series 1 convertible preferred stock issuable upon conversion of shares of Series E-2 convertible preferred stock in each case held by Baker Brothers Life Sciences, L.P. (Baker Life Sciences), (iii) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock, shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock in each case held by FBB Associates, and (iv) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock, shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock in each case held by FBB3 LLC. Baker Bros., is the management company and investment adviser to 667 and Baker Life Sciences and has sole voting and investment power with respect to the shares held by 667 and Baker Life Sciences. Baker Bros. Advisors (GP) LLC (BBA-GP) is the sole general partner of Baker Bros. Julian C. Baker and Felix J. Baker are managing members of BBA-GP. BBA-GP, Felix J. Baker, Julian C. Baker and Baker Bros. may be deemed to be beneficial owners of the securities directly held by Baker Bros. Julian C. Baker, Felix J. Baker, BBA-GP and Baker Bros. disclaim beneficial ownership of the securities held directly by Baker Bros. except to the extent of their pecuniary interest therein. The address for the above referenced entities is 860 Washington Street, 3rd Floor, New York, NY 10014.

(2) Consists of (i) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock and shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock in each case held by ArrowMark Fundamental Opportunity Fund, LP, (ii) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock and shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock in each case held by ArrowMark Life Science Fund, LP, (iii) shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock held by Iron Horse Investments, LLC (Iron Horse), (iv) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by Lookfar Investments, LLC (Lookfar), (v) shares of common stock issuable upon conversion of shares of Series E-1 convertible preferred stock held by Meridian Growth Fund, (vi) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by Meridian Small Cap Growth Fund (together with Meridian Growth Fund, Meridian), (vii) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by THB Iron Rose LLC, (viii) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by THB Iron Rose, LLC Life Science Portfolio (together with THB Iron Rose LLC, THB), and (ix) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by Tony Yao. ArrowMark Partners GP, LLC (Arrow GP), is the general partner of ArrowMark Fundamental Opportunity Fund, LP and David Corkins is the managing member of Arrow GP. ArrowMark Colorado Holdings LLC (Arrow Colorado) is investment advisor to Meridian, Lookfar, Iron Horse and THB. Mr. Corkins is a managing member of Arrow Colorado and Mr. Yao is a portfolio manager of Arrow Colorado. Mr. Corkins may be considered the beneficial owner of the shares held by ArrowMark Fundamental Opportunity Fund, LP, ArrowMark Life Science Fund, LP, Iron Horse, Lookfar, Meridian and THB (together, the Arrow Funds). The address of the Arrow Funds is c/o ArrowMark Partners, 100 Fillmore St, Suite 325, Denver, CO 80206.

(3) Consists of (i) shares of common stock held by Mr. Coe and shares of common stock issuable to Mr. Coe pursuant to options exercisable within 60 days of , 2020, (ii) shares of common stock held by trusts in which Mr. Coe's children are sole beneficiaries, and (iii) shares of common stock, shares of common stock issuable upon conversion of shares of Series C-1 preferred stock and shares of common stock issuable upon conversion of shares of Series E-1 preferred stock in each case held by a trust in which Mr. Coe's spouse and children are beneficiaries. Mr. Coe disclaims beneficial ownership of the securities in clauses (ii) and (iii) except to the extent of his pecuniary interest therein.

(4) Consists of shares of common stock issuable to Dr. Ramakrishnan pursuant to options exercisable within 60 days of , 2020.

(5) Consists of shares of common stock held by Dr. Goldberg. Dr. Goldberg resigned as our Senior Vice President, Operations in January 2020.

(6) Consists of (i) shares of common stock held by Dr. Ismagilov and shares of common stock issuable to Dr. Ismagilov pursuant to options exercisable within 60 days of , 2020 and (ii) shares of common stock held by Dr. Ismagilov's spouse.

(7) Consists of (i) shares of common stock and shares of common stock issuable upon conversion of shares of Series C-1 convertible preferred stock in each case held by Ms. Popovits and (ii) shares of common stock issuable upon conversion of shares of Series E-1 preferred stock held by the Popovits Trust. Ms. Popovits and her husband are trustees of the Popovits Trust and share voting and dispositive power.

(8) Consists of shares of common stock issuable to Mr. Posard pursuant to options exercisable within 60 days of , 2020.

(9) Consists of (i) shares of common stock issuable to Dr. Scott pursuant to options exercisable within 60 days of , 2020 and (ii) shares of common stock issuable upon conversion of shares of Series D-1 preferred stock and shares of common stock issuable upon conversion of shares of Series E-1 preferred stock in each case held by the OG Trust. Dr. Scott and his wife are trustees of the OG Trust and share voting and dispositive power.

(10) Consists of the shares described in footnote (1) and footnote (3) through (9) above, and shares of common stock issuable pursuant to options exercisable within 60 days of , 2020 held by executive officers not named in the table above.

Description of capital stock

Upon the filing of our amended and restated certificate of incorporation and the completion of this offering, our authorized capital stock will consist of 200,000,000 shares of common stock, par value $0.0001 per share, and 50,000,000 shares of preferred stock, par value $0.0001 per share. The following is a summary of the rights of our common and preferred stockholders and some of the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective upon the completion of this offering and of the Delaware General Corporation Law. This summary is not complete. For more detailed information, please see our amended and restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which this prospectus is a part, as well as the relevant provisions of the Delaware General Corporation Law.

Common stock

Outstanding shares

As of September 30, 2020, there were shares of common stock issued and outstanding held of record by stockholders. This amount excludes our outstanding shares of convertible preferred stock as of September 30, 2020, which will convert into shares of common stock and shares of Series 1 convertible preferred stock in connection with the completion of this offering. Based on the number of shares of common stock outstanding as of September 30, 2020, and assuming (1) the conversion of all outstanding shares of our convertible preferred stock and (2) the issuance by us of shares of common stock in this offering, there will be shares of common stock and shares of Series 1 convertible preferred stock outstanding upon the completion of this offering.

As of September 30, 2020, there were shares of common stock subject to outstanding options under our equity incentive plan.

Voting

Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding-up, holders of our 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, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and preferences

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully paid and nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Convertible preferred stock

As of September 30, 2020, there were shares of convertible preferred stock outstanding, held of record by stockholders. In connection with the completion of this offering, the shares of convertible preferred stock outstanding as of September 30, 2020 will be converted into shares of our common stock and shares of our Series 1 convertible preferred stock. Under the amended and restated certificate of incorporation to be in effect upon completion of this offering, our board of directors will have the authority, without further action by the stockholders, to issue up to 50,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. of such shares are designated as Series 1 convertible preferred stock and of such shares are designated as Series 2 convertible preferred stock.

Series 1 convertible preferred stock

Voting

Except as otherwise expressly provided in our amended and restated certificate of incorporation to be in effect upon the completion of this offering or required by applicable law, or as described under the section below entitled “Series 1 convertible preferred stock—Protective provisions,” on any matter that is submitted to a vote of our stockholders, holders of our Series 1 convertible preferred stock are entitled to one vote per share. Holders of shares of our common stock and Series 1 convertible preferred stock will vote together as a single class on all matters (including the election of directors) submitted to a vote of stockholders. The Series 1 convertible preferred stock does not have cumulative voting rights.

Conversion

The Series 1 convertible preferred stock is convertible, at the election of the holder, into Series 2 convertible preferred stock on a one-for-one basis at any time following the third anniversary of the closing of this offering. Shares of Series 1 convertible preferred stock automatically convert to common stock on a one-for-one basis upon any sale or transfer of such shares of Series 1 convertible preferred stock.

Dividends

The Series 1 convertible preferred stock has the right to receive dividends first or simultaneously with payment of dividends on common stock.

Liquidation preference

In the event of any liquidation or dissolution of the company, holders of the Series 1 convertible preferred stock are entitled to receive $0.0001 per share prior to the payment of any amount to any holders of our capital stock ranking junior to the Series 1 convertible preferred stock and thereafter shall participate *pari passu* with the holders of our common stock (on an as-if-converted-to-common-stock basis).

Protective provisions

Consent of the holders of % of the voting rights of the outstanding Series 1 convertible preferred stock is required for any amendment or change of the rights, preferences, privileges, or powers of, or the restrictions provided for the benefit of, the Series 1 convertible preferred stock.

Series 2 convertible preferred stock

Voting

The Series 2 convertible preferred stock has no voting rights except as required by law or as set forth in our amended and restated certificate of incorporation, or as described under the section below entitled “Series 2 convertible preferred stock—Protective provisions.”

Conversion

Conversion of the Series 2 convertible preferred stock is prohibited if the holder exceeds a specified threshold of voting security ownership. The Series 2 convertible preferred stock is convertible into common stock on a one-for-one basis, subject to adjustment for events such as stock splits, combinations and the like; provided that such holder shall not be entitled to convert the Series 2 convertible preferred in excess of that number of convertible preferred shares which upon giving effect or immediately prior to such conversion would cause (i) the aggregate number of shares of common stock beneficially owned by the holder, its affiliates and any persons who are members of a Section 13(d) “group” with such holder or its affiliates to exceed 4.99% (Maximum Percentage) of the total number of issued and outstanding shares of our common stock following such conversion, or (ii) the combined voting power of our securities beneficially owned by such holder and its affiliates and any other persons who are members of a Section 13(d) “group” with such holder or its affiliates to exceed the Maximum Percentage of the combined voting power of all of the securities of our then outstanding following such conversion. For purposes of this paragraph, beneficial ownership and whether a holder is a member of a Section 13(d) “group” shall be calculated and determined in accordance with Section 13(d) of the Exchange Act and the rules promulgated thereunder. The Maximum Percentage may be increased or decreased to any other percentage not in excess of 19.99% designated by such holder of Series 2 convertible preferred stock upon 61 days’ notice to us. Shares of Series 2 convertible preferred stock automatically convert to common stock on a one-for-one basis upon any sale or transfer of such shares of Series 2 convertible preferred stock.

Dividends

The Series 2 convertible preferred stock has the right to receive dividends first or simultaneously with payment of dividends on common stock.

Liquidation preference

In the event of any liquidation or dissolution of the company, holders of the Series 2 convertible preferred stock are entitled to receive $0.0001 per share prior to the payment of any amount to any holders of our capital stock ranking junior to the Series 2 convertible preferred stock and thereafter shall participate *pari passu* with the holders of our common stock (on an as-if-converted-to-common-stock basis).

Protective provisions

Consent of the holders of % of the voting rights of the outstanding Series 2 convertible preferred stock is required for any amendment or change of the rights, preferences, privileges, or powers of, or the restrictions provided for the benefit of, the Series 2 convertible preferred stock.

Additional preferred stock

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of preferred stock other than the convertible preferred stock described above.

Stockholder registration rights

After the closing of this offering, certain holders of shares of our common stock, including substantially all of the current preferred stockholders, including certain holders of five percent of our capital stock and entities affiliated with certain of our directors, will be entitled to certain rights with respect to registration of such shares under the Securities Act of 1933, as amended (Securities Act). These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of the amended and restated investor rights agreement and are described in additional detail below.

The registration of shares of our common stock pursuant to the exercise of the 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 are required to pay the registration expenses, other than underwriting discounts and selling commissions, of the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has 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 expire (i) five years after the effective date of the registration statement, of which this prospectus forms a part, (ii) with respect to any particular holder, at such time that such holder can sell its shares under Rule 144 of the Securities Act during any three-month period, or (iii) upon termination of the amended and restated investor rights agreement.

Demand registration rights

At any time beginning on the earlier of (1) December 31, 2022 and (2) six months after the public offering date set forth on the cover page of this prospectus, the holders of the registrable securities will be entitled to certain demand registration rights. Subject to the terms of the lockup agreements described under “Underwriting,” the holders of at least a majority of the registrable securities then outstanding, may make a written request that we register all or a portion of their shares, subject to certain specified exceptions. Such request for registration must cover securities the aggregate offering price of which, after payment of underwriting discounts and commissions, would exceed $50.0 million.

Piggyback registration rights

At any time beginning on the earlier of (1) December 31, 2022 and (2) six months after the public offering date set forth on the cover page of this prospectus, if we propose to register for offer and sale any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of registrable securities will be entitled to certain “piggyback” registration rights allowing them to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, including a registration

statement on Form S-3 as discussed below, other than with respect to a demand registration or a registration statement on Forms S-4 or S-8, the holders of these shares are entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of shares included in the registration, to include their shares in the registration.

Form S-3 registration rights

At any time beginning on the first anniversary of the public offering date set forth on the cover page of this prospectus, the holders of the registrable securities will be entitled to certain Form S-3 registration rights. Any holder of these shares can make a request that we register for offer and sale their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to certain specified exceptions. Such request for registration on Form S-3 must cover securities the aggregate offering price of which, after payment of the underwriting discounts and commissions, equals or exceeds $1.0 million.

Anti-takeover effects of certain provisions

Delaware anti-takeover law

We are subject to Section 203 of the Delaware General Corporation Law. Section 203 generally prohibits a public Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years following the time that such stockholder became an interested stockholder, unless:

- prior to such time the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which 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 commenced, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (1) by persons who are directors and also officers and (2) 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
- at or subsequent to such time, the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

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.

Amended and restated certificate of incorporation and amended and restated bylaws

Provisions of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to and upon the completion of this offering, respectively, may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws:

- permit our board of directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate (including the right to approve an acquisition or other change in our control);
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that the board of directors or any individual director may only be removed with cause and the affirmative vote of the holders of at least 66 2/3% of the voting power of all of our then outstanding common stock;
- 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;
- divide our board of directors into three classes;
- 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;
- 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 notice in writing in a timely manner and also specify requirements as to the form and content of a stockholder’s notice;
- do 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);
- provide that special meetings of our stockholders may be called only by the chairman of the board, our Chief Executive Officer or by the board of directors pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- provide that the Court of Chancery of the State of Delaware (or, if and only if the Court of Chancery of the State of Delaware lacks subject matter jurisdiction, any state court located within the State of Delaware or, if

and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers or other employees to us or our stockholders; (iii) any action or proceeding asserting a claim against us or any of our current or former directors, officers or other employees, arising out of or pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws; (iv) any action or proceeding to interpret, apply, enforce or determine the validity of our certificate of incorporation or our bylaws; (v) any action or proceeding as to which the Delaware General Corporation Law confers jurisdiction to the Court of Chancery of the State of Delaware; and (vi) any action asserting a claim against us or any of our directors, officers or other employees governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants; provided, that, this Delaware forum provision set forth in our amended and restated certificate of incorporation and amended and restated bylaws will not apply to suits brought to enforce a duty or liability created by the Securities Act or the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction.

Further, our amended and restated certificate of incorporation provides that unless we consent in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States will be the exclusive forum for resolution of any complaint asserting a cause of action arising under the Securities Act.

The amendment of any of these provisions, with the exception of the ability of our board of directors to issue shares of preferred stock and designate any rights, preferences and privileges thereto, would require approval by the holders of at least % of our then-outstanding common stock.

Nasdaq Global Market listing

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

Transfer agent and registrar

The transfer agent and registrar for our common stock is . The transfer agent and registrar's address is .

Shares eligible for future sale

Immediately prior to this offering, there has been no public market for our common stock. Future sales of substantial amounts of common stock in the public market could adversely affect prevailing market prices. Furthermore, since only a limited number of shares will be available for sale shortly after this offering because of contractual and legal restrictions on resale described below, sales of substantial amounts of common stock in the public market after the restrictions lapse could adversely affect the prevailing market price for our common stock as well as our ability to raise equity capital in the future.

Based on the number of shares of common stock outstanding as of September 30, 2020, upon the completion of this offering and assuming (1) the 1-for- reverse stock split of all outstanding shares of our capital stock, (2) the conversion of all of our outstanding shares of convertible preferred stock, (3) no exercise of the underwriters' option to purchase additional shares of common stock and (4) no exercise of outstanding options, an aggregate of shares of common stock will be outstanding. All of the shares sold in this offering will be freely tradable in the public market without restriction or further registration under the Securities Act, unless held by an affiliate of ours. Except as set forth below, the remaining shares of common stock outstanding after this offering will be restricted as a result of securities laws or lock-up agreements. In addition, any shares sold in this offering to entities affiliated with our existing stockholders and directors will be subject to lock-up agreements. These remaining shares will generally become available for sale in the public market as follows:

- no restricted shares will be eligible for immediate sale upon the completion of this offering;
- up to restricted shares will be eligible for sale under Rule 144 or Rule 701 upon expiration of lock-up agreements 180 days after the date of this offering; and
- the remainder of the restricted shares will be eligible for sale from time to time thereafter upon expiration of their respective holding periods under Rule 144, as described below, but could be sold earlier if the holders exercise any available registration rights.

Rule 144

In general, under Rule 144 as currently in effect, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, any person who is not an affiliate of ours and has held their shares for at least six months, including the holding period of any prior owner other than one of our affiliates, may sell shares without restriction, provided current public information about us is available. In addition, under Rule 144, any person who is not an affiliate of ours and has held their shares for at least one year, including the holding period of any prior owner other than one of our affiliates, would be entitled to sell an unlimited number of shares immediately upon the completion of this offering without regard to whether current public information about us is available. Beginning 90 days after the effective date of the registration statement of which this prospectus is a part, a person who is an affiliate of ours and who has beneficially owned restricted securities for at least six months, including the holding period of any prior owner other than one of our affiliates, is entitled to sell a number of restricted shares within any three-month period that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately shares immediately after this offering; or
- the average weekly trading volume of our common stock on The Nasdaq Global Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales of restricted shares under Rule 144 held by our affiliates are also subject to requirements regarding the manner of sale, notice and the availability of current public information about us. Rule 144 also provides that

affiliates relying on Rule 144 to sell shares of our common stock that are not restricted shares must nonetheless comply with the same restrictions applicable to restricted shares, other than the holding period requirement.

Notwithstanding the availability of Rule 144, the holders of substantially all of our restricted shares have entered into lock-up agreements as described below and their restricted shares will become eligible for sale at the expiration of the restrictions set forth in those agreements.

Rule 701

Under Rule 701, shares of our common stock acquired upon the exercise of currently outstanding options or pursuant to other rights granted under our stock plans may be resold by:

- persons other than affiliates, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, subject only to the manner-of-sale provisions of Rule 144; and
- our affiliates, beginning 90 days after the effective date of the registration statement of which this prospectus is a part, subject to the manner-of-sale and volume limitations, current public information and filing requirements of Rule 144, in each case, without compliance with the six-month holding period requirement of Rule 144.

As of September 30, 2020, options to purchase a total of shares of common stock were outstanding, of which were vested. Of the total number of shares of our common stock issuable under these options, substantially all are subject to contractual lock-up agreements with us or the underwriters described below under “Underwriting” and will become eligible for sale at the expiration of those agreements unless held by an affiliate of ours.

Lock-up agreements

We, along with our directors, executive officers and all of our other stockholders and optionholders, have agreed that for a period of 180 days, after the date of this prospectus, except with the prior written consent of J.P. Morgan Securities LLC and BofA Securities, Inc. and subject to specified exceptions, we or they will not 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 for the sale of, or otherwise dispose of or transfer, any shares of common stock or Series 1 convertible preferred stock or any securities convertible into or exercisable or exchangeable for shares of common stock or Series 1 convertible preferred stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, directly or indirectly, any of the economic consequences of ownership of the common stock or Series 1 convertible preferred stock. J.P. Morgan Securities LLC and BofA Securities, Inc. have advised us that they have no current intent or arrangement to release any of the shares subject to the lock-up agreements prior to the expiration of the lock-up agreements.

After this offering, certain of our employees, including our executive officers and/or directors, may enter into written trading plans that are intended to comply with Rule 10b5-1 under the Exchange Act. Sales under these trading plans would not be permitted until the expiration of the lock-up agreements relating to the offering described above.

Registration rights

Upon the closing of this offering, the holders of an aggregate of shares of our common stock will have rights, subject to certain 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. After registration pursuant to these rights, these shares will become freely tradable without restriction under the Securities Act. See “Description of capital stock—Stockholder registration rights” for additional information regarding these registration rights.

Equity incentive plans

We intend to file with the SEC a registration statement on Form S-8 under the Securities Act covering the shares of common stock reserved for issuance under the 2013 Plan, the 2020 Plan and the ESPP. The registration statement is expected to be filed and become effective as soon as practicable after the completion of this offering. Accordingly, shares registered under the registration statement will be available for sale in the open market following its effective date, subject to Rule 144 volume limitations and the lock-up agreements described above, if applicable.

Material U.S. federal income tax consequences to non-U.S. holders

The following is a summary of the material U.S. federal income tax consequences to non-U.S. 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 U.S. 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 U.S. 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 U.S. 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-U.S. 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 U.S. federal income tax consequences that may be relevant to a particular holder in light of such holder's circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to holders subject to special rules under the U.S. federal income tax laws, including:

- certain former citizens or long-term residents of the United States;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- "controlled foreign corporations;"
- "passive foreign investment companies;"
- corporations that accumulate earnings to avoid U.S. federal income tax;
- banks, financial institutions, investment funds, insurance companies, brokers, dealers or traders in securities;
- tax-exempt organizations and governmental organizations;
- tax-qualified retirement plans;
- "qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons subject to the alternative minimum tax;
- persons that own, or have owned, actually or constructively, more than 5% of our common stock at any time;
- accrual-method taxpayers subject to special tax accounting rules under Section 451(b) of the Code; and
- persons holding our common stock as part of a hedging or conversion transaction, straddle, synthetic security, or other risk reduction strategy or integrated investment.

If an entity or arrangement that is classified as a partnership for U.S. federal income tax purposes holds our common stock, the U.S. federal income tax treatment of a partner in the partnership will generally depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. Partnerships holding our common stock and the partners in such partnerships are urged to consult their tax advisors about the particular U.S. federal income tax consequences to them of holding and disposing of our common stock.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE PARTICULAR U.S. 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 AND ANY OTHER U.S. FEDERAL TAX LAWS.

Definition of non-U.S. holder

For purposes of this discussion, a non-U.S. holder is any beneficial owner of our common stock that is not a “U.S. person” and is not a partnership (including any entity or arrangement treated as a partnership) for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. 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 U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust (i) whose administration is subject to the primary supervision of a U.S. court and which has one or more U.S. persons who have the authority to control all substantial decisions of the trust or (ii) that has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person.

Distributions on our common stock

We have never declared or paid any cash dividends on our capital stock and we do not intend to pay cash dividends on our common stock for the foreseeable future. However, if we make cash or other property distributions on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. 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-U.S. holder generally will be subject to U.S. 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-U.S. 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) and satisfy applicable certification and other requirements. This certification must be provided to us or our paying agent before the payment of dividends and must be updated periodically. If the non-U.S. holder holds the stock through a financial institution or other agent acting on the non-U.S. holder’s behalf, the

non-U.S. 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-U.S. holders that do not provide the required certification on a timely basis, but that qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If a non-U.S. 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 U.S. 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-U.S. holder will be exempt from U.S. federal withholding tax. To claim the exemption, the non-U.S. holder must generally furnish a valid IRS Form W-8ECI (or applicable successor form) to the applicable withholding agent.

However, any such effectively connected dividends paid on our common stock generally will be subject to U.S. federal income tax on a net income basis at the regular U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. A non-U.S. 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. Non-U.S. 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-U.S. holder generally will not be subject to U.S. 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-U.S. 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-U.S. holder in the United States;
- the non-U.S. 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 U.S. federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-U.S. holder's holding period for our common stock, and our common stock is not "regularly traded" on an established securities market (as defined by applicable Treasury Regulations).

Determining whether we are a USRPHC depends on the fair market value of our U.S. 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 U.S. federal income tax purposes, although there can be no assurance we will not in the future become a USRPHC. If we are or become a USRPHC and the "regularly traded" exception noted above does not apply to the disposition, a non-U.S. holder will generally be taxed on any gain in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax generally will not apply. Prospective investors are encouraged to consult their own tax advisors regarding the possible consequences to them if we are, or were to become, a USRPHC.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. A non-U.S. 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. Gain described in the second bullet point above will be subject to U.S. 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 U.S.-source capital losses (even though the individual is not considered a resident of the United States), provided that the non-U.S. holder has timely filed U.S. federal income tax returns with respect to such losses. Non-U.S. 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-U.S. holder indicating distributions on our common stock paid to such holder and the amount of any tax withheld with respect to those distributions. These information reporting requirements apply even if no withholding was required because the distributions were effectively connected with the holder's conduct of a U.S. 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-U.S. holder resides or is established. Backup withholding, currently at a 24% rate, generally will not apply to payments to a non-U.S. holder of dividends on or the gross proceeds of a disposition of our common stock provided the non-U.S. holder furnishes the required certification for its non-U.S. 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 payor has actual knowledge, or reason to know, that the holder is a U.S. person.

Backup withholding is not an additional tax. If any amount is withheld under the backup withholding rules, the non-U.S. holder should consult with a U.S. tax advisor regarding the possibility of and procedure for obtaining a refund or a credit against the non-U.S. holder's U.S. federal income tax liability, if any.

Withholding on foreign entities

FATCA imposes a U.S. federal withholding tax of 30% on certain payments made to a "foreign financial institution" (as specially defined under these rules) unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities certain information regarding certain U.S. 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 U.S. owners) or an exemption applies. FATCA also generally imposes a U.S. federal withholding tax of 30% on certain payments made to a non-financial foreign entity unless such entity provides the withholding agent a certification identifying certain direct and indirect U.S. 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-U.S. holder might be eligible for refunds or credits of such taxes. FATCA currently applies to dividends paid on our common stock. The U.S. Treasury released proposed Treasury Regulations which, if finalized in their present form, would eliminate the federal withholding tax of 30% applicable to the gross proceeds of a sale or other disposition of our common stock. In its preamble to such proposed Treasury Regulations, the U.S. Treasury stated that taxpayers may generally rely on the proposed regulations until final regulations are issued.

Prospective investors are encouraged to consult with their own tax advisors regarding the potential implications of FATCA on their investment in our common stock.

Underwriting

We are offering the shares of common stock described in this prospectus through a number of underwriters. J.P. Morgan Securities LLC and BofA Securities, Inc. are acting as joint book running managers of the offering and as representatives of the underwriters. We have entered into an underwriting agreement with the underwriters. Subject to the terms and conditions of the underwriting agreement, we have agreed to sell to the underwriters, and each underwriter has severally agreed to purchase, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

Name	Number of shares
J.P. Morgan Securities LLC	
BofA Securities, Inc.	
Total:	

The underwriters are committed to purchase all the shares of common stock offered by us if they purchase any shares.

The underwriting agreement also provides that if an underwriter defaults, the purchase commitments of non-defaulting underwriters may also be increased or the offering may be terminated.

The underwriters propose to offer the shares of common stock directly to the public at the initial public offering price set forth on the cover page of this prospectus and to certain dealers at that price less a concession not in excess of $ per share. After the initial offering of the shares to the public, if all of the shares of common stock are not sold at the initial public offering price, the underwriters may change the offering price and the other selling terms. Sales of any shares made outside of the United States may be made by affiliates of the underwriters.

The underwriters have an option to buy up to additional shares of common stock from us to cover sales of shares by the underwriters which exceed the number of shares specified in the table above. The underwriters have 30 days from the date of this prospectus to exercise this option to purchase additional shares. If any shares are purchased with this option to purchase additional shares, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

The underwriting fee is equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting fee is $ per share. The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

	Without option to purchase additional shares exercise	With full option to purchase additional shares exercise
Per Share	$	$
Total	$	$

We estimate that the total expenses of this offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding the underwriting discounts and commissions, will be

approximately $. We have also agreed to reimburse the underwriters for certain of their expenses in an amount not to exceed $.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

We have agreed that we will not (i) 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, or submit to, or file with, the Securities and Exchange Commission a registration statement under the Securities Act of 1933, or the Securities Act, relating to, any shares of our common stock or securities convertible into or exercisable or exchangeable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, loan, disposition or filing, or (ii) enter into any swap or other arrangement that transfers all or a portion of the economic consequences associated with the ownership of any shares of common stock or any such other securities (regardless of whether any of these transactions are to be settled by the delivery of shares of common stock or such other securities, in cash or otherwise), in each case without the prior written consent of J.P. Morgan Securities LLC and BofA Securities, Inc. for a period of 180 days after the date of this prospectus, other than the shares of our common stock to be sold in this offering.

Our directors and executive officers, and certain of our significant stockholders (such persons, the lock-up parties) have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each lock-up party, with limited exceptions, for a period of 180 days after the date of this prospectus (such period, the restricted period), may not (and may not cause any of their direct or indirect affiliates to), without the prior written consent of J.P. Morgan Securities LLC and BofA Securities, Inc., (1) 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 our common stock or any securities convertible into or exercisable or exchangeable for our common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such lock-up parties in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant (collectively with the common stock, the lock-up securities)), (2) enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the lock-up securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of lock-up securities, in cash or otherwise, (3) make any demand for, or exercise any right with respect to, the registration of any lock-up securities, or (4) publicly disclose the intention to do any of the foregoing. Such persons or entities have further acknowledged that these undertakings preclude them from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (by any person or entity, whether or not a signatory to such agreement) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any lock-up securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of lock-up securities, in cash or otherwise. The lock-up party further confirms that it has furnished J.P. Morgan Securities LLC and BofA Securities, Inc. with the details of any transaction that the lock-up party, or any of its affiliates, is a party to as of the date of this prospectus, which transaction would have been restricted by the lock-up agreement if it had been entered into by the lock-up party during the restricted period.

The restrictions described in the immediately preceding paragraph and contained in the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers of lock-up securities: (i) as bona fide gifts, or for bona fide estate planning purposes, (ii) by will, other testamentary document or intestacy, (iii) to any trust or other legal entity for the direct or indirect benefit of the lock-up party or any immediate family member, or if the lock-up party is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust, (iv) to a partnership, limited liability company or other entity of which the lock-up party and its immediate family members are the legal and beneficial owner of all of the outstanding equity securities or similar interests, (v) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (iv), (vi) in the case of a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate of the lock-up party, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the lock-up party or its affiliates (including, for the avoidance of doubt, where the lock-up party is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership) or (B) as part of a distribution to members, partners or stockholders of the lock-up party, (vii) by operation of law, (viii) to us from an employee, independent contractor or other service provider upon death, disability or termination of employment or cessation of services, in each case, of such employee, independent contractor or service provider, (ix) as part of a sale of lock-up securities acquired from the underwriters in this offering or in open market transactions after the date of this prospectus, (x) to us in connection with the vesting, settlement or exercise of restricted stock units, options, warrants or other rights to purchase shares of our common stock (including, in each case, by way of “net” or “cashless” exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, options, warrants or rights, provided that any such shares of our common stock received upon such exercise, vesting or settlement shall be subject to the terms of the lock-up agreement, and provided further that any such restricted stock units, options, warrants or rights are held by the lock-up party pursuant to an agreement or equity awards granted under a stock incentive plan or other equity award plan, each such agreement or plan which is described in this prospectus, or (xi) pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction approved by our board of directors and made to all stockholders involving a change in control, provided that if such transaction is not completed, all such lock-up securities would remain subject to the restrictions in the immediately preceding paragraph; (b) exercise of the options, settlement of RSUs or other equity awards, or the exercise of warrants granted pursuant to plans or agreements described in this prospectus, provided that any lock-up securities received upon such exercise, vesting or settlement would be subject to restrictions similar to those in the immediately preceding paragraph; (c) the conversion of outstanding preferred stock, warrants to acquire preferred stock or convertible securities outstanding as of the consummation of this offering into shares of our common stock or warrants to acquire shares of our common stock, provided that any common stock or warrant received upon such conversion would be subject to restrictions similar to those in the immediately preceding paragraph; and (d) the establishment by lock-up parties of trading plans under Rule 10b5-1 under the Exchange Act for the transfer of lock-up securities, provided that such plan does not provide for the transfer of lock-up securities during the restricted period and no filing by any person under the Exchange Act or other public announcement shall be required or made voluntarily in connection with the establishment of the trading plan during the restricted period in contravention of the lock-up agreement.

J.P. Morgan Securities LLC and BofA Securities, Inc., in their sole discretion, may release the securities subject to any of the lock-up agreements with the underwriters described above, in whole or in part at any time.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act.

We are applying to list our common stock on the The Nasdaq Global Market under the symbol “TLIS.”

In connection with this offering, the underwriters may engage in stabilizing transactions, which involves making bids for, purchasing and selling shares of common stock in the open market for the purpose of preventing or retarding a decline in the market price of the common stock while this offering is in progress. These stabilizing transactions may include making short sales of common stock, which involves the sale by the underwriters of a greater number of shares of common stock than they are required to purchase in this offering, and purchasing shares of common stock on the open market to cover positions created by short sales. Short sales may be “covered” shorts, which are short positions in an amount not greater than the underwriters’ option to purchase additional shares referred to above, or may be “naked” shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option to purchase additional shares, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option to purchase additional shares. 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 that could adversely affect investors who purchase in this offering. To the extent that the underwriters create a naked short position, they will purchase shares in the open market to cover the position.

The underwriters have advised us that, pursuant to Regulation M of the Securities Act, they may also engage in other activities that stabilize, maintain or otherwise affect the price of the common stock, including the imposition of penalty bids. This means that if the representatives of the underwriters purchase common stock in the open market in stabilizing transactions or to cover short sales, the representatives can require the underwriters that sold those shares as part of this offering to repay the underwriting discount received by them.

These activities may have the effect of raising or maintaining the market price of the common stock or preventing or retarding a decline in the market price of the common stock, and, as a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If the underwriters commence these activities, they may discontinue them at any time. The underwriters may carry out these transactions on the , in the over the counter market or otherwise.

Prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined by negotiations between us and the representatives of the underwriters. In determining the initial public offering price, we and the representatives of the underwriters expect to consider a number of factors including:

- the information set forth in this prospectus and otherwise available to the representatives;
- our prospects and the history and prospects for the industry in which we compete;
- an assessment of our management;
- our prospects for future earnings;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly-traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Neither we nor the underwriters can assure investors that an active trading market will develop for our shares of common stock, or that the shares will trade in the public market at or above the initial public offering price.

Other relationships

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In particular, we are party to a $33.0 million standby letter of credit with J.P. Morgan Chase Bank, N.A., as terms of collateral that were required by one of our contract manufacturing organizations, which expires on December 31, 2020. In addition, from time to time, certain of the underwriters and their affiliates may effect transactions for their own account or the account of customers, and hold on behalf of themselves or their customers, long or short positions in our debt or equity securities or loans, and may do so in the future.

Selling restrictions

General

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

Notice to prospective investors in Canada

The shares 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 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 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.

Notice to prospective investors in the European Economic Area and United Kingdom

In relation to each Member State of the European Economic Area and the United Kingdom (each, a Relevant State), no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the

competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

(a) to any legal entity which is a qualified investor as defined under the Prospectus Regulation

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the underwriters; 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 underwriter 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 underwriters and us that it is a "qualified investor" within the meaning of Article 2(e) of the Prospectus Regulation. In the case of any shares being offered to a financial intermediary as that term is used in 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 non-discretionary 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 Relevant State to qualified investors as so defined or in circumstances in which the prior consent of the underwriters have been obtained to each such proposed offer or resale.

For the purposes of this provision, the expression an "offer to the public" in relation to shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Notice to prospective investors in the United Kingdom

In addition, in the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Regulation) (i) who have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order) and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as relevant persons) or otherwise in circumstances which have not resulted and will not result in an offer to the public of the shares in the United Kingdom within the meaning of the Financial Services and Markets Act 2000.

Any person in the United Kingdom that is not a relevant person should not act or rely on the information included in this document or use it as basis for taking any action. In the United Kingdom, any investment or investment activity that this document relates to may be made or taken exclusively by relevant persons.

Notice to prospective investors in 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 us 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), 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.

Notice to prospective investors in Australia

This prospectus:

- does not constitute a disclosure document or a prospectus under Chapter 6D.2 of the Corporations Act 2001 (Cth) (Corporations Act);
- has not been, and will not be, lodged with the Australian Securities and Investments Commission (ASIC), as a disclosure document for the purposes of the Corporations Act and does not purport to include the information required of a disclosure document for the purposes of the Corporations Act; and
- may only be provided in Australia to select investors who are able to demonstrate that they fall within one or more of the categories of investors, available under section 708 of the Corporations Act (Exempt Investors).

The shares may not be directly or indirectly offered for subscription or purchased or sold, and no invitations to subscribe for or buy the shares may be issued, and no draft or definitive offering memorandum, advertisement or other offering material relating to any shares may be distributed in Australia, except where disclosure to investors is not required under Chapter 6D of the Corporations Act or is otherwise in compliance with all applicable Australian laws and regulations. By submitting an application for the shares, you represent and warrant to us that you are an Exempt Investor.

As any offer of shares under this document will be made without disclosure in Australia under Chapter 6D.2 of the Corporations Act, the offer of those securities for resale in Australia within 12 months may, under section 707 of the Corporations Act, require disclosure to investors under Chapter 6D.2 if none of the exemptions in section 708 applies to that resale. By applying for the shares you undertake to us that you will not, for a period of 12 months from the date of issue of the shares, offer, transfer, assign or otherwise alienate those shares to investors in Australia except in circumstances where disclosure to investors is not required under Chapter 6D.2 of the Corporations Act or where a compliant disclosure document is prepared and lodged with ASIC.

Notice to prospective investors in Japan

The shares have not been and will not be registered pursuant to Article 4, Paragraph 1 of the Financial Instruments and Exchange Act. Accordingly, none of the shares nor any interest therein may be offered or sold, directly or indirectly, 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 resale, directly or indirectly, in Japan or to or for the benefit of a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and any other applicable laws, regulations and ministerial guidelines of Japan in effect at the relevant time.

Notice to prospective investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (SFO) of Hong Kong and any rules made thereunder; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the CO) or which do not constitute an offer to the public within the meaning of the CO. No advertisement, invitation or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made thereunder.

Notice to prospective investors in Singapore

Singapore SFA Product Classification — In connection with Section 309B of the SFA and the CMP Regulations 2018, unless otherwise specified before an offer of shares, we have determined, and hereby notify all relevant persons (as defined in Section 309A(1) of the SFA), that the shares are "prescribed capital markets products" (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA).

04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products.

Each underwriter has acknowledged that this prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each underwriter has represented and agreed that it has not offered or sold any shares or caused the shares to be made the subject of an invitation for subscription or purchase and will not offer or sell any shares or cause the shares to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, whether directly or indirectly, to any person in Singapore other than:

(a) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time (SFA)) pursuant to Section 274 of the SFA;

(b) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA and in accordance with the conditions specified in Section 275 of the SFA; or

(c) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except

(i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 276(4)(i)(B) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Notice to prospective investors in China

This prospectus will not be circulated or distributed in the PRC and the shares will not be offered or sold, and will not be offered or sold to any person for re-offering or resale directly or indirectly to any residents of the PRC except pursuant to any applicable laws and regulations of the PRC. Neither this prospectus nor any advertisement or other offering material may be distributed or published in the PRC, except under circumstances that will result in compliance with applicable laws and regulations.

Notice to prospective investors in Korea

The shares have not been and will not be registered under the Financial Investments Services and Capital Markets Act of Korea and the decrees and regulations thereunder (FSCMA), and the shares have been and will be offered in Korea as a private placement under the FSCMA. None of the shares may be offered, sold or delivered directly or indirectly, or offered or sold to any person for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except pursuant to the applicable laws and regulations of Korea, including the FSCMA and the Foreign Exchange Transaction Law of Korea and the decrees and regulations thereunder (FETL). The shares have not been listed on any of securities exchanges in the world including, without limitation, the Korea Exchange in Korea. Furthermore, the purchaser of the shares shall comply with all applicable regulatory requirements (including but not limited to requirements under the FETL) in connection with the purchase of the shares. By the purchase of the shares, the relevant holder thereof will be deemed to represent and warrant that if it is in Korea or is a resident of Korea, it purchased the shares pursuant to the applicable laws and regulations of Korea.

Notice to prospective investors in Taiwan

The shares have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the shares in Taiwan.

Notice to prospective investors in Saudi Arabia

This document may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Offers of Securities Regulations as issued by the board of the Saudi Arabian Capital Market Authority (CMA) pursuant to resolution number 2-11-2004 dated 4 October 2004 as amended by resolution number 1-28-2008, as amended. The CMA does not make any representation as to the accuracy or completeness of this document and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document, you should consult an authorized financial advisor.

Notice to prospective investors in the Dubai International Financial Centre (DIFC)

This document relates to an Exempt Offer in accordance with the Markets Rules 2012 of the Dubai Financial Services Authority (DFSA). This document is intended for distribution only to persons of a type specified in the Markets Rules 2012 of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus supplement nor taken steps to verify the information set forth herein and has no responsibility for this document. The securities to which this document relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the securities offered should conduct their own due diligence on the securities. If you do not understand the contents of this document you should consult an authorized financial advisor.

In relation to its use in the DIFC, this document is strictly private and confidential and is being distributed to a limited number of investors and must not be provided to any person other than the original recipient, and may not be reproduced or used for any other purpose. The interests in the securities may not be offered or sold directly or indirectly to the public in the DIFC.

Notice to prospective investors in the United Arab Emirates

The shares have not been, and are not being, publicly offered, sold, promoted or advertised in the United Arab Emirates (including the DIFC) other than in compliance with the laws of the United Arab Emirates (and the DIFC) governing the issue, offering and sale of securities. Further, this prospectus does not constitute a public offer of securities in the United Arab Emirates (including the DIFC) and is not intended to be a public offer. This prospectus has not been approved by or filed with the Central Bank of the United Arab Emirates, the Securities and Commodities Authority or the DFSA.

Notice to prospective investors in Bermuda

Shares may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda. Additionally, non-Bermudian persons (including companies) may not carry on or engage in any trade or business in Bermuda unless such persons are permitted to do so under applicable Bermuda legislation.

Notice to prospective investors in the British Virgin Islands

The shares are not being, and may not be offered to the public or to any person in the British Virgin Islands for purchase or subscription by or on behalf of us. The shares may be offered to companies incorporated under the BVI Business Companies Act, 2004 (British Virgin Islands), but only where the offer will be made to, and received by, the relevant BVI Company entirely outside of the British Virgin Islands.

Notice to prospective investors in South Africa

Due to restrictions under the securities laws of South Africa, no "offer to the public" (as such term is defined in the South African Companies Act, No. 71 of 2008 (as amended or re-enacted) (South African Companies Act)) is being made in connection with the issue of the shares in South Africa. Accordingly, this document does not, nor is it intended to, constitute a "registered prospectus" (as that term is defined in the South African Companies Act) prepared and registered under the South African Companies Act and has not been approved by, and/or filed with, the South African Companies and Intellectual Property Commission or any other regulatory authority in South Africa. The shares are not offered, and the offer shall not be transferred, sold, renounced or delivered, in South Africa or to a person with an address in South Africa, unless one or other of the following exemptions stipulated in section 96(1) applies:

Section 96(1)(a) The offer, transfer, sale renunciation or delivery is to:

(i) persons whose ordinary business, or part of whose ordinary business, is to deal in securities, as principal or agent;

(ii) the South African Public Investment Corporation;

(iii) persons or entities regulated by the Reserve Bank of South Africa;

(iv) authorized financial service providers under South African law;

(v) financial institutions recognized as such under South African law;

(vi) a wholly-owned subsidiary of any person or entity contemplated in (c), (d) or (e), acting as agent in the capacity of an authorized portfolio manager for a pension fund, or as manager for a collective investment scheme (in each case duly registered as such under South African law); or

(vii) any combination of the person in (i) to (vi); or

Section 96(1)(b) the total contemplated acquisition cost of the securities, for any single addressee acting as principal is equal to or greater than ZAR1,000,000 or such higher amount as may be promulgated by notice in the Government Gazette of South Africa pursuant to section 96(2)(a) of the South African Companies Act.

Information made available in this prospectus should not be considered as "advice" as defined in the South African Financial Advisory and Intermediary Services Act, 2002.

Notice to prospective investors in Israel

This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, (the Israeli Securities Law), and has not been filed with or approved by the Israel Securities Authority. In Israel, this prospectus is being distributed only to, and is directed only at, and any offer of the shares of common stock is directed only at, (i) a limited number of persons in accordance with the Israeli Securities Law and (ii) investors listed in the first addendum (the Addendum), to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case, purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors are required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

Legal matters

The validity of the shares of common stock being offered by this prospectus will be passed upon for us by Cooley LLP. The underwriters are being represented by Latham & Watkins LLP, Menlo Park, California.

Experts

Ernst & Young LLP, independent registered public accounting firm, has audited our financial statements and related notes at December 31, 2018 and 2019, and for each of the two years in the period ended December 31, 2019, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements). We have included our financial statements and related notes in this prospectus and elsewhere in the registration statement in reliance on Ernst & Young LLP's report, given on their authority 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 does not contain all of the information in the registration statement and its exhibits. For further information with respect to us 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.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. The information on the SEC's website is not part of this prospectus, and any references to this web site or any other web site are inactive textual references only. You may also request a copy of these filings, at no cost, by writing us at 230 Constitution Drive, Menlo Park, California 94025 or calling us at (650) 433-3000.

Upon the completion 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. These reports, proxy statements and other information will be available on the website of the SEC referred to above. We also maintain a website at http://talis.bio, at which, following the completion of this offering, 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 in, or that can be accessed through, our website is not incorporated by reference in, and is not part of, this prospectus.

Talis Biomedical Corporation
Index to financial statements

Report of independent registered public accounting firm

To the Stockholders and the Board of Directors of Talis Biomedical Corporation

Opinion on the financial statements

We have audited the accompanying balance sheets of Talis Biomedical Corporation (the Company) as of December 31, 2018 and 2019, the related statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows for the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2019, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

The company's ability to continue as a going concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has incurred significant losses and experienced negative cash flows from operations and has stated that substantial doubt exists about the Company's ability to continue as a going concern. Management's evaluation of the events and conditions and management's plans regarding these matters are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's 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 and in accordance with auditing standards generally accepted in the United States of America. 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/ Ernst & Young LLP

We have served as the Company's auditor since 2016.

Redwood City, California
October 15, 2020

Talis Biomedical Corporation
Balance sheets
(in thousands, except for share and par value)

	December 31, 2018	December 31, 2019
Assets		
Current assets:		
Cash	$ 6,895	$ 21,604
Unbilled grant receivables	1,997	1,806
Prepaid expenses and other current assets	444	697
Total current assets	9,336	24,107
Property and equipment, net	1,811	1,535
Other long term assets	231	91
Total assets	$ 11,378	$ 25,733
Liabilities and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 1,509	$ 1,566
Accrued expenses and other current liabilities	1,859	2,471
Total current liabilities	3,368	4,037
Non-current liabilities:		
Deferred rent, net of current portion	316	81
Total liabilities	3,684	4,118
Commitments and contingencies (Note 7)		
Convertible preferred stock, $0.0001 par value—23,629,771 and 127,144,422 shares authorized as of December 31, 2018 and 2019, respectively; 2,333,837 and 37,871,430 shares issued and outstanding as of December 31, 2018 and 2019, respectively; aggregate liquidation preference of $62,678 as of December 31, 2019	59,696	42,755
Stockholders' deficit:		
Common stock, $0.0001 par value; 42,000,000 and 82,000,000 Class A shares authorized at December 31, 2018 and 2019, respectively, 751,670 and 3,025,317 shares issued and outstanding at December 31, 2018 and 2019, respectively; No Class B shares authorized at December 31, 2018 and 20,000,000 Class B shares authorized at December 31, 2019, none issued and outstanding at December 31, 2019	—	—
Additional paid-in capital	2,300	60,636
Accumulated deficit	(54,302)	(81,776)
Total stockholders' deficit	(52,002)	(21,140)
Total liabilities, convertible preferred stock and stockholders' deficit	$ 11,378	$ 25,733

See accompanying notes to the financial statements

Talis Biomedical Corporation
Statements of operations and comprehensive loss
(in thousands, except for share and per share amounts)

	Year ended December 31,	
	2018	**2019**
Grant revenue	$ 2,390	$ 3,977
Operating expenses:		
Research and development	18,388	23,812
General and administrative	5,432	6,864
Total operating expenses	23,820	30,676
Loss from operations	(21,430)	(26,699)
Other income (expense):		
Change in estimated fair value of convertible notes	—	(817)
Interest income, net	93	42
Total other income (expense), net:	93	(775)
Net loss and comprehensive loss	$ (21,337)	$ (27,474)
Net (loss) income attributable to Class A Common Stockholders	$ (21,337)	$ 26,382
Net (loss) income per share:		
Basic	$ (28.41)	$ 24.01
Diluted	$ (28.41)	$ (8.93)
Weighted average shares used in the calculation of net (loss) income per share:		
Basic	751,121	1,098,795
Diluted	751,121	3,075,473
Pro forma net loss per share attributable to Class A Common Stockholders, basic and diluted (unaudited)		$ (6.22)
Pro forma weighted average Class A Common Stock outstanding, basic and diluted (unaudited)		4,413,771

See accompanying notes to the financial statements

Talis Biomedical Corporation
Statements of convertible preferred stock and stockholders' deficit
(in thousands, except for share amounts)

	Convertible preferred stock		Class A common stock		Additional paid in capital	Accumulated deficit	Stockholders' deficit
	Shares	Value	Shares	Value			
Balance at December 31, 2017	2,333,837	$ 59,696	750,491	$ —	$ 1,613	$ (32,965)	$ (31,352)
Issuance of Class A Common Stock upon exercise of stock options	—	—	1,179	—	8	—	8
Stock-based compensation expense	—	—	—	—	679	—	679
Net loss	—	—	—	—	—	(21,337)	(21,337)
Balance at December 31, 2018	2,333,837	59,696	751,670	—	2,300	(54,302)	(52,002)
Equity Transactions—conversion of Series A, B, C convertible preferred stock into Series D-1 convertible preferred stock; issuance of Series C-1 convertible preferred stock, net of issuance costs of $338; conversion of Series D-1 convertible preferred stock into Class A Common Stock	20,447,071	(38,132)	2,271,892	—	56,241	—	56,241
Issuance of Series D-1 convertible preferred stock, net of issuance costs of $36	2,330,899	1,536	—	—	319	—	319
Issuance of Series D-2 convertible preferred stock, net of issuance costs of $87	5,822,371	3,838	—	—	792	—	792
Settlement of convertible notes into Series D-2 convertible preferred stock	6,937,252	15,817	—	—	—	—	—
Issuance of Class A Common Stock upon exercise of stock options	—	—	1,755	—	19	—	19
Stock-based compensation expense	—	—	—	—	965	—	965
Net loss	—	—	—	—	—	(27,474)	(27,474)
Balance at December 31, 2019	37,871,430	$ 42,755	3,025,317	$ —	$ 60,636	$ (81,776)	$ (21,140)

See accompanying notes to the financial statements

Talis Biomedical Corporation
Statements of cash flows
(in thousands)

	Year ended December 31,	
	2018	**2019**
Operating activities		
Net loss	$ (21,337)	$ (27,474)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	679	965
Depreciation and amortization	647	726
Changes in estimated fair value of convertible notes	—	817
Changes in operating assets and liabilities:		
Unbilled grant receivables	(1,997)	192
Prepaid expenses and other current assets	28	(255)
Accounts payable	599	185
Accrued expenses and other liabilities	386	378
Other long term assets	52	140
Net cash used in operating activities	(20,943)	(24,326)
Investing activities		
Purchase of property and equipment	(533)	(578)
Net cash used in investing activities	(533)	(578)
Financing activities		
Proceeds from the issuance of convertible preferred stock, net of issuance costs	—	24,594
Proceeds from issuance of convertible note	—	15,000
Proceeds from stock option exercises	8	19
Net cash provided by financing activities	8	39,613
Net (decrease) increase in cash	(21,468)	14,709
Cash at beginning of period	28,363	6,895
Cash at end of period	$ 6,895	$ 21,604
Supplemental disclosure of noncash financing activities		
Noncash impact of Equity Transactions (see Note 9)	$ —	$ 53,856
Gain on issuance of Series D-1 convertible preferred stock	$ —	$ 319
Gain on issuance of Series D-2 convertible preferred stock	$ —	$ 792
Conversion of convertible notes into series D-2 convertible preferred stock	$ —	$ 15,817
Supplemental disclosure of noncash operating activities		
Property and equipment purchases included in accounts payable and accrued expenses	$ 128	$ —

See accompanying notes to the financial statements

Talis Biomedical Corporation
Notes to the financial statements

1. Organization and nature of business

Talis Biomedical Corporation (Company) is a molecular diagnostic company focused on transforming diagnostic testing through innovative molecular diagnostic products that enable customers to deploy accurate, reliable, low cost and rapid point-of-care testing for infectious diseases and other conditions. The Company was incorporated in 2013 under the general laws of the State of Delaware and is based in Menlo Park, California and Chicago, Illinois.

The Company has developed the Talis One platform, designed to be a fully integrated, and cloud-enabled, portable molecular diagnostic solution that customers can rapidly deploy when and where needed.

The Company expects its first commercial product utilizing the Talis One platform to be a rapid, point-of-care molecular diagnostic test to detect SARS-CoV-2 (COVID-19) directly from a patient sample (COVID-19 test). The Company is also developing assays for the detection of other respiratory infections that could be included as a panel test with the COVID-19 test as well as assays for infections related to women's health and sexually transmitted infections.

The Company is currently conducting research and development activities to operationalize and commercialize the Talis One platform and its associated diagnostic tests. The Company's products require approval or clearance from the U.S Food and Drug Administration (FDA) prior to commercialization. Due to the COVID-19 global pandemic, the Company expects that its COVID-19 test will be authorized for marketing and commercialized under the FDA's Emergency Use Authorization (EUA), rather than being required to go through a traditional marketing authorization process.

Going concern

The Company has incurred significant losses and negative cash flows since inception. As of December 31, 2019, the Company had cash of $21.6 million. In June 2020, the Company received total net proceeds of $99.8 million from the sale of the Company's Series E-1 convertible preferred stock (Series E-1 Preferred) and Series E-2 non-voting convertible preferred stock (Series E-2 Preferred) and in July 2020, the company was awarded a grant from the National Institutes of Health (NIH) for an amount of up to $25.4 million, of which $8.9 million has been received to date (see Note 15). Between June 2020 and August 2020, the Company also executed and amended a standby letter of credit (LOC) with JPMorgan Chase Bank, N.A. (JPMC) as terms of collateral that were required by one of the Company's contract manufacturing organizations for up to $33.0 million, expiring on December 31, 2020 (see Note 15). The Company's current operating plan, including these aforementioned amounts and the cash held at December 31, 2019, indicates the Company will continue to incur losses from operations and generate negative cash flows from operating activities, given ongoing expenditures related to extensive research and development, manufacturing and commercialization activities and the Company's lack of commercial revenue generating activities at this point in the Company's lifecycle. These events and conditions raise substantial doubt about the Company's ability to continue as a going concern for a period of one year from the date of the issuance of these financial statements.

The Company will be required to raise additional capital to further advance its research and development programs, prepare for commercialization of the Talis One platform, operate its business and meet its obligations as they come due. If sufficient funds at acceptable terms are not available when needed, the Company could be required to significantly reduce its operating expenses and delay, reduce the scope of, or eliminate one or more of its research programs. Failure to manage discretionary spending or raise additional financing, as needed, may adversely impact the Company's ability to achieve its intended business objectives.

The Company expects to finance its future operations through the sale of capital stock, additional equity, debt financings, grants, or strategic alliances with third parties. However, there is no guarantee that any of these strategic or financing opportunities will be executed or realized on favorable terms, if at all, and some could be dilutive to existing stockholders. The Company's ability to raise additional capital through either the issuance of equity or debt is dependent on a number of factors including, but not limited to, the demand for the Company, which itself is subject to a number of development and business risks and uncertainties, as well as the uncertainty that the Company would be able to raise such additional capital at a price or on terms that are favorable to the Company.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern and do not include adjustments that might result from the outcome of this uncertainty. This basis of accounting contemplates the recovery of the Company's assets and the satisfaction of liabilities in the normal course of business. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts of liabilities that might be necessary should the Company be unable to continue as a going concern. Based on the Company's current cash position and current financial position as of the date of the financial statements, there is a substantial doubt about the Company's ability to continue as a going concern.

2. Summary of significant accounting policies

Basis of presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP).

Exchange of common stock

In March 2019, the Company's Board of Directors (Board) approved and the Company filed its Third Amended and Restated Certificate of Incorporation to authorize the issuance of up to 62,000,000 shares of the Company's Class A Common Stock (Class A Common Stock) and 20,000,000 shares of the Company's Class B Non-Voting Common Stock (Class B Common Stock), each with a par value of $0.0001 per share. In conjunction with the Amended and Restated Certificate of Incorporation, the Company exchanged all outstanding shares of the Company's common stock and options to purchase common stock for an equal number of shares of Class A Common Stock and options to purchase Class A Common Stock. There were no changes in rights and privileges between the legacy common stock and Class A Common Stock. The accompanying financial statements and related notes has been retroactively revised to reflect the common stock as Class A Common Stock to reflect this change in capital structure.

Reverse stock split

In October 2019, the Board approved, and on December 3, 2019, the Company filed its Fifth Amended and Restated Certificate of Incorporation to effect a 10-for-1 reverse split (Reverse Split) of shares of Class A Common Stock and all classes of its convertible preferred stock. All share and per share data shown in the accompanying financial statements and related notes has been retroactively revised to reflect the Reverse Split. Upon the effectiveness of the Reverse Split, shares of all classes of its convertible preferred stock, Class A Common Stock, Class A Common Stock underlying outstanding stock options and other equity instruments were proportionately reduced and the respective exercise prices, if applicable, were proportionately increased in accordance with the terms of the agreements governing such securities. Shares of Class A Common Stock reserved for issuance upon the conversion of all classes of the convertible preferred stock were proportionately

reduced and the respective conversion prices were proportionately increased. The par value per share and the authorized number of shares of Class A Common Stock and Class B Common Stock were not adjusted as a result of the Reverse Split.

Segment information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is the Chief Executive Officer. The Company views its operations and manages its business in one operating segment.

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make judgments, estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. These estimates form the basis for judgments the Company makes about the carrying values of assets and liabilities that are not readily apparent from other sources. The Company bases its estimates and judgments on historical experience and on various other assumptions that the Company believes are reasonable under the circumstances. These estimates are based on management's knowledge about current events and expectations about actions the Company may undertake in the future. Significant estimates include, but are not limited to, recovery of long-lived assets, stock-based compensation expense, research and development accruals, uncertain tax positions, the fair value of Class A Common Stock, the fair value of the Company's convertible preferred stock, and the fair value of convertible notes. Actual results could vary from the amounts derived from management's estimates and assumptions.

Fair value of financial instruments

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- *Level 1*—Quoted prices in active markets for identical assets or liabilities.
- *Level 2*—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- *Level 3*—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3 (see Note 3). A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value of the instrument.

Fair value option

The Company elected the fair value option to account for its convertible notes (Notes) that were issued and settled during 2019. The Company recorded these Notes at their estimated fair value with changes in estimated fair value recorded as a component of other income (expense), net in the statement of operations and comprehensive loss unless the change is a result of a change in credit risk of the Notes, in which case such change in estimated fair value is recorded within other comprehensive income (loss). As the Notes were issued and settled during the year ended December 31, 2019, any estimated fair value changes related to the credit risk of the Notes were recognized as part of other income (expense) upon settlement of the Notes. No material change to the credit risk of the Notes occurred during the period the Notes were outstanding. As a result of applying the fair value option, direct costs and fees related to the Notes were insignificant and expensed as incurred and were not deferred. The Company concluded that it was appropriate to apply the fair value option to the Notes because no component of the Notes was required to be recognized as a component of stockholders' deficit.

Cash

Cash consists of deposits held at financial institutions and is stated at fair value. The Company limits its credit risk associated with cash by maintaining its bank accounts at major financial institutions.

Concentration of credit risk and other risks and uncertainties

Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and unbilled grant receivables. The Company's cash is deposited in accounts at large financial institutions. The Company believes it is not exposed to significant credit risk due to the financial strength of the depository institutions in which the cash is held and government grant funded nature of the Company's unbilled grant receivables.

In December 2019, a novel strain of coronavirus, which causes the disease known as COVID-19, was reported to have surfaced in Wuhan, China. Since then, COVID-19 coronavirus has spread globally. In March 2020, the World Health Organization declared the COVID-19 outbreak a pandemic. The COVID-19 pandemic has and may continue to impact the Company's third-party manufacturers and suppliers, which could disrupt its supply chain or the availability or cost of materials. The effects of the public health directives and the Company's work-from-home policies may negatively impact productivity, disrupt its business and delay clinical programs and timelines and future clinical trials, the magnitude of which will depend, in part, on the length and severity of the restrictions and other limitations on the Company's ability to conduct business in the ordinary course. These and similar, and perhaps more severe, disruptions in the Company's operations could negatively impact business, results of operations and financial condition, including its ability to obtain financing. To date, the Company has not incurred impairment losses in the carrying values of its assets as a result of the pandemic and is not aware of any specific related event or circumstance that would require the Company to revise its estimates reflected in these financial statements.

The Company has developed its COVID-19 test in direct response to the pandemic and has been awarded a contract from the NIH for Phase 2 of its Rapid Acceleration of Diagnostics (RADx) initiative. These developments may mitigate risks that could affect the Company's ability to complete its clinical trials in a timely manner, delay the initiation and/or enrollment of any future clinical trials, disrupt regulatory activities or have other adverse effects on its business and operations.

The Company cannot be certain what the overall impact of the COVID-19 pandemic will be on its business and prospects. The extent to which the COVID-19 pandemic will further directly or indirectly impact its business,

results of operations, financial condition and liquidity, including planned and future clinical trials and research and development costs, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19, the actions taken to contain or treat it, and the duration and intensity of the related effects. In addition, the Company could see some limitations on employee resources that would otherwise be focused on its operation, including but not limited to sickness of employees or their families, the desire of employees to avoid contact with large groups of people, and increased reliance on working from home. If the financial markets and/or the overall economy are impacted for an extended period, the Company's business, financial condition, results of operations and prospects may be adversely affected.

Property and equipment, net

Property and equipment, net are recorded at cost, less accumulated depreciation. Depreciation is recorded using the straight-line method based on the estimated useful lives of the depreciable property or, for leasehold improvements, the remaining term of the lease, whichever is shorter. The useful lives of the assets are as follows:

	Estimated useful life (in years)
Lab equipment	5 years
Furnitures and fixtures	5 years
Office and computer equipment	3 years
Leasehold improvements	Shorter of life of lease or remaining lease term

Upon sale or retirement of the assets, the cost and related accumulated depreciation are removed from the balance sheet and the resulting gain or loss is recognized in the statement of operations and comprehensive loss. Expenditures for maintenance and repairs are expensed as incurred.

Impairment of long-lived assets

The Company reviews the carrying amount of its long-lived assets, including property and equipment, for impairment whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable. If indicators of impairment exist, an impairment loss would be recognized when the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. The impairment charge is determined based upon the excess of the carrying value of the asset over its estimated fair value, with estimated fair value determined based upon an estimate of discounted future cash flows or other appropriate measures of estimated fair value. Management believes that no revision to the remaining useful lives or write-down of long-lived assets is required as of and for the year ended December 31, 2019.

Leases

The Company enters into lease agreements for its laboratory and office facilities. These leases are classified as operating leases. Rent expense is recognized on a straight-line basis over the term of the lease and, accordingly, the Company records the difference between cash rent payments and the recognition of rent expense as a deferred rent liability. Incentives granted under the Company's operating leases, including allowances to fund leasehold improvements and rent holidays, are capitalized and recognized as reductions to rental expense on a straight-line basis over the term of the lease.

Research and development costs

Research and development costs are expensed as incurred. Research and development expenses include certain payroll and personnel expenses, laboratory supplies, consulting costs, external contract research and development expenses, allocated overhead and facility occupancy costs. Costs to develop the Company's technologies are recorded as research and development expense except for costs that meet the criteria to be capitalized as internal-use software costs. These expenses relate to both Company sponsored programs as well as costs incurred pursuant to grants. Non-refundable advance payments made for goods or services that will be used or rendered for future research and development activities are deferred and capitalized and recognized as expense as the goods are received or the related services are rendered. Costs to develop software are recorded as research and development expense unless the criteria to be capitalized as internal-use software costs is met.

The Company does not capitalize pre-launch inventory costs until future commercialization is considered probable and the future economic benefit is expected to be realized. Capitalizing pre-launch inventory costs will not occur prior to obtaining an EUA or other FDA marketing authorization unless the regulatory review process has progressed to a point that objective and persuasive evidence of regulatory approval is sufficiently probable, and future economic benefit can be asserted. The Company records such costs as research and development expenses, or if used in marketing evaluations records such costs as general and administrative expenses. A number of factors are taken into consideration, based on management's judgment, including the current status in the regulatory approval process, potential impediments to the approval process, anticipated research and development initiatives and risk of technical feasibility, viability of commercialization and marketplace trends.

For certain research and development services where the Company has not yet been invoiced or otherwise notified of actual cost from the third-party contracted service providers, the Company is required to estimate the extent of the services that have been performed on its behalf and the associated costs incurred at each reporting period. The majority of its service providers invoice the Company monthly in arrears for services performed. The Company makes estimates of its accrued expenses as of each balance sheet date in its financial statements based on facts and circumstances at that time. The Company periodically confirms the accuracy of its estimates with the service providers and makes adjustments if necessary.

Although the Company does not expect its estimates to be materially different from amounts actually incurred, the Company's understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in reporting amounts that are too high or too low in any particular period. To date, there have not been any material adjustments to the Company's prior estimates of accrued research and development expenses.

Grant revenue

Grants awarded to the Company for research and development by government entities are outside the scope of the contracts with customers and contributions guidance. This is because these granting entities are not considered to be customers and are not receiving reciprocal value for their grant support provided to the Company. These grants provide the Company with payments for certain types of expenditures in return for research and development activities over a contractually defined period. For efforts performed under these grant agreements, the Company's policy is to recognize revenue when it is reasonably assured that the grant funding will be received as evidenced through the existence of a grant arrangement, amounts eligible for reimbursement are determinable and have been incurred and paid, the applicable conditions under the grant arrangements have been met, and collectability of amounts due is reasonably assured. Costs of grant revenue are recorded as a component of research and development expenses in the Company's statements of operations and comprehensive loss.

Grant funds received from third parties are recorded as revenue if the Company is deemed to be the principal participant in the arrangement. If the Company is not the principal participant, the funds from grants are recorded as a reduction to research and development expense. Reimbursable costs paid prior to being billed are recorded as unbilled grant receivables. Funds received in advance are recorded as deferred grant revenue. Management has determined that the Company is the principal participant under the Company's grant agreements, and accordingly, the Company records amounts earned under these arrangements as grant revenue.

Convertible preferred stock

The Company records convertible preferred stock at fair value on the dates of issuance, net of issuance costs. The Company has classified convertible preferred stock, which is redeemable, as temporary equity in the accompanying balance sheets due to terms that allow for redemption of the shares in cash upon certain change in control events that are outside of the Company's control, including the sale or transfer of the Company by holders of the convertible preferred stock which could trigger redemption of the shares.

The carrying values of the convertible preferred stock are adjusted to their liquidation preferences if and when it becomes probable that such a liquidation event will occur. The Company did not accrete the value of the convertible preferred stock to the redemption values since a future change in control event was not considered probable as of December 31, 2018 or 2019. Subsequent adjustments of the carrying values to the ultimate redemption values will be made only when it becomes probable that such liquidation events will occur, causing the shares to become redeemable.

The Company also evaluates the features of its convertible preferred stock to determine if the features require bifurcation from the underlying shares, by evaluating if they are clearly and closely related to the underlying shares and if they do, or do not, meet the definition of a derivative.

In determining if an extinguishment or modification of changes to mezzanine equity-classified preferred shares has occurred, the Company has elected a policy to evaluate if changes add, delete or significantly change a substantive contractual term (e.g., one that is at least reasonably possible of being exercised), or fundamentally change the nature of the convertible preferred shares. This evaluation includes the consideration of both the expected economics as well as the business purpose for the amendment.

Income taxes

The Company accounts for income taxes under the liability method. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of events that have been included in the Company's financial statements and tax returns. Deferred tax assets and liabilities are determined based upon the differences between the financial statement carrying amounts and the tax bases of existing assets and liabilities and for loss and credit carryforwards, using enacted tax rates expected to be in effect in the year in which the differences are expected to reverse. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that these assets may not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which the temporary differences representing net future deductible amounts become deductible.

The Company recognizes and measures uncertain tax positions using a two-step approach set forth in authoritative guidance. The Company determines whether it is more likely than not that a tax position will be sustained upon examination. If it is not more likely than not that a position will be sustained, none of the benefit attributable to the position is recognized. The tax benefit to be recognized for any tax position that meets the more-likely-than-not recognition threshold is calculated as the largest amount that is more than 50%

likely of being realized upon resolution of the contingency. Judgment is required to evaluate uncertain tax positions. The Company evaluates uncertain tax positions on a regular basis. The evaluations are based on a number of factors, including changes in facts and circumstances, changes in tax law, correspondence with tax authorities during the course of the audit, and effective settlement of audit issues.

The Company's policy is to include penalties and interest expense related to income taxes as a component of income taxes expense, as necessary. The Company has not reported any interest or penalties associated with income tax since inception.

Stock-based compensation

The Company maintains an equity incentive plan as a long-term incentive for employees, consultants, and directors. The Company accounts for all stock-based awards granted to employees and directors based on their fair value on the date of the grant and recognizes compensation expense for those awards over the requisite service period, which is generally the vesting period of the respective award. The measurement date for stock awards is the date of grant, and stock-based compensation expense is recognized over the requisite service period, which is generally the vesting period, on a straight-line basis. Stock-based compensation is classified in the accompanying statements of operations and comprehensive loss based on the function to which the related services are provided. The Company recognizes stock-based compensation expense for the portion of awards that have vested. Forfeitures are accounted for as they occur.

The fair value of each stock option grant is estimated on the date of grant using the Black-Scholes options-pricing model, which requires inputs based on certain subjective assumptions, including the expected stock price volatility, the expected term of the option, the risk-free interest rate for a period that approximates the expected term of the option, and the Company's expected dividend yield.

The fair value of the Class A Common Stock is determined by the Board with the assistance of management. The fair value of Class A Common Stock is determined using valuation methodologies which utilize certain assumptions including probability weighting of events, volatility, time to an exit event, a risk-free interest rate and an assumption for a discount for lack of marketability. In determining the fair value of Class A Common Stock, the methodologies used to estimate the enterprise value of the Company were performed using methodologies, approaches, and assumptions consistent with the American Institute of Certified Public Accountants' Accounting and Valuation Guide, Valuation of Privately-Held-Company Equity Securities Issued as Compensation.

Net loss per share attributable to Class A common stockholders

Basic net loss per share attributable to holders of Class A Common Stock (Class A Common Stockholders) is computed by dividing the net loss attributable to Class A Common Stockholders by the weighted average number of shares of Class A Common Stock outstanding during the period, without consideration of potential dilutive securities. The convertible preferred stock are non-participating securities. Stock options, the Notes and convertible preferred stock are considered potentially dilutive Class A Common Stock. The Company computes diluted net loss per share attributable to Class A Common Stockholders after giving consideration to all potentially dilutive Class A Common Stock outstanding during the period, determined using the treasury-stock and if-converted methods, except where the effect of including such securities would be antidilutive.

For the year ended December 31, 2018, the Company reported a net loss attributable to Class A Common Stockholders. The potential Class A Common Stock would have been anti-dilutive and therefore basic and diluted loss per share attributable to Class A Common Stockholders were the same. During the year ended December 31, 2019, the Company reported net income attributable to Class A Common Stockholders. The stock

options, convertible preferred stock and the Notes were therefore assessed to determine whether they were antidilutive. The Company's Series A convertible preferred stock (Series A Preferred), Series B convertible preferred stock (Series B Preferred), and Series C convertible preferred stock (Series C Preferred) (collectively, the Pre-Existing Preferred Stock) were determined to be dilutive and were therefore included in the diluted net loss per share attributable to Class A Common Stockholders calculation. The Company's Series C-1 convertible preferred stock (Series C-1 Preferred), Series D-1 convertible preferred stock (Series D-1 Preferred), Series D-2 non-voting convertible preferred stock (Series D-2 Preferred), the Notes and the options to purchase Class A Common Stock were determined to be antidilutive and, therefore, excluded from the calculation.

Comprehensive loss

Comprehensive loss is defined as the change in equity of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. The Company did not have any other comprehensive income or loss for any of the periods presented, and therefore comprehensive loss was the same as the Company's net loss.

Emerging growth company status

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 (JOBS Act). Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act, until such time as those standards apply to private companies. The Company has elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that it (i) is no longer an emerging growth company or (ii) affirmatively and irrevocably opts out of the extended transition period provided in the JOBS Act. As a result, these financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

New Accounting Pronouncements

Recently Adopted Accounting Standards

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes the revenue recognition requirements in ASC 605, *Revenue Recognition*. This ASU is based on the principle that revenue is recognized to depict the transfer of goods and services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services. The ASU also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in judgments and assets recognized from costs incurred to obtain or fulfill a contract. Topic 606 was effective for annual periods beginning after December 15, 2019. Early adoption was permitted for periods beginning after December 15, 2016. The Company early adopted Topic 606 on January 1, 2019. The Company determined that its grant revenue is outside the scope of Topic 606. The adoption of Topic 606 did not impact the Company's financial position, results of operations or cash flows as its only existing revenue source as of December 31, 2019 was from grants.

In July 2017, the FASB issued ASU No. 2017-11 — Earnings Per Share (Topic 260), *Distinguishing Liabilities from Equity* (Topic 480), Derivatives and Hedging (Topic 815). Part I to ASU 2017-11 eliminates the requirement to consider "down round" features when determining whether certain equity-linked financial instruments or embedded features are indexed to an entity's own stock. In addition, entities have to make new disclosures for

financial instruments with down round features and other terms that change conversion or exercise prices. Part I to ASU 2017-11 was effective for fiscal years beginning after December 31, 2018. The amendments in Part II of ASU 2017-11 do not have an effective date because the amendments do not have an accounting effect. The Company adopted ASU 2017-11 on January 1, 2019 with no material impact on its financial position, results of operations or cash flows.

In June 2018, the FASB issued ASU 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* (ASU 2018-07), which expands the scope of Topic 718 to include accounting for share-based payment transactions for acquiring goods and services from non-employees. This amendment was effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early adoption was permitted, but no earlier than an entity's adoption date of Topic 606. The Company early adopted ASU 2018-07 on January 1, 2019 with no material impact on its financial position, results of operations or cash flows.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820)—Changes to the Disclosure Requirements for Fair Value Measurement* (ASU 2018-13), which removed the following disclosure requirements: (1) the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy; (2) the policy for timing of transfers between levels; and (3) the valuation processes for Level 3 fair value measurements. Additionally, this update added the following disclosure requirements: (1) the changes in unrealized gains and losses for the period included in other comprehensive income and loss for recurring Level 3 fair value measurements held at the end of the reporting period; (2) the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. For certain unobservable inputs, an entity may disclose other quantitative information (such as the median or arithmetic average) in lieu of the weighted average if the entity determines that other quantitative information would be a more reasonable and rational method to reflect the distribution of unobservable inputs used to develop Level 3 fair value measurements. The Company early adopted ASU 2018-07 on January 1, 2019. For the new disclosures regarding the Company's Level 3 fair value measurements, see Note 3, *Fair Value Measurements*.

On January 1, 2019, the Company adopted ASU 2018-08, *Not-For-Profit Entities (Topic 958): Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made* (ASU 2018-08), which is intended to clarify and improve the scope and the accounting guidance for contributions received and contributions made. The amendments in ASU No. 2018-08 assist entities in (1) evaluating whether transactions should be accounted for as contributions (nonreciprocal transaction) within the scope of Topic 958, *Not-for-Profit Entities*, or as exchange (reciprocal) transactions subject to other guidance and (2) determining whether a contribution is conditional. This amendment applies to all entities that make or receive grants or contributions. The adoption of this standard did not have a material impact on the Company's financial statements.

In November 2019, the FASB issued ASU 2019-08, C*ompensation—Stock Compensation (Topic 718) and Revenue from Contracts with Customers* (Topic 606). The guidance identifies, evaluates, and improves areas of U.S. GAAP for which cost and complexity can be reduced while maintaining or improving the usefulness of the information provided. The amendments in that Update expanded the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees. For entities that have adopted the amendments in Update 2018-07, the updated guidance is effective for annual periods beginning after December 15, 2019. Early adoption is permitted. The Company early adopted this ASU on January 1, 2019 and it did not have an impact on its financial statements.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740)*: Simplifying the Accounting for Income Taxes (ASU 2019-12), which eliminates certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The new guidance also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill. The Company early adopted ASU 2019-12 effective January 1, 2019. ASU 2019-12 removes the exception to the incremental approach for intra-period tax allocation in the event of a loss from continuing operations and income or gain from other items such as other comprehensive income. The exception previously resulted in allocating a tax benefit to continuing operations and tax expense to other items, even when tax expense may have been zero. Under the simplification, no tax expense or benefit will be recorded to continuing operations. The Company has an immaterial minimum state tax liability in California and no franchises tax liability. These amounts were recorded above-the-line prior to adoption of ASU 2019-12. ASU 2019-12 requires non-income tax based state franchise taxes to be recorded above-the-line. There is no impact on the Company's financial statements for this amendment under ASU 2019-12. The other provisions within ASU 2019-12 are not applicable to the Company.

Accounting standards issued but not yet adopted

In February 2016, the FASB issued ASU No. 2016-02, *Leases*, as amended (Topic 842) as guidance regarding the accounting for and disclosure of leases. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. This update also requires lessees and lessors to disclose key information about their leasing transactions. This guidance became effective for public companies for annual and interim periods beginning after December 15, 2018. For all other entities, including emerging growth companies, this standard is effective for annual reporting periods beginning after December 15, 2020, and interim periods within annual periods beginning after December 15, 2021. Early adoption is permitted. The Company adopted this standard on January 1, 2020 using the modified retrospective approach with a cumulative effect adjustment to accumulated deficit at the beginning of the period of adoption and certain practical expedients provided by Topic 842. Topic 842 is expected to impact the Company's financial statements as the Company has certain operating lease arrangements for which the Company is the lessee. As permitted by the standard, the Company will elect the transition practical expedient package, which among other things, allows the carryforward of historical lease classifications. While the Company is currently evaluating the impact of the adoption of this standard on its financial statements, the Company anticipates the recognition of additional assets and corresponding liabilities on its balance sheet related to these leases. The adoption of this accounting standard update is also expected to impact the Company's financial statement disclosures.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses* (ASU 2016-13) to require the measurement of expected credit losses for financial instruments held at the reporting date based on historical experience, current conditions and reasonable forecasts. The main objective of this ASU is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. As a result of the Company having elected the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act, and assuming the Company continues to be considered an emerging growth company, ASU 2016-13 will be effective for the Company on January 1, 2023. The Company has not yet determined the potential effects of ASU 2016-13 on its financial statements and disclosures.

In August 2018, the FASB issued ASU 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract* (ASU 2018-15). This pronouncement clarifies the requirements for capitalizing implementation costs in cloud computing arrangements and aligns them with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. As a result of the Company having elected the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b) of the JOBS Act, and assuming the Company continues to be considered an emerging growth company, ASU 2018-15 will be effective for the Company on January 1, 2021. The Company has not yet determined the potential effects of ASU 2018-15 on its financial statements and disclosures.

3. Fair value measurements

Management believes that the carrying amounts of the Company's financial instruments, including unbilled grant receivables, prepaid expenses and other current assets, accounts payable and accrued expenses approximate fair value due to the short-term nature of those instruments.

In March 2019 and August 2019, the Company issued $10.0 million and $5.0 million in Notes (See Note 8). In December 2019, the Notes were converted into 6,937,252 shares of Series D-2 Preferred with a conversion price of $2.74 per share. No other financial instruments measured at fair value on a recurring basis were outstanding as of December 31, 2018 or 2019. The fair value of the Notes was determined based on significant inputs not observable in the market, which represent a Level 3 measurement within the fair value hierarchy.

The Notes were valued using a scenario-based analysis. Two primary scenarios were considered: the qualified financing scenario and the default scenario. The value of the Notes under each scenario were probability weighted to arrive at the estimated fair value for the Notes. The qualified financing scenario considers the value impact of conversion at the stated discount to the issue price if the Company has a qualifying financing event, i.e. raised $45.0 million in an equity financing before the maturity date. The default scenario assumes the qualified financing event does not occur and the Company is in distress, resulting in a partial or no recovery of the Notes. A recovery rate on the Notes in the default scenario gives consideration to the Company's net asset value relative to the size of the Note. As of the issuance date of the Notes, the probability of default was calculated such that the probability-weighted value of the Notes was equal to the principal investment amount. The implied probability of default of previously issued Notes is carried forward and used as the probability of default for subsequent valuation dates. It is assumed that the probability of the Notes reaching contractual maturity was not material at the valuation dates, given the proximity to the qualified financing and the Company's financing needs.

The Company determined the estimated fair value of the Notes based on the proceeds received for the Notes; the terms of the Notes, including the rate at which the notes convert into the qualified financing securities; the probability and timing of a qualified financing, and the recovery rate for the Notes in the default scenario. Estimates and assumptions impacting the fair value measurement include the probability of a qualified financing, the expected timing of such event, and the recovery rate in the case of a default. The Company estimated the probability and timing of the qualified financing based on its assumptions and knowledge of specified events at issuance and as of each reporting date.

The following table summarizes the significant unobservable inputs used in the fair value measurement of the Notes during the year ended December 31, 2019:

Fair Value Range (in thousands)	Valuation Technique	Unobservable Input	Input Range
$15,231—$15,817	Scenario-based analysis	Discount Rate	15.0%—15.0%
		Timing of the scenarios	0.17 years—0.80 years
		Probability of Qualified Financing	82.8%—82.8%
		Probability of Default	17.2%—17.2%
		Recovery Rate	0.0.%—0.0%

In December 2019, upon the occurrence of a non-qualified financing (see Note 9), the Company estimated the fair value of the Notes considering that a market participant would factor in the conversion upon the settlement and the terms of the Notes, including the rate at which the Notes converted into the qualified financing securities. The assumptions impacting the fair value measurement as of the settlement date included a 100% probability of conversion of the Notes into Series D-2 Preferred, the number of shares of Series D-2 Preferred received as a part of the conversion, and the conversion price of $2.74 for the Notes.

The fair value of the Notes upon settlement in December 2019 was $15.8 million. The Company recorded a loss of $0.8 million for changes in the estimated fair value of the Notes in the statements of operations and comprehensive loss for the year ended December 31, 2019.

The following table provides a roll forward of the estimated fair value of the Notes, for which fair value was determined using Level 3 inputs (in thousands):

	Convertible notes
Balance as of December 31, 2018	$ —
Issuance of convertible notes	15,000
Change in estimated fair value immediately prior to settlement	817
Settlement of convertible notes	(15,817)
Balance as of December 31, 2019	$ —

During the years ended December 31, 2018 and 2019, there were no transfers between Level 1, Level 2 and Level 3 of the fair value hierarchy.

4. Property and equipment, net

Property and equipment consisted of the following (in thousands):

	December 31,	
	2018	2019
Lab equipment	$ 1,890	$ 2,293
Office and computer equipment	315	325
Furniture and fixtures	310	338
Leasehold improvements	806	814
Total property and equipment	3,321	3,770
Less accumulated depreciation	(1,510)	(2,235)
Property and equipment, net	$ 1,811	$ 1,535

Depreciation expense for the years ended December 31, 2018 and 2019 was $0.6 million and $0.7 million, respectively. All of the Company's property and equipment is located in the U.S.

5. Accrued expenses and other current liabilities

Accrued expenses and other current liabilities consisted of the following (in thousands):

	December 31,	
	2018	2019
Compensation and benefit	$1,473	$1,908
Deferred rent, current	212	235
Other liabilities	174	328
	$1,859	$2,471

6. Grants and unbilled receivables

CARB-X grant

In April 2018, the Company entered into a subaward agreement with the Trustees of Boston University as part of the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) grant to support the development of a rapid Clinical Laboratory Improvement Amendments-waived molecular diagnostic test to detect chlamydia and gonorrhea directly from a patient sample in 20 minutes or less and develop a similarly rapid phenotypic antibiotic susceptibility test for gonorrhea. The subaward agreement consisted of $4.4 million of initial funding through September 30, 2019. During 2020, the subaward agreement was extended through September 2020 and the initial funding was increased by $1.2 million in order to expand development efforts. Under the subaward agreement, there is a possibility of an additional $4.2 million of funding through June 2021 based on the discretion of CARB-X and the achievement of certain project milestones. During the years ended December 31, 2018 and 2019, the Company recognized $1.9 million and $3.2 million of revenue related to the grant, respectively, of which $1.5 million and $1.6 million of reimbursable expenses had been incurred and paid but were not yet invoiced and were included in unbilled grant receivables at December 31, 2018 and 2019, respectively. These amounts were subsequently invoiced and collected by July 2019 and February 2020, respectively.

NIH grant

In May 2018, the Company was awarded a grant from the NIH for the Diagnostics via Rapid Enrichment, Identification, and Phenotypic Antibiotic Susceptibility Testing of Pathogens from Blood project. The structure of the award consisted of $1.3 million of initial funding through April 2019, with the possibility of an additional $4.4 million of funding through April 2023, subject to the availability of funds, the discretion of the NIH and satisfactory progress of the project. In March 2019, the Company exercised its first one-year option under the grant, extending the term through April 2020. During the years ended December 31, 2018 and 2019, the Company recognized $0.5 million and $0.9 million of revenue related to this grant, respectively, of which $0.5 million and $0.2 million of reimbursable expenses had been incurred and paid but were not yet invoiced and were included in unbilled grant receivables at December 31, 2018 and 2019, respectively. These amounts were subsequently invoiced and collected by March 2019 and January 2020, respectively.

7. Commitments and contingencies

Operating leases

In December 2015, the Company entered a lease agreement in Menlo Park, California for lab and office space. The lease agreement commenced on May 1, 2016 and has an expiration date of April 30, 2021. The lease payments increase by 3% in each year. The lease includes $0.8 million in tenant inducements, which has been fully utilized through qualifying tenant improvements and rental credits. Monthly rent expense is recognized net of the tenant inducement amount on a straight-line basis over the lease term. As of December 31, 2019, the Company did not have an option to extend the term of the lease. The Company also leases office space on a month-to-month basis in Chicago, Illinois.

Future minimum lease payments under operating leases, including its Menlo Park and Chicago offices, consisted of the following (in thousands):

Year ending December 31,	
2020	$ 807
2021	271
	$1,078

Rent expense was $0.7 million and $0.6 million for the years ended December 31, 2018 and 2019, respectively.

Indemnification agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, customers and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. These indemnities include indemnities to the directors and officers of the Company to the maximum extent permitted under applicable Delaware law. The maximum potential amount of future payments that the Company could be required to make under these indemnification agreements is, in many cases, unlimited. The Company has not incurred any material costs as a result of such indemnifications and is not currently aware of any indemnification claims.

Contingencies

The Company is party to certain legal matters arising in the ordinary course of its business. In addition, third parties may, from time to time, assert claims against us in the form of letters and other communications. The

Company records a provision for contingent losses when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. The Company currently does not believe that the ultimate outcome of any of the matters is probable or reasonably estimable, or that these matters will have a material adverse effect on its business; however, the results of litigation and claims are inherently unpredictable. Regardless of the outcome, litigation can have an adverse impact on the Company because of litigation and settlement costs, diversion of management resources and other factors.

8. Convertible notes due to related party

In March 2019 (Effective Date), the Company executed a Convertible Note Purchase Agreement under which the Company agreed to issue an aggregate principal amount of up to $15.0 million (First Tranche Funding) and up to an additional $5.0 million (Second Tranche Funding) of the Notes to an existing investor and related party. The Notes were subject to adjustments to their principle balances whereby upon the issuance of the Notes under the First Tranche Funding and the Second Tranche Funding, the principal owed increased by 10.0% of the face value of the Notes. The Company issued, taking into the effect of the 10% increment, $11.0 million of Notes under the First Tranche Funding and $5.5 million under the Second Tranche Funding in March 2019 and August 2019, respectively.

An additional 5.0% installment adjustment was applied to the outstanding First Tranche Funding principal and accrued interest on the 150th day after the Effective Date, the 180th day after the Effective Date, and the 210th day after the Effective Date.

The Notes bore interest at a fixed per annum rate of 6.5% compounded monthly until their maturity date of December 31, 2019, at which time all outstanding principal and interest became due and payable in cash if not already converted.

In the event of a qualified financing, whereby the Company issued and sold its convertible preferred stock and raised capital of at least $45.0 million of total gross proceeds in cash, the Notes would automatically convert into convertible preferred stock at a price equal to the issue price per share of the shares issued in the qualified financing and on the same terms and conditions of such qualified financing. In the event of a non-qualified financing, the holders of the Notes had the option to convert the outstanding principal and unpaid interest of the Notes into such financing at a conversion price equal to the issue price per share of the financing shares and on the same terms and conditions of such non-qualified financing.

Upon a change of control in the company, the holders of the Notes could elect to either declare the Notes payable in an amount equal to 200% multiplied by the outstanding principal plus all unpaid interest or convert the outstanding principal and unpaid interest into shares of Series C Preferred at a conversion price equal to the Series C Preferred original issue price. Upon an event of default, including failure to comply with the Company’s payment and other obligations under the Notes, the outstanding principal and unpaid interest became due and payable.

In December 2019, upon the occurrence of a non-qualified financing (see Note 9), the holders of the Notes exercised their option and converted the Notes into 6,937,252 shares of the Company’s Series D-2 Preferred at a conversion price of $2.74 per share, which was equal to the cash issuance price of the Series D-2 Preferred. The then outstanding principal and accrued interest amount of $19.0 million was converted and reclassified to Series D-2 Preferred. The Company elected to account for the Notes at estimated fair value pursuant to the fair value option and recorded the change in estimated fair value in the statement of operations and comprehensive loss until the Notes were converted into Series D-2 Preferred in December 2019. The estimated fair value of the Notes immediately prior to conversion was $15.8 million. The Company recorded a loss of $0.8 million relating to the change in estimated fair value of the Notes in the statement of operations and comprehensive loss for the year ended December 31, 2019.

9. Convertible preferred stock and stockholders' equity

Convertible preferred stock

Between November 2019 and December 2019, the Company entered into a series of transactions with its existing preferred stockholders and new investors, to (i) raise new capital in a sale of three new series of convertible preferred stock and (ii) condense its capital structure (Equity Transactions). All existing convertible preferred stockholders were given the opportunity to participate in the new capital raise but were subject to dilution for a lack of participation. The Equity Transactions were accomplished through the following steps:

- Filing of the Company's Fourth Amended and Restated Certificate of Incorporation to authorize the issuance of shares of convertible preferred stock designated as Series C-1 Preferred, Series C-2 non-voting convertible preferred stock (Series C-2 Preferred), Series D-1 Preferred, and Series D-2 Preferred.
- Execution of a Series C-1 Preferred Stock and Series D-1 Preferred Stock Purchase Agreement (Series C-1 and D-1 SPA) which authorized the sale and issuance of up to an aggregate of 23,338,437 shares of Series C-1 Preferred and up to an aggregate of 40,233,774 shares of Series D-1 Preferred, and up to an aggregate of 40,233,774 shares of Series D-2 Preferred. The Company's majority stockholder had the option to purchase one share of Series C-2 Preferred instead of each share of Series C-1 Preferred purchased and an option to purchase one share of Series D-2 Preferred in lieu of each share of Series D-1 Preferred purchased. A majority of the existing preferred stockholders participated in the Series C-1 and D-1 SPA. Pursuant to the Series C-1 and D-1 SPA, the Company:
    - (i) Reclassified all shares of the Pre-Existing Preferred Stock for shares of Series D-1 Preferred on a 1-to-1 basis based on terms of the Fourth Amended and Restated Certificate of Incorporation (Reclassification). Pursuant to the Series C-1 and D-1 SPA, the shares of Series D-1 Preferred resulting from the Reclassification held by any investor who purchased Series C-1 Preferred had their Series D-1 Preferred automatically convert to shares of Class A Common Stock on a 1-to-1 basis. Existing Series D-1 Preferred stockholders that did not participate in the Series C-1 and D-1 SPA retained their Series D-1 Preferred. The Company automatically converted 2,271,892 shares of Series D-1 Preferred into Class A Common Stock upon the closing of the existing stockholders respective purchases of Series C-1 Preferred. The Company concurrently sold 22,718,963 shares of Series C-1 Preferred at a purchase price of $2.74 per share to these existing stockholders;
    - (ii) Sold 2,330,899 shares of Series D-1 Preferred at a purchase price of $2.74 per share to new investors in the Company;
    - (iii) Sold 5,822,371 shares of Series D-2 Preferred at a purchase price of $2.74 per share to the Company's majority stockholder;
- Conversion of the Company's Notes (see Note 8) into 6,937,252 shares of Series D-2 Preferred at a price of $2.74 per share.

The cash proceeds associated with the sale of the Series C-1 Preferred, Series D-1 Preferred and Series D-2 Preferred was to be received by the Company over three tranches of payments. The first tranche was due and payable upon the respective closing date of the sale and issuance of the stock (First Tranche Payment) while the second and third tranches are due and payable upon the Company's completion of sufficient technical and operational progress, respectively, as determined by the Company's majority stockholder, in its sole and absolute discretion (Second Tranche Payment and Third Tranche Payment, respectively). The Company determined that the Second Tranche Payment and Third Tranche Payment each did not meet the definition of a freestanding financial instrument because the obligation on the applicable stockholder was not legally detachable from the host share.

The following table provides the cash payment per share due and payable upon the First Tranche Payment, Second Tranche Payment and Third Tranche Payment:

	First Tranche	Second Tranche	Third Tranche	Total
Series C-1 Preferred Stock	$ 0.81	$ 0.81	$ 1.12	$2.74
Series D-1 Preferred Stock	$ 0.81	$ 0.81	$ 1.12	$2.74
Series D-2 Preferred Stock	$ 0.81	$ 0.81	$ 1.12	$2.74

As of December 31, 2019, the First Tranche Payment had been received and the Second Tranche Payment and Third Tranche Payment remained outstanding for issuances of the Company's Series C Preferred and Series D Preferred.

As part of the Equity Transactions, the Company issued the following shares and received the following proceeds (in thousands):

	Shares	First Tranche proceeds	Issuance costs	Net proceeds
Series C-1 Preferred Stock	22,718,963	$ 18,447	$ (338)	$ 18,109
Series D-1 Preferred Stock	2,330,899	1,890	(35)	1,855
Series D-2 Preferred Stock	5,822,371	4,716	(87)	4,629
Series D-2 Preferred Stock—Notes conversion (see Note 8)	6,937,252	—	—	—
	37,809,485	$ 25,053	$ (460)	$ 24,593

The steps of the Equity Transactions that impacted the existing stockholders were evaluated as a single transaction because they occurred concurrently and in contemplation of each other. These combined transactions resulted in the extinguishment of the Pre-Existing Preferred Stock because the existing stockholders after this transaction, held equity instruments which were considered to be substantially different from the Pre-Existing Preferred Stock.

The impact of the Equity Transactions resulted in a $56.2 million increase to additional-paid-in capital. This was due to the difference between the $59.7 million carrying value of the Pre-Existing Preferred Stock exchanged and $5.3 million estimated fair value of the Series D-1 Preferred issued, the $2.4 million fair value of the Class A Common Stock issued in exchange for Series D-1 Preferred and a $0.5 million inducement. The inducement was determined to be the difference between the fair value of the Series C-1 Preferred and the fair value of the Class A Common Stock, which was exchanged for Series D-1 Preferred, compared to the fair value of the Series D-1 Preferred and the cash received from the sale of Series C-1 Preferred.

The excess of cash paid over the fair value of the Series D-1 Preferred and Series D-2 Preferred sold to new investors and the Company's majority stockholder as a part of Equity Transactions were recorded as an increase to additional paid-in-capital.

The estimated fair value of the Series C-1 Preferred, Series D-1 Preferred and Series D-2 Preferred for purposes of evaluating the extinguishment resulting from the Equity Transactions was based on a hybrid option pricing method model, which is a market approach that utilizes certain assumptions including probability weighting of events, volatility, time to an exit event, and a risk-free interest rate, which are based on Level 2 and Level 3 inputs.

Convertible preferred stock

The Company's Amended Restated Certificate of Incorporation authorizes the issuance of up to 127,144,422 shares of convertible preferred stock, of which 23,338,437 shares were designated as Series C-1 Preferred, 23,338,437 shares were designated as Series C-2 Preferred, 40,233,774 shares were designated as Series D-1 Preferred, and 40,233,774 shares were designated as Series D-2 Preferred.

The Company's convertible preferred stock consisted of the following (in thousands, except share amounts):

December 31, 2018	Preferred authorized	Preferred shares issued and outstanding	Carrying value	Liquidation preference	Ordinary shares issuable upon conversion
Series A convertible preferred stock	2,924,404	292,442	$ 3,954	$ 4,000	292,442
Series B convertible preferred stock	9,705,367	970,533	26,518	26,550	970,533
Series C convertible preferred stock	11,000,000	1,070,862	29,224	29,295	1,070,862
	23,629,771	2,333,837	$ 59,696	$ 59,845	2,333,837

December 31, 2019	Preferred authorized	Preferred shares issued and outstanding	Carrying value	Liquidation preference	Ordinary shares issuable upon conversion
Series C-1 convertible preferred stock	23,338,437	22,718,963	$ 21,423	$ 124,500	6,588,543
Series C-2 convertible preferred stock	23,338,437	—	—	—	—
Series D-1 convertible preferred stock	40,233,774	2,392,844	1,677	6,556	737,921
Series D-2 convertible preferred stock	40,233,774	12,759,623	19,655	34,961	8,625,748
	127,144,422	37,871,430	$ 42,755	$ 166,017	15,952,212

As of December 31, 2019, as a result of only the First Tranche Payment having been received, the liquidation preference for the shares of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred that were not subject to forfeiture was $36.9 million, $2.1 million, and $23.7 million, respectively.

The convertible preferred stock also has various rights, privileges and features. The Company determined that none of the features required bifurcation from the underlying shares, either because they are clearly and closely related to the underlying shares or because they do not meet the definition of a derivative. The rights, preferences, and privileges of the Company's convertible preferred stock are as follows:

Voting rights

As of the year ended December 31, 2018, the holders of each series of Pre-Existing Preferred Stock, each voting as a separate class, shall each be entitled to elect one member of the Board at each meeting or pursuant to each consent of the Company's stockholders for the election of directors. Any additional members of the Board shall be elected by the holders of Class A Common Stock and Pre-Existing Preferred Stock, voting together as a single class. Each holder of Pre-Existing Preferred Stock shall be entitled to the applicable number of votes equal to the number of shares of Class A Common Stock into which the shares convert.

As of the year ended December 31, 2019, the holders of Series C-1 Preferred and Series D-1 Preferred (Voting Preferred Stock), voting as a separate class, shall be entitled to elect four members of the Board at each

meeting or pursuant to each consent of the Company's stockholders for the election of directors. The Series C-2 Preferred and Series D-2 Preferred (Non-Voting Preferred Stock) is non-voting. Any additional members of the Board shall be elected by the holders of Class A Common Stock and Voting Preferred Stock, voting together as a single class. Each holder of the Voting Preferred Stock shall be entitled to the number of votes equal to the applicable number of shares of Class A Common Stock into which the shares convert.

Dividends rights

The Pre-Existing Preferred Stock outstanding as of December 31,2018 and Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred outstanding as of December 31, 2019 do not have rights to receive dividends nor participate in the Company's earning distribution. However, any such dividend or distribution is subject to the prior approval of these preferred stockholders. As of December 31, 2018 and 2019, no such dividends had been declared or accrued.

Liquidation distributions

In the event of any liquidation, dissolution or winding up of the Company, either voluntary or involuntary, the holders of Pre-Existing Preferred Stock at December 31, 2018 and Series C-1 Preferred, Series C-2 Preferred, Series D-1 Preferred, and Series D-2 Preferred at December 31, 2019 shall be entitled to receive, prior and in preference to any distribution of any of the assets of the Company to the holders of the Class A Common Stock by reason of their ownership of such stock, the greater of (i) an amount per share of $13.678 per share for Series A Preferred and $27.356 per share for Series B Preferred and Series C Preferred plus any declared but unpaid dividends as of December 31, 2018 and an amount per share of $5.48 per share of Series C-1 Preferred and Series C-2 Preferred and $2.74 per share of Series D-1 Preferred and Series D-2 Preferred plus any declared but unpaid dividends as of December 31, 2019, or (ii) such amount per share as would have been payable had all shares of such series of Series C-1 Preferred, Series C-2 Preferred, Series D-1 Preferred and Series D-2 Preferred been converted into Class A Common Stock immediately prior to such liquidation, dissolution or winding up of the Company. If upon the liquidation, dissolution or winding up of the Company, the assets of the Company legally available for distribution to the holders of the Series C-1 Preferred, Series C-2 Preferred, Series D-1 Preferred and Series D-2 Preferred are insufficient to permit the payment to such holders of the full amounts, then the entire assets of the Company legally available for distribution shall be distributed with equal priority and pro rata among the holders of the Series C-1 Preferred, Series C-2 Preferred, Series D-1 Preferred and Series D-2 Preferred in proportion to the full amounts they would otherwise be entitled to receive.

Unless stockholders representing a majority of the then-outstanding Voting Preferred Stock, voting together as a single class, elect otherwise, a liquidation event is defined in the Company's Amended and Restated Certificate of Incorporation to include (i) any liquidation, dissolution, or winding up of the Company, (ii) the merger or consolidation of the Company in which the holders of capital stock of the Company outstanding immediately prior to such merger or consolidation do not continue to represent immediately following such merger or consolidation at least 50%, by voting power, of the outstanding capital stock of the resulting or surviving entity or (iii) a sale, lease, transfer or other disposition of all or substantially all of the Company's assets. The Company classifies its convertible preferred stock outside of stockholders' deficit because the shares contain liquidation features that are not solely within the Company's control.

Redemption rights

No shares of convertible preferred stock are unilaterally redeemable by either the stockholders or the Company; however, the Company's Amended and Restated Certificate of Incorporation provides that upon any liquidation event such shares shall be entitled to receive the applicable liquidation preference.

Conversion rights

Each share of the Company's convertible preferred stock shall be convertible, at the option of the holder, into the number of Series A common shares determined by dividing their original issuance by the conversion price then in effect for each series (Conversion Rate). Upon any increase or decrease in the conversion price for any series of convertible preferred stock, the Conversion Rates are appropriately increased or decreased. As of December 31, 2018, the conversion price was $13.678 per share for Series A Preferred and $27.356 per share for Series B Preferred and Series C Preferred. As of December 31, 2019, the conversion price was $5.48 per share for Series C-1 Preferred and Series C-2 Preferred and $2.74 per share for Series D-1 Preferred and Series D-2 Preferred.

Each share of the Company's convertible preferred stock shall be automatically converted into fully-paid, non-assessable shares of Class A Common Stock as of December 31, 2018 and shares of either Class A Common Stock or Class B Common Stock, in the sole and absolute discretion of such holder, as of December 31, 2019, at the then effective Conversion Rate of each such share (i) immediately prior to the closing of a firm commitment underwritten initial public offering pursuant to an effective registration statement filed under the Securities Act of 1933, as amended (Securities Act), covering the offer and sale of the Class A Common Stock, provided that the offering price per share is not less than $5.4712, as adjusted for recapitalizations as defined in the Series C-1 and D-1 SPA, the aggregate gross proceeds to the Company are not less than $50.0 million, and the shares of Class A Common Stock are listed for trading on the New York Stock Exchange or NASDAQ, or (ii) upon the receipt by the Company of a written request for such conversion from the holders of a majority of the Company's convertible preferred stock then outstanding (voting as a single class and on an as-converted basis), or, if later, the effective date for conversion specified in such requests.

Subject to minimum outstanding share requirements and 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 preferred shares shall be necessary for approving certain actions, primarily those that may adversely impact the voting or other powers, preferences, or other special rights, privileges or restrictions of the Company's convertible preferred stock.

Automatic conversion into Class A common stock for failure to fund a Tranche and forfeiture of preferred stock

In the event that the second tranche milestone is achieved and a holder of Series C-1 Preferred, Series D-1 Preferred, or Series D-2 Preferred did not fund the Second Tranche Payment within 15 days' notice of such event, (a) 8 of every 10 shares purchased by such defaulting purchaser would be forfeited and transferred back to the Company for no consideration, (b) the defaulting purchaser's obligation to fund the Third Tranche Payment would be cancelled, and (c) all other convertible preferred stock held by the defaulting purchaser would automatically convert into Class A Common Stock.

In the event that the third tranche milestone is achieved and a holder of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred did not fund the Third Tranche Payment within 15 days' notice of such event, (a) 6 of every 10 shares purchased by such defaulting purchaser would be forfeited and transferred back to the Company for no consideration and (b) all other convertible preferred stock held by the defaulting purchaser would automatically convert into Class A Common Stock.

Forfeiture of convertible preferred stock for failure to achieve milestones

In the event that the second tranche milestone is not achieved on or prior to June 30, 2020, no purchaser shall be required to make the Second Tranche Payment and 7.1 of every 10 shares purchased under the Series C-1 and D-1 SPA will be forfeited and transferred back to the Company for no consideration. The second tranche milestone was achieved in May 2020 (see Note 15).

In the event that the third tranche milestone is not achieved on or prior to June 30, 2020, no purchaser shall be required to make the Third Tranche Payment and 4.1 of every 10 shares purchased under the Series C-1 and D-1 SPA will be forfeited and transferred back to the Company for no consideration. In June 2020, the Company cancelled the Third Tranche Payments for shares of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred (see Note 15).

Registration rights

Holders of the Company's convertible preferred stock have the right to request the Company to file certain registration statements with the Securities and Exchange Commission for the registration of shares related to the convertible preferred stock. The obligations of the Company regarding such registration rights include, but are not limited to, reasonable efforts to cause such registration statement to become effective, keep such registration statement effective for up to 30 days, prepare and file amendments and supplements to such registration statement and the prospectus used in connection with such registration statement, and notify each selling holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed. The terms of the registration rights provide for the payment of certain expenses related to the registration of the shares, including a capped reimbursement of legal fees of a single special counsel for the holders of the shares, but do not impose any obligations for the Company to pay additional consideration to the holders in case a registration statement is not declared effective.

Common Stock

Under the Company's Fifth Amended and Restated Certificate of Incorporation, the Company is authorized to issue 82,000,000 shares of Class A Common Stock and 20,000,000 shares of Class B Common Stock, each with a par value of $0.0001 per share. Each holder of Class A Common Stockholder is entitled to one vote per share of Class A Common Stock held. Class A Common Stockholders and holders of Class B Common Stock are entitled to receive dividends, as may be declared by the Board, if any, subject to the preferential dividend rights of the convertible preferred stock. No dividends have been declared or paid during the years ended December 31, 2018 or 2019.

The Company has reserved the following shares of Class A Common Stock as of December 31, 2018 and Class A Common Stock or Class B Common Stock for future instances of Voting Preferred Stock and Non-Voting Preferred Stock and Class A Common Stock for stock options as of December 31, 2019:

	December 31,	
	2018	**2019**
Shares reserved for conversion of outstanding Series A Preferred Stock	292,442	—
Shares reserved for conversion of outstanding Series B Preferred Stock	970,533	—
Shares reserved for conversion of outstanding Series C Preferred Stock	1,070,862	—
Shares reserved for conversion of outstanding Series C-1 Preferred Stock	—	22,718,963
Shares reserved for conversion of outstanding Series D-1 Preferred Stock	—	2,392,844
Shares reserved for conversion of outstanding Series D-2 Preferred Stock	—	12,759,623
Shares reserved for options to purchase Class A Common Stock under the 2013 Stock Option and Grant Plan	598,256	626,352
Shares reserved for issuance under the 2013 Stock Option and Grant Plan	330,203	9,166,449
Total	3,262,296	47,664,231

10. Stock-based compensation

2013 Equity Incentive Plan

The 2013 Equity Incentive Plan (2013 Plan) provides the Board the discretion to grant stock options and other equity-based awards to employees, directors, and consultants of the Company. The Board administers the 2013 Plan and has discretion to delegate some or all of the administration of the 2013 Plan to a committee or committees or an officer. To date, the Company has only granted Incentive Stock Options (ISOs) and Non-statutory Stock Options (NSOs) to employees, consultants, and directors. Therefore, the below discussion is limited to the terms applicable to ISOs and NSOs (collectively, stock options or options). As of December 31, 2019, there were 9,792,801 shares of Class A Common Stock reserved by the Company for outstanding grants under the 2013 Plan and an aggregate of 9,166,449 shares of Class A Common Stock remained available for future grants.

The exercise prices, vesting, and other restrictions are determined at the discretion of the Board, except that the exercise price per share of stock options may not be less than 100% of the estimated fair market value of the Class A Common Stock on the date of grant and not less than 110% if the employee owns more than 10% of the total combined voting power of all classes of the Company's stock. Stock options awarded under the 2013 Plan expire ten years after the grant date and five years after the grant date if the stockholder employee owns more than 10% of the total combined voting power of all classes of the Company's capital stock, unless the Board sets a shorter term. Vesting periods for awards under the 2013 Plan are determined at the discretion of the Board but in general vest over four years. Upon termination of employment, the optionholders' vested shares are subject to repurchase at the lower of (i) the estimated fair market value as of the date of repurchase or (ii) the original exercise price. The 2013 Plan allows for early exercise of certain options prior to vesting. No stock options were early exercised in the years ended December 31, 2018 or 2019. Unvested shares upon termination of employment are forfeited back to the Company and increase the number of shares available for future grants.

Stock option activity

As of December 31, 2019, the Company has only granted Class A Common Stock options with service based vesting conditions. A summary of Class A Common Stock option activity under the 2013 Plan during the year ended December 31, 2019 is as follows:

	Number of units outstanding	Weighted average strike price per unit	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2018	598,256	$ 10.43	7.86	$ 1,955
Granted	95,780	13.70		
Exercised	(1,755)	10.72		
Forfeited/Expired	(65,929)	12.14		
Outstanding at December 31, 2019	626,352	$ 10.75	7.16	$ 696
Exercisable at December 31, 2019	362,834	$ 9.29	5.97	$ 696
Nonvested at December 31, 2019	263,518	$ 12.76	8.79	$ —

The aggregate intrinsic value of stock options is calculated as the difference between the exercise price of the stock options and the estimated fair value of Class A Common Stock for those stock options that had exercise prices lower than the estimated fair value of Class A Common Stock. The weighted-average estimated fair value of options granted during the years ended December 31, 2018 and 2019 was $9.02 and $10.00 per share, respectively.

As of December 31, 2019, the total unrecognized stock-based compensation expense for unvested stock options was $2.2 million, which is expected to be recognized over 2.7 years.

The weighted-average assumptions that the Company used in Black-Scholes option pricing model to determine the grant date fair value of stock options granted to employees and non-employees for the years ended December 31, 2018 and 2019 were as follows:

	Year ended December 31,	
	2018	2019
Expected term (in years)	6.08	6.08
Expected Volatility	80.0%	80.0%
Risk-free interest rate	2.7%-3.1%	1.6%-2.5%
Expected Dividend yield	—%	—%

The Company historically has been a private company and lacks company-specific historical and implied volatility information. Therefore, it estimates its expected stock volatility based on the historical volatility of a publicly traded set of guideline companies and expects to continue to do so until such time as it has adequate historical data regarding the volatility of its own traded stock price. The expected term of the Company's stock options has been determined utilizing the "simplified" method for awards that qualify as "plain-vanilla" options. The simplified method deems the term to be the average of the time-to-vesting and the contractual life of the stock-based awards. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve in effect at the time of grant of the award for time periods approximately equal to the expected term of the award. Expected dividend yield is based on the fact that the Company has never paid cash dividends and does not expect to pay any cash dividends in the foreseeable future.

Stock-based compensation expense

The following table summarizes the components of stock-based compensation expense recorded in the Company's statement of operations and comprehensive loss (in thousands):

	Year ended December 31,	
	2018	2019
Research and development	$ 258	$ 430
General and administrative	421	535
Total equity-based compensation	$ 679	$ 965

11. Related-party transactions

Research and development consulting services agreement

The Company has a service agreement with a major stockholder and current member of its Scientific Advisory Board, under which, the individual is compensated for providing the Company with research and development consulting services. Under the agreement, the Company has made payments of $0.1 million and $0.1 million for services rendered for the years ended December 31, 2018 and 2019, respectively. The Company had immaterial unpaid balances related to the service agreement at December 31, 2018 and 2019.

Financing Activity

During the year ended December 31, 2019, the Company sold Series C-1 Preferred and Series D-2 Preferred for total proceeds of $21.6 million to stockholders who are considered to be related parties (see Note 9).

The Company also issued Notes to a stockholder considered to be a related party (see Note 8).

12. Income taxes

The Company had no income tax expense for the year ended December 31, 2018 and 2019, due to its history of operating losses. During the years ended December 31, 2018 and 2019 the Company recorded a net loss of $21.3 million and $27.4 million, respectively.

The effective tax rate for the years ended December 31, 2018 and 2019 is different from the federal statutory rate primarily due to the valuation allowance against deferred tax assets as a result of insufficient sources of income. The following is a reconciliation of the statutory federal income tax rate to the Company's effective tax rate:

	December 31,	
	2018	2019
Effective income tax rate:		
Expected income tax benefit at the federal statutory rate	21.0%	21.0%
State taxes, net of federal benefit	0.6%	7.8%
Research and development tax credits	(0.1%)	1.3%
Change in estimated fair value related to convertible notes	—%	(0.6%)
Permanent differences	(0.8%)	(0.8%)
Change in valuation allowance	(20.7%)	(28.7%)
Total provision for income taxes	—%	—%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes and operating losses and tax credit carryforwards. Significant components of the Company's deferred income taxes are as follows (in thousands):

	December 31,	
	2018	2019
Deferred tax assets:		
Federal and state operating loss carryforwards	$ 10,776	$ 20,118
Research and development tax credits	1,314	1,998
Other accruals	374	574
Total gross deferred tax asset	12,464	22,690
Valuation allowance	(12,381)	(22,639)
Net deferred tax asset	83	51
Deferred tax liabilities:		
Depreciation	(83)	(51)
Total deferred tax liabilities	(83)	(51)
Net deferred tax asset	$ —	$ —

The Company determines its valuation allowance on deferred tax assets by considering both positive and negative evidence in order to ascertain whether it is more likely than not that deferred tax assets will be realized. Realization of deferred tax assets is dependent upon the generation of future taxable income, if any, the timing and amount of which are uncertain. Because of the Company's recent history of operating losses, the Company believes that recognition of the deferred tax assets arising from the above-mentioned future tax benefits is currently not likely to be realized and, accordingly, has provided a valuation allowance on its

deferred tax assets. The valuation allowance increased by $4.3 million and $10.2 million for the years ended December 31, 2018 and 2019, respectively, primarily due to the increase in the Company's net operating losses (NOL) during the period.

NOLs and tax credit carryforwards as of December 31, 2019 are as follows (in thousands):

	Amount	Expiration years
NOLs, federal (post December 31, 2017)	$ 45,446	Do Not Expire
NOLs, federal (pre January 1, 2018)	30,901	2033—2037
NOLs, state	46,210	2033 to 2039
Research and development tax credits, federal	2,059	2035 to 2039
Research and development tax credits, state	2,333	Indefinite

Utilization of the NOL carryforwards and research and development tax credit carryforwards may be subject to a substantial annual limitation under Section 382 of the Internal Revenue Code of 1986 as amended (Section 382) due to ownership changes that have occurred previously or that could occur in the future. These ownership changes may limit the amount of carryforwards that can be utilized annually to offset future taxable income. In general, an ownership change, as defined by Section 382, results from transactions increasing the ownership of certain stockholders or public groups in the stock of a corporation by more than 50% over a three-year period. The Company has not conducted a study to assess whether a change of control has occurred or whether there have been multiple changes of control since inception due to the significant complexity and cost associated with such a study. If the Company has experienced a change of control, as defined by Section 382, at any time since inception, utilization of the NOL carryforwards or research and development tax credit carryforwards would be subject to an annual limitation under Section 382, which is determined by first multiplying the value of the Company's stock at the time of the ownership change by the applicable long-term tax-exempt rate, and then could be subject to additional adjustments, as required. Any limitation may result in expiration of a portion of the NOL carryforwards or research and development tax credit carryforwards before utilization. Until a study is completed and any limitation is known, no amounts are being presented as an uncertain tax position.

Uncertain tax positions

A reconciliation of the beginning and ending balance of total gross unrecognized tax benefits is as follows (in thousands):

	December 31,	
	2018	2019
Unrecognized tax benefits at the beginning of the period	$ 507	$1,712
Additions for current tax positions	793	746
Changes for previous tax positions	412	(63)
Unrecognized tax benefits at the end of the period	$1,712	$2,395

During the years ended December 31, 2018 and 2019, the Company recognized no interest and penalties associated with unrecognized tax benefits. There are no tax positions for which it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease within twelve months of the reporting date.

The Company files income tax returns in the U.S. federal, California and Illinois tax jurisdictions. The federal and state income tax returns from inception through December 31, 2019 remain subject to examination by federal and state authorities, where applicable. There are currently no pending income tax examinations.

13. Net (loss) income per share attributable to Class A Common Stockholders and unaudited pro forma net loss per share attributable to Class A Common Stockholders

Net loss per share attributable to Class A Common Stockholders

For the year ended December 31, 2018, the Company reported a net loss attributable to Class A Common Stockholders of $21.3 million. For the year ended December 31, 2019, as a result of the Equity Transactions, the Company reported net income attributable to Class A Common Stockholders of $26.4 million. The basic and diluted (loss) income per share attributable to Class A Common Stockholders for the years ended December 31, 2018 and 2019 are computed as follows (in thousands, except for share and per share data):

	December 31,	
	2018	**2019**
Numerator:		
Net loss	$ (21,337)	$ (27,474)
Effect of Equity Transactions (Note 9)	—	53,856
Net (loss) income attributable to Class A Common Stockholders—basic	$ (21,337)	$ 26,382
Effect of dilutive securities:		
Exclude effect of Equity Transactions for assumed conversion of Series C-1 and Series D-1 Preferred Stock	—	(53,856)
Numerator for diluted loss per share attributable to Class A Common Stockholders	$ (21,337)	$ (27,474)
Denominator:		
Weighted-average number of Class A Common Stock outstanding—basic	751,121	1,098,795
Weighted-average effect of dilutive securities:		
Assumed conversion of Series A, B and C Preferred Stock	—	1,976,678
Denominator for diluted loss per share attributable to Class A Common Stockholders	751,121	3,075,473
Net loss (income) per share attributable to Class A Common Stockholders—basic	$ (28.41)	$ 24.01
Diluted loss per share attributable to Class A Common Stockholders—diluted	$ (28.41)	$ (8.93)

For the year ended December 31, 2018, the Company reported a net loss attributable to Class A Common Stockholders. The potential Class A Common Stock would have been anti-dilutive and therefore basic and diluted loss per share were the same. During the year ended December 31, 2019, the Company reported net income attributable to Class A Common Stockholders. The stock options, convertible preferred stock and Notes were therefore assessed to determine whether they were antidilutive. Series A Preferred, Series B Preferred and Series C Preferred were determined to be dilutive and were therefore included in the diluted net loss per share attributable to Class A Common Stockholders calculation. The Series C-1 Preferred, Series D-1 Preferred and Series D-2 Preferred and the options to purchase Class A Common Stock were determined to be antidilutive and, therefore, excluded from the calculation.

The following common stock equivalents were excluded from the computation of diluted net loss per share attributable to Class A Common Stockholders for the years ended December 31, 2018 and 2019 because including them would have been antidilutive:

	Year ended December 31,	
	2018	2019
Convertible Preferred Stock	2,333,837	14,973,953
Options to purchase Class A Common Stock	598,256	626,352
Total	2,932,093	15,600,305

Unaudited pro forma net loss per share attributable to Class A Common Stockholders

The unaudited pro forma basic and diluted net loss per share attributable to Class A Common Stockholders has been computed to give effect to the conversion of all outstanding convertible preferred stock into Class A Common Stock immediately prior to the completion of the Company's planned initial public offering. The unaudited pro forma net loss per share attributable to Class A Common Stockholders for the year ended December 31, 2019 was computed using the weighted-average number of shares of Class A Common Stock outstanding, including the pro forma effect of the conversion of all outstanding shares of convertible preferred stock into shares of Class A Common Stock, as if such conversion had occurred at January 1, 2019, or their issuance dates, if later.

The following table sets forth the computation of unaudited pro forma basic and diluted net loss per share attributable to Class A Common Stockholders for the year ended December 31, 2019 (in thousands except share and per share data):

	Year ended December 31, 2019
Numerator:	
Net income attributable to Class A Common Stockholders—basic	$ 26,382
Exclude effect of Equity Transactions for assumed conversion of convertible preferred stock	(53,856)
Pro forma net loss—basic and diluted	$ (27,474)
Denominator:	
Weighted-average Class A Common Stock used in computing net loss per share—basic	1,098,795
Pro forma adjustment to reflect automatic conversion of convertible preferred stock to Class A Common Stock upon completion of the proposed initial public offering	3,314,976
Weighted-average number of share used in computing pro forma net loss per Class A Common stock—basic and diluted	4,413,771
Pro forma net loss per Class A Common stock—basic and diluted	$ (6.22)

14. Employee benefit plans

The Company has a qualified deferred compensation plan under Section 401(k) of the Internal Revenue Code of 1986, as amended (401(k) Plan). Under the 401(k) Plan, employees may elect to defer a percentage of their salary, subject to Internal Revenue Service limits. The 401(k) Plan follows the Safe Harbor Deferral provisions, met with a Company Basic Matching Provision that is an amount equal to the employees' elective deferral that does not exceed 3.0% of their compensation for the 401(k) Plan year, plus half of the employees' elective

deferrals that exceeds 3.0% of their compensation for the 401(k) Plan year but does not exceed 5.0% of their compensation for the 401(k) Plan year. The matching contribution under this provision totaled $0.3 million for each of the years ended December 31, 2018 and 2019.

The Company, at its sole discretion, may make discretionary profit-sharing contributions to the accounts of qualifying participants. There were no discretionary contributions to the 401(k) Plan for the years ended December 31, 2018 or 2019.

15. Subsequent events

The Company has evaluated subsequent events through October 15, 2020, the date these financial statements were issued.

Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred Second Tranche Payments

In May and June 2020, the Company received net proceeds of $24.9 million for the Second Tranche Payments related to the 2019 issuance of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred (see Note 9). Among the Second Tranche Payment received, $21.6 million was from related parties and their affiliates.

Cancellation of series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred Third Tranche Payments and subsequent forfeiture of shares

In June 2020, the Company cancelled the Third Tranche Payments related to the 2019 issuance of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred (see Note 9) due to the fact that the Company's short-term regulatory and commercial landscape changed significantly from December 2019 to June 2020 due to COVID-19 and the Company's progress on developing a COVID-19 test. In conjunction with the cancellation of the Third Tranche Payments, 9,314,766 shares, 955,666 shares, and 2,387,171 shares of Series C-1 Preferred, Series D-1 Preferred, and Series D-2 Preferred, respectively, were forfeited and transferred back to the Company for no consideration.

Series E-1 Preferred and Series E-2 Preferred initial closing and rights offering

In June and July 2020, the Company issued 2,289,899 shares and 11,187,189 shares of its Series E-1 Preferred and Series E-2 Preferred, respectively, at a purchase price of $7.42 per share, resulting in total net proceeds of $99.8 million, net of issuances cost of $0.2 million. Among the proceeds received from this financing, $90.3 million was from related parties and their affiliates.

Stock option modification

In March 2020, the Company modified the exercise price of stock options for the purchase of 582,717 shares of Class A Common Stock from a weighted average of $10.85 per share to $1.05 per share.

Increase of 2013 stock options plan authorized shares

In October 2020, the Board amended the 2013 Plan to increase the number of shares of Class A Common Stock reserved by 1,000,000 shares, resulting in an aggregate of 10,800,000 shares reserved for issuance.

Standby letter of credit

In August 2020, the Company entered into a $33.0 million LOC with JPMC as terms of collateral that were required by one of the Company's contract manufacturing organizations, expiring on December 31, 2020.

Interest on any borrowings under the LOC agreement is equal to the lesser of (a) Prime plus 2.0% and (b) the highest rate permitted by applicable law and is payable on demand. The Company is required to maintain a cash balance of $34.7 million as collateral for the LOC.

National institutes of health government contract

In July 2020, the Company was awarded a $25.4 million contract by the NIH for Phase 2 of its RADx initiative. The RADx initiative aims to speed the development, validation, and commercialization of innovative, rapid tests that can directly detect COVID-19. The funding will allow the Company to produce and distribute test cartridges on a larger scale. To date, the Company has received $8.9 million from RADx. The remaining $16.5 million is contingent upon meeting agreed-upon contractual milestones.

Income taxes

On March 18, 2020, the Families First Coronavirus Response Act (FFCR Act), and on March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) were each enacted in response to the COVID-19 pandemic. The FFCR Act and the CARES Act contain numerous income tax provisions relating to refundable payroll tax credits, deferment of employer side social security payments, NOL carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property.

On June 29, 2020, Assembly Bill 85 (A.B. 85) was signed into California law. A.B. 85 provides for a three-year suspension of the use of NOLs for medium and large businesses and a three-year cap on the use of business incentive tax credits to offset no more than $5.0 million of tax per year. A.B. 85 suspends the use of NOLs for taxable years 2020, 2021 and 2022 for certain taxpayers with taxable income of $1.0 million or more. The carryover period for any NOLs that are suspended under this provision will be extended. A.B. 85 also requires that business incentive tax credits including carryovers may not reduce the applicable tax by more than $5.0 million for taxable years 2020, 2021 and 2022.

The FFCR Act and CARES Act did not have a material impact on the Company’s financial statements as of December 31, 2019; however, the Company continues to examine the impacts the FFCR Act, CARES Act, and A.B. 85 may have on its business, results of operations, financial condition and liquidity.

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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 Talis Biomedical Corporation (Registrant), in connection with the sale of the common stock being registered. All amounts shown are estimates except for the Securities and Exchange Commission (SEC), registration fee, the Financial Industry Regulatory Authority, Inc. (FINRA) filing fee and The Nasdaq Global Market listing fee.

	Amount
SEC registration fee	$ *
FINRA filing fee	*
Nasdaq Global Market listing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous expenses	*
Total	$ *

* To be provided by amendment.

Item 14. Indemnification of directors and officers.

The Registrant is incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any persons who were, are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were, are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses (including attorneys' fees) actually and reasonably incurred.

The Registrant's amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to and upon the completion of this offering, respectively, provide for

the indemnification of its directors and officers to the fullest extent permitted under the Delaware General Corporation Law. Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.

The Registrant's amended and restated certificate of incorporation, as currently in effect, includes such a provision, and the Registrant's amended and restated certificate of incorporation that will become effective immediately prior to the completion of this offering will include such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by the Registrant upon delivery to it of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Registrant.

Section 174 of the Delaware General Corporation Law provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was either absent when the unlawful actions were approved or dissented at the time may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the Delaware General Corporation Law, the Registrant has entered into indemnity agreements with each of its directors and executive officers, that require the Registrant to indemnify such persons against any and all costs and expenses (including attorneys', witness or other professional fees) actually and reasonably incurred by such persons in connection with any action, suit or proceeding (including derivative actions), whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director or officer or is or was acting or serving as an officer, director, employee or agent of the Registrant or any of its affiliated enterprises. Under these agreements, the Registrant is not required to provided indemnification for certain matters, including:

- indemnification beyond that permitted by the Delaware General Corporation Law;
- indemnification for any proceeding with respect to the unlawful payment of remuneration to the director or officer;
- indemnification for certain proceedings involving a final judgment that the director or officer is required to disgorge profits from the purchase or sale of the Registrant's stock;
- indemnification for proceedings involving a final judgment that the director's or officer's conduct was in bad faith, knowingly fraudulent or deliberately dishonest or constituted willful misconduct or a breach of his or her duty of loyalty, but only to the extent of such specific determination;
- indemnification for proceedings or claims brought by an officer or director against us or any of the Registrant's directors, officers, employees or agents, except for claims to establish a right of indemnification or proceedings or claims approved by the Registrant's board of directors or required by law;
- indemnification for settlements the director or officer enters into without the Registrant's consent; or

- indemnification in violation of any undertaking required by the Securities Act of 1933, as amended (Securities Act), or in any registration statement filed by the Registrant.

The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder. Except as otherwise disclosed under the heading “Legal proceedings” in the “Business” section of the prospectus included in this registration statement, there is at present no pending litigation or proceeding involving any of the Registrant’s directors or executive officers as to which indemnification is required or permitted, and the Registrant is not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

The Registrant has an insurance policy in place that covers its officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act, or otherwise.

The Registrant plans to enter into an underwriting agreement which provides that the underwriters are obligated, under some circumstances, to indemnify the Registrant’s directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

Item 15. Recent sales of unregistered securities.

Set forth below is information regarding securities issued and options granted by the Registrant since January 1, 2017 that were not registered under the Securities Act. Also included is the consideration, if any, received by the Registrant, for such securities and options and information relating to the Securities Act, or rule of the SEC, under which exemption from registration was claimed. The share and per share figures set forth in paragraphs (1) and (3) below give retrospective effect to a 1-for-10 reverse stock split of the Registrant’s common stock and convertible preferred stock effected in December 2019, as described in paragraph (4) below.

(1) From October 2017 and December 2017, the Registrant issued and sold, in a series of closings, an aggregate of 1,070,867 shares of its Series C convertible preferred stock to 11 accredited investors at a purchase price of $27.356 per share for an aggregate purchase price of approximately $29.3 million.

(2) From March 2019 through August 2019, the Registrant issued and sold, in a series of closings, convertible promissory notes in the aggregate principal amount of $15.0 million to two accredited investors.

(3) From November 2019 to December 2019, the Registrant issued and sold, in a series of closings, shares of its Series C-1 convertible preferred stock, Series D-1 convertible preferred stock, and Series D-2 convertible preferred stock. The purchase price for this financing was to be funded in three separate tranches, with a proportional number of shares subject to forfeiture should any tranche not be called or funded. The first and second tranches were funded and the timeline to call the third tranche expired and the corresponding shares were forfeited. Taking into account such forfeitures, the Registrant issued and sold an aggregate of 13,404,197 shares of its Series C-1 convertible preferred stock, 1,437,178 shares of its Series D-1 convertible preferred stock, and 10,372,452 shares of its Series D-2 convertible preferred stock to 20 accredited investors for an aggregate purchase price of approximately $69.1 million, which included the conversion of the convertible promissory notes described in paragraph (2) above.

(4) In December 2019, the Registrant effected a 1-for-10 reverse stock split, whereby (i) each outstanding share of its common stock was converted into 0.1 shares of its common stock, (ii) each outstanding share of its convertible preferred stock was converted into 0.1 shares of the same series of its convertible preferred stock, and (iii) each outstanding option to purchase shares of its common stock was converted into an option to purchase one-tenth the number of shares of common stock underlying such option immediately prior to the reverse stock split with an exercise price equal to ten times the exercise price of such option immediately prior to the reverse stock split.

(5) In February 2020, the Registrant effected a repricing of outstanding and unexercised stock options to purchase an aggregate of 582,717 shares of the its common stock, to an exercise price of $1.05 per share (the Option Repricing). To effect the Option Repricing, all such outstanding stock options were amended solely to reduce the exercise price to $1.05 per share; the amended options otherwise continued to have all the same terms and conditions under which they were granted, including the number of underlying shares of the Registrant's common stock and the expiration date.

(6) From June 2020 to July 2020, the Registrant issued and sold, in a series of closings, an aggregate of 2,289,899 shares of its Series E-1 convertible preferred stock and 11,187,189 shares of its Series E-2 convertible preferred stock to 22 accredited investors, each at a purchase price of $7.42 per share for an aggregate purchase price of approximately $100.0 million.

(7) From January 1, 2017 through the effective date of this registration statement, the Registrant granted stock options to purchase an aggregate of shares of our common stock, at a weighted-average exercise price of $ per share, to certain of its employees, consultants and directors in connection with services provided to us by such persons. Through the effective date of this registration statement, the Registrant has issued an aggregate of shares of our common stock upon exercise of such stock options for aggregate consideration of $.

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 or Regulation S 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.

The exhibits listed below are filed as part of this registration statement.

Exhibit NUMBER	Description of document
1.1†	Form of Underwriting Agreement.
3.1†	Amended and Restated Certificate of Incorporation, as amended, as currently in effect.
3.2†	Form of Amended and Restated Certificate of Incorporation to become effective immediately prior to the completion of this offering.
3.3†	Bylaws, as currently in effect.
3.4†	Form of Amended and Restated Bylaws to become effective upon the completion of this offering.
4.1†	Form of Common Stock Certificate of the Registrant.
4.2†^	Amended and Restated Investor Rights Agreement, dated June 30, 2020, by and among the Registrant and certain of its stockholders.
4.3	Nominating Agreement, dated November 1, 2019, by and among the Registrant, Baker Brothers Life Sciences, L.P. and 667, L.P.
5.1†	Opinion of Cooley LLP.
10.1+†	Form of Indemnity Agreement, by and between the Registrant and its directors and officers.
10.2+†	Talis Biomedical Corporation 2013 Equity Incentive Plan and Forms of Option Grant Notice, Option Agreement and Notice of Exercise thereunder, as amended.
10.3+†	Talis Biomedical Corporation 2020 Equity Incentive Plan and Forms of Stock Option Grant Notice, Option Agreement and Notice of Exercise thereunder.
10.4+†	Talis Biomedical Corporation 2020 Employee Stock Purchase Plan.
10.5+†	Talis Biomedical Corporation Non-Employee Director Compensation Policy.
10.6+†	Employment Agreement, dated , 2020, by and between the Registrant and Brian Coe.
10.7+†	Offer Letter, dated April 3, 2020, by and between the Registrant and J. Roger Moody, Jr.
10.8+†	Offer Letter, dated December 1, 2014, by and between the Registrant and Karen E. Flick.
10.9+†	Offer Letter, dated August 19, 2020, by and between the Registrant and Robert Kelley.
10.10+†	Offer Letter, dated September 21, 2020, by and between the Registrant and Douglas Liu.
10.11+†	Offer Letter, dated April 23, 2019, by and between the Registrant and Ramesh Ramakrishnan.
10.12+†	Offer Letter, dated February 28, 2014, by and between the Registrant and Martin Goldberg.
10.13	Business Park Lease, dated December 14, 2015, by and between the Registrant and Facebook, Inc., as amended on April 4, 2018.
10.14*	Supply Agreement, dated May 22, 2020, by and between the Registrant and thinXXS Microtechnology AG.
23.1†	Consent of Independent Registered Public Accounting Firm.
23.2†	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.

† To be filed by amendment.

+ Indicates management contract or compensatory plan.

* Certain portions of this exhibit (indicated by "[***]") have been omitted as we have determined (i) the omitted information is not material and (ii) the omitted information would likely cause harm to us if publicly disclosed.

^ Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Registrant undertakes to furnish supplemental copies of any of the omitted schedules upon request by the SEC.

(b) Financial statement schedules.

No financial statement schedules are provided because the information called for is not required or is shown either 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 SEC 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:

(a) 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 upon 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 shall be deemed to be part of this registration statement as of the time it was declared effective.

(b) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended (Securities Act), the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Menlo Park, State of California, on the day of , 2020.

TALIS BIOMEDICAL CORPORATION

By: _____
Brian Coe
Chief Executive Officer

Power of attorney

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brian Coe and J. Roger Moody, Jr. and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him or her and in his or her name, place or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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
Brian Coe	Chief Executive Officer and Member of the Board of Directors *(Principal Executive Officer)*	, 2020
J. Roger Moody, Jr.	Chief Financial Officer *(Principal Financial and Accounting Officer)*	, 2020
Felix Baker, Ph.D.	Member of the Board of Directors	, 2020
Raymond Cheong, M.D., Ph.D.	Member of the Board of Directors	, 2020
Rustem F. Ismagilov, Ph.D.	Member of the Board of Directors	, 2020
Kim Popovits	Member of the Board of Directors	, 2020
Matt Posard	Member of the Board of Directors	, 2020
Randal Scott, Ph.D.	Member of the Board of Directors	, 2020

NOMINATING AGREEMENT

THIS NOMINATING AGREEMENT (this "**Agreement**"), dated as of November 1, 2019, by and among Talis Biomedical Corporation, a Delaware corporation (the "**Company**"), Baker Brothers Life Sciences, L.P. ("**BBLS**") and 667, L.P. (together with BBLS, the "**Investor**").

WHEREAS, the Company and the Investor are parties to that certain Series C-1 Preferred Stock and Series D-1 Preferred Stock Purchase Agreement of even date herewith (the "**Purchase Agreement**"); and

WHEREAS, in order to induce the Investor to invest funds in the Company pursuant to the Purchase Agreement, the Investor and the Company hereby agree that this Agreement shall set forth certain rights and obligations with respect to the shares of the Company's capital stock beneficially owned by the Investor.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree as follows:

1. Definitions. As used in this Agreement, the following terms shall have the following respective meanings:

(a) "**Affiliate**" has the meaning given to that term in Rule 12b-2 under the Securities Exchange Act of 1934, as amended.

(b) "**Board of Directors**" means the Board of Directors of the Company.

(c) "**Bylaws**" means the Bylaws of the Company, as may be amended, restated or otherwise modified from time to time.

(d) "**Common Stock**" means shares of the Company's Common Stock, par value $0.0001 per share.

(e) "**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act of 1933, as amended.

2. Board Representation.

(a) Subject at all times to Sections 2(c) and 3(n) below, during the period beginning at the closing of the IPO until such time as the Investor and its Affiliates no longer beneficially own at least 76,034,504 shares of Common Stock (on an as-converted basis and as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the date hereof), the Company shall support the nomination of, and cause the Board of Directors to include in the slate of nominees recommended to the Company's stockholders for election as directors of the Company, two (2) persons designated at any time and from time to time by the Investor (each, a "**40% Designee**"). In the event that a 40% Designee resigns his or her seat on the Board of Directors or is removed or otherwise fails to become or ceases to be a director for any reason, the vacancy will be filled by the election or appointment of another director nominated by the Investor as soon as reasonably practicable in compliance with applicable laws,

rules and regulations. The Investor will provide the Company, in writing, the information about each 40% Designee that is reasonably required by applicable law for inclusion in the Company's proxy materials for meetings of stockholders promptly after the Company requests such information from the Investor, and will cause each 40% Designee to submit on a timely basis to the Company a completed and executed questionnaire in the form that the Company provides to its outside directors generally.

(b) Subject at all times to Sections 2(c) and 3(n) below, during the period beginning at the closing of the IPO until such time as the Investor and its Affiliates no longer beneficially own at least 28,512,939 shares of Common Stock (on an as-converted basis and as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the date hereof), the Company shall support the nomination of, and cause the Board of Directors to include in the slate of nominees recommended to the Company's stockholders for election as directors of the Company, one (1) person designated at any time and from time to time by the Investor (a "**15% Designee**" and, together with the 40% Designees, the "**Investor Designees**"). In the event that the 15% Designee resigns his or her seat on the Board of Directors or is removed or otherwise fails to become or ceases to be a director for any reason, the vacancy will be filled by the election or appointment of another director nominated by the Investor as soon as reasonably practicable in compliance with applicable laws, rules and regulations. Investor will provide the Company, in writing, the information about the 15% Designee that is reasonably required by applicable law for inclusion in the Company's proxy materials for meetings of stockholders promptly after the Company requests such information from the Investor, and will cause the 15% Designee to submit on a timely basis to the Company a completed and executed questionnaire in the form that the Company provides to its outside directors generally.

(c) Notwithstanding the provisions of Sections 2(a) and 2(b), the Investor shall not be entitled to designate any person as a nominee to the Board of Directors if a majority of the disinterested members of the Board of Directors reasonably and in good faith determines, after consultation with the Company's outside legal counsel, that such person would not be qualified to serve as a director of the Company under any applicable law, rule or regulation, rule of the stock exchange on which the Company's shares are listed, the Bylaws or any policy or guidelines previously approved by the Board of Directors. The Company shall notify the Investor of any objection to an Investor Designee pursuant to this Section 2(c) sufficiently in advance of the date on which the proxy materials related to any such designee are to be mailed by the Company in connection with such election of directors so as to enable the Investor to propose a replacement Investor Designee in accordance with the terms of Section 2(a) or 2(b), as applicable.

(d) Subject at all times to Section 3(n) below and the other limitations set forth in this Section 2(d), during the period beginning at the closing of the IPO until such time as the Investor and its Affiliates no longer beneficially own at least 19,008,626 shares of Common Stock (on an as-converted basis and as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the date hereof), the Company shall invite one (1) designee of the Investor (an "**Observer**") to attend all meetings of the Board of Directors and each committee thereof in a nonvoting observer capacity. In this respect, the Company shall give the Observer copies of all notices, minutes, consents, and other materials that it provides to its directors at substantially the same time and in the same manner as provided to such directors; provided, however, that the Observer shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and provided, further, that the Company

reserves the right to withhold any information and to exclude such Observer from any meeting or portion thereof if (i) the Board of Directors determines based upon the advice of outside counsel that access to such information or attendance at such meeting is reasonably likely to adversely affect the attorney-client privilege between the Company and its counsel, or (ii) the Board of Directors determines in good faith and after consultation with the Company's outside counsel that access to such information or attendance at such meeting is reasonably likely to result in a conflict of interest. With respect to any particular Observer, the Company's obligations under this Section 2(d) are contingent upon such Observer's (x) entering into a confidentiality agreement with the Company in a form that is reasonably acceptable to the Company and the Investor and (y) agreeing to be bound by the Company's insider trading and window policies then in effect and applicable to members of the Board of Directors.

3. Miscellaneous.

(a) Governing Law. This Agreement shall be governed by and construed in accordance with the internal laws of the State of Delaware, without giving effect to its principles of conflicts of laws.

(b) Certain Adjustments. Subject to Section 3(n) below, the provisions of this Agreement shall apply to the full extent set forth herein with respect to any and all shares of capital stock of the Company or any successor or assign of the Company (whether by merger, consolidation, sale of assets or otherwise) that may be issued in respect of, in exchange for, or in substitution for the shares of Common Stock, by combination, recapitalization, reclassification, merger, consolidation or otherwise and the term "Common Stock" shall include all such other securities. In the event of any change in the capitalization of the Company, as a result of any stock split, stock dividend or stock combination or otherwise, the provisions of this Agreement shall be appropriately adjusted.

(c) Enforcement. The parties expressly agree that the provisions of this Agreement may be specifically enforced against each of the parties hereto in any court of competent jurisdiction.

(d) Successors and Assigns. Except as otherwise provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successors, assigns, heirs, executors, and administrators of the parties hereto.

(e) Entire Agreement. This Agreement, the Company's Bylaws, as may be amended and/or restated from time to time, and for so long as they remain in force, the Voting Agreement and that certain letter agreement between the Company and the Investor, dated February 19, 2015 constitutes the full and entire understanding and agreement between the parties with regard to the subject matter hereof and supersedes all prior oral or written (and all contemporaneous oral) agreements or understandings with respect to the subject matter hereof.

(f) All notices required or permitted under this Agreement must be in writing and sent to the address or facsimile number identified below. Notices must be given: (a) by personal delivery, with receipt acknowledged; (b) by facsimile followed by hard copy delivered by the methods under clause (c) or (d); (c) by prepaid certified or registered mail, return receipt requested; or (d) by prepaid reputable overnight delivery service. Notices shall be effective upon receipt.

Either party may change its notice address by providing the other party written notice of such change. Notices shall be delivered as follows:

If to the Investor:	Baker Brothers Investments 860 Washington St., 3rd Floor New York, NY 10014 Attention: Scott Lessing, President Email: slessing@bbinvestments.com
If to the Company:	230 Constitution Dr. Menlo Park, CA 94025 Attention: Brian Coe, Chief Executive Officer Email: bcoe@talisbio.com
with a copy (which copy shall not constitute notice) to:	Cooley LLP 3175 Hanover Street Palo Alto, CA 94304 Attention: Kenneth Krisko Email: kkrisko@cooley.com

(g) Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to the Investor hereto upon any breach or default of the Company under this Agreement, shall impair any such right, power or remedy of the Investor nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereunder occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default therefore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of the Investor of any breach or default of the Company under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, in each case, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement, or by law or otherwise afforded to any party, shall be cumulative and not alternative.

(h) Counterparts. This Agreement may be executed in any number of counterparts (including by facsimile or other electronic means), each of which may be executed by less than all of the parties hereto, each of which shall be enforceable against the parties actually executing such counterparts, and all of which together shall constitute one instrument.

(i) Severability. If any provision of this Agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

(j) Amendments and Waivers. The provisions of this Agreement may be amended at any time and from time to time, and particular provisions of this Agreement may be waived or modified, with and only with an agreement or consent in writing signed by the Company and the Investor.

(k) Jurisdiction. The parties hereto irrevocably submit, in any legal action or proceeding relating to this Agreement, to the jurisdiction of the courts of the United States located in the State of Delaware or in any Delaware state court and consent that any such action or proceeding may be brought in such courts and waive any objection that they may now or hereafter have to the venue of such action or proceeding in any such court or that such action or proceeding was brought in an inconvenient forum.

(l) Further Assurances. The parties agree to use their best efforts and act in good faith in carrying out their obligations under this Agreement. The parties also agree, without further consideration, to execute such further instruments and to take such further actions as may be necessary or desirable to carry out the purposes and intent of this Agreement.

(m) Enforcement. The parties expressly agree that the provisions of this Agreement may be specifically enforced against each of the parties hereto in any court of competent jurisdiction.

(n) Termination. This Agreement shall automatically terminate upon the earlier of (i) mutual consent of the parties, (ii) such time as the Investor and its Affiliates no longer beneficially own at least 19,008,626 shares of Common Stock (on an as-converted basis and as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares after the date hereof), or (iii) consummation of an Acquisition as defined in the Company's Fourth Amended and Restated Certificate of Incorporation as in effect on the date hereof.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, each of the parties hereto has executed this Nominating Agreement as of the date first above written.

TALIS BIOMEDICAL CORPORATION

By: */s/ Brian Coe*
Name: Brian Coe
Title: Chief Executive Officer

IN WITNESS WHEREOF, each of the parties hereto has executed this Nominating Agreement as of the date first above written.

667, L.P.

BY: **BAKER BROS. ADVISORS LP**, management company and investment adviser to **667, L.P.**, pursuant to authority granted to it by Baker Biotech Capital, L.P., general partner to 667, L.P., and not as the general partner.

By: */s/ Scott Lessing*
Name: Scott Lessing
Title: President

BAKER BROTHERS LIFE SCIENCES, L.P.

By: **BAKER BROS. ADVISORS LP**, management company and investment adviser to **Baker Brothers Life Sciences, L.P**., pursuant to authority granted to it by Baker Brothers Life Sciences Capital, L.P., general partner to Baker Brothers Life Sciences, L.P., and not as the general partner.

By: */s/ Scott Lessing*
Name: Scott Lessing
Title: President

14159, L.P.

By: **BAKER BROS. ADVISORS LP**, management company and investment adviser to **14159, L.P.**, pursuant to authority granted to it by 14159 Capital L.P., general partner to 14159, L.P., and not as the general partner.

By: */s/ Scott Lessing*
Scott Lessing, President

Exhibit 10.13

TENANT: SLIPCHIP CORPORATION

LEASE

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BUSINESS PARK LEASE

THIS LEASE is made this 14th day of December, 2015 (the "Effective Date"), between DAVID D. BOHANNON ORGANIZATION, a California corporation, herein referred to as "Landlord," and SLIPCHIP CORPORATION, a Delaware corporation, herein referred to as "Tenant".

WITNESSETH:

ARTICLE 1 - Premises and Term

Section 1.1 Landlord hereby leases to Tenant and Tenant hereby leases from Landlord the demised premises (as described in Exhibit "A" and located substantially as shown on Exhibit "B" attached hereto), consisting of the building containing approximately 24,080 rentable square feet commonly known as 230 Constitution Drive, Menlo Park, California, upon and subject to the terms and provisions of this Lease, for a demised term of five (5) years (plus any partial period prior to the commencement of the first full calendar month), commencing on the earlier to occur of (i) ninety (90) days after the Delivery Date (as hereinafter defined) (which Delivery Date is estimated to be on or about February 1, 2016), or (ii) the date Tenant's business operations within the demised premises commence after completing Tenant's work therein (such earlier date is herein the "Commencement Date"), and ending on the last day of the fifth (5th) year (exclusive of such partial period, if any) following the Commencement Date (the "Term").

Section 1.2 Once the existing occupant has vacated the demised premises and has completed the de-commissioning thereof in accordance with all applicable laws to a point that the demised premises may safely be occupied (such date, the "De-Commissioning Date"), and provided this Lease has been fully executed and delivered by the parties hereto and Tenant has paid Landlord the sums described in Section 2.4 hereof, and further provided that Tenant has furnished Landlord with certificates of insurance for the insurance required of Tenant pursuant to Articles 9 and 10 of this Lease, Tenant shall have the right to occupy the demised premises on the date (the "Delivery Date") Tenant receives notice from Landlord that the departing tenant has informed the Landlord that its de-commissioning is complete as required under its lease. Effective as of the Delivery Date, Tenant may commence to perform the Tenant Improvements (described in Section 3.2 hereinbelow) in the demised premises and install Tenant's fixtures and equipment prior to the commencement of the Term hereof. Notwithstanding anything to the contrary contained in this Lease, the "Delivery Date" shall not occur before February 1, 2016. From and after the Delivery Date, all of the provisions of this Lease shall be applicable to Tenant's occupancy of the demised premises notwithstanding that the Term has not yet commenced except that rent (as defined in Section 2.5) shall not be payable until the Commencement Date; provided, however, notwithstanding any other provision of this Lease to the contrary, Tenant shall pay for all utilities used by Tenant in the demised premises from and after the date Tenant first takes possession of any portion of the demised premises and throughout the entire Term. Specifically, but without limitation, Tenant's obligations with respect to insurance and indemnities shall be operable as of the date Tenant occupies any portion of the demised premises or building. Tenant shall indemnify Landlord against any and all claims arising out of Tenant's occupancy and/or construction work or other activity in the demised premises or building.

If the De-Commissioning Date has not occurred by April 1, 2016, then Tenant may elect to cancel this Lease by giving written notice to Landlord any time after April 1, 2016, but before the De-Commissioning Date, and if Tenant gives such notice during such period, this Lease shall be cancelled, all prepaid rent and security deposits shall be refunded to Tenant, and neither Landlord nor Tenant shall have any further obligations to the other under this Lease. Landlord shall provide Tenant with reasonable documentation of the de-commissioning of the demised premises to the extent Landlord obtains same from the existing occupant or the applicable governmental authorities.

Section 1.3 Landlord hereby notifies Tenant that neither the demised premises nor any portions of the building or Parking and Accommodation Areas have undergone inspection by a California Certified Access Specialist to determine if the demised premises, building or Parking and Accommodation Areas meet applicable accessibility standards with regard to the Americans With Disabilities Act ("ADA"). Reference is made to Section 7.5 below for the parties' responsibilities for compliance with the ADA.

ARTICLE 2 - Rent

Section 2.1 Tenant covenants and agrees to pay to Landlord without set-off, recoupment, deduction or demand of any nature whatsoever, Base Rent for each year during the Term as follows: for the first (1st) year during the Term (including any partial period prior to the commencement of the first full year) the amount of Seven Hundred Twenty Two Thousand Four Hundred Dollars ($722,400.00) per annum, payable in twelve (12) equal monthly installments of Sixty Thousand Two Hundred Dollars ($60,200.00); for the second (2nd) year during the Term the amount of Seven Hundred Forty Four Thousand Seventy Two Dollars ($744,072.00) per annum, payable in twelve (12) equal monthly installments of Sixty Two Thousand Six Dollars ($62,006.00); for the third (3rd) year during the Term the amount of Seven Hundred Sixty Six Thousand Three Hundred Ninety Four and 16/100 Dollars ($766,394.16) per annum, payable in twelve (12) equal monthly installments of Sixty Three Thousand Eight Hundred Sixty Six and 18/100 Dollars ($63,866.18); for the fourth (4th) year during the Term the amount of Seven Hundred Eighty Nine Thousand Three Hundred Eighty Five and 98/100 Dollars ($789,385.98) per annum, payable in twelve (12) equal monthly installments of Sixty Five Thousand Seven Hundred Eighty Two and 17/100 Dollars ($65,782.17); and for the fifth (5th) year during the Term the amount of Eight Hundred Thirteen Thousand Sixty Seven and 56/100 Dollars ($813,067.56) per annum, payable in twelve (12) equal monthly installments of Sixty Seven Thousand Seven Hundred Fifty Five and 63/100 Dollars ($67,755.63). Base Rent shall be paid monthly in advance on the first (1st) day of each calendar month.

Section 2.2 For the purpose of this Lease, a year shall be twelve (12) calendar months, commencing with the first day of the first full calendar month of the Term and the succeeding anniversaries thereof. For any period prior to the commencement of the first year or subsequent to the end of the last year of the Term, rent shall be prorated on the basis of the rental rate then payable.

Section 2.3 All sums payable and all statements deliverable to Landlord by Tenant under this Lease shall be paid and delivered at Sixty 31st Avenue, San Mateo, California 94403-3404, or at such other place as Landlord may from time to time direct by notice to Tenant and all such sums shall be paid in lawful money of the United States.

Section 2.4 Upon execution of this Lease, Tenant shall pay to the Landlord the following:

(A) Sixty Thousand Two Hundred Dollars ($60,200.00) which shall be applied by Landlord to the first base rent to become due and payable under this Lease, and

(B) One Hundred Twenty Thousand Four Hundred Dollars ($120,400.00) which shall be held as a Security Deposit pursuant to the terms of Section 19.9.

Section 2.5 In addition to Base Rent under Section 2.1, all other payments to be made under this Lease by Tenant to Landlord, following the receipt of a written statement thereof from Landlord, shall be deemed to be and shall become additional rent hereunder, whether or not the same to be designated as such, and shall be included in the term "rent" wherever used in this Lease; and, unless another time shall be expressly provided for the payment thereof, all rent and additional rent shall be due and payable together with the next succeeding installment of Base Rent; and Landlord shall have the same remedies for failure to pay the same as for a nonpayment of Base Rent.

Section 2.6 Any amount due from Tenant to Landlord that is not paid when due shall bear interest at the lesser of (i) the highest rate then permitted to be charged on late payments under leases under California law, or (ii) ten percent (10%) per annum; provided, however, the payment of any such interest shall not excuse or cure the default upon which such interest accrued. Tenant acknowledges and agrees that payment of such interest on late payments is reasonable compensation to Landlord for the additional costs incurred by Landlord caused by such late payment, including, but not limited to, collection and administration expenses and the loss of the use of the money that was late in payment.

ARTICLE 3 - Landlord's Work - Tenant's Work

Section 3.1 Tenant accepts the demised premises in a so-called "as-is" condition and agrees that Landlord shall not be required to perform any work whatsoever therein, except as expressly set forth in this Lease. In the event demolition is required of any existing improvements, Tenant agrees to undertake same at Tenant's sole cost and expense as a portion of the Tenant Improvements. Notwithstanding the foregoing to the contrary, Landlord agrees that it will deliver the demised premises to Tenant with the existing electrical, HVAC and plumbing systems serving the demised premises in good working order.

In the event Tenant provides written notice to Landlord of the need for maintenance or repair of any building systems or any HVAC units, electrical or plumbing items within ninety (90) days after the Commencement Date, Landlord shall, at Landlord's sole expense (provided the need for such maintenance and repairs was not caused by Tenant), which costs shall not be passed along to Tenant pursuant to Section 11.3, perform any such maintenance and repairs. After the end of such 90-day period, any maintenance, repair or replacement thereof shall be performed by Landlord, and the costs reimbursed by Tenant, pursuant to the provisions of Section 11.3 hereof. In the event Tenant provides written notice to Landlord of the need for maintenance or repair of the roof within one hundred eighty (180) days after the Commencement Date, Landlord shall, at Landlord's sole expense (provided the need for such maintenance and repairs was not caused by Tenant), which costs shall not be passed along to Tenant pursuant to Section 11.3, perform any such maintenance and repairs. After the end of such 180-day period, any maintenance, repair or replacement thereof shall be performed by Landlord, and the costs reimbursed by Tenant, pursuant to the provisions of Section 11.3 hereof.

Section 3.2 Tenant shall provide certain interior improvements ("Tenant Improvements") in the demised premises in accordance with detailed plans and specifications therefor which must be approved, in writing, by Landlord (which approval shall not be unreasonably withheld, conditioned or delayed) before work is commenced and which plans, once approved, shall become Exhibit "C" hereto. All such Tenant Improvements shall be made at the sole cost of Tenant in accordance with Exhibit "C" hereto.

The Tenant Improvements will be constructed in accordance with plans and specifications therefor to be prepared by a reputable licensed architect, under Tenant's direction, which architect shall be approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed (the "Architect"). Immediately following approval of the plans and specifications, Tenant shall apply for all requisite building permits and approvals for construction of the Tenant Improvements. Promptly following issuance of building permits, Tenant shall cause the Tenant Improvements to be constructed by a reputable general contractor licensed to do business in the State of California which contractor shall be approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed (the "General Contractor") and diligently prosecuted to completion in a good and workmanlike manner in accordance with the approved plans and specifications. Tenant shall have the right to make changes to the plans and specifications from time to time provided such changes are approved in advance in writing by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. The following Architect shall be deemed approved by the Landlord in accordance with this Lease: CAC Architects.

Landlord shall have the right to monitor the construction of the Tenant Improvements for conformance with the plans and specifications. Any material deviations from the plans and specifications reported by Landlord to Tenant shall be corrected promptly. Tenant agrees, if requested by Landlord, to hold, or cause the General Contractor to hold, on-site weekly construction meetings at a time made known to Landlord's representative who shall have the right to attend such meetings for the purpose of monitoring the progress of the construction. Landlord's representative shall also have access to the demised premises at all times during construction for the purpose of inspecting the work in progress.

In connection with Tenant's Work in the demised premises, including the Tenant Improvements, Tenant and its General Contractor agree to comply with the provisions of the Insurance Requirements, attached hereto as Exhibit "D" and made a part hereof. In addition, Tenant shall, during the course of Tenant's Work, including the Tenant Improvements, obtain and maintain, at its expense, builders' risk insurance for the amount of the completed value thereof on all-risk form, and flood insurance, insuring the interests of Tenant, Landlord, and any contractors and subcontractors.

Within ten (10) days following Tenant's completion thereof, Tenant shall furnish Landlord with a complete set of the final "For Construction" plans therefor in AutoCAD format, including all x-refs, fonts and plot files.

Section 3.3 Any additional work to be performed by Tenant during the Term hereof shall be performed at the sole cost of Tenant in accordance with detailed plans and specifications therefor which must be approved, in writing, by Landlord or Landlord's Architect before work is commenced and otherwise pursuant to the provisions of Section 3.2 above.

ARTICLE 4 - Streets

Section 4.1 Tenant agrees to require employees, and to direct customers and Tenant's visitors, to park in the parking area provided in the Parking and Accommodation Areas and to allow Landlord to post the streets for no parking.

ARTICLE 5 - Utility Services

Section 5.1 Landlord has at its own cost and expense secured the installation of water, gas, sanitary sewers and electrical services to the demised premises and made all necessary connections thereof to the building. Tenant shall pay all meter or service charges made by public utilities companies and shall pay for the water, gas and/or electricity used on the demised premises and sewer use fees and charges whether ad valorum or not and any so called "sewer connection charges" based on increased wastewater discharge from the demised premises exclusively. Tenant shall maintain such connections of utilities to the demised premises and the building.

Section 5.2 Landlord shall not be liable to Tenant for the failure of any utility services.

ARTICLE 6 - Assignment - Change of Ownership

Section 6.1

A. Except as otherwise provided herein, Tenant shall not, by operation of law or otherwise, transfer, assign, sublet, enter into license or concession agreements,

change ownership, mortgage or hypothecate this Lease or the Tenant's interest in and to the demised premises without first procuring the written consent of Landlord, which consent shall not be unreasonably withheld, conditioned or delayed in accordance with the provisions hereof. Any attempted transfer, assignment, subletting, license or concession agreement, change of ownership, mortgage or hypothecation without Landlord's written consent, if required by the terms of this Lease, shall be void and confer no rights upon any third person. Landlord's consent to a proposed assignment or sublease shall not be unreasonably withheld, conditioned or delayed provided that the proposed assignee or sublessee shall have: (i) a net worth, at the time of the assignment or sublease, determined in accordance with good accounting principles, equal to or in excess of the net worth of Tenant at the date of the Lease; (ii) been active in its current business for a minimum of three (3) years immediately prior to the assignment or sublease; and (iii) a good reputation in the business community; provided further that Tenant shall give Landlord not less than sixty (60) days notice prior to the effective date of any such assignment or sublease, and Landlord shall have the option to terminate this Lease with respect to the space to be assigned, or subleased for one (1) year or longer, by notice to Tenant given within thirty (30) days of Landlord's receipt of Tenant's notice. Nothing herein contained shall relieve Tenant from its covenants and obligations for the Term. Tenant agrees to reimburse Landlord for Landlord's reasonable outside attorneys' fees incurred in conjunction with the processing and documentation of any such requested transfer, assignment, subletting, licensing or concession agreement, change of ownership, mortgage or hypothecation of this Lease or Tenant's interest in and to the demised premises, not to exceed One Thousand Dollars ($1,000.00) per request. If Landlord consents to any assignment or sublease pursuant to this Article, Tenant shall pay Landlord, as additional rent:

(a) in the case of each and every assignment, an amount equal to ALL monies, property, and other consideration of every kind whatsoever paid or payable to Tenant by the assignee for such assignment and for all property of Tenant transferred to the assignee as part of the transaction (including, but not limited to, fixtures, other leasehold improvements, furniture, equipment, and furnishings); and

(b) in the case of each and every sublease, one hundred percent (100%) of the amount by which all rent, and/or other monies, property, and consideration of every kind whatsoever paid or payable to Tenant by the subtenant under the sublease exceeds the sum of:

(i) all base rent and additional rent under this Lease accruing during the term of the sublease in respect of the subleased space (as reasonably determined by Landlord, taking into account the useable area of the premises demised under the sublease); plus

(ii) attorney's fees up to $1,000.00 actually paid by Tenant to an independent outside attorney and commissions actually paid by Tenant to procure the sublease to an independent third party licensed real estate broker, amortized over the term of the sublease, commencing with the date on which the sublease term commences; plus

(iii) the actual cost of leasehold improvements undertaken by Tenant (subject to Landlord's prior written consent) solely to prepare the sublease space for the subtenant (up to $100,000.00), amortized over the period of the term of the sublease, commencing with the date on which the sublease commences.

B. Each transfer, assignment, subletting, license, concession agreement, mortgage and hypothecation to which there has been consent shall be by an instrument in writing in form reasonably satisfactory to Landlord, and shall be executed by the transferor, assignor, sublessor, licensor, concessionaire, hypothecator or mortgagor and the transferee, assignee, sublessee, licensee, concessionaire or mortgagee in each instance, as the case may be; and each assignee shall agree in writing for the benefit of Landlord herein to assume, to be bound by, and to perform the terms, covenants and conditions of this Lease to be done, kept and performed by Tenant, including the payment of all amounts due or to become due under this Lease directly to Landlord. Any other transferee, sublessee or licensee shall acknowledge in writing that its rights are subordinate to the terms of this Lease. One (1) executed copy of such written instrument shall be delivered to Landlord. Failure to first obtain in writing Landlord's consent or failure to comply with the provisions of this Article shall operate to prevent any such transfer, assignment, subletting, license, concession agreement, mortgage, or hypothecation from becoming effective.

C. Except as otherwise set forth in this Lease, if Tenant hereunder is a corporation which, under the then current laws of the State of California, is not deemed a publicly traded corporation, as defined in California Corporations Code Section 1502.1 or any successor to such section, or is an unincorporated association or partnership, the transfer, assignment or hypothecation of any stock or interest in such corporation, association or partnership in the aggregate in excess of fifty percent (50%) shall be deemed an assignment within the meaning and provisions of this Section 6.1.

D. The consent of Landlord to any transfer, assignment, sublease, license or concession agreement, change in ownership, mortgage or hypothecation of this Lease is not and shall not operate as a consent to any future or further transfer, assignment, sublease, license or concession agreement, change in ownership, mortgage or hypothecation, and Landlord specifically reserves the right to refuse to grant any such consents except as otherwise provided in this Section 6.1.

E. Landlord's rights to assign this Lease are and shall remain unqualified. Upon any sale of the demised premises and provided the purchaser assumes all obligations under this Lease in writing, Landlord shall thereupon be entirely released of all obligations of Landlord hereunder and shall not be subject to any liability resulting from any act or omission or event occurring after such sale.

F. Notwithstanding anything to the contrary contained in this Lease, without the consent of Landlord, Tenant may (provided Tenant is not in default beyond any applicable cure periods) assign this Lease or sublet the demised premises, or any portion thereof, to: (a) any entity which controls, is controlled by or is under common control with Tenant; (b) any entity which results from a merger of, reorganization of, or consolidation with Tenant (provided the net worth of the surviving entity is at least equal

to the net worth of Tenant just prior to such merger or consolidation and further provided that all of the assets then held by Tenant remain or become assets of the surviving entity); or (c) any entity which acquires substantially all of the stock or assets of Tenant, as a going concern (hereinafter, each a "Permitted Transfer"). Tenant shall provide Landlord with the following no later than ten (10) days prior to the effective date of the proposed transfer: (i) the name and address of the transferee, (ii) a copy of the proposed sublet or assignment agreement, and (iii) such reasonable information as may be requested by Landlord to substantiate that the proposed assignee or sublessee qualifies under the definition set forth hereinabove. In addition, a sale or transfer of the capital stock of Tenant shall be deemed a Permitted Transfer if (1) such sale or transfer occurs in connection with any bona fide financing or capitalization for fair market value for the benefit of Tenant, or (2) Tenant becomes a publicly traded corporation as a result of such transfer. Landlord shall have no right to any sums or other economic consideration resulting from any Permitted Transfer.

ARTICLE 7 - Tenant's Additional Agreements

Section 7.1 Tenant agrees at all times during the Term to: (A) Keep the demised premises in a neat and clean condition. (B) Promptly remove all waste, garbage or refuse from the demised premises. (C) Promptly comply with all laws and ordinances and all rules and regulations of duly constituted governmental authorities affecting the demised premises, and the cleanliness, safety, use and occupation thereof, but this clause (C) shall not be construed to require Tenant to comply with any such laws, ordinances, rules or regulations which require structural changes in the demised premises unless the same are made necessary to the extent of an act or work performed by Tenant or the particular nature of Tenant's business. (D) Use reasonable efforts to prevent the escape from the demised premises of all fumes, odors and other substances which are offensive or would constitute a nuisance or materially interfere with other tenants.

Section 7.2 Tenant agrees that it will not at any time during the Term without first obtaining the Landlord's written consent: (A) Conduct or permit any fire, bankruptcy or auction sale in the demised premises. (B) Place on the exterior walls (including both interior and exterior surfaces of windows and doors), the roof of any buildings or any other part of the demised premises, any sign, symbol, advertisement, neon light, other light or other object or thing visible to public view outside of the demised premises, except as expressly allowed in this Lease. (C) Change the exterior color of the building on the demised premises, or any part thereof, or the color, size, location or composition of any sign, symbol or advertisement that may have been approved by Landlord. (D) Park, operate, load or unload, any truck or other delivery vehicle on any place other than the loading area designated for Tenant's use. (E) Use the plumbing facilities for any purpose other than that for which they were constructed or dispose of any foreign substance therein. (F) Install any exterior lighting or plumbing facilities, shades or awnings, amplifiers or similar devices, or use any advertising medium which may be heard or experienced outside the demised premises, such as loudspeakers, phonographs, or radio broadcasts. (G) Deface any portion of the building or improvements on the demised premises, normal usage excepted. In the event any portion of the building is defaced or damaged by Tenant or Tenant's employees,

representatives, agents, contractors or invitees, Tenant agrees to repair such damage. (H) Permit any rubbish or garbage to accumulate on the demised premises, or any part thereof, unless confined in metal code compliant containers so located as not to be visible to members of the public. (I) Install, maintain or operate any sign except as approved in writing by Landlord as set forth in this Lease. (J) Store materials, supplies, equipment, finished products, raw materials or articles of any nature outside of the demised premises without an applicable permit or other approval from governmental authorities. (K) Use the demised premises for retail, commercial or residential purposes. (L) Use, store, generate or dispose of any "hazardous material", "hazardous substance" or "hazardous waste" as those terms are defined from time to time under applicable laws and regulations, except in de minimis amounts in the office areas typical of office users only and used in compliance with applicable law (such as toner and cleaning products).

Landlord shall allow Tenant to install, at Tenant's expense, throughout the Term, Tenant's signage on the monument sign for the building, subject to Landlord's approval, in Landlord's reasonable discretion, as to the size, type, installation procedure and location of the sign, and subject to approval by the City of Menlo Park; provided that, at the expiration or sooner termination of this Lease, at Landlord's election, Tenant shall, at Tenant's sole cost and expense, remove such signage and repair any damage caused by such removal.

Section 7.3 Tenant agrees that it will not at any time during the Term: (A) Perform any act or carry on any practice which would injure the demised premises. (B) Burn anything in or about the demised premises. (C) Keep or display any merchandise or other object on or otherwise obstruct any sidewalks, walkways or areaways. (D) Use or permit the use of any portion of the demised premises as living quarters, sleeping apartments, lodging rooms, or for any unlawful purpose. (E) Use or permit the demised premises to be used for any purpose which is or shall not then be allowed under the Zoning Ordinance of the City of Menlo Park, California, in that area.

Section 7.4 Tenant shall, at its expense, comply with all applicable laws, regulations, rules and orders, regardless of when they become or became effective, including, without limitation, those relating to health, safety, noise, environmental protection, waste disposal, and water and air quality, and furnish satisfactory evidence of such compliance upon request of Landlord.

Should any discharge, leakage, spillage, emission or pollution of any type occur upon or from the demised premises due to Tenant's use and occupancy thereof, Tenant, at its expense, shall be obligated to remedy the same to the reasonable satisfaction of Landlord and as required by any governmental body having jurisdiction thereover or reasonably recommended by Landlord's environmental consultant pursuant to the following paragraph. Tenant agrees to indemnify, hold harmless, and defend Landlord against all liability, cost, and expense (including without limitation any fines, penalties, judgments, litigation costs, and reasonable attorneys' fees) incurred by Landlord as a result of Tenant's breach of this section, or as a result of any such discharge, leakage, spillage, emission, or pollution due to Tenant's use or occupancy, regardless of whether such liability, cost, or expense arises during or after the Term, except to the extent such liability, cost or expense is proximately caused by the negligence or willful misconduct of Landlord.

Tenant shall provide Landlord with a copy of its application(s) for all hazardous materials permits for Tenant's operation of its business in the demised premises and shall provide Landlord with all information obtained by Tenant from, and/or provided to, the San Mateo County Department of Environmental Health or the Menlo Park Fire Protection District ("MPFPD") (or other appropriate governmental authorities) pertaining to Tenant's generation, discharge or use of hazardous materials in or from the demised premises. Landlord reserves the right to contract with an environmental consultant to perform walk throughs of the demised premises from time to time during the Term, subject to the terms of Section 19.1, to review Tenant's generation, discharge and/or use of hazardous materials in or from the demised premises and compliance with the applicable permits, and to make reasonable recommendations with respect thereto. Tenant shall undertake those activities necessary to timely comply with Landlord's environmental consultant's reasonable recommendations and all other activities required by the San Mateo County Department of Environmental Health or MPFPD or other governmental authorities responsible for hazardous materials, and shall provide Landlord with satisfactory evidence of such compliance.

Tenant shall pay all amounts due Landlord under this section, as additional rent, within ten (10) business days after receipt of an invoice therefor from Landlord.

Tenant shall, at least thirty (30) days prior to the termination of the Term, or any earlier termination of this Lease, submit a plan to the San Mateo County Department of Environmental Health or MPFPD in accordance with applicable provisions of the Uniform Fire Code (or other appropriate governmental authorities), with a copy to Landlord, demonstrating how any hazardous materials which were stored, dispensed, handled or used in, at or upon the demised premises will be transported, disposed of or reused at the expiration or sooner termination of the Term of this Lease; and Tenant shall, at the expiration or sooner termination of the Term, comply with all applicable laws, regulations, rules and orders of any governmental body having jurisdiction thereover (including without limitation the MPFPD or other appropriate governmental authorities) regarding the disposal of any such hazardous materials. In addition, at the expiration or earlier termination of the Term Tenant shall close all hazardous materials permits with respect to the demised premises.

Tenant's obligations under this Section 7.4 shall survive the expiration or earlier termination of this Lease, including without limitation any termination resulting from any default by Tenant under the Lease.

Concurrently with execution of this Lease, Landlord has approved Tenant's use of the Hazardous Materials described on the attached Exhibit "E" to the extent such Hazardous Materials are used within the limits and quantities described on Exhibit "E", subject to the following: Tenant's use thereof shall comply with all applicable laws, regulations, rules and orders, including compliance with all applicable permits therefor, and Landlord is not responsible to oversee Tenant's compliance thereof; and if Tenant is found to be using or disposing of such substances above and beyond the limits and quantities described on Exhibit "E" or above and beyond lawful limits or otherwise not in compliance with applicable laws, the same shall be a violation of this Lease; and Tenant acknowledges and agrees that Tenant shall not dispose of any hazardous materials into the storm sewer or sanitary sewer or into any drains in or about the demised premises.

In the event Landlord's environmental consultant or insurance broker recommends, at the commencement of the Term hereof or at any time during the Term, that Tenant should obtain and maintain pollution insurance, Tenant agrees that Tenant shall obtain and maintain pollution insurance to cover pollution conditions at the demised premises in limits and as otherwise recommended by Landlord's environmental consultant or insurance broker and shall name Landlord (and such other persons as are designated by Landlord) as additional insured under said insurance.

Section 7.5 Except as otherwise expressly set forth in this Lease, as to any improvements in the demised premises existing on the date Landlord delivers possession of the demised premises to Tenant, it is Tenant's responsibility to make any and all modifications thereto to meet applicable codes, ordinances and laws, including the ADA, and Landlord makes no warranty as to compliance thereof.

Notwithstanding the foregoing, Landlord shall, at Landlord's expense, perform the improvements required to make the exterior of the building and the Parking and Accommodation Areas comply with the ADA which are identified by the applicable governmental authorities as a condition of issuance of the building permits for the Tenant Improvements to be constructed by Tenant pursuant to Section 3.2 (herein, "Landlord's ADA Work") once Tenant has advised Landlord of the scope of Landlord's ADA Work (including providing Landlord with a copy of the building permits for the Tenant Improvements), and Landlord shall use reasonable business efforts to perform Landlord's ADA Work prior to the Commencement Date. The parties agree that if required by the applicable governmental authorities as a condition of issuance of the building permits for the Tenant Improvements, the following work shall be paid for by Landlord: (i) correction of the slope of the ramp outside the side entrance of the building, and (ii) correction of the slope of the rusticated pathway leading from the building to the public right of way.

Tenant shall, at Tenant's expense, perform the improvements required to make the demised premises comply with the ADA which are identified by the applicable governmental authorities as a condition of issuance of the building permits for the Tenant Improvements to be constructed by Tenant pursuant to Section 3.2 (other than Landlord's ADA Work).

After completion of the Tenant Improvements, commencement of the Term hereof, and completion of Landlord's ADA Work (if any is required by applicable governmental authorities), the responsibility for compliance with the ADA in the demised premises shall be Tenant's sole responsibility. Tenant agrees and acknowledges that at any time during the Term hereof (including if required as a condition of issuance of any building permit for the Tenant Improvements or subsequent improvements or alterations within the demised premises) that the demised premises are required to be modified to comply with the ADA, then Tenant shall, at Tenant's sole cost and expense, make the improvements necessary to make the demised premises comply with the provisions of the ADA.

After completion of the Tenant Improvements, commencement of the Term hereof, and completion of Landlord's ADA Work (if any is required by applicable governmental authorities), if (i) the Parking and Accommodation Areas, or any portion thereof, are required to be modified to comply with the ADA, then Landlord shall make the improvements necessary to make any such areas comply with the ADA and the cost thereof shall be reimbursed by Tenant to Landlord as a portion of the management, maintenance and repair expenses of the Parking and Accommodation Areas pursuant to the provisions of Article 18, and (ii) if any portion of the exterior of the building is required to be modified to comply with the ADA, then Landlord shall make the improvements necessary to make any such areas comply with the ADA and the cost thereof shall be reimbursed by Tenant to Landlord as a portion of the management, maintenance and repair expenses of the building pursuant to the provisions of Article 11.3.

ARTICLE 8 - Use of Premises

Section 8.1 Tenant shall use the demised premises solely for general office, research and development, laboratory and light manufacturing related to a biotechnology diagnostics company, and for no other purposes without Landlord's written consent.

Section 8.2 Tenant covenants and agrees that it will not knowingly use or permit to be used the demised premises or any part thereof for any unlawful purpose whatsoever. Tenant shall obtain and maintain all governmental licenses and permits required for the lawful and proper conducting of Tenant's business in the demised premises.

ARTICLE 9 - Indemnity and Public Liability Insurance

Section 9.1 Tenant agrees to indemnify and save harmless Landlord from and against all claims arising from any act, omission or negligence of Tenant, or its contractors, licensees, agents, servants, invitees or employees, or arising from any accident, injury or damage whatsoever caused to any person, or to the property of any person occurring during the Term in or about the demised premises, the sidewalks (if any) adjoining the same and from and against all costs, expenses and liabilities incurred in or in connection with any such claim or proceeding brought thereon, including, but not limited to, reasonable attorneys' fees and court costs provided that the terms of the foregoing indemnity shall not apply to the extent resulting from the negligence or willful misconduct of Landlord.

Section 9.2 Tenant agrees to maintain in full force from and after the Delivery Date and continuing during the Term a policy of public liability and property damage insurance under which Landlord (and such other persons, firms or corporations as are designated by Landlord and are properly includible as additional insureds under the

terms of any such policies of insurance) and Tenant are named as insureds, and the insurer agrees to indemnify and hold Landlord and Landlord's said designees harmless from and against all cost, expense and/or liability arising out of or based upon any and all claims, accidents, injuries and damage mentioned in Section 9.1. All public liability and property damage policies shall contain a provision that Landlord, although named as an insured, shall nevertheless be entitled to recovery under said policies for any loss occasioned to it, its servants, agents and employees, by reason of the negligence of Tenant. Each such policy shall be approved as to form and insurance company by Landlord, such approval not to be unreasonably withheld, be noncancelable with respect to the Landlord and Landlord's said designees without twenty (20) days' written notice to the Landlord and Landlord's said designees, and a duplicate original or certificate thereof shall be delivered to Landlord prior to commencement of the Term and thereafter thirty (30) days prior to expiration of the term of each policy. The limits of liability of such comprehensive general liability insurance shall be Two Million Dollars ($2,000,000.00) for injury or death to one or more persons and damage to property, combined single limit. All public liability, property damage and other casualty policies shall be written as primary policies, not contributing with and not in excess of coverage which Landlord may carry. Notwithstanding anything contained herein to the contrary, all insurance carried by Tenant shall be issued by responsible insurance companies licensed to do business in the State of California with an A.M. Best Company rating of A- VIII or better.

If Tenant shall not comply with its covenants to maintain insurance made above, or if Tenant fails to provide duplicate originals or certificates thereof to Landlord as is provided above, Landlord may, but shall not be required to, obtain any such insurance; and if Landlord does obtain any such insurance, Tenant shall, on demand, reimburse Landlord for the premium for any such insurance.

Section 9.3 Tenant agrees to use and occupy the demised premises, the Parking and Accommodation Areas and to use all other portions of the Business Park (which it is herein given the right to use) at its own risk and hereby releases to the full extent permitted by law the Landlord, and its agents, servants, contractors, and employees, from all claims and demands of every kind resulting from any accident, damage or injury occurring therein. Landlord shall have no responsibility or liability for any loss of or damage to fixtures or other personal property of Tenant. The provisions of this Section shall apply during the whole of the Term.

ARTICLE 10 - Fire Insurance and Casualty

Section 10.1 If the building should be damaged or destroyed during the Term by any casualty insurable under Landlord's standard fire and extended coverage insurance policies, Landlord shall (except as hereinafter provided) repair and/or rebuild the same to substantially the condition in which the same existed immediately prior to such damage or destruction. Landlord's obligation under this Section shall in no event exceed either (A) the scope of the work done by Landlord in the original construction of such building, or (B) the proceeds of any such insurance policy if Landlord keeps the building and the demised premises insured against loss or damage by such fire and extended coverage insurance to the extent of at least eighty percent (80%) of the

insurable value of the building if reasonably obtainable from responsible insurance companies licensed to do business in California, unless Landlord nevertheless elects to repair and/or rebuild the building and the demised premises. Tenant shall in the event of any such damage or destruction, unless this Lease shall be terminated as hereinafter provided, be responsible for replacing or repairing all exterior signs, trade fixtures, equipment, display cases, and other installations originally installed by the Tenant. Tenant shall have no interest in the proceeds of any insurance carried by Landlord.

Section 10.2 Tenant's Base Rent shall be abated proportionately, on the basis of the square footage of the demised premises rendered untenantable, during any period in which, by reason of any such damage or destruction, the building is rendered partially or totally untenantable. Such abatement shall continue for the period commencing with such destruction or damage and ending with the substantial completion by the Landlord of such work or repair and/or reconstruction as Landlord is obligated to do.

Section 10.3 If the building on the demised premises should be damaged or destroyed to the extent of twenty percent (20%) or more of the then monetary value thereof by an event described in Section 10.1, then Landlord may terminate this Lease by written notice to Tenant.

As soon as reasonably possible following any casualty to the demised premises described in Section 10.1 or in Section 10.7 below, Landlord shall notify Tenant of Landlord's reasonable estimate of the time required to repair and/or rebuild the same. In the event such estimated time to repair and/or rebuild the demised premises is in excess of three hundred sixty five (365) days from the date of the casualty, either Landlord or Tenant may terminate this Lease by written notice to the other party given within fifteen (15) days after the date of Landlord's notice of the estimated time. If neither party provides written notice to the other party within said 15-day period, then the right to terminate the Lease specified in this paragraph shall lapse and the Lease shall continue in full force and effect unless Landlord elects to terminate the Lease as otherwise provided herein.

If neither party elects to terminate this Lease then Landlord shall repair and/or rebuild the same as provided in Section 10.1. If such damage or destruction occurs and this Lease is not so terminated, this Lease shall remain in full force and effect and the parties waive the provisions of any law to the contrary. The Landlord's obligation under this Section shall in no event exceed the scope of the work to be done by the Landlord in the original construction of said building and the demised premises.

Section 10.4 Tenant agrees to comply with all of the regulations and rules of the Insurance Service Office or any similar body and will not knowingly do, suffer, or permit an act to be done in or about the demised premises which will increase any insurance rate with respect thereto.

Section 10.5 Tenant agrees, in addition to any rent provided for herein, to pay to the Landlord the cost of the fire and extended coverage insurance policy carried by Landlord on the demised premises during the entire Term or any renewal or extension thereof. This Section expressly permits the Landlord to carry standard fire and extended coverage policies to the extent of one hundred percent (100%) of the insurable value.

Section 10.6 From and after the Delivery Date and continuing during the Term, Tenant shall carry, at its expense, insurance against loss and damage by fire including "Special Perils" provisions for the full insurable value of Tenant's merchandise and personal property, including wall coverings, carpeting and drapes, and the trade fixtures, furnishings and operating equipment in the demised premises, whether supplied by Tenant or existing in the demised premises upon commencement of the Lease. Landlord and Landlord's mortgagee shall be named as additional insureds under said policy, which shall be noncancellable with respect to Landlord and Landlord's mortgagee without twenty (20) days' prior written notice. A certificate evidencing such coverage shall be delivered to Landlord prior to commencement of the Term and thereafter thirty (30) days prior to the expiration of the term of such policy. Such insurance shall be written as a primary policy, not contributing with and not in excess of coverage Landlord may carry. If Tenant shall not comply with its covenants to maintain said insurance, or if Tenant fails to provide a certificate thereof to Landlord, Landlord may, but shall not be required to, obtain any such insurance, and if Landlord does obtain any such insurance, Tenant shall, on demand, reimburse Landlord for the premium for any such insurance.

Section 10.7 In the event the building shall be damaged as a result of any flood, earthquake, act of war, nuclear reaction, nuclear radiation or radioactive contamination, or from any other casualty not covered by Landlord's fire and extended coverage insurance, to any extent whatsoever, Landlord may within ninety (90) days following the date of such damage, commence repair, reconstruction or restoration of the building and prosecute the same diligently to completion, in which event this Lease shall continue in full force and effect, or within said ninety (90) day period elect not to so repair, reconstruct or restore the building, in which event this Lease shall cease and terminate. In either such event Landlord shall give Tenant written notice of its intention within said ninety-day period.

Section 10.8 Upon any termination of this Lease under the provisions of this Article 10, the rent shall be adjusted as of the date of such termination and the parties shall be released without further obligation to the other party upon the surrender of possession of the demised premises to Landlord, except for items that have been theretofore accrued and are then unpaid, and except for obligations that are designated as surviving such termination.

Section 10.9 Notwithstanding anything in this Article 10 or elsewhere in this Lease to the contrary, Landlord may maintain any commercially reasonable insurance on the demised premises that Landlord deems necessary or advisable, including, but not limited to, any rental insurance, owner's protective liability insurance or any insurance required by any mortgagee of Landlord; and Landlord may include the amount of the premiums for such insurance in the total of the insurance premiums which Tenant is required to pay under the terms hereof. Landlord agrees that, with respect to insurance for earthquake or flood, if Landlord carries the same the cost passed through to Tenant shall be limited to such insurance which is (i) required by applicable laws or Landlord's mortgagee or (ii) available at commercially reasonable rates and commonly carried by other institutional landlords owning comparable buildings in similar areas of the City of Menlo Park.

ARTICLE 11 - Repair

Section 11.1 Landlord agrees, at Landlord's sole expense, to repair, maintain and replace, as necessary, structural defects of the building (including the foundation and roof structure) throughout the life of the Lease. Structural defects and maintenance shall not be deemed to include cracks or fissures in walls or floors (unless required for the safety of the occupants of the demised premises), nor the requirement of painting or caulking.

Section 11.2 Tenant agrees during the Term or any extension thereof to maintain the interior of the demised premises, and every part thereof, except as to work to be performed by Landlord under Sections 11.1 and 11.3. Tenant further agrees to clean, inside and out, all of the glass on the exterior of the building. If Tenant should fail to faithfully perform its maintenance obligations hereunder then Landlord shall, upon having given notice to Tenant of the need for said maintenance, have the right to perform, or cause to be performed, said maintenance and Tenant shall on demand reimburse Landlord for Landlord's costs of providing such maintenance. Landlord's reservation of the right to enter upon the demised premises to perform any repairs or maintenance or other work in, to, or about the demised premises which in the first instance is the Tenant's obligation pursuant to this Lease shall not be deemed to impose any obligation on Landlord to do so, nor shall Landlord be rendered liable to Tenant or any third party for the failure to do so, and Tenant shall not be relieved from any obligation to indemnify Landlord as otherwise provided elsewhere in this Lease.

Section 11.3 Landlord shall provide the following services to the building and Tenant shall, after the applicable ninety (90) day or one hundred eighty (180) day notice periods (as the case may be) described in Section 3.1 hereof have elapsed, in addition to all other payments required to be made under other provisions of this Lease, on demand reimburse Landlord for Landlord's gross costs of: (i) maintaining, repairing and replacing the roof; (ii) painting, maintaining and repairing the exterior of the building; (iii) maintaining, repairing and replacing the elevator and elevator equipment room (if any); (iv) maintenance and repair associated with the mechanical and electrical rooms; (v) maintenance and repair of the trash enclosure utilized in connection with the building; (vi) maintenance, repair and necessary replacement of the glass on the exterior of the building; and (vii) any other maintenance and repair other than that which Landlord is required to perform at Landlord's expense per Section 11.1. After the ninety (90) day notice period described in Section 3.1 hereof has elapsed, Tenant shall also, on demand, reimburse Landlord for Landlord's gross costs of maintaining, repairing and replacing the heating and air conditioning equipment serving the demised premises, whether furnished by Landlord or Tenant. Landlord's said gross costs as used in this Section 11.3 shall include all costs and expenses of every kind or nature incurred by Landlord in the performance of such maintenance, repair or replacements and Landlord's determination of the amount of said costs and expenses will be final; provided, however, that Landlord shall make use of any warranties. For the avoidance of doubt, such costs shall not include any exclusions listed in Section 18.3 hereof.

Additionally, in no event shall Landlord charge Tenant for any costs incurred by Landlord in complying with its obligations under Section 3.1 or Section 11.1.

Section 11.4 If during the term of this Lease Landlord or Landlord's insurance carrier requires the installation of a specialized fire control system, or any fire detection device, because of the nature of the particular activities being carried on by Tenant in the demised premises, then said system or device shall be installed at the sole cost of the Tenant within the time specified.

ARTICLE 12 - Fixtures & Alterations

Section 12.1 All trade fixtures owned by Tenant and installed in the demised premises shall remain the property of Tenant and may be removed from time to time and shall be removed at the expiration of the Term. Tenant shall repair any damage to the demised premises caused by the removal of said fixtures. If Tenant fails to remove such fixtures on or before the last day of the Term, all such fixtures shall become the property of Landlord, unless Landlord elects to require their removal, in which case Tenant shall promptly remove them and restore the demised premises to its condition prior to such removal. Landlord may also, at Landlord's sole discretion, store such fixtures at Tenant's expense.

Section 12.2 Tenant shall not make any alterations, additions or improvements in or to the demised premises or the building without submitting plans and specifications therefor for the prior written consent of Landlord, which consent, if granted, may be subject to such conditions as Landlord may reasonably deem appropriate. Any such alterations, additions or improvements shall comply with all applicable codes and standards, shall be consented to by Landlord, and shall be made at Tenant's sole cost and expense in accordance with the plans and specifications therefor. Within ten (10) days following Tenant's completion thereof, Tenant shall furnish Landlord with a complete set of the final "For Construction" plans therefor in AutoCAD format, including all x-refs, fonts and plot files. Tenant shall secure any and all governmental permits, approvals or authorizations required in connection with any such work, and shall hold Landlord harmless from any and all liability, costs, damages, expenses (including attorneys' fees) and any and all liens resulting therefrom. All alterations, decorations, additions and improvements (and expressly including all light fixtures and floor coverings installed by Tenant), except furniture, removable paneling, wall fixtures, trade fixtures, appliances and equipment which do not become a part of the demised premises, shall be deemed to belong to Tenant, but shall be deemed to have been attached to the demised premises or the building and to have become the property of Landlord upon the termination of the Term. Upon the expiration or sooner termination of the Term hereof, Tenant shall, at Tenant's sole cost and expense, forthwith remove (i) all alterations, decorations, additions or improvements installed by or for Tenant (excluding the initial Tenant Improvements except to the extent Landlord advises Tenant on the plans as approved by Landlord any items which must be removed prior to the expiration of the Term, in which event such items shall be removed),and (ii) all wiring installed by or for Tenant in the demised premises and/or the building, unless excused from doing so in writing by Landlord, and Tenant shall forthwith at its sole cost and expense repair any damage to the demised premises or

the building caused by such removal. In the event Tenant does not so remove all such alterations, decorations, additions, improvements and wiring from the demised premises and/or the building, or repair any damage caused by such removal, then Tenant agrees that Landlord may apply such sums from the Security Deposit, or recover such sums from Tenant by judgment if Tenant did not provide a Security Deposit, or if insufficient funds exist in the Security Deposit, to compensate Landlord for the removal and disposal of any of the same and/or repair of any damage therefrom to the demised premises or the building.

Notwithstanding any provisions of this Lease to the contrary, Tenant may make, at Tenant's sole cost and expense, interior, non-structural alterations to the demised premises (other than alterations to the storefront, exterior walls, sprinkler and life support systems, alterations which materially affect the mechanical/electrical system [including any increase in electrical service], alterations that erect or increase the size of an existing mezzanine, or any alterations that require or result in any penetration into or through the roof or the floor of the demised premises) having a cost not in excess of Ten Thousand Dollars ($10,000.00) during any year without obtaining the prior consent of Landlord. All such alterations shall meet the requirements of all applicable local, state and federal regulations, rules, codes and ordinances. During the course of all alterations, Tenant shall obtain and maintain, at its expense, builders' risk insurance for the amount of the completed value thereof on all-risk form, insuring the interests of Tenant, Landlord, and any contractors and subcontractors. Tenant agrees to indemnify and hold harmless Landlord from and against all claims, actions, liabilities and damage sustained by Landlord as a result of any such work by Tenant, its agents, employees or contractors, and shall give advance notice to Landlord of any such interior repairs or replacements and shall provide Landlord with any plans and specifications with respect thereto. Within ten (10) days following Tenant's completion thereof, Tenant shall furnish Landlord with a complete set of the final "For Construction" plans therefor in AutoCAD format, including all x-refs, fonts and plot files.

ARTICLE 13 - Remedies

Section 13.1 Should Tenant default in the performance of any of its obligations under this Lease with reference to the payment of rent and such default continue for five (5) days after receipt of a written notice from Landlord thereof, or should Tenant default in the performance of any other obligations under this Lease and such default continue for thirty (30) days after receipt of written notice from Landlord specifying such default or beyond the time reasonably necessary to cure if such default is of a nature to require more than thirty (30) days to remedy, then, in addition to all other rights and remedies Landlord may have under this Lease or under applicable law, Landlord shall have the following rights and remedies:

(1) The Landlord has the remedy described in California Civil Code Section 1951.4 (Landlord may continue the lease in effect after Tenant's breach and abandonment and recover Rent as it becomes due, if Tenant has the right to sublet or assign, subject only to reasonable limitations). If Tenant breaches any covenants of this Lease or if any event of default occurs, whether or not Tenant abandons the demised premises, this Lease shall continue in effect until Landlord terminates Tenant's

right to possession, and Tenant shall remain liable to perform all of its obligations under this Lease and Landlord may enforce all of Landlord's rights and remedies, including the right to recover rent as it falls due. If Tenant abandons the demised premises or fails to maintain and protect the same as herein provided, Landlord shall have the right to do all things necessary or appropriate to maintain, preserve and protect the demised premises, including the installation of guards, and may do all things appropriate to a re-letting of the demised premises, and none of said acts shall be deemed to terminate Tenant's right of possession, unless Landlord elects to terminate the same by written notice to Tenant. Tenant agrees to reimburse Landlord on demand for all amounts reasonably expended by Landlord in maintaining, preserving and protecting the demised premises, together with interest on the amounts expended from time to time at the maximum legal rate. Landlord shall also have the right to repair, remodel and renovate the demised premises at the expense of Tenant and as deemed necessary by Landlord.

(2) Landlord shall have the right to terminate Tenant's possession of the demised premises, and if Tenant's right to possession of the demised premises is terminated by Landlord by reason of a breach of this Lease by Tenant, or by reason of the happening of an event of default, or by reason of abandonment of the demised premises by Tenant, Landlord shall be entitled, at Landlord's election, to recover damages in an amount as set forth in Section 1951.2 of the Civil Code of California as then in effect, which damages shall include (1) the worth at the time of award of any unpaid rent and additional rent which had been earned at the time of such termination; plus (2) the worth at the time of award of the amount by which the unpaid rent and additional rent which would have been earned after termination until the time of award exceeds the amount of such rental loss Tenant proves could have been reasonably avoided; plus (3) the worth at the time of award of the amount by which the unpaid rent and additional rent for the balance of the term after the time of award exceeds the amount of such rental loss that Tenant proves could be reasonably avoided; plus (4) all other amounts due Landlord from Tenant under the terms of this Lease, or necessary to compensate Landlord for all detriment caused by Tenant's failure to perform its obligations under this Lease. The right to possession of the demised premises by Tenant should not be deemed terminated until Landlord gives Tenant written notice of such termination or until Landlord re-lets all or a portion of the demised premises. Landlord shall be required to mitigate damages by making a good faith effort to re-let the demised premises.

As used in subparagraphs (1) and (2) above, the "worth at the time of award" is computed by allowing interest at the legal rate of ten percent (10%) per annum. As used in subparagraph (3) above, the "worth at the time of award" is computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%).

(3) No right or remedy herein conferred upon or reserved to Landlord is intended to be exclusive of any other right or remedy herein or by law, provided that each shall be cumulative and in addition to every other right or remedy given herein or now hereafter existing at law or in equity or by statute.

Section 13.2 Landlord shall in no event be in default in the performance of any of its obligations hereunder unless and until Landlord shall have failed to perform such obligations within thirty (30) days or such additional times as is reasonably required to correct any such default after notice by Tenant to the Landlord properly specifying wherein the Landlord has failed to perform any such obligation.

ARTICLE 14 - Bankruptcy

Section 14.1 Tenant shall give written notice to Landlord of its intention to commence proceedings under any state or federal insolvency or bankruptcy law, or any comparable law that is now or hereafter may be in effect, whereby Tenant seeks to be, or would be, discharged of its debts or the payment of its debts is sought to be delayed, at least thirty (30) days prior to the commencement of such proceedings.

Section 14.2 If any of the following events occur:

(1) The entry of an order for relief under Title 11 of the United States Code as to Tenant or its executors, administrators or assigns, if any, or the adjudication of Tenant or its executors, administrators or assigns, if any, as insolvent or bankrupt pursuant to the provisions of any state insolvency or bankruptcy act;

(2) The appointment of a receiver, trustee or other custodian of the property of Tenant by reason of the insolvency or inability of Tenant to pay its debts;

(3) The assignment of the property of Tenant for the benefit of creditors;

(4) The commencement of any proceedings under any state or federal insolvency or bankruptcy law, or any comparable law that is now or hereafter may be in effect, whereby Tenant seeks to be, or would be, discharged of its debts or the payment of its debts is sought to be delayed;

(5) The failure of Tenant to give written notice to Landlord provided for in Section 14.1 above;

then Landlord may, at any time thereafter, in addition to any and all other rights or remedies of Landlord under this Lease or under applicable law, upon written notice to Tenant, terminate this Lease, and upon such notice this Lease shall cease and terminate with the same force and effect as though the date set forth in said notice were the date originally set forth herein and fixed for the expiration of the Term. Tenant shall thereupon vacate and surrender the demised premises, but shall remain liable as herein provided.

ARTICLE 15 - Surrender of Premises

Section 15.1 Tenant shall, upon termination of the Term, or any earlier termination of this Lease, surrender to Landlord the demised premises, including, without limitation, all building equipment and apparatus, and fixtures (except as provided in Sections 12.1 and 12.2) then upon the demised premises without any

damage, injury, or disturbance thereto, or payment therefor, except damages due to ordinary wear and tear, acts of God, fire and other perils to the extent the demised premises are not required to be repaired or restored as hereinbefore provided, and Tenant shall dispose of any hazardous materials stored, dispensed, handled or used in, at or upon the demised premises in accordance with the provisions of Section 7.4.

ARTICLE 16 - Eminent Domain

Section 16.1 If more than thirty-three percent (33°/0) of the floor area of the building shall be taken under the power of eminent domain, then Landlord shall so notify Tenant, and if the portion not so taken will not be reasonably adequate for the operation of Tenant's business after the Landlord completes such repairs or alterations as the Landlord is obligated or elects to make, then Tenant shall have the right to elect either to terminate this Lease, or, subject to Landlord's right to terminate the Lease pursuant to Section 16.4, to continue in possession of the remainder of the demised premises and shall notify Landlord in writing of Tenant's election within ten (10) days after receipt by Tenant of Landlord's notice. In the event less than thirty-three percent (33°/0) of the floor area of the building on the demised premises shall be taken or Tenant elects to remain in possession, as provided in the first sentence hereof, all of the terms herein provided shall continue in effect, except that the Base Rent shall be reduced in the same proportion that the floor area of the building on the demised premises taken bears to the original floor area of the building, and Landlord shall at its own cost and expense make all necessary repairs or alterations to the building so as to constitute the portion of the building not taken a complete architectural unit and the demised premises a complete unit for the purposes allowed by this Lease, but such work shall not exceed the scope of the work to be done by Landlord in originally constructing said building.

Section 16.2 Each party waives the provisions of Code of Civil Procedure Section 1265.130 allowing either party to petition the Superior Court to terminate this Lease in the event of a partial taking.

Section 16.3 All damages or awards for any taking under the power of eminent domain whether for the whole or a part of the demised premises shall belong to and be the property of Landlord whether such damages or awards shall be awarded as compensation for diminution in value to the leasehold or to the fee of the demised premises; provided however, that Landlord shall not be entitled to the award made to Tenant or Landlord for loss of business, depreciation to, and cost or removal of stock and fixtures and for leasehold improvements which have been installed by Tenant at its sole cost and expense less depreciation which is to be computed on the basis of completely depreciating such leasehold improvements during the initial term of this Lease, and any award made to Tenant in excess of the then depreciated value of leasehold improvements shall be payable to the Landlord.

Section 16.4 If more than thirty-three percent (33%) of the floor areas of the building on the demised premises shall be taken under power of eminent domain, or if any part of the Parking and Accommodation Areas shall be so taken, Landlord may, by written notice to Tenant delivered on or before the date of surrendering possession to the public authority pursuant to such taking, terminate this Lease as of such date.

Section 16.5 If this Lease is terminated as provided in this Article, the rent shall be paid up to the day that possession is so taken by public authority and Landlord shall make a prorata refund of any rent and all deposits paid by Tenant in advance and not yet earned.

ARTICLE 17 - Real Property Taxes

Section 17.1 Tenant shall reimburse Landlord for all real property taxes, assessments and ongoing sewer fees applicable to the demised premises. Taxes shall be prorated to lease years for purpose of making this computation. Such payment shall be made by Tenant within thirty (30) days after receipt of Landlord's written statement setting forth the amount of such computation thereof. If the Term of this Lease shall not expire concurrently with the expiration date of the fiscal tax year, Tenant's liability for taxes for the last partial lease year shall be prorated on an annual basis.

Section 17.2 If the demised premises are not separately assessed, Tenant's liability shall be an equitable proportion of the real property taxes for all of the land and improvements included within the tax parcel assessed, such proportion to be determined by Landlord from the respective valuations assigned in the assessor's work sheets or such other information as may be reasonably available.

Section 17.3 Tenant shall pay prior to delinquency all taxes assessed against and levied upon trade fixtures, furnishings, equipment and all other personal property contained in the demised premises. Tenant shall cause said trade fixtures, furnishings, equipment and all other personal property to be assessed and billed separately from the real property of Landlord.

If any of Tenant's said personal property shall be assessed with Landlord's real property, Tenant shall pay Landlord the taxes attributable to Tenant within ten (10) days after receipt of a written statement setting forth the taxes applicable to Tenant's property.

Section 17.4 In addition to all other payments provided for herein, the Tenant shall on demand reimburse Landlord for any surcharges, fees, and any similar charges required to be paid by any instrumentality of local, state or federal government in connection with parking in the parking area, including policing; supervising with attendants; other costs in connection with providing charged parking; repairs, replacements and maintenance not properly chargeable to capital account under good accounting principles; interest and depreciation of the actual cost of modification or improvements to the areas, facilities and improvements maintained in this Article either (i) required by any instrumentality of local, state or federal government, or (ii) installed by Landlord on account of governmental requirements to facilitate payment of a parking charge by the general public for parking in the parking area, or both, and other similar costs; and there shall be excluded (a) cost of construction of such improvements which is properly chargeable to capital account and (b) depreciation of the original cost of

construction of all items not previously mentioned in this sentence. If Landlord shall require the payment of a parking charge by the general public for parking in the parking area, then during any period in which such a charge is made the total revenue (after deducting excise and similar taxes thereon and taxes, fees or surcharges imposed by any agency or instrumentality of local, state or federal government) actually received in cash or its equivalent by Landlord for such parking charge shall be credited against said gross costs. Landlord shall not market the parking area for parking by the general public.

Section 17.5 Notwithstanding the provisions of Article 17 hereinabove, Tenant shall pay any increase in "real property taxes" resulting from any and all improvements of any kind whatsoever placed on or in the demised premises for the benefit of or at the request of Tenant regardless of whether said improvements were installed or constructed either by Landlord or Tenant.

Section 17.6 In addition to all other payments provided for herein, the Tenant shall on demand reimburse Landlord for any tax (excluding income tax) and/or business license fee or other levy that may be levied, assessed or imposed upon the rent or other payments provided for herein or on the square footage of the demised premises, on the act of entering into this Lease, or on the occupancy of the Tenant however described, as a direct substitution in whole or in part for, or in addition to, any real property taxes, whether pursuant to laws presently existing or enacted in the future.

ARTICLE 18 - Parking and Accommodation Areas

Section 18.1 Landlord grants to Tenant during the Term the non-exclusive right to use the parking area, facilities and other areas designated as "Parking and Accommodation Areas" on Exhibit "B" hereto for the accommodation and parking of such automobiles of the Tenant, its officers, agents, employees and its customers, vendors and invitees while working or visiting Tenant. Tenant agrees that its officers, agents and employees will park their automobiles only in the parking areas provided in the Parking and Accommodation Areas, and Tenant specifically agrees that such officers, agents and employees will not park on any public streets in the vicinity of the demised premises. Except as provided in Section 17.4, Landlord shall not charge parking fees for such right to use parking facilities.

Section 18.2 All parking areas and facilities furnished by Landlord including, but not limited to, pedestrian sidewalks, landscaped areas and parking areas shall at all times be subject to the control and management of Landlord so that Landlord will be in a position to make available efficient and convenient use thereof, and Landlord shall have the right from time to time to establish, modify and enforce reasonable rules and regulations with respect to all facilities and areas mentioned in this Article, and Tenant agrees to abide by and conform therewith, provided Tenant has received a copy of such rules in writing and provided that such rules and regulations are not in direct violation with the provisions of this Lease. Landlord shall have the right to construct, maintain and operate lighting facilities on all of said areas and improvements, to police the same, from time to time to change the area, location and arrangement of parking areas and facilities, to restrict employee parking to employee parking areas, to

construct surface, subterranean and/or elevated parking areas and facilities, to establish and from time to time change the level of parking surfaces, to close (if necessary) all or any portion of said areas or facilities to such extent as may in the opinion of Landlord's counsel be legally sufficient to prevent a dedication thereof or the accrual of any rights of any person or of the public therein, and to do and perform such other acts in and to said areas and improvements respectively as in the use of good business judgment the Landlord shall determine to be advisable with a view to the improvement of the convenience and use thereof by Tenant, other lessees, and their respective employees and visitors; provided, however, in no event shall Landlord materially permanently reduce the number of parking spaces available in the Parking and Accommodation Areas unless required to comply with applicable laws.

Section 18.3 Tenant agrees during the Term to pay to Landlord an annual charge which shall be Landlord's actual gross costs of operating, maintaining and/or replacing all of the Parking and Accommodation Areas. The annual charge shall be an estimate computed on the basis of periods of twelve (12) consecutive calendar months, commencing and ending on such dates as may be designated by Landlord, and shall be paid in monthly installments on the first day of each calendar month in the amount estimated by Landlord. Within ninety (90) days after the end of each such annual period, Landlord will determine (and furnish to Tenant a statement showing in reasonable detail) the actual annual charge for such period and the amounts so estimated and paid during such period shall be adjusted within such ninety (90) days (including adjustments on a prorata basis of any partial such period at either end of the Term) and one party shall pay to the other on demand whatever amount is necessary to effectuate such adjustment.

Landlord's said gross costs shall consist of and include all costs and expenses of every kind or nature incurred by Landlord in the operation, maintenance and/or replacement of the Parking and Accommodation Areas determined in accordance with good accounting practice by an accountant employed by Landlord. Without otherwise limiting the generality of the foregoing, there shall be included in such gross costs public liability and property damage insurance, landscape maintenance, maintenance of utilities, water, cleaning of areas, facilities and improvements, operation of lighting, common area taxes and assessments determined in the same manner as taxes and assessments on the demised premises, policing and sweeping of parking areas, supervising with attendants, repairs, replacements and maintenance, and an amount equal to three percent (3%) of the total of all rent (i.e., Base Rent and additional rent) payable under this Lease for administration of the Parking and Accommodation Areas.

The following shall not be included within costs under this Article 18 or under Section 11.3 which Tenant is obligated to reimburse Landlord hereunder:

(a) legal fees, brokerage commissions, advertising costs, or other related expenses incurred in connection with the leasing of the demised premises (except in accordance with Article 13 hereunder);

(b) cost of repairs and other work occasioned by fire or other casualty covered by the insurance carried by Landlord, to the extent of the insurance proceeds actually received by Landlord;

(c) damage and cost of repairs necessitated by the gross negligence or willful misconduct of Landlord or Landlord's agents, employees or contractors and not covered by insurance carried or required to be carried by Tenant hereunder;

(d) executive salaries or salaries of service personnel other than in connection with the management, operation, repair or maintenance of the building or Parking and Accommodation Areas (to the extent not covered by the administrative fee described in this Section 18.3 above);

(e) the cost of any service provided to Tenant for which Landlord is reimbursed by others;

(f) payment of principal or interest on any mortgage or other encumbrance on the building;

(g) overhead profit increments paid to Landlord's subsidiaries or affiliates for management or other services on or to the building or for supplies or other materials to the extent that the cost of the services, supplies or materials exceeds the cost that would have been paid had the services, supplies or materials been provided by unaffiliated parties on a competitive basis;

(h) any compensation paid to clerks, attendants or other persons in commercial concessions operated by Landlord; and

(i) the cost of containing, removing or otherwise remediating any contamination of the demised premises by any hazardous materials (except that costs that are incurred by reason of the introduction, storage, use or disposal of hazardous materials by Tenant or any of its agents, employees, contractors, licensees, invitees, sublessees, successors, assigns or other representatives shall be borne one hundred percent (100%) by Tenant).

Section 18.4 The Parking and Accommodation Areas as used in this Lease are those areas shown on Exhibit "B" outside of the building area.

Section 18.5 Upon thirty (30) days' advance written notice by Tenant to Landlord, Landlord shall permit Tenant's in-house accountant to inspect, at Landlord's offices, during normal business hours during the months of May through October, Landlord's bills, records and invoices relating to the Parking and Accommodation Areas as well as other additional rent payable by Tenant under this Lease for any year (not more than once in any year). Before Tenant may inspect Landlord's records, Tenant must have paid the full amount of the costs for such Parking and Accommodation Areas and other additional rent payable by Tenant under this Lease and must not be in default of any provisions of this Lease beyond applicable notice and cure periods. Tenant may review only those records that are specifically related to the Parking and Accommodation Areas and other additional rent items and may not review any other leases or Landlord's tax returns or financial statements. Tenant's right to inspect Landlord's records shall apply to those records for the two (2) years immediately preceding the year during which the inspection is made. Landlord will allow Tenant to use Landlord's copying facilities subject to reimbursement by Tenant to Landlord of the

reasonable cost of copying. All of the information obtained through the Tenant's inspection with respect to financial matters (including without limitation, costs, expenses, income) and other matters pertaining to the Landlord and/or the demised premises as well as any compromise, settlement, or adjustment reached between Landlord and Tenant relative to the result of the inspection shall be held in strict confidence by the Tenant and its officers and employees, including Tenant's accountant. As a condition precedent to Tenant's exercise of its right to inspect, Tenant must deliver to Landlord a signed covenant from the accountant in form reasonably acceptable to Landlord acknowledging that all of the results of such inspection as well as any compromise, settlement or adjustment reached between Landlord and Tenant shall be held in strict confidence and shall not be revealed in any manner to any person except upon the prior written consent of the Landlord, which consent may be withheld in Landlord's sole discretion, or if required pursuant to any litigation between Landlord and Tenant materially related to the facts disclosed by such inspection, or if required by law. Upon completion thereof, Tenant shall deliver a copy of the inspection report and accompanying data to Landlord. Landlord shall credit any overpayment determined by the inspection against the next rent due and owing by Tenant or, if no further rent is due after the end of the Term, provided Tenant is not in default under this Lease, refund such overpayment directly to Tenant within thirty (30) days of determination and Tenant's request therefor. Likewise, Tenant shall pay Landlord any underpayment determined by the inspection report within thirty (30) days of determination. The foregoing obligations shall survive the expiration or termination of this Lease.

ARTICLE 19 - Miscellaneous

Section 19.1 Upon not less than twenty four (24) hours prior notice (except in the case of emergency where no notice shall be required) Landlord and its designee shall have the right during reasonable business hours (and Tenant's representative may accompany Landlord, except in an emergency) to enter the demised premises except restricted areas as established by or on behalf of the Federal Government for security purposes (and in emergencies at all times), (i) to inspect the same, (ii) for any purpose connected with Landlord's rights or obligations under this Lease and, (iii) for all other lawful purposes.

Section 19.2 Tenant shall not be entitled to make repairs at Landlord's expense, and Tenant waives the provisions of Civil Code Sections 1941 and 1942 with respect to Landlord's obligations for tenantability of the demised premises and Tenant's right to make repairs and deduct the expenses of such repairs from rent.

Section 19.3 This Lease shall be governed exclusively by the provisions hereof and by the laws of the State of California as the same from time to time exist. This Lease expresses the entire understanding and all agreements of the parties hereto with each other and neither party hereto has made or shall be bound by any agreement or any representation to the other party which is not expressly set forth in this Lease. If any provision of this Lease shall be invalid, unenforceable or ineffective for any reason whatsoever, all other provisions hereof shall be and remain in full force and effect.

Section 19.4 If Tenant should, with Landlord's consent, hold over after the Term and any extension thereof as herein provided for, then such holding over shall be construed as a tenancy from month to month at a rent one hundred fifty percent (150%) that provided for under the monthly rental of the principal term of this Lease. In the event of Tenant's holdover without Landlord's consent (and without prejudice to Landlord's other remedies for such unlawful holdover), then the Base Rent required to be paid hereunder shall be doubled. In no event shall any provision hereof be deemed Landlord's consent permitting Tenant to retain possession of the demised premises after the expiration of the Term or earlier termination thereof.

Section 19.5 Tenant agrees to maintain all toilet and washroom facilities within the demised premises in a neat, clean and sanitary condition.

Section 19.6 Landlord covenants and agrees that Tenant, subject to the terms and provisions of this Lease, on paying the rent and observing, keeping and performing all of the terms and provisions of this Lease on its part to be observed, kept and performed, shall lawfully, peaceably and quietly have, hold, occupy and enjoy the demised premises during the Term without hindrance or ejection by any person lawfully claiming under or against the Landlord.

Section 19.7 Subject to Article 6, the terms and provisions hereof shall be construed as running with the land and shall be binding upon and inure to the benefit of heirs, executors, administrators, successors and assigns of Landlord and Tenant.

Section 19.8

A. Tenant shall promptly pay all sums of money with respect to any labor, services, materials, supplies or equipment furnished or alleged to have been furnished to Tenant in, at or about the demised premises, or furnished to Tenant's agents, employees, contractors or subcontractors, that may be secured by any mechanic's, materialmen's, supplier's or other liens against the demised premises or Landlord's interest therein. In the event any such or similar liens shall be filed, Tenant shall, within three (3) days of receipt thereof, give notice to Landlord of such lien, and Tenant shall, within twenty (20) days after receiving notice of the filing of the lien, discharge such lien by payment of the amount due to the lien claimant. However, Tenant may in good faith contest such lien provided that within such twenty (20) day period Tenant provides Landlord with a surety bond from a company acceptable to Landlord, protecting against said lien in an amount at least one and one-half (1-1/2) times the amount claimed or secured as a lien or such greater amount as may be required by applicable law; and provided further that Tenant, if it should decide to contest such lien, shall agree to indemnify, defend and save harmless Landlord from and against all costs arising from or in connection with any proceeding with respect to such lien. Failure of Tenant to discharge the lien, or, if contested, to provide such bond and indemnification, shall constitute a default under this Lease and in, addition to any other right or remedy of Landlord, Landlord may, but shall not be obligated, to discharge or secure the release of any lien by paying the amount claimed to be due, and the amount so paid by Landlord, and all costs and expenses incurred by Landlord therewith, including, but not limited to, court costs and reasonable attorneys' fees, shall be due and payable by Tenant to Landlord forthwith on demand.

B. At least fifteen (15) days before the commencement by Tenant of any material construction or remodeling work on the demised premises, Tenant shall give written notice thereof to Landlord. Landlord shall have the right to post and maintain on the demised premises such Notices of Non-Responsibility, or similar notices, provided for under applicable laws.

Section 19.9

A. On the Effective Date, Tenant shall deposit with Landlord the sum specified in Section 2.4(B) hereof as a "Security Deposit". The Security Deposit shall be held by Landlord as security for the faithful performance of all the terms of this Lease to be observed and performed by Tenant. The Security Deposit shall not be mortgaged, assigned, transferred or encumbered by Tenant without the written consent of Landlord and any such act on the part of Tenant shall be without force and effect and shall not be binding upon Landlord.

Provided that (i) this Lease is in full force and effect, (ii) Tenant has completed the Tenant Improvements pursuant to the provisions of this Lease and the plans and specifications therefor as such have been approved by Landlord, and (iii) Tenant is not in default under any of the terms, conditions and covenants of this Lease beyond applicable notice and cure periods at the time of giving Tenant's written notice described herein, and subject to the terms and conditions set forth herein, Landlord shall return a portion of the Security Deposit in the amount of Fifty Two Thousand Six Hundred Forty Four and 37/100 Dollars ($52,644.37) within thirty (30) days after Tenant's written request to Landlord (herein, the "Tenant's Notice"), which Tenant's Notice may be given no earlier than the first day of the twenty fifth (25th) full calendar month after the Commencement Date of this Lease. Upon the return of such amount to Tenant, the Security Deposit to be held by Landlord pursuant to the provisions herein shall then be the amount of Sixty Seven Thousand Seven Hundred Fifty Five and 63/100 Dollars ($67,755.63).

B. If any of the rents herein reserved or any other sum payable by Tenant to Landlord shall be overdue and unpaid, or should Landlord make payments on behalf of Tenant, or should Tenant fail to perform any of the terms of this Lease, then Landlord may, at its option and without prejudice to any other remedy which Landlord may have on account thereof, apply the entire Security Deposit, or so much thereof as may be necessary, to compensate Landlord toward the payment of rent or additional rent, loss, or damage sustained by Landlord due to such breach on the part of Tenant, and Tenant shall forthwith upon demand restore said Security Deposit to the original sum deposited. Should Tenant comply with all of said terms and promptly pay all of the rent and all other sums payable by Tenant to Landlord, said Security Deposit shall be returned in full to Tenant at the end of the Term.

C. In the event of bankruptcy or other similar proceedings listed in Article 14 hereof, the Security Deposit shall be deemed to be applied first to the payment of rent and other charges due Landlord for all periods prior to the filing of such proceedings.

D. In the event Landlord delivers the Security Deposit to the purchaser of Landlord's interest in the demised premises, Landlord, after written notice to Tenant of said delivery, shall be discharged from any further liability with respect to the Security Deposit. This provision shall also apply to any subsequent transferees.

Section 19.10 All notices, statements, demands, requests, consents, approvals, authorizations, offers, agreements, appointments or designations hereunder by either party to the other shall be in writing and shall be sufficiently given and served upon the other party if sent by United States certified mail, return receipt requested, postage prepaid, or overnight courier (provided a receipt is given), and addressed as follows:

If sent by mail to Tenant, the same shall be addressed to the Tenant at the demised premises or at such other place as Tenant may from time to time designate by notice to Landlord.

If sent by mail to Landlord, the same shall be addressed to Landlord at Sixty 31st Avenue, San Mateo, California 94403-3404, or at such other place as Landlord may from time to time designate by notice to Tenant.

Any such notice when sent by certified mail as above provided shall be deemed duly served on the third business day following the date of such mailing. Any such notice when sent by overnight courier as above provided shall be deemed duly served on the first business day following the date of such mailing.

Section 19.11 As used in this Lease and when required by the context, each number (singular or plural) shall include all numbers, and each gender shall include all genders; and unless the context otherwise requires, the word “person” shall include corporation, firm or association.

Section 19.12 In case of litigation with respect to the mutual rights, obligations, or duties of the parties hereunder, the prevailing party shall be entitled to reimbursement from the other party of all costs and reasonable attorneys’ fees actually incurred.

Section 19.13 Each term and each provision of this instrument performable by Tenant shall be construed to be both a covenant and a condition.

Section 19.14 Except as otherwise expressly stated, each payment provided herein to be made by Tenant to Landlord shall be in addition to and not in substitution for the other payments to be made by Tenant to Landlord.

Section 19.15 Time is and shall be of the essence of this Lease and all of the terms, provisions, covenants and conditions hereof.

Section 19.16 The Landlord and Tenant each warrant that they have not had any dealings with any realtor, broker, or agent in connection with the negotiation of this Lease excepting only Newmark Cornish & Carey, whom Landlord agrees to pay whatever commission may be due. Each party agrees to hold the other harmless from any cost, expense or liability for any compensation, commissions or charges claimed by any realtor, broker, or agent with respect to this Lease and/or the negotiation thereof with whom the other party has or purportedly has dealt.

Section 19.17 Tenant agrees that its interest in this Lease shall be subordinate to any mortgage, deed of trust and/or other security indenture hereafter placed upon the demised premises and to any and all advances made or to be made thereunder and to the interest thereon made and all renewals, replacements, and extensions thereof, but nothing herein contained shall be deemed to alter or limit Tenant's rights as set forth in Section 19.6. Tenant shall, at the request of Landlord or any mortgagee, trustee or holder of any such security instrument, execute in writing an agreement subordinating its rights under this Lease to the lien of such mortgage, deed of trust and/or other security indenture; provided that, as a condition of any subordination to a future mortgagee, trustee or holder of a security instrument, Tenant's execution of a subordination agreement is conditioned upon Tenant's receipt of a commercially reasonable non-disturbance agreement. If any mortgagee, trustee or holder of such security instrument elects to have the Tenant's interest in this Lease superior to any such instrument by notice to Tenant, then this Lease should be deemed superior to the lien of any such mortgage, deed of trust or security indenture whether this Lease was executed before or after said mortgage, deed of trust and/or security indenture.

Section 19.18 Landlord reserves the right during the last six months of the Term of this Lease or the last six months of any extension hereof to enter the property during normal working hours (in accordance with the provisions of Section 19.1 above) for the purpose of showing the demised premises (except restricted areas established by, or on behalf of, the Federal Government for security purposes) to prospective tenants or purchasers and to place signs (for the last year) on the demised premises advertising the property for lease or sale.

Section 19.19 The following terms as used in this Lease shall have the following meaning:

(a) "Unavoidable Delay" means any prevention, delay or stoppage due to strike(s), lockout(s), labor dispute(s), act(s) of God, inability to obtain labor or materials or reasonable substitutes therefor, governmental restrictions, governmental regulations, governmental controls, enemy or hostile governmental action, civil commotion, fire or other casualty, and other conditions or causes beyond the reasonable control of the party obligated to perform.

Section 19.20 Tenant shall at any time during the Term, within ten (10) days after written notice from Landlord, execute, acknowledge and deliver to Landlord or, at Landlord's request, Landlord's mortgagee, an estoppel certificate in writing (i) certifying that this Lease is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying that this Lease, as so modified, is in full force and effect) and the date to which the rent and other charges are paid in advance, if any, (ii) acknowledging that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or specifying such defaults, if any, are claimed, and (iii) ratifying and certifying any such other matters as may reasonably be requested. Any such certificate may be conclusively relied upon by any prospective purchaser or encumbrancer of the demised premises. Tenant's failure to deliver such certificate within such time shall be conclusive upon Tenant that this Lease is in full force and effect, without modification except as may be represented by Landlord; that there are no uncured defaults in Landlord's performance, and that not more than one month's rent has been paid in advance.

Section 19.21 As an inducement to Tenant to lease the demised premises from Landlord, and subject to the provisions hereof, in consideration of Tenant performing its obligations as set forth in this Lease, Landlord agrees to provide to Tenant the amount of Eight Hundred Forty Two Thousand Eight Hundred and No/100 Dollars ($842,800.00) (the "Inducement"). Tenant may apply the Inducement towards Tenant's actual hard costs of construction of the Tenant Improvements in the demised premises incurred in accordance with the Landlord-approved plans and specifications therefor, and for space planning, engineering, architectural and design costs, permit fees, power upgrades, security system upgrades, and construction management costs payable to Tenant's construction management firm. The Inducement shall not be used for costs of Tenant's fixtures, furniture, signage, equipment, inventory or other personal property. The Inducement shall be payable in installments as follows:

(a) the first installment and each subsequent installment of the Inducement (up to an amount, in the aggregate, equal to eighty percent (80%) of the Inducement) will be payable within thirty (30) days after all of the following conditions have been satisfied: (i) the Lease has been executed and delivered by the parties and is in full force and effect; (ii) Tenant is not in default beyond applicable notice and cure periods under the terms of the Lease, including without limitation Section 19.8 hereof; (iii) Tenant has accepted delivery of the demised premises and commenced construction of the Tenant Improvements in accordance with the Landlord-approved plans and specifications therefor; (iv) Tenant has provided Landlord with the following: (1) a written request for payment in an amount no more than any actual costs expended by Tenant in the demised premises as of the date of such request, (2) copies of all reasonably necessary back-up documentation to substantiate the actual costs expended by Tenant as of the date of such request, including copies of paid invoices, cancelled checks, contracts (including applicable AIA documents) and other appropriate documentation to support and substantiate said costs (the "Supporting Documents"), and (3) conditional lien releases from Tenant's general contractor(s), suppliers, materialmen, and all subcontractors who have performed work or supplied materials for the work on the demised premises completed thus far; and (v) no liens have been filed. Such requests shall be made not more often than once per calendar month.

(b) Upon completion of the Tenant Improvements in accordance with the Landlord-approved plans and specifications therefor, the final twenty percent (20%) of the Inducement (or such remaining amount not furnished to Tenant pursuant to subparagraph (a) above) will be payable within thirty (30) days after all of the following conditions are satisfied: (i) Tenant is not in default under the terms of this Lease beyond any applicable cure period, including without limitation Section 19.8 hereof; (ii) Tenant has commenced the payment of Base Rent to Landlord; and (iii) Tenant has provided Landlord with all of the following: (1) a copy of the building permit for the Tenant Improvements properly signed off by the government body having jurisdiction thereof, (2) a copy of the Notice of Completion which was recorded in the San Mateo County Recorder's Office within ten (10) days after the Tenant Improvements have been completed (if Tenant does not record a Notice of Completion in the San Mateo County Recorder's Office within said ten day period, then the final twenty percent (20%)

of the Inducement shall not be paid to Tenant prior to a date which is ninety (90) days after the completion of the Tenant Improvements, (3) final unconditional lien releases from Tenant's general contractor(s), suppliers, materialmen, and all subcontractors who have done work on the demised premises, and no liens have been filed, (4) a statement from Tenant's Architect certifying and warranting that the demised premises have been constructed in material compliance with the mutually approved plans and specifications, (5) the Supporting Documents showing the total cost of the Tenant Improvements (including the final AIA documents). If any of the above conditions has not been met or all of the above items provided to Landlord (and if not so met or provided, Landlord shall promptly notify Tenant thereof and Tenant shall have an opportunity to cure), or if Tenant does not provide Landlord with a written request for the Inducement or any portion thereof, within nine (9) months after the Commencement Date of this Lease, then Landlord shall have no obligation to pay such unpaid portion of the Inducement.

In the event the cost of the Tenant Improvements is less than the amount of the Inducement, and provided that Tenant has completed the Tenant Improvements in accordance with the Landlord-approved plans and specifications therefor and has satisfied all of the provisions of this Section 19.21, including providing Landlord with all appropriate documentation to substantiate the cost thereof, within nine (9) months after the Commencement Date, and further provided Tenant is not in default beyond applicable notice and cure periods under the terms of this Lease, including without limitation Section 19.8 hereof, then the remaining unpaid portion of the Inducement up to the amount of Three Hundred Sixty One Thousand Two Hundred Dollars ($361,200.00) shall be applied (credited) to Tenant's Base Rent due for the next succeeding month(s) during the Term after Tenant's written request therefor until such portion of the Inducement (up to the amount of $361,200.00) has been applied in full. Except for the unpaid portion of the Inducement (up to the amount of $361,200.00) to be credited towards Base Rent in accordance with the provisions hereof (if at all), Tenant shall pay Base Rent in accordance with the provisions of Article 2 of this Lease. The provisions hereof shall not apply to Tenant's obligation to pay all Additional Rent during the entire Term of this Lease, which shall be payable in any event.

For purposes of illustration only, (a) in the event Tenant has completed the Tenant Improvements in accordance with the Landlord-approved plans and specifications therefor, has satisfied the provisions of this Section 19.21, has provided Landlord with Supporting Documents showing that the cost of the Tenant Improvements is the amount of $500,000.00, and has provided Tenant's request during the seventh (7th) month of the Term, then the remaining unpaid portion of the Inducement in the amount of $342,800.00 shall be credited against the next installments of Base Rent payable, as follows: (i) $60,200.00 credited in each of months 8, 9, 10, 11 and 12 (for a total of $301,000.00), and (ii) $41,800.00 credited in month 13; and (b) in the event Tenant has completed the Tenant Improvements in accordance with the Landlord-approved plans and specifications therefor, has satisfied the provisions of this Section 19.21, has provided Landlord with Supporting Documents showing that the cost of the Tenant Improvements is the amount of $300,000.00, and has provided Tenant's request during the ninth (9th) month of the Term, then the unpaid portion of the Inducement in the maximum amount of $361,200.00 shall be credited to the next installments of base rent payable, as follows: (i) $60,200.00 credited in each of months 10, 11 and 12 (for a total of $180,600.00), (ii) $62,006.00

In the event Tenant abandons the demised premises during the Term of this Lease for more than fifteen (15) business days, or if this Lease terminates early for any reason, including as a result of Tenant's default, then Tenant shall immediately repay Landlord the unamortized portion of said Inducement (including all amounts credited to Base Rent) determined from the date of such abandonment or termination until the scheduled expiration of the Term, without limiting any of Landlord's other rights and remedies contained in this Lease.

Section 19.22 During the Term, Landlord shall have no right to relocate Tenant without Tenant's prior express approval, which approval may be withheld in Tenant's sole discretion. In the event Tenant expressly approves of any relocation, Landlord shall be responsible for all reasonable costs associated with such relocation, including any reasonable costs in improving such relocation premises with improvements substantially similar to the Tenant Improvements.

IN WITNESS WHEREOF, the parties have executed this instrument.

TENANT:
SLIPCHIP CORPORATION,
a Delaware corporation

By: /s/ Brian Coe
President

By: /s/ Brian Coe
Secretary

LANDLORD:
DAVID D. BOHANNON ORGANIZATION,
a California corporation

By: /s/ Scott E. Bohannon
Senior Vice President

By: /s/ Ernest Lotti Jr.
Secretary

EXHIBIT "A"

BOHANNON PARK

230 CONSTITUTION DRIVE
MENLO PARK, CALIFORNIA

DESCRIPTION OF DEMISED PREMISES

FOR

"SLIPCHIP CORPORATION"

Commencing at the most easterly comer of Parcel 2, as said parcel is shown on a map entitled "Parcel Map, being a resubdivision of Lots 36, 37, 38, 39 and 40 of Bohannon Industrial Park Unit No.7 (Vol.60 of Maps, Page 10), Menlo Park, San Mateo County, California," which map was filed in the office of the County Recorder of San Mateo County, State of California, on October 2, 1973, in Volume 22 of Parcel Maps at Page 26, more particularly described as follows:

Thence from said comer of commencement South 67°17' East 47.00 feet and South 22°43' West 20.00 feet;

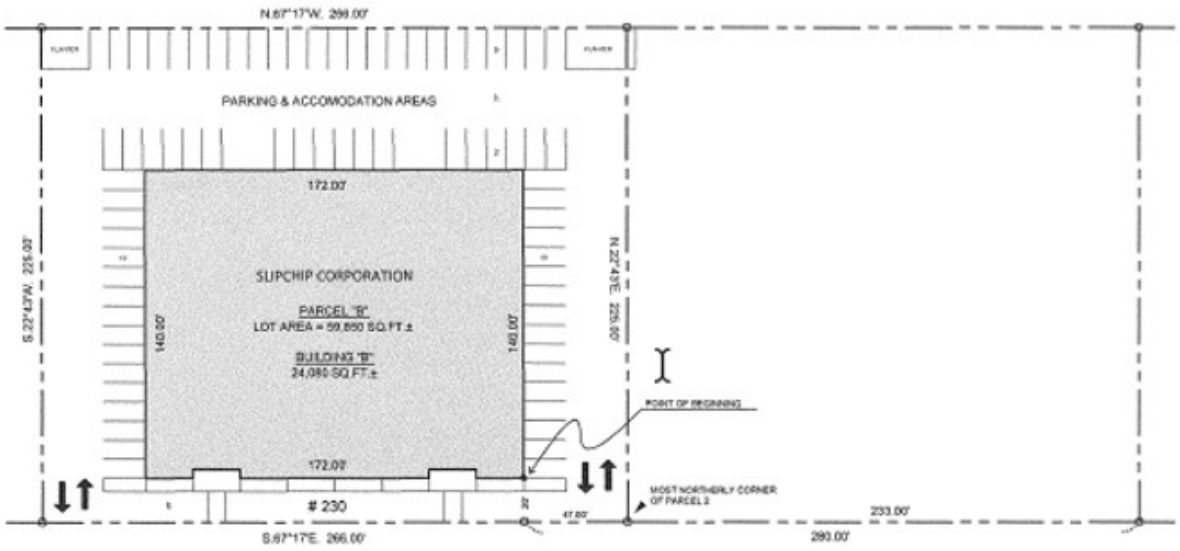
THENCE	SOUTH	67°17'	EAST	172.00	FEET;
"	SOUTH	22°43'	WEST	140.00	FEET;
"	NORTH	67°17'	WEST	172.00	FEET;
AND	NORTH	22°43'	EAST	140.00	FEET;

to the point of beginning.

Containing approximately **24,080 square feet**.

PORTION OF PARCEL 2

PARCEL 1



CONSTITUTION DRIVE

SCALE: 1" = 60'-0"

BOHANNON INDUSTRIAL PARK

EXHIBIT "B"

230 CONSTITUTION DRIVE, MENLO PARK, CALIF.

October 5, 2015

TENANT: SLIPCHIP CORPORATION

EXHIBIT “C”

This Exhibit “C” shall consist of the plans and specifications for the Tenant Improvements which, after Landlord’s approval thereof, shall be deemed incorporated herein by reference and made a part hereof.

EXHIBIT "D"

INSURANCE REQUIREMENTS

In connection with Tenant's work in the demised premises, including the Tenant Improvements, Tenant and its General Contractor agree to abide by the provisions of the following Insurance Requirements:

1. Tenant and Tenant's Contractor ("Contractor") agree to defend, indemnify and hold the Landlord named in the Lease to which this is attached ("Landlord"), its agents and employees, free and harmless from and against all claims and demands arising from any act, omission or negligence of the Contractor, its licensees, agents, servants or employees, or arising from any accident causing, or allegedly causing, bodily injury (including liability for personal injury or death), or damage to property to whomsoever belonging, arising out of, or allegedly arising out of, Contractor's performance of work under the contract with Tenant, or arising out of or in connection with any defects or deficiencies or claimed defects or deficiencies in the materials or services provided by the Contractor, regardless of whether such defects or deficiencies or claimed defects or deficiencies occur or arise during performance, or after completion and acceptance, of Contractor's work.

2. Contractor agrees, at its own expense, to obtain and keep in full force and effect during the term hereof, with company(ies) acceptable to Landlord:

A) Workers' Compensation Insurance as required by State Law, including Employer's Liability with a limit of no less than $1,000,000.00.

B) Commercial General Liability Insurance (including Contractor's Protective Liability) to protect against any bodily injury, injuries to any person or persons, or damage to property to whomsoever belonging, arising out of or in connection with Contractor's performance of work under this contract. Bodily Injury Liability Insurance shall provide a limit of liability of not less than $2,000,000.00 for claims of any one person and no less than $2,000,000.00 against claims of two or more persons injured in any one occurrence. Property Damage Liability Insurance shall provide a limit of liability of not less than $2,000,000.00 against claims arising from any one occurrence.

C) Comprehensive Automobile Liability Insurance, including the ownership, maintenance and operation of any automotive equipment owned, hired, and non-owned, with a minimum aggregate liability amount per occurrence of not less than $2,000,000.00.

All such polices required under this agreement shall name the Landlord, its agents and employees, as additional insureds, EXCEPT Workers' Compensation Insurance which shall carry an endorsement waiving all rights of subrogation against the Landlord, its agents or employees.

3. Contractor agrees to provide Landlord with Certificates of Insurance issued by the insurance company(ies) acknowledging its obligation as herein set forth and further agreeing to notify Landlord in writing thirty (30) days prior to any reduction in limits of liability or amounts of insurance or any restrictive endorsement in or cancellation of any policy(s) issued as herein required.

4. The Liability Policy covers the Indemnity Clause above and in the Lease between Landlord and Tenant.

5. All above policies, except the Workers Compensation, shall name Landlord, its agents and employees, as additional insureds thereunder. As respects the Workers' Compensation, the policy contains a Waiver of Subrogation, waiving all rights against Landlord, its agents and employees.

6. All insurance companies representing Tenant's Contractor must be licensed to do business in the State of California and shall carry an A.M. Best Company rating of A- VIII or better. This requirement is for all policies including but not limited to: Property, Liability, Commercial, Automobile, Boiler and Machinery, Crime, Umbrella or Excess Liability and Workers Compensation.

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
	Argon	G	228	cf	NFG			
	Nitrogen	G	2052	cf	NFG			
Total Non-flammable (inert) gases			2280	cf				
	Oxygen	G	228	cf	OX			
Total Oxidizing gases			228	cf				
203J flammable c	(R)-(+)-Limonene		250	mL	Comb II			
220 small fridge	(Tridecafluoro-1,1 2,2-tetrahydrooctyI)-1-trichlorosilane		5	g	Comb II	WR3	corrosive	
220 small fridge	3-(trimethoxysilyl)propyl methacrylate		50	mL	Comb II	UR1		
221 safety storag	Acetic Acid, Glacial		1	L	Comb II	corrosive		
220 bench	Dimethylpolysiloxane (12500 cSt)		100	g	Comb II			
203J flammable c	N,N-Dimethylformamide		100	mL	Comb II			
203J flammable c	Syl-off 4000 Catalyst		0.96	kg	Comb II			
203J flammable c	Syl-off 7682-055 Crosslinker		0.5	kg	Comb II			
203J flammable c	Syl-off 9176 Anchorage Additive		0.5	Kg	Comb II			
203J flammable c	Syl-off 5L9250 Anchorage Additive		1	kg	Comb II			
Total Combustible II			1	gal				
221 safety storag	2-Mercaptoethanol		25	mL	Comb IIIA	h toxic		
220 fridge	2-Mercaptoethanol		25	mL	Comb IIIA	h toxic		
220 fridge	2-Mercaptoethanol		50	mL	Comb IIIA	h toxic		
Total Combustible lIIA			1	gal				
220 safety storag	Dimethyl sulfoxide		550	mL	Comb IIIB			
221 middle aisle	Mineral Oil		500	mL	Comb IIIB			
203J drawer	Paraffin Oil		1	L	Comb IIIB			
221 middle aisle	Polyethylene glycol 50% w/v		200	mL	Comb IIIB			
203J drawer	silicone oil AP 150 Wacker		250	mL	Comb IIIB			
stock room on 1s	Syl-off 7682-055 Crosslinker		20	kg	Comb IIIB			
203J flammable c	Tetradecane		3000	mL	Comb IIIB			
203J flammable c	Tetradecane		100	g	Comb IIIB			
203J drawer	Thesit		100	g	Comb IIIB	corrosive		
221 middle aisle	Triton X-100		100	mL	Comb IIIB			
Total Combustible IIIB			6	gal				

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
221 corrosives ca	Buffered Oxide Etchants		1	gal	corrosive	toxic		
221 corrosives ca	Chromium Etchant		1	gal	corrosive	toxic		
221 corrosives ca	Hydrochloric Acid 36.5-38.0%, bioreagent, for		100	ml	corrosive			
	waste liquids		3	gal				
	Total Corrosives		5	gal				
	Total Corrosives including secondary hazards		8	gal				
220 safety storag	200 Proof Ethanol		2	gal	Flam IB			
203J flammable c	200 Proof Ethanol		8	L	Flam IB			
stock room on 1s	200 Proof Ethanol		8	L	Flam IB			
RM 229	70% Ethanol		1	gal	Flam IB			
RM 229	70% Isopropyl Alcohol		1	gal	Flam IB			
220 middle aisle:	70% Isopropyl Rubbing Alcohol		2838	mL	Flam IB			
203J flammable c	70% Isopropyl Rubbing Alcohol		946	mL	Flam IB			
220 safety storag	Acetone		4	L	Flam IB			
203J flammable c	Aculon AL-B		240	mL	Flam IB			
203J flammable c	Cyclohexane		500	mL	Flam IB			
220 small fridge	Dichlorodimethylsilane		300	mL	Flam IB	WR1	corrosive	
cabinet	Dynasolve 225		1	gal	Flam IB			
cabinet	Dynasolve 230		1	gal	Flam IB			
203J flammable c	Hexane		8	L	Flam IB			
stock room on is	Hexane		8	L	Flam IB			
203J flammable c	Methanol		1	L	Flam IB			
220 safety storag	Tetramethylethyldiamine		5	mL	Flam IB	corrosive	toxic	
	waste organic solvents		5	gal	Flam IB			
	waste Dynasolve		3	gal				
	Total Flammable IB		23.5	gal				

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
220 safety storag	Ammonium Persulfate		10	g	OX1			
220 middle aisle s	Iron(III) nitrate nonahydrate		100	g	OX1			
203J flammable c	Potassium Dichromate		500	g	OX1	corrosive		
221 corrosives ca	Sulfuric Acid		2.5	L	OX1	WR2	corrosive	toxic
		Total Oxidizer 1	7	lb				
221 corrosives ca	Hydrogen Peroxide		500	ml	OX2	corrosive	UR1	
		Total Oxidizer 2	1	gal				
220 safety storag	Chloroform		4	L	toxic			
		Total Toxics	13	lb				
		Total Taxies including secondary hazards	45	lb				
		Total Highly Toxics including secondary hazards	0.22	lb				
220 safety storage	Acrylamide		500	g	UR2	toxic		
		Total Unstable Reactive 2	1.1	lb				
		Total Unstable Reactive 1	1.25	lb				
221 corrosives ca	Hydrofluoric Acid		500	ml	WR1	corrosive	toxic	
221 bench	Sodium hydroxide	S	500	g	WR1	corrosive	toxic	
		Total Water Reactive 1	2.2	lb				
		Total Water Reactive 2	6	lb				
		Total Water Reactive 3	5	grams				

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
Not regulated by Fire Code								
221 bench	10X Tris/Glycine/SDS Buffer		1	L9150-100	none			
203J flammable c	Aculon RD-A		240	mL	??			
220 middle aisle s	Agarose		50	g	none			
203J flammable c	aotomated droplet generation oil for evagreen		140	mL	none			
203J flammable c	aotomated droplet generation oil for probe		140	mL	none			
221 middle aisle s	brij 52		100	g	none			
221	Cellomics Pluronic F-127 Detergent		10	mL	none			
221 bench	Dextran		100	g	none			
220 -20 freezer	Dextran Fluoroscein		10	mg	none			
221 middle aisle s	Dimethylpolysiloxane		4 x 100g		none			
220 middle aisle s	DNA Zap		500	mL	none			
221 middle aisle s	Ethidium Bromide		10	mL	none			
203J flammable c	FC40		250	g	none			
203J drawer	Fluorescein		100	g	none			
221 bench	Glycerol		500	mL	none			
221 middle aisle s	Kanamycin Sulfate		5	g	none			
220 middle aisle s	LB broth		1000	mL	none			
221 bench	Methacryloxyethyl thiocarbamoyl rhodamine B		100	mg	none			
221 middle aisle s	Molecular sieves 4A		250	g	none			
221 middle aisle s	N-Lauroylsarcosine sodium salt		100	g	none			
220 middle aisle s	Nuclease-Free Water		4	L	none			
220 middle aisle s	PBS 10x		9808	g	none			
220 fridge	peroxidase from horseradish		25	mg	none			
221 middle aisle s	polyethylene-block-poly(ethylene glycol) Mn 575		250	g	none			
220 middle aisle s	Potassium Chloride		500	g	none			
221 bench	Resolving Gel Buffer		2	L	none			
220 middle aisle s	Rnase Zap		250	mL	none			
203J drawer	Span 80, Nonionic Surfactant		250	mL	none			
203J drawer	SYLGARD 184 silicone elastomer kit (base + curing agent)		0.5 kg	kg	none			
203J flammable c	Syl-off SL9104 Coating		2.5	kg	none			
220 middle aisle s	TBE Buffer 10x		1	L	none			

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
220 middle aisle s	TE Buffer pH 8.0		500	mL	none			
220 middle aisle s	Buffer		250	g	none			
221 middle aisle s	Tween 20		100	mL	none			
221 middle aisle s	Vinyl Terminated Polydimethylsiloxane 10,000 cSt		100	g	none			
221 middle aisle s	Vinyl Terminated Polydimethylsiloxane 60,000 cSt		100	g	none			
220 middle aisle s	Water, Sterile for RNA work		1	L	none			
220 -20 freezer	2X RNA Loading Dye		2	mt.	none?			
203J drawer	DNA Zap solution one		500	mL	none?			
203J drawer	DNA Zap solution one		750	mL	none?			
221 middle aisle s	Potassium thiocyanate		100	g	none?			
203J drawer	Silicone Oil 10 cSt		1	L	none?			
203J drawer	Silicone Oil 5 cSt		2	L	none?			
Biologicals								
	ATCC Candida albicans	L	1.2	mL				
	ATCC Escherichia coil	L	1.2	mL				
	ATCC Proteus mirabilis	Powder						
	ATCC Staphylococcus aureus	L	1.2	mL				
	Chlamydia/Neisseria CAP sample	L	36	mL				
	HCV Panel	L	11.5	mL				
	HIV-1 High Control	L	12	mL				
	HIV-1 Panel	L	30	mL				
	K2 EDTA Human Plasma	L	2000	mL				
	Negative Urine	L	500	mL				
	Neisseria lactamica ATCC 23970	powder						
	Neisseria Sicca ATCC 9913	Powder						
220 -20 freezer	recombinant GFP		20	ug				
	Zeptometrix Chlamydia trachomatis external rug	L	3	mL				
	Zeptometrix Chlamydia trachomatis, strain D-U\	L	0.5	mL				
	Zeptometrix Neisseria gonorrhoeae external rur	L	4	mL				
	Zeptometrix Neisseria gonorrhoeae, strain Z017	L	2	ml				

Location	Chemical	S,L G	Qty	Unit	Fire Code Hazard 1	Fire Code Hazard 2	Fire Code Hazard 3	Fire Code Hazard 4
Other								
RM 229	ENDUR RGD450		24	lb	cartridge-do not include			
RM 229	OBJET RDG531		24	lb	cartridge-do not include			
RM 229	OBJET RGD515		24	lb	cartridge-do not include			
RM 229	OBJET RGD535		24	lb	cartridge-do not include			
RM 229	OBJET SUPPORT SUP705		24	lb	cartridge-do not include			
RM 229	OBJET SUPPORT/MODEL CLEANING FLUID CLNS/CLNM		24	lb	cartridge-do not include			
RM 229	OBJET TANGOBLACKPLUS FLX980		24	lb	cartridge-do not include			
RM 229	OBJET VERWHITEPLUS RGD835		24	lb	cartridge-do not include			
RM 229	OBJET VEROCLEAR RGD810		24	lb	sheet-do not include			

FIRST AMENDMENT TO LEASE AGREEMENT

THIS FIRST AMENDMENT TO LEASE AGREEMENT (this "Amendment") is dated as of April 4, 2018; is by and between DAVID D. BOHANNON ORGANIZATION, a California corporation (herein referred to as "Landlord") and TALIS BIOMEDICAL CORPORATION, a Delaware corporation formerly known as SlipChip Corporation (herein referred to as "Tenant"); and amends that certain Business Park Lease between Landlord and Tenant originally dated December 14, 2015 (the "Lease").

WHEREAS, Tenant has changed its corporate name from SlipChip Corporation to Talis Biomedical Corporation, which fact the parties wish to document in the Lease for their respective business and regulatory purposes.

NOW THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, Landlord and Tenant agree to amend the Lease as set out below.

1. Change of Tenant Name to Talis Biomedical Corporation. For all purposes and in all relevant provisions of the Lease, the Tenant name is hereby changed from SlipChip Corporation to Talis Biomedical Corporation. Without limiting the preceding sentence, such change is made in the Table of Contents, in the lead-in paragraph, in the notice provisions of Section 19.10, and in Exhibit A to the Lease.

2. No Other Amendments. Other than as expressly set out in Section 1 of this Amendment, the Lease remains fully in force, unaffected and unchanged.

Landlord and Tenant have executed this First Amendment To Lease Agreement effective as of the date set out above.

TENANT:

TALIS BIOMEDICAL CORPORATION,
a Delaware corporation formerly known as SlipChip Corporation

By: /s/ Brian Coe
Chief Executive Officer

LANDLORD:

DAVID D. BOHANNON ORGANIZATION,
a California corporation

By: /s/ Scott E. Bohannon
Senior Vice President

By: /s/ Ernest Lotti Jr.
Secretary

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

SUPPLY AGREEMENT

THIS SUPPLY AGREEMENT (the "**Agreement**") is entered into as of 22 May 2020 (the "**Effective Date**"), by and between and thinXXS Microtechnology AG, a German corporation ("**thX**"); and **TALIS BIOMEDICAL CORPORATION**, a Delaware corporation ("**Talis**").

RECITALS

WHEREAS, in connection with such expansion of capacity, Talis desires to have thX manufacture and supply, and thX desires to so manufacture and supply, certain quantities of Products in accordance with the Specifications (each as defined below) for use with, or as a components of or related to certain proprietary device(s) of Talis and Talis' Affiliates, as more fully described herein; and

NOW, THEREFORE, in consideration of the foregoing and the covenants and premises contained in this Agreement, the Parties agree as follows:

1. DEFINITIONS

1.1 "**Affiliate**" shall mean, as to any Person, any other Person which directly or indirectly controls, is controlled by, or is under common control with such Person. For purposes of the preceding definition, "control" shall mean beneficial ownership of more than fifty percent (50%) of the outstanding voting securities of a Person or the ability to elect a majority of the board of directors or other managing authority of such Person or otherwise to control the direction of the management or policies of such Person (whether by contract or otherwise). […***…]

1.2 "**Annual Forecast**" shall have the meaning set forth in Section 3.3.

1.3 "**Annual Commitment PO**" shall have the meaning set forth in Section 3.4(a).

1.4 "**Business Day**" shall mean any weekday on which Talis is open for business.

1.5 "**Change**" shall have the meaning set forth in Section 2.1.

1.6 "**Change of Control**" shall mean, with respect to a Party, either of (a) any transaction or series of related transactions resulting in a consolidation, merger or other business combination of such Party with or into any Third Party, or any transaction or series of related transactions as a result of which a Third Party directly or indirectly acquires fifty percent (50%) or more of such Party's voting power or otherwise obtains the ability to direct the management or policies of such Party, or (b) the sale to a Third Party of all or substantially all of such Party's assets in a single transaction or series of related transactions; provided that "Change of Control" shall exclude the sale of any class of shares and/or stock, or any other financial instrument, for the

purpose of raising cash financing to fund any research and development by or on behalf of a Party, which financing could be from any source, including but not limited to venture capital, private equity or any other corporation, or from private individuals.

1.7 "**Change Request**" shall have the meaning set forth in Section 2.1.

1.8 "**Chronic Supply Delay**" shall mean with respect to agreed-upon delivery dates: (a) […***…] or more Supply Delays in any given […***…]; (b) a Supply Delay in any […***…] in a given […***…] period; or (c) any failure by thX to deliver to Talis or its designees on time more than […***…] ([…***…]) of any Product ordered in accordance with this Agreement over any […***…] period excluding any delay that is attributable to Talis or that is outside of the reasonable control of thX, provided further that such failure is not caused by the following: (i) a Force Majeure Event; or (ii) Talis's fault including, without limitation, Talis's failure to supply raw materials to be supplied by Talis under Section 4.1.

1.9 "**Code**" has the meaning set forth in Section 11.4.

1.10 "**Confidential Information**" shall mean, subject to the exceptions set forth in Section 10.2, all information regarding a Party's technology, products or business that such Party discloses or makes available to the other Party under this Agreement, in each case, whether in oral, written, graphic, electronic or other form, including, in the case of Talis, the Specifications.

1.11 "**Consumables**" shall mean single-use cartridges for use with, e.g., the Talis-One system (or equivalent or successor systems) and as described in the Specifications.

1.12 "**Control**" (including any variations such as "**Controlled**" and "**Controlling**") shall mean, with respect to a Party and any Information, Patent or other IP Rights, possession by the relevant Party of the ability (whether by ownership or license, other than pursuant to this Agreement) to grant the applicable license under this Agreement under such Information, Patent or other IP Rights, without violating the terms of an agreement with a Third Party.

1.13 "**Development Services Agreement**" shall mean the agreement between the Parties and bearing such caption, between the Parties hereto, and dated as of 2 June 2017.

1.14 "**Epidemic Failure**" shall have the meaning set forth in Section 9.5.

1.15 "**Equipment**" shall mean […***…] used to produce the Products; and additions to, substitutions for, replacements of and accessions to any of the foregoing items, and attachments, parts (including spare parts) and accessories installed thereon or affixed thereto. For the sake of clarity Equipment shall not include Tools.

1.16 "**Exclusive Commitment Volume**" shall have the meaning set forth in Section 3.2(a).

1.17 "**Extension Term**" shall have the meaning set forth in Section 11.1.

1.18 "**Facility**" means (i) initially, thX's facility located in […***…]; and (ii) also, subsequently, such other mutually approved site of thX (or of an Affiliate of thX).

1.19 "**Force Majeure Event**" shall have the meaning set forth in Section 13.10.

1.20 "**Information**" shall mean information, ideas, inventions, discoveries, concepts, formulas, practices, procedures, processes, methods, knowledge, know-how, trade secrets, technology, inventories, machines, techniques, development, designs, drawings, computer programs, skill, experience, documents, apparatus, results, strategies, documentation and data, including analytical and quality control data, manufacturing data and descriptions, patent and legal data, market data, financial data or descriptions, devices, assays, specifications (including Specification) documents, material, compositions of matter, and the like, in written, electronic or other form, now known or hereafter developed, whether or not patentable.

1.21 "**IP Rights**" shall mean any and all Information and all intellectual property rights in and with respect thereto, including Patents, copyrights, trade secret rights, and applications for and registrations of the foregoing.

1.22 "**Latent Defect**" shall mean a defect that causes a Product to not conform to the Specifications and/or to the Product Warranty, which defect is not discoverable upon reasonable physical inspection.

1.23 "**License Agreement**" shall mean the agreement in the form set forth as Exhibit C hereto.

1.24 "**Losses**" shall have the meaning set forth in Section 12.1.

1.25 "**MTP Tools**" shall mean […***…] which are owned by thX, but which can be used for several projects (including for other customers).

1.26 "**Party**" or "**Parties**" shall have the meaning set forth in the preamble.

1.27 "**Patents**" shall mean (a) patents, re-examinations, reissues, renewals, extensions and term restorations, and foreign counterparts of any of the foregoing, and (b) pending applications for patents, including, without limitation, provisional applications, continuations, continuations-in-part, requests for continued examination, divisional and substitute applications, including, without limitation, inventors' certificates, and foreign counterparts of any of the foregoing.

1.28 "**Person**" shall mean any individual, partnership, limited liability company, corporation, association, joint stock company, trust, estate, joint venture, unincorporated organization, government or governmental body (or political subdivision thereof, whether domestic or foreign) or any other entity of any kind.

1.29 "**Plan**" shall have the meaning set forth in Section 11.5.

1.30 "**Processes**" shall mean processes applied to generate and assemble Products, as applicable to the relevant Product type.

1.31 "**Product**" shall mean, as applicable, any product to be manufactured and supplied by thX to Talis and as set forth in **EXHIBIT A** as may be amended from time to time by Talis and thX. For clarity, the Products may include (a) Consumables, (b) R&D Components, (c) new product offerings as may be mutually agreed upon by the parties in writing and incorporated in an amended Exhibit A as products to be manufactured and supplied by thX to Talis.

1.32 "**Product Defect**" shall mean a defect that causes a Product to not conform to the Specifications and/or to the Product Warranty.

1.33 "**Product IP**" shall mean IP Rights relating to the design and development of any Product, or reading on any Product, inclusive of, but not limited to, Specifications, operating processes for each applicable Product, tolerances and surface finishes, drawings, materials, surface treatments, inspection techniques, and data regarding the use of any Product, generated by thX or Talis separately or jointly as a result of activities conducted pursuant to this Agreement, but in all cases excluding the thX Background IP, thx Background Improvements, and thX Manufacturing and Process IP.

1.34 "**Product Warranty**" shall have the meaning set forth in Section 9.2.

1.35 "**Production Line**" means any production line for the production of Products established under this Agreement.

1.36 "**Production Tools**" shall mean fixtures and mold tooling specific for production and qualification of the R&D Components and/or Consumables and which are owned by ThX and paid for by Talis.

1.37 "**Purchase Order**" shall have the meaning set forth in Section 3.4(b).

1.38 "**Quality Agreement**" shall have the meaning set forth in Section 5.1.

1.39 "**R&D Components**" shall mean components and sub-assemblies of the Consumable considered as research & development deliverables intended to be used only for Talis internal research and development activities (e.g., allowing Talis to simplify assay development and testing), and which are not for commercial use other than in connection with in-house design or (when and if applicable) in connection with in-house manufacturing under the License Agreement, and including:

(a) […***…] of varying volume and physical size that are supplied to Talis or Talis' Third Party supplier for […***…]; and

(b) […***…] of the consumable (whether partially assembled or fully assembled) and in a form and configuration to be agreed by the Parties.

1.40 "**Reimbursement Authorization**" shall have the meaning set forth in Section 2.4(c).

1.41 "**Rolling Monthly Forecast**" shall have the meaning set forth in Section 3.3.

1.42 "**Second Production Line**" shall have the meaning set forth in Section 2.3.

1.43 "**Specifications**" shall mean the unique, version-controlled and comprehensive specifications for each specific variant of each Product, the initial versions of which are attached hereto as part of **EXHIBIT A**, as the same may be amended from time to time by mutual written agreement of the Parties in accordance with this Agreement and the Quality Agreement.

1.44 "**statement of work**" shall mean a statement of work or similar document that references this Agreement and that, following its mutual execution by the Parties, will become part of and subject to this Agreement.

1.45 "**Supply Delay**" shall mean any instance where the delivery of any quantity of Product to Talis pursuant to a Purchase Order (or Annual Commitment PO) timely delivered and in accordance with this Agreement occurs on a date later than the specified delivery date set forth in the applicable Purchase Order (or Annual Commitment PO), excluding any delay that is attributable to Talis or that is outside of the reasonable control of thX. For clarity, "Supply Delay" shall not include any delay in delivery to the extent caused by the following: (i) a Force Majeure Event; or (ii) Talis' failure to supply raw materials to be supplied by Talis under Section 4.1.

1.46 "**Talis Background IP**" shall mean all IP Rights that are either: (a) Controlled by Talis or its Affiliates on the Effective Date (other than as a result of thX disclosing or providing the same to Talis or to such Affiliate); or that is (b) developed or acquired by Talis or its Affiliates during the Term in the ordinary course independently of any activities conducted pursuant to this Agreement.

1.47 "**Talis Indemnitees**" shall have the meaning set forth in Section 12.2.

1.48 "**Talis IP**" shall have the meaning set forth in Section 7.1.

1.49 "**Talis-Supplied Material**" shall have the meaning set forth in Section 4.1(d).

1.50 "**Term**" shall have the meaning set forth in Section 11.1.

1.51 "**Third Party**" shall mean any entity other than Talis or thX or an Affiliate of Talis or thX.

1.52 "**Third Party Supplier**" shall mean those Third Parties identified as the Third Party Supplier in **EXHIBIT A** as the Third Party expected to provide certain raw materials or components in connection with the activities to be performed under this Agreement.

1.53 "**thX Background Improvements**" shall mean all IP Rights that are developed as a result of activities conducted pursuant to this Agreement and that constitute generally applicable improvements or modifications to the thX Background IP, in all cases, that (a) do not specifically

relate to any Product and (b) do not incorporate, and are not based on, any Confidential Information of Talis.

1.54 "**thX Background IP**" shall mean all IP Rights that are either: (a) Controlled by thX or its Affiliates on the Effective Date (other than as a result of Talis disclosing or providing the same to thX or to such Affiliate); or (b) developed or acquired, and Controlled, by thX or its Affiliates during the Term in the ordinary course independently of any activities conducted pursuant to this Agreement, and (in each of (a) and (b) that is not thX Manufacturing and Process IP).

1.55 "**thX Indemnitees**" shall have the meaning set forth in Section 12.1.

1.56 "**thX Manufacturing and Process IP**" shall mean IP Rights owned by, developed by, or licensed to thX related to manufacturing and processes (including any Process) related thereto, including without limitation […***…] for the Product (but excluding, for clarity, the Specification), regardless of whether developed by or licensed to thX before or after the Effective Date.

1.57 "Tool Inserts" shall mean product-specific and design-specific parts of the Tools, and which are owned by thX and paid for by Talis.

1.58 "**Tools**" shall mean tools and fixtures […***…], including (a) MTP Tools, (b) Production Tools and (c) Tool Inserts (and any accessions, attachments, parts, accessories, substitutions, replacements and appurtenances to the foregoing), which terms shall mean:

1.59 "**Warranty Period**" shall have the meaning set forth in Section 9.2.

1.60 "**Work Product**" shall mean any and all written, electronic and physical output, including Products, designs and studies that are conceived, created or otherwise reduced to practice by thX, and paid for by Talis, as a result of activities conducted by thX pursuant to this Agreement (but excluding thX Background IP, thX Background Improvements, and thX Manufacturing and Process IP).

2. AGREEMENT OVERVIEW

2.1 Development of Specification; Changes to Specification. Commencing promptly after the Effective Date, the Parties shall continue their collaborative joint development of the Specification. When finalized, the Parties will incorporate the Specification as an Exhibit (or as part of an Exhibit) hereto. Talis and thX are jointly developing the Consumable, but for clarity all Product IP will be solely owned by Talis, and thX agrees to assign and hereby assigns all Product IP to Talis. The Consumable incorporates certain parts that are covered by the Product Patents (as defined in the License Agreement) and the manufacture of the Consumables by thX will include processes that utilize other IP Rights of thX, which also are incorporated in the scope of the License Agreement. Talis may request additions, deletions or amendments in respect of a Specification (each a "**Change**"). Changes shall be requested in writing signed by an authorized representative of Talis (a "**Change Request**"). Neither Party shall have any obligations related to

any proposed Change unless both Parties have agreed to the Change Request in writing in accordance with the procedures set forth herein. thX's acceptance of any Change Request may not be unreasonably withheld, subject to the Parties' agreement on any reasonable and documented price increases or time line changes reasonably required to effectuate the desired Change. As soon as reasonably possible after receipt of a Change Request, thX agrees to provide Talis with a written estimate of the cost and time line adjustments, if any, of the requested Changes. Upon the Parties' mutual written agreement to any Change Request, the Specification shall be deemed modified to reflect any such Changes. thX further agrees that it will facilitate changes to the Specifications that are necessary or appropriate in light of regulatory requirements as provided by Talis in a Change Request.

2.2 Equipment and Tooling. Products will be manufactured using (i) Equipment (a) provided by thX and owned and maintained by thX or (b) […***…], in each case installed at a designated Facility; and (ii) Product-specific Tool Inserts and Production Tools manufactured or purchased by thX or […***…], and which shall be used only for the production of Talis Consumables (as more fully stated in Section 2.4), with the exception of […***…], which Talis agrees may be used to produce parts for Third Parties.

2.3 Establishment of Production Lines. The Parties will establish one or more Production Lines anticipated to facilitate the supply of Product under this Agreement. To that end, promptly following the Effective Date the Parties shall agree on one or more statement(s) of work under this Agreement pursuant to which the Parties will design and establish […***…] initial semi-automated Production Lines and a […***…] Production Line that is automated and for which […***…]. The statement of work(s) will identify the type of line (e.g., automated, semi-automated), location of the Facility, capacity of Consumables per year at the Facility, cost, Equipment, NRE rate, plan and deliverables. The establishment of each Production Line will be subject to standard quality procedures, including those set forth in the Quality Agreement, and the terms of the applicable statement(s) of work hereunder. For clarity, Talis is responsible for registration and regulatory conformity of the Talis product into which any Consumable is intended to be incorporated, as well as for the communication with the regulatory authorities in the different countries as necessary in respect of such Talis product (though thX will provide reasonable assistance with the foregoing at no cost). For the sake of clarity, if any process validation is required, thX may charge […***…] for that assistance in accordance with the applicable statement of work. If Talis' volume requirements exceed the capacity provided in the […***…] Production Lines, Talis shall have the option, and thX hereby grants Talis such option, to have a […***…] or any subsequent Production Line established at the thX initial Facility or another IDEX site. Any such […***…] or subsequent Production Line will be established pursuant to commercially reasonable terms under a statement of work, provided that […***…] shall bear the cost of such establishment, unless otherwise agreed therein.

2.4 Purchase and Ownership of Tools and Equipment.

(a) Until the semi-automated Production Line is available to Talis, (i) Talis shall have no specific Product purchase obligations (and Sections 3.3 and 3.4(a) shall not apply) and (ii) thX shall continue to produce and make available Products at the manual pricing level set forth in Exhibit A hereto. For clarity, unless otherwise stated in a statement of work, […***…]

[…***…] all Tools and all Equipment for use in connection with manufacturing at […***…] sole cost and expense.

(b) […***…] shall purchase directly, in each case from a mutually agreed supplier (or one identified pursuant to the relevant statement of work) Equipment and Tools to be used in the Production Lines, unless otherwise indicated in a statement of work; in each such case, the relevant Equipment and Tools shall be owned by thX but shall be subject to this Section 2.4. Product-specific Tools will be used solely for production of Products, unless otherwise agreed by Talis in writing. For the avoidance of doubt, all Tools produced by thX and paid for by […***…] hereunder or under the Development Services Agreement (other than […***…], as defined herein) are subject to this paragraph and to the relevant statement of work.

(c) Talis agrees to pay the mutually agreed upon amount provided by thX to Talis, the amount of which shall be set in accordance with the relevant statement of work, for Tools, Production Tools, and Tool Inserts. Any amounts payable under this Section shall be invoiced by thX on […***…] and Talis shall pay undisputed amounts so invoiced in U.S. Dollars net […***…] after receipt of the applicable invoice.

(d) All Equipment and Tools that are supplied by or paid for by […***…] (as well as other tangible property furnished by or through […***…]), and any other software incorporated into such Equipment that […***…] paid to develop pursuant to a statement of work issued hereunder shall be owned by […***…], but shall be subject to the provisions of this Section 2.4. […***…] shall not commingle such property with the property of […***…] or with that of a Person and shall not move any such property from the relevant Facility without prior written approval by […***…]. To the fullest extent permitted by law, […***…] shall not allow any lien or encumbrance to be imposed on or attach to such property. […***…] shall, […***…], insure all such Property with full and extended coverage for all damage and losses, for its full replacement value, as such value is reasonably determined by […***…] and communicated in writing to […***…]. All replacements of, and all replacement parts, additions, improvements, and accessories for, such property will automatically become subject to this Section 2.4 upon their incorporation into or attachment to such property.

(e) […***…] will be responsible for maintaining, repairing and replacing the property described above […***…]), and will provide […***…] with access to all maintenance records and certificate of insurance, including any insurance records evidencing the coverage for the applicable property in the amounts as set forth in Section 2.4(d). For Production Tools and Tool Inserts, the guaranteed number of shots is […***…] for the tool frame and […***…] for each insert. To reduce the risk of loss of supply, Talis may order backup Tool Inserts from thX.

(f) Upon termination of this Agreement by Talis pursuant to Section 11.2(a) hereof, […***…] shall assign all right, title and interest in and to the property that […***…] purchased and is described in Sections 2.4(a), (b) and (d) to […***…]; upon the expiration or termination of this Agreement for any other reason, or upon the end of the normal life of any of such property, […***…] shall destroy such property and certify its destruction to […***…] in accordance with Section 11.2 hereof.

3. SALE AND PURCHASE OF PRODUCTS

3.1 Purchase and Supply Agreement. Subject to the terms and conditions of this Agreement, thX agrees to supply, and Talis agrees to purchase, such quantities of Products as may be set forth in Purchase Orders (or Annual Commitment PO) placed by Talis in accordance with the provisions of Section 3.4.

3.2 Contingent Exclusivity.

(a) Subject to thX's ability to timely provide Consumables in line with the Specifications, the Quality Agreement and the other requirements of the Agreement, thX shall have the right to be the exclusive supplier for the Consumables for up to an aggregate volume of […***…] Consumables on […***…] basis ("**Exclusive Commitment Volume**"), provided that, for clarity, the Exclusive Commitment Volume is not a purchase commitment.

(b) To the extent that Talis is granted a license to make or have made Licensed Products (as defined in the License Agreement) pursuant to License Triggers (ii) or (iii) (as defined in the License Agreement), any such Licensed Products that are single-use cartridges for use with, e.g., the Talis-One system (or equivalent or successor systems), and that are made by or for Talis under such license, shall be credited towards the Exclusive Commitment Volume set forth in Section 3.2(a) in the applicable […***…].

3.3 Forecasts. On […***…], or another date otherwise agreed to by the Parties, of each calendar year during the Term, assuming that the semi-automated Production Line has been fully activated, commencing on the […***…] prior to the calendar year in which Talis anticipates that it will first require Products under this Agreement, Talis shall specify its forecasted requirements of Products (quantity and type) by providing to thX a written forecast setting forth the total number of Products (by Product type) that Talis anticipates purchasing during each month of following calendar year (i.e. the next to occur January – December) (each such forecast, an "**Annual Forecast**"). On the first Business Day of each month during the Term following the delivery of the initial Annual Forecast, Talis shall provide thX with an updated […***…] rolling forecast of its anticipated orders of Products (by Product type) to be placed during each month of the rolling […***…] period (with such period commencing on the first month of initial Annual Forecast) (each, a "**Rolling Monthly Forecast**"). For clarity the Rolling Monthly Forecast delivered in […***…] of each calendar year shall be deemed the Annual Forecast on which Talis' annual purchase commitments will be calculated for the following calendar year, as described in additional detail in Section 3.4(a). Without limiting thX's obligations hereunder, thX shall keep Talis regularly informed of its manufacturing capacity for Consumables (and other Products), and shall promptly notify Talis if at any time thX anticipates that it will not be able to manufacture and supply to Talis the amount of Consumables (or other Products) set forth in any Annual Forecast or Rolling Monthly Forecast, and shall provide Talis its best estimate of the timing and quantities of Consumables and/or other Products that it will be able to supply. Talis shall have the right to […***…]. As set forth in additional detail in Section 3.4, Talis shall order Products through the submission of (a) a blanket annual purchase order setting forth Talis' initial annual purchase commitment (and thX's

corresponding supply commitments) for the next calendar year, and (b) quarterly purchase orders setting forth Talis' additional commitment (and thX's corresponding additional supply commitments) for amounts of Product in excess of the quantities ordered in the blanket purchase order described in (a) above. For clarity, other than as set forth in Section 3.4, each Rolling Monthly Forecast shall be non-binding, but shall reflect Talis' good faith expectation (at the time of submitting the applicable forecast) of the quantity of Products (by Product type) it expects to order during the applicable […***…] period.

3.4 Purchase Orders.

(a) On […***…], or another date otherwise agreed to by the Parties, of each calendar year during the Term following the delivery of the initial Annual Forecast, Talis will issue a blanket purchase order for (i) […***…]% of the quantity of Product (by Product type) identified in the first […***…] months of the then-current Annual Forecast (i.e. […***…] of the following calendar year), including the expected delivery dates and any special shipping, storage or other instructions therefor, (ii) […***…]% of the quantity of Product (by Product type) identified in the following […***…] months of such Annual Forecast (i.e. […***…]); and (iii) […***…]% of the quantity of Product (by Product type) identified in each of the last […***…] months of such Annual Forecast (i.e. […***…]) (each such annual purchase order, an "**Annual Commitment PO**"). For clarity, subject to the terms of this Agreement, the Annual Commitment PO constitutes a binding commitment on Talis to purchase and on thX to manufacture and supply the applicable quantities of Products set forth in such Annual Commitment PO.

(b) In addition to the Annual Commitment PO, Talis shall place quarterly purchase orders for its additional Product requirements (if any) by submitting to thX written purchase orders using Talis' standard purchase order form on or around each of […***…], […***…] and […***…] during the Term, which shall (a) specify any additional quantity of Products (by Product type) that it requires in […***…] of the […***…], to the extent that its requirements are in excess of the quantities set forth in the Annual Commitment PO for any corresponding month, (b) provide a delivery dates for any such Product consistent with the applicable order lead time for the relevant Product stated in Exhibit A, and (c) include any special shipping, storage or other instructions applicable to such order (each a "**Purchase Order**"). For clarity, and by way of example, a Purchase Order delivered by Talis on […***…] of a given calendar year would set forth the quantities of Product required by Talis for each of the following […***…], to the extent such requirements were in excess of quantity ordered pursuant to the relevant Annual Commitment PO.

(c) thX shall promptly (in all cases within […***…]) send its acceptance of each Purchase Order (or Annual Commitment PO) to Talis in writing, which acceptance will be a binding obligation on thX to fulfill such Purchase Order (or Annual Commitment PO) and on Talis to purchase those Products in advance of the desired delivery dates specified therein, as applicable; provided, however, that thX shall not be required to fulfil any portion of any Purchase Order corresponding to (i) a quantity of Product (by Product type) greater than the applicable quantity(ies) set forth for the corresponding month of the then-current Rolling Monthly Forecast, or (ii) for any Product(s) ordered inside of the applicable order lead time set forth on **EXHIBIT A** for such Product, […***…]. thX shall notify Talis whether or not thX will be able to fulfill the excess portion of any Purchase Order (or part thereof)

and the expected delivery date for fulfillment. If thX cannot fulfil a Purchase Order or Annual Commitment PO (or any portion of the foregoing) for any reason, then, thX shall immediately notify Talis and (A) the project managers of each Party will meet and discuss the reason for the same and make any mutually agreed modifications required to facilitate such manufacture and supply; and (B) thX will confirm to Talis whether and to what extent it can meet the desired delivery date for the excess quantities or reduced lead time Product ordered (as may be adjusted by the mutual agreement of the project managers). For any accepted Purchase Order (or Annual Commitment PO), thX shall notify Talis within […***…] if there are any issues that may prevent thX from meeting the desired delivery date or quantity of Products. Any Purchase Order (or Annual Commitment PO) submitted by Talis to thX shall be governed by the terms contained herein. The Parties hereby agree that any term or condition in any Purchase Order, Annual Commitment PO, confirmation or other document furnished by Talis or thX that is in any way inconsistent with these terms and conditions shall be void and of no effect. If Talis cancels any Purchase Order thX will use […***…] to mitigate any attendant costs.

3.5 Delivery. All Products delivered pursuant to the terms of this Agreement will be suitably packaged and delivered in accordance with the Specifications and applicable laws, rules and regulations, and the terms of the Quality Agreement, but in any event, in a manner designed to ensure safe shipment, to the address(es) specified in Talis' purchase orders. thX shall use […***…] efforts to deliver Products on the dates and in the quantities specified in Talis' Purchase Orders (or any Annual Commitment PO). Unless otherwise agreed by the Parties, each shipment will be delivered […***…]. For Product shipments that are packaged by thX according to agreed upon Specifications, […***…]. Together with shipment of any Products, thX shall provide to Talis a document certifying that such Products were manufactured in accordance with the Product Warranty, and any other documentation otherwise required by the Quality Agreement.

3.6 Acceptance and Rejection. Talis may reject any Product that has a Product Defect or that otherwise does not conform to Talis' purchase order or to the Product Warranty, or that fail the acceptance criteria (if any) specified for that Product in Exhibit A. In order to reject a Product, Talis must give written notice of rejection to thX within […***…] after receipt of such Product or, in the case of a Latent Defect, within […***…] after Talis becomes aware of such Latent Defect, which notice shall specify the reason for rejection. If no such notice of rejection is received within the relevant time frame, the shipment of Product shall be deemed to have been accepted, provided that, notwithstanding any acceptance or deemed acceptance of Product, the Product Warranty shall continue to cover the Product. Any Product rejected by Talis will be subject to the same provisions as those applicable to a breach of the Product Warranty. Talis will maintain records of Product failures in Talis' customer facilities and inform thX in accordance with the requirements of the Quality Agreement.

4. MANUFACTURE

4.1 Raw Materials; Third Party Supplier Components; Safety Stock.

(a) […***…] will source and pay for all Raw Materials as defined in Exhibit A hereto. All Raw Materials will comply with approved and issued Specifications and be fully traceable to

source supply. thX will inspect and store all Raw Materials in accordance with standards agreed with Talis and the Quality Agreement. Raw Material vendors […***…]. Raw Material production must comply with ISO 13485 or ISO 9001 requirements including sourcing, traceability, and storage at thX manufacturing location. For the sake of clarity, the Raw Material vendors selected and used for the approved prototype shall be the same vendors used in production if not otherwise jointly agreed on by the Parties. For clarity, […***…].

(b) To the extent required to meet supply and lead-time requirements in **Exhibit A**, Talis will provide Third Party Supplier parts required to fulfil the Consumable manufacturing and delivery in advance and maintain an inventory level that the Parties mutually agreed upon, provided that Talis will not provide any Third Party Supplier parts in excess of the amounts required for the anticipated production to occur in the next calendar quarter in the most recent Rolling Monthly Forecast (unless otherwise agreed in writing). Talis shall place orders on the basis of frame contracts or supply agreements with the Third Party Suppliers and manage the supply chain. In certain key cases, […***…], thX may enter into a communication protocol with Third Party Suppliers providing materials or sub-assemblies for the Consumables, subject to (i) related terms being mutually agreed on between the each of Talis, thX and such Third Party Supplier, and establishing appropriate protocols as between the Parties for dealing with Third Party Suppliers (and deciding whether such protocols such be in the body of the Agreement or elsewhere). In addition, as the reasonably requested by either Party in light of ongoing and changing relationships with Third Party Suppliers, the Parties will meet in good faith to update any then-current protocols to address such changed circumstances in dealing with any Third Party Suppliers. The quality inspection routines required to approve the incoming inspection of the Third Party Supplier components shall be defined in the Quality Agreement attached as Exhibit B, hereto. […***…] will bear the costs related to the implementation and execution of incoming inspections of Third Party Supplier components.

(c) At all times during the Term, thX shall at its own cost and expense maintain an amount of inventory of all necessary components and materials ("**Safety Stock**") in quantities necessary to fulfill the manufacture and supply of Products set forth in the next to occur […***…] in the most recent […***…] forecast, or in other amounts as agreed by the Parties in writing] (the "**Minimum Safety Stock Level**"). If […***…] determines that the Minimum Safety Stock Level should be, and reasonably can be increased, taking into consideration […***…] and other factors, such as general availability of raw materials, which may include long-lead time components, and equipment availability, […***…]. thX shall maintain the Safety Stock for the sole benefit of Talis. This Safety Stock shall remain separate and distinct from inventory held at the Facility and shall be stored by thX. thX will use Safety Stock to supply Products ordered by Talis hereunder and will maintain the appropriate level of Safety Stock by promptly replenishing that quantity of Products used in such supply. thX will manage Safety Stock on a "first in, first out" basis to fulfill Talis' purchase orders on a routine basis. In the event Safety Stock levels drop below the Minimum Safety Stock Level, thX shall (i) immediately notify Talis; and (ii) use […***…] to replenish its Safety Stock to the Minimum Safety Stock Level

within in a reasonable period of time under the circumstances. In the event of a Safety Stock failure, thX shall (i) conduct a root cause analysis to identify the cause of the Safety Stock failure and provide to Talis a written report detailing the cause of the Safety Stock failure, and (ii) deliver a corrective action plan to Talis which plan shall identify the steps thX will take to remedy the Safety Stock failure and mitigate the likelihood of reoccurrence, including a schedule for implementation of the plan.

(d) If this Agreement or any Purchase Order (or Annual Commitment PO) provides for Talis to supply any material to thX, including materials or components provided via Third Party Suppliers ("**Talis-Supplied Material**"), thX shall store such Talis-Supplied Material according to established storage conditions for the material or parts (as set forth in the Quality Agreement or otherwise notified in writing by Talis or by such Third Party Supplier) and […***…], provided that, where unique storage conditions are necessary for the applicable Talis-Supplied Material, the Parties would agree on […***…]. thX agrees (a) to account for all Talis-Supplied Materials, (b) not to provide Talis-Supplied Materials to any Third Party (including permitted subcontractors) without the express prior written consent of Talis, (c) not to use Talis-Supplied Materials for any purpose other than conducting the development and/or manufacturing activities under the applicable purchase order, and (d) to destroy or return to Talis all unused quantities of Talis-Supplied Materials according to Talis' written directions. Further, thX agrees not to analyze, characterize, modify or reverse engineer any Talis-Supplied Materials or take any action to determine the structure or composition of any Talis-Supplied Materials unless and to the extent required under the applicable purchase order. Talis will at all times retain title to and ownership of the Talis-Supplied Materials and any related work in process at each and every stage of the manufacturing process. thX will provide within the Facility an area or areas where the Talis-Supplied Materials, Products, and any work in process are segregated and stored in accordance with the Specifications, and in such a way as to be able at all times to clearly distinguish the same from products and materials belonging to thX, or held by it for a Third Party's account. thX will at all times take such measures as are required to protect the Talis-Supplied Materials, Products, and any work in process from risk of loss or damage at all stages of the manufacturing process. thX will ensure that Talis-Supplied Materials, Products, and any work in process are free and clear of any liens or encumbrances. thX will immediately notify Talis if at any time it believes any Products or Talis-Supplied Materials have been damaged, lost or stolen. Talis agrees to maintain safety stock of Talis-Supplied Material in accordance with the same levels required under Section 4.1 (c) for Safety Stock and Minimum Safety Stock.

4.2 Manufacture.

(a) Compliance. thX shall manufacture and supply Products in accordance with the Specifications and all applicable laws, rules and regulations. thX shall promptly notify Talis of any failure of the Products to conform to the foregoing and will provide any additional information regarding such non-conforming Products as may reasonably be requested by Talis. In the event Talis notifies thX of any new manufacturing requirements or Specifications required by Talis, any regulatory agency, or of any other new legal requirements, the Parties shall promptly confer with each other with respect to the best means to comply with such requirements and […***…]. Upon Talis' written request, thX shall supply Talis with copies of thX's manufacturing records for the purposes of assuring Product quality. thX represents and warrants to Talis that it has, and will maintain during

the Term, all government permits, including, without limitation, health, safety and environmental permits, necessary for the conduct of the actions and procedures that it undertakes pursuant to this Agreement.

(b) Use of Approved Facilities. Manufacture of Products shall be performed only in the approved Facility(ies). The Parties agree that thX's […***…] locations are approved Facilities. Change of a Facility location following initial approval, or addition of a new Facility, must be approved by Talis with such approval not unreasonably withheld (withholding approval based on regulatory concerns shall be deemed reasonable, however). Talis will have the right to inspect only the portion of the relevant Facility that is dedicated to the production of the Product from time to time in its reasonable discretion and upon reasonable notice. The inspection does not include the review of individual processes or steps, unless required for regulatory compliance.

(c) Subcontracting. With the exception of non-Product specific subcontractors for which Talis does not need to provide written consent, thX covenants and agrees that it shall not utilize any subcontractors (other than its Affiliates) to perform any of its duties and obligations hereunder without first obtaining the prior written consent of Talis, which consent shall not be unreasonably withheld. thX covenants, acknowledges and agrees that it shall be responsible for all acts and omissions of approved subcontractors or Affiliates hereunder.

(d) Confidential Treatment and Certain Disclosures. Without limiting thX's confidentiality obligations and restrictions on use of Tools and certain Equipment, Talis is aware and acknowledges that thX uses its Facility to manufacture non-Talis products. thX will not, without permission from Talis, show the Talis manufacturing line, processes or proprietary technologies to any Third Parties and, if possible, will place the manufacturing line(s) in an isolated location within whichever Facility the line is established. Talis agrees that thX may disclose the scope and nature of thX activities covered by the Agreement to all regulators/competent authorities/notified bodies as required by law, and subject to advance notice to Talis.

4.3 Testing. Products supplied hereunder will conform to the Specifications. thX shall perform quality control testing and quality oversight on Products to be delivered to Talis or its designee hereunder to ensure that the Products so delivered are in accordance with the Specifications or as otherwise required in accordance with the Quality Agreement. The Parties agree that, should Talis wish to implement any amendment to the quality control testing and quality oversight on Products, Talis shall provide written notice thereof to thX for thX's review and approval, which approval shall not be unreasonably withheld, delayed or conditioned. The Parties acknowledge that as the Specifications are refined and modified, as the Parties gain experience with the manufacture, testing and use of the Products and as the development stage of the Product progresses, then there may be a need for additional or modified quality control testing and quality oversight. Accordingly, Talis and thX agree to negotiate in good faith to modify any existing quality control testing and quality oversight in light of any Specification change or otherwise from time to time as the Parties' experience with the manufacture, testing and use of the Products warrants. The Parties agree to […***…] of developing and implementing revised procedures.

4.4 Non-U.S. Legal Requirements. If Products are to be manufactured in a Facility in any jurisdiction outside of the United States, thX is solely responsible for such manufacture being performed in accordance with any applicable laws, rules or regulations of governmental authorities in such jurisdiction. Without limiting the foregoing, each Party shall promptly notify the other of any new instructions or changes to Specifications required by any such governmental authority of which it becomes aware, and the Parties shall confer with each other with respect to the best means to comply with such requirements. thX covenants and agrees that it shall comply with all applicable import-export laws, rules and regulations, including, without limitation, provision of Harmonized Tariff Schedule (HTS) codes and Export Control Classification Number (ECCN) codes for all Products so shipped.

5. QUALITY

5.1 Quality Agreement. The Parties shall, reasonably prior to the manufacture of any Product by thX, prepare and enter into a reasonable and customary quality agreement (the "**Quality Agreement**"), substantially in the form attached hereto as **EXHIBIT B**. The Quality Agreement shall include the matters referenced in other Sections of this Agreement, as well as provisions with respect to, among other things, Specifications in respect of product; validation; raw materials; inspection; Equipment; documentation requirements; nonconforming product and deviations from manufacturing process; nonconforming incoming materials; yield; process validation; quality audit; records retention; design control; corrective and preventive action; and quality assurance obligations of the Parties for the Product. Upon completion and execution by the Parties, the Quality Agreement shall be made a part of and incorporated into this Agreement. For clarity, any breach of the Quality Agreement will be deemed a breach of this Agreement. In the event of a conflict between any of the provisions of the Supply Agreement and this Quality Agreement with respect to any commercial matters including allocation of risk liability and financial responsibility, the provisions of the Supply Agreement shall govern.

5.2 Additional Quality Obligations. In addition to the quality-related matters described in Section 5.1, the Parties will adhere to the following quality-related procedures and requirements, to the extent not otherwise agreed in the Quality Agreement:

(a) The Consumables will be manufactured according to requirements of ISO 13485. Any changes in ISO13485 certification status of either Party shall be communicated to the other Party as soon as practically possible, and in the case that any ISO13485 audit reveals any non-compliance relevant to this Agreement or any performance hereunder, such communication shall include plans for timely corrective actions. For clarity, to the extent they are inconsistent with ISO 13485, the requirements of 21 CFR Part 820 and In Vitro Diagnostic device directive 98/79/EC or the successor In Vitro Diagnostic Regulation will continue to apply to the manufacture of Products hereunder.

(b) As may be set forth in additional detail in the Quality Agreement, each Party shall share relevant post-market surveillance and vigilance information generated or obtained in connection with this Agreement with the other Party. To that end, each Party shall endeavour to collaborate in a timely manner and in good faith in order to: (i) address complaints, (ii) conduct investigations, (iii) facilitate recalls, (iv) undertake and/or monitor corrective/preventive actions, (v) meet regulatory reporting requirements; (vi) manage import/export of product and onward

distribution, (vii) address alternative delivery addresses for specific shipments and (viii) appropriately address any other mandated regulatory actions, in each case, in accordance with the roles and responsibilities of the Parties set forth in the Quality Agreement.

(c) Each Party shall share complaints received relating to reportable or adverse incidents where the Consumable may be involved of which such Party is aware with the other Party.

(d) Each Party shall collaborate to respond appropriately and within defined timescales under this Agreement or the Quality Agreement to any matters described in this Section 5.2 to facilitate effective responses in relation to such matters.

(e) thX will maintain at the thX premises (i) Standard ThinXXS Operating Procedures (**SOP**) and (ii) Device History Records (**DHR**), which shall remain in the thX premises unless otherwise agreed. In addition, if the foregoing documents (or similar or ancillary documents to the foregoing documents) are requested by any regulatory authorities, thX will either provide (or cause to be provided) Talis with such documents or, if appropriate, otherwise deliver (or cause to be delivered) such documents directly on behalf of Talis and provide written notice to Talis of such completed delivery.

(f) thX will be required to seek Talis approval in advance for changes made to any manufacturing processes and parts that are used in the production of Talis products, for any requested changes to the Specifications (in accordance with the terms hereof) and any other material changes in the raw materials, equipment, processes or procedures used to manufacture Product. With respect to any Minor changes, thX will notify Talis following the implementation and prior to release of any batch manufactured with such change. "***Minor changes***" are changes that have no impact to quality, specifications or regulatory purposes.

(g) thX will provide Talis with the following reports on demand on the following, (i) root cause analysis ("**RCA**") for nonconforming product and incoming material, (ii) status of any in process CAPA's, (iii) documentation of compliance with quality system, (iv) results of thX QC testing as specified in the Quality Agreement (v) any other information outlined and agreed to in the Quality agreement, in each case (i)-(v), in a form and with substance reasonably acceptable to Talis and set forth in the Quality Agreement.

(h) thX also will provide Talis with the following reports, as applicable: (i) results of QC testing and COC for materials/components provided by Third Party Suppliers and (ii) RCA for nonconforming Product, in each case (i)-(ii), in a form and with substance reasonably acceptable to Talis and set forth in the Quality Agreement.

6. REGULATORY

6.1 Regulatory Compliance. thX shall comply with all regulatory requirements with respect to Product imposed by applicable law upon thX as the manufacturer of Product and that are provided by Talis in commercially reasonable detail that will allow thX to comply. thX shall, on a timely basis, provide Talis with information in thX's possession relevant to its role as the manufacturer of Product that is reasonably necessary for and relevant to Talis' obligations hereunder in complying with such regulatory requirements. thX will provide to Talis such

documentation, data and other information relating to Product as Talis may reasonably require for submission to governmental authorities. thX shall also provide, upon reasonable request by Talis, information concerning its production processes and quality control procedures with respect to Product.

6.2 Recalls. In the event Talis shall be required or requested by any governmental authority or shall voluntarily decide in good faith, after conducting an analysis to confirm that one is warranted under the circumstances, to recall any Product, Talis shall, as between the Parties, have the sole authority to conduct and/or coordinate such recall. thX shall use […***…] efforts to timely cooperate with Talis in the investigation and conduct of such recall. If a recall arises solely out of a Latent Defect during the warranty period or due to thX's willful misconduct, then thX shall repair or replace Product at its cost or reimburse Talis for the purchase price paid by Talis to thX for such Product and reimburse Talis for the following direct and reasonable and necessary costs and expenses actually incurred by Talis in connection with the recall limited to (a) investigation and analysis, (b) shipping, (c) communication of the recall, as well as (d) providing a workaround solution, if necessary. If a recall is due to any reason other than one that arises […***…] or […***…] shall pay all of the costs and expenses of the recall.

6.3 Regulatory Inspections. thX agrees to inform Talis within […***…] of notification of any regulatory inquiry, communication or inspection, which directly or indirectly relates to the manufacture of Product. In the event thX receives a notice of inspection or an inspection visit by any governmental authority which involves Product or could impact thX's ability to produce Product, thX shall notify Talis within […***…] of notification by such governmental authority. Talis, at its option, shall have the right to have its representatives present at any such inspection by a governmental authority. In the event there are written observations (or any other written communication) by a governmental authority that involve Product or could impact thX's ability to produce Product, or any proposed written response by thX to any such inspection, Talis shall be informed within […***…] and be provided with copies of all documentation within […***…], and shall have a reasonable opportunity to review and comment on the proposed response, and thX shall consider Talis' comments in good faith.

6.4 Incidents or Accidents. thX shall promptly notify Talis in writing of any incident or accident experienced by thX that thX in its reasonable judgment believes may affect the quality of the Product that thX is obligated to deliver hereunder or its ability to meet delivery date obligations hereunder. thX shall promptly investigate such incident or accident and provide a written report within […***…] of the results of the investigation of such incidence or accident to Talis and in accordance with the Quality Agreement.

6.5 Regulatory Support. Except as otherwise expressly set forth herein, Talis shall be responsible for all filings necessary for approval to market Talis' own products incorporating the Products. thX agrees to promptly provide to Talis such information relating to the Product or the manufacture thereof as may be necessary or useful in connection therewith.

7. IP RIGHTS

7.1 Ownership. As between the Parties, subject to the terms of this Agreement, thX shall at all times be and remain the sole and exclusive owner of all right, title and interest (including

all IP Rights) in and to all thX Background IP, thX Background Improvements and thX Manufacturing and Process IP ("**thX IP**"). If new thX Manufacturing and Process IP will be required, thX will develop it at its own cost, and in such case, the new thX Manufacturing and Process IP will be thX IP. All rights to Work Product, including all IP Rights therein, all Product IP, and all Talis Background IP (collectively, "**Talis IP**"), shall be owned solely by Talis, and thX hereby assigns to Talis all of thX's right, title and interest in and to Talis IP. thX represents and warrants to Talis that each employee, agent, consultant and subcontractor of thX is obligated to assign all of his/her/its right, title and interest in and to Work Product and Talis IP to thX. thX shall sign and deliver to Talis all writings and do all such things as may be necessary and reasonable to vest in Talis all right, title and interest in and to Talis IP. Talis may, in its sole discretion, file and prosecute in its own name and at its own expense, patent applications on any patentable inventions within the Work Product. Notwithstanding the foregoing, Talis may never reference or introduce any Confidential Information of thX in any patent or other application for intellectual property. At the request and expense of Talis, thX shall assist Talis in the preparation, filing and prosecution of such patent applications and will execute and deliver any and all instruments necessary to effectuate the ownership of such patent applications and to enable Talis to file and prosecute such patent applications in any country. All Work Product and IP Rights therein are Confidential Information of Talis.

7.2 License to Talis. thX hereby grants to Talis a worldwide royalty free, fully paid-up, irrevocable, perpetual license under the thX Background Improvements that are embedded in or used in the production of the Products, (a) to use, sell, offer for sale, import, display, and distribute, the Products or any deliverables provided by thX to Talis hereunder, and (b) to make and have made Products (i) for internal R&D purposes only for the term of this Agreement and (ii) solely to the extent permitted by the License Agreement, for commercial purposes.

7.3 No Implied Licenses. Other than as set out in Section 7.1, Section 7.2 or in the License Agreement, neither thX nor Talis transfers or licenses to the other by operation of this Agreement any interest in or license to any IP Rights.

8. PAYMENT

8.1 Payment for Products. The purchase price of Products ordered by Talis pursuant to this Agreement shall be as set forth in **EXHIBIT A** hereto, with delivery terms as stated herein; prices are net without value added tax (VAT), shipping, duties or other costs.

8.2 Payment for Materials, Equipment or Tools. Other than as expressly set out herein, Talis shall be responsible for all payments to Third Parties for any materials, Equipment or Tools purchased from, or other products or services provided by, Third Parties in connection with the manufacture and supply of Products hereunder including, without limitation, any duties and sales, use or VAT taxes incurred in the procurement and transfer of ownership to thX, but excluding income taxes incurred by thX.

8.3 Prices. Prices that are set forth in Exhibit A may not be increased until […***…]. Before the […***…], thX and Talis will initiate price negotiations to set the prices for the subsequent calendar year (subject to the following). Prices may not increase, however, more than by a fixed percentage per year equal to (x) […***…]

[…***…]. In the situation where thX will increase prices, […***…]. thX may reduce the purchase price of any Product at any time during the term of this Agreement. Such revisions shall apply to all Purchase Orders (or any Annual Commitment PO) submitted by Talis after such price reduction. thX and Talis shall agree in good faith on cost reduction goals and shall work together to achieve such goals via process changes, material changes and other improvements to Products. In addition, […***…].

8.4 Invoices. thX shall invoice Talis for the aggregate purchase price of each single shipment of Product at the time of shipment of such order. For non-recurring engineering or similar charges for which Talis is responsible hereunder (e.g., validation and Tools development fees, if requested by Talis under a statement of work), invoicing will occur on a monthly basis on the rates stated in the statement of work.

8.5 Method of Payment. All undisputed payments due under this Section 8 to thX shall be paid to thX in in the currency designated in the pricing schedule set forth in Exhibit A net thirty (30) days after receipt of the applicable invoice, except as set forth in Section 3.6. Payment by Talis shall not be construed as acceptance of any improper, nonconforming or defective Product, nor shall it be construed as a waiver of any of Talis' rights or remedies under this Agreement. Any disputed payments must be brought to thX's attention within 10 business days after receipt of the applicable invoice and the parties agree to in good faith resolve the dispute within thirty (30) days, otherwise the amount shall be considered undisputed.

8.6 Taxes. Talis shall make all payments to thX under this Agreement […***…]. thX shall not invoice Talis for any value-added tax incurred by thX in performing the obligations under this Agreement unless approved in advance in writing by Talis.

9. REPRESENTATIONS AND WARRANTIES; DISCLAIMER

9.1 Mutual Representations and Warranties. Each Party represents and warrants that (a) such Party is duly organized, validly existing, and in good standing under the laws of the place of its establishment or incorporation, (b) such Party has taken all action necessary to authorize it to enter into this Agreement and perform its obligations under this Agreement, (c) this Agreement will constitute the legal, valid and binding obligation of such Party, and (d) neither the execution of this Agreement nor the performance of such Party's obligations hereunder will conflict with, result in a breach of, or constitute a default under any provision of the organizational documents of such Party, or of any law, rule, regulation, authorization or approval of any government entity, or of any agreement to which it is a Party or by which it is bound.

9.2 thX Warranties. thX hereby warrants to Talis that (a) the thX IP does not infringe or misappropriate any […***…] IP Rights and thX has not received any written communication from any Person alleging to the contrary; (b) that for the Warranty Period all Products supplied under this Agreement shall (i) conform to the Specifications, (ii) not contain defects in material and workmanship and (iii) at the time of delivery, be free and clear of any lien or encumbrance and (c) its manufacturing processes shall be in accordance with all applicable regulatory approvals, and all other applicable laws, rules and regulations (including health, safety and environmental laws). In addition, thX hereby grants to Talis, and Talis shall have the right to extend to its customers for Talis products that use or incorporate Products, the Product Warranty in this Section, for a period beginning on the date of production of a Product for Talis and ending the earlier of (x) […***…] thereafter or (y) […***…] as set by Talis (such period, the "**Warranty Period**"), provided that such warranty shall not be deemed breached to any Product failure that […***…]. The warranties made by thX pursuant to this Section are collectively referred to herein as the "**Product Warranty**". This warranty will not apply to Products that: (i) are changed or modified; or (ii) fail solely due to any products not supplied by thX, or system with which the Product is used. Talis's sole and exclusive remedy (other than thX's indemnification obligations) for any rejection of the Products for any reason, a product defect or a breach of warranty will be limited to, at thX's option, replacement, repair or refund of the purchase price of the Products that does not conform with the warranties.

9.3 Disclaimer. Except as expressly set forth herein, EACH PARTY EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF DESIGN, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF THE INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICES.

9.4 Limitation of Liability. EXCEPT WITH RESPECT TO INDEMNIFICATION OBLIGATIONS CONTAINED IN SECTION 12 AND FOR BREACHES OF SECTIONS 7 OR 10, NEITHER PARTY SHALL BE ENTITLED TO RECOVER FROM THE OTHER PARTY, REGARDLESS OF THE NUMBER OF CLAIMS, (I) ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES IN CONNECTION WITH THIS AGREEMENT OR (II) AGGREGATE DAMAGES IN EXCESS OF THE AMOUNTS ACTUALLY PAID BY TALIS TO THX FOR PRODUCTS AND SERVICES IN THE 12 MONTH PERIOD PRIOR TO THE DATE OF THE EVENT GIVING RISE TO A CLAIM FOR DAMAGES.

9.5 Epidemic Failure. For the purposes of this Agreement, "**Epidemic Failure**" shall be deemed to have occurred if more than:

(i) […***…] ([…***…]%) during the […***…] following automated manufacturing;

(ii) […***…] percent ([…***…]%) during the […***…] following automated manufacturing; and

(iii) […***…] ([…***…]%) for the […***…] following automated manufacturing and the following years thereafter, of Product shipped to customers should fail in conforming to the Specifications in the same manner during such Product's applicable Warranty Period, due to a breach of the Product Warranty. In the case of Epidemic Failure, thX and Talis shall cooperate to implement the following procedure:

(a) Talis shall promptly notify thX upon discovery of the failure.

(b) Within […***…], thX shall give an initial written response indicating its plan for diagnosing the problem.

(c) thX and Talis shall jointly commit and contribute to a failure analysis process to diagnose the problem and plan a permanent solution and, if necessary, a work-around for temporary use until the solution is implemented. thX and Talis shall mutually agree on a recovery plan, including the implementation of the work-around and the permanent solution. Where appropriate, thX shall apply its engineering change order procedure for problems originating in the manufacturing process.

(d) thX shall promptly provide conforming Products to replace all defective Products, as well as all Products which may be susceptible to the same failure mode.

(e) […***…] actually incurred in rectifying any Epidemic Failure for any solutions, work-arounds, recovery plans, replacements and engineering changes, as provided in Section 9.5(c), above.

9.6 Chronic Supply Delay. In the case of a Chronic Supply Delay, thX shall (i) conduct a root cause analysis to identify the cause of the supply failure and provide to Talis a written report detailing the cause of the supply failure, and (ii) deliver a corrective action plan to Talis which plan shall identify the steps thX will take to remedy the supply failure and mitigate the likelihood of reoccurrence, including a schedule for implementation of the plan.

10. CONFIDENTIALITY

10.1 Confidentiality. Each Party agrees that, during the Term and for a period of […***…] thereafter, such Party will protect and hold the other Party's Confidential Information in trust and confidence, that it will not use such Confidential Information in any manner or for any purpose not expressly set forth in this Agreement, and will not disclose any such Confidential Information to any Third Party without first obtaining the other Party's express written consent on a case-by-case basis. In addition, and except as permitted by Section 10.3, neither party shall not disclose the existence this Agreement to any Third Party at any time during the Term. In addition to its other confidentiality obligations herein, thX will ensure that Talis' Confidential Information (including, but not limited to, Talis IP) is physically segregated from any such information or intellectual property of thX's other customers.

10.2 Exceptions. Confidential Information of a disclosing Party shall not include information which the receiving Party can demonstrate by competent evidence: (a) is now, or hereafter becomes, through no breach of this Agreement by the receiving Party, generally known or available; (b) is known by the receiving Party at the time of receiving such information from the disclosing Party, as evidenced by its written records, *provided* that thX shall be deemed the receiving Party and Talis the disclosing Party with respect to the Work Product and Talis IP; (c) is hereafter furnished to the receiving Party by a Third Party, as a matter of right and without restriction on disclosure; or (d) is independently developed by the receiving Party without the use of or reference to Confidential Information received from the disclosing Party, as evidenced by the receiving Party's written records.

10.3 Authorized Disclosure. Each Party may disclose Confidential Information belonging to the other Party to the extent such disclosure is reasonably necessary in the following instances: (a) in the case of Talis, to obtain and maintain regulatory approvals with respect to Talis products that incorporate Products; (b) complying with applicable court orders or applicable laws, rules or regulations; (c) disclosure to a Party's Affiliates, provided that Confidential Information so disclosed shall remain subject to this Section 10; and (d) disclosure to Third Parties in connection with due diligence or similar investigations by such Third Parties, and disclosure to potential Third Party investors in confidential financing documents; *provided*, *however*, in each case, that any such Third Party agrees to be bound by reasonable obligations of confidentiality and non-use. In addition, in the event a Party is required to make a disclosure of the other Party's Confidential Information pursuant to the preceding clause (b), it will, except where impracticable, give reasonable advance notice to the other Party of such disclosure and, at the other Party's request and expense, cooperate with the other Party's efforts to obtain a protective order preventing or limiting the disclosure and/or requiring that the Confidential Information so disclosed be used only for the purposes for which the law or regulation requires, or for which the order was issued.

11. TERM; TERMINATION

11.1 Term. Subject to earlier termination according to the provisions of Section 11.2, the initial term of this Agreement shall commence on the Effective Date and shall continue until the tenth (10th) anniversary of the Effective Date (the "**Initial Term**"). Thereafter, the Agreement shall continue in force until (a) Talis provides 24-months advance written notice of non-renewal (which notice, for clarity, may be given 24-months in advance of the end of the Initial Term), in which case the Agreement will terminate at the end of the relevant 24-month notice period or such other date as may be specified on such notice beyond such 24-month period, or (b) either Party otherwise terminates this Agreement in accordance with Section 11.2 (the period beyond the Initial Term during which the Agreement remains in force, the "**Extension Term**" and collectively with the Initial Term, the "**Term**").

11.2 Early Termination.

(a) Material Breach. Either Party shall have the right to terminate this Agreement upon ninety (90) days written notice if the other Party materially breaches or defaults on any material obligation under this Agreement (with such notice to provide reasonable detail as to the alleged breach), unless, before the end of the ninety (90) day period, such other Party has cured the default or breach and so notifies the non-breaching Party in writing, stating the manner

of the cure. For clarity, but without limiting the generality of the foregoing (i) consistent failures by thX to deliver Product that meets the applicable Specifications in all material respects that breaches the Product Warranty in four or more shipments in any 4-month period; (ii) constant and consistent material failures by thX under the Quality Agreement; or (iii) two or more (A) Chronic Supply Delays or (B) Epidemic Failures in any consecutive 12-month period in each case of (i)-(ii) constitute a material breach by thX; and (iv) a material failure by Talis to make undisputed payment amounts when due would constitute a material breach by Talis; (v) termination of the statement of work related to the semi-automated Production Line by Talis based on thX's failure to activate such semi-automated Production Line by the date set forth in the relevant Statement of Work despite its good faith effort to do so, and (vi) a breach of Section 7 by Talis are each a material obligation subject to the first sentence of this Section 11.2(a). Notwithstanding the foregoing, Talis may not terminate this Agreement for a material breach under item (i) of this Section until the affected Product, that is the subject of the termination, is manufactured in the automated manufacturing environment.

(b) Bankruptcy. A Party shall have the right to terminate this Agreement upon written notice to the other Party upon or after the filing or institution of bankruptcy, reorganization, liquidation or receivership proceedings by or against the other Party, or upon an assignment of a substantial portion of the other Party's assets for the benefit of creditors; *provided, however,* that in the case of any involuntary bankruptcy proceeding such right to terminate shall only become effective if the Party consents to the involuntary bankruptcy or such proceeding is not dismissed within ninety (90) days after the filing thereof.

(c) Termination at Will. Talis shall have the right to terminate this Agreement at any time on or after the seventh anniversary of the Effective Date for any reason or for no reason upon delivery of at least two (2) years' written notice to thX.

11.3 Effect of Expiration or Termination; Surviving Obligations.

(a) Upon any termination of this Agreement, all rights and obligations of the Parties hereunder shall terminate and be of no further force or effect, except as otherwise expressly set forth below in this Section. Upon any termination of this Agreement other than by thX under Section 11.2, Talis may elect to (i) have thX fulfill, in accordance with the applicable terms and conditions of this Agreement, any or all binding Purchase Orders for Products submitted by Talis prior to the effective date of termination (in which case Talis agrees to pay thX the purchase price for such Products as set forth in this Agreement), or (ii) cancel such Purchase Orders (or Annual Commitment PO).

(b) Expiration or termination of this Agreement shall not terminate the License Agreement.

(c) In the event of any termination of this Agreement, each Party shall return to the other Party all Confidential Information of the other Party (including all copies thereof) in such Party's possession; *provided, however,* that except as set forth below in this Section, each Party may retain one copy of the other Party's Confidential Information in such Party's legal archives for the sole purpose of ensuring compliance with its obligations hereunder and complying with applicable laws and regulations; and *provided, further,* that thX shall only retain that Confidential

Information of Talis that, upon advice of counsel, thX is required to retain to comply with applicable laws, rules and regulations. thX shall give Talis all reasonable opportunities to minimize the amount of Confidential Information of Talis that thX is required to retain.

(d) Upon any termination or expiration of this Agreement, thX shall: (i) transfer title and deliver to Talis all finished Product completed prior to the effective date of such termination and (ii) return or dispose of property that is subject to Section 2.4 in accordance with Talis' reasonable instructions and with Section 2.4 (provided that Talis will reimburse thX for the actual, reasonable costs associated with such disposal). Notwithstanding the foregoing, upon any termination or expiration of this Agreement (other than by Talis pursuant to Section 11.2(a)), any Tools paid for by Talis that are subject to Section 2.4 will be destroyed as opposed to returned provided that thX will provide notice to Talis indicating such complete destruction. Upon termination of this Agreement by thX under Section 11.2, Talis shall purchase, in accordance with the applicable terms and conditions of this Agreement, any or all Purchase Orders (including any Annual Commitment PO) for Products submitted by Talis prior to the effective date of termination (in which case Talis agrees to pay thX the purchase price for such Products as set forth in this Agreement) along with the cost of all raw materials purchased in support thereof. Also, on termination, thX will provide evidence of having decommissioned and destroyed […***…].

(e) Neither expiration nor termination of this Agreement for any reason shall relieve either Party of any obligation accruing prior to such expiration or termination, including without limitation, Talis's obligation to purchase Minimum Safety Stock hereunder. The obligations and rights of the Parties under Sections 4.1(d), 4.2(d), 5.2, 7, 8, 9.1 through 9.4, 10, this Section 11.3, 12, 13 and under the applicable provisions of the License Agreement shall survive expiration or termination of this Agreement.

(f) All documentation shall be retained for 10 years after shipment of the relevant Product (or for such longer period as is required under the Quality Agreement).

11.4 Rights Upon Bankruptcy. All rights and licenses granted to Talis under or pursuant to this Agreement are, and shall otherwise be deemed to be, for purposes of Section 365(n) of Title 11 of the United States Code (collectively, the "**Code**"), licenses of rights to be "intellectual property" as defined under the Code. If a case is commenced during the Term by or against thX under the Code then, unless and until this Agreement is rejected as provided in the Code, thX (in any capacity, including debtor-in-possession) and its successors and assigns (including a trustee) shall perform all of the obligations provided in this Agreement to be performed by thX. If a case is commenced during the Term by or against thX under the Code, this Agreement is rejected as provided in the Code and Talis elects to retain its rights hereunder as provided in the Code, then thX (in any capacity, including debtor-in-possession) and its successors and assigns (including a Title 11 trustee), shall provide to Talis copies of such intellectual property and all embodiments thereof necessary for Talis to maintain and enjoy its rights under the terms of this Agreement promptly upon Talis' written request therefor. All rights, powers and remedies of Talis as provided herein are in addition to and not in substitution for any and all other rights, powers and remedies now or hereafter existing at law or in equity (including, without limitation, the Code) in the event of the commencement of a case by or against thX under the Code.

11.5 Disaster Recovery/Business Continuity. The Parties shall mutually create and maintain a Business Continuity and Disaster Recovery Plan (the "**Plan**") and implement such Plan in the event of any interruption of such performance. On or before the implementation of the semi-automated Production Line , the Parties shall create and test the Plan . thX shall immediately notify Talis of any disaster or other event in which the Plan is activated. Without limiting thX's obligations under this Agreement, whenever a disaster causes thX to allocate limited resources between or among thX's customers, Talis shall receive at least the same treatment as comparable thX customers with respect to such limited resources. To further reduce the risk of loss of Product supply, Talis may maintain stocks of finished Consumables at different locations than at thX.

12. INDEMNIFICATION; INSURANCE

12.1 Indemnification by Talis. Talis hereby agrees to defend, indemnify and hold harmless thX and its officers, directors, employees, consultants and agents ("**thX Indemnitees**") from and against any and all losses, damages, fines, settlements, liabilities, expenses and costs, including reasonable legal expense and attorneys' fees (collectively, "**Losses**"), to which any such thX Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any Third Party to the extent such Losses arise out of a claim relating to personal injury, property damage or death resulting from product defects in Talis' own products (where such defect is independent of any Product Defect to any Product used with or incorporated into such Talis product).

12.2 Indemnification by thX. thX hereby agrees to defend, indemnify and hold harmless Talis and its officers, directors, employees, consultants, contractors and agents ("**Talis Indemnitees**") from and against any and all Losses to which any such Talis Indemnitee may become subject as a result of any claim, demand, action or other proceeding by any governmental entity or any Third Party to the extent such Losses arise out of a claim relating to personal injury, property damage or death resulting from Product Defects in the Products.

12.3 General Conditions of Indemnification. Each Party's agreement to indemnify, defend and hold the other Party harmless is conditioned on the indemnified Party (a) providing written notice to the indemnifying Party of any claim for which it is seeking indemnification hereunder promptly after the indemnified Party has knowledge of such claim; (b) permitting the indemnifying Party to assume full responsibility to investigate, prepare for and defend against any such claim or demand; (c) assisting the indemnifying Party, at the indemnifying Party's reasonable expense, in the investigation of, preparation for and defense of any such claim or demand; and (d) not compromising or settling such claim or demand without the indemnifying Party's written consent.

12.4 Insurance. thX shall at all times during the Term and for a period of […***…] thereafter, at its own expense, maintain with financially sound and reputable insurers commercial liability insurance and product liability insurance (each for property damage and bodily injury) with coverage and minimum limits of $[…***…] per occurrence and $[…***…] in the aggregate, workers compensation insurance for all employees as statutorily defined by state and federal law, and property insurance in an amount sufficient to cover all Products and other personal property while in transit to Talis and all of thX's property, including Equipment, for its full replacement value, and shall name Talis as an additional insured with respect to such insurance. thX shall

provide a certificate of insurance evidencing such coverage to Talis upon request. thX shall provide Talis with […***…] advance written notice in the event of a cancellation or material change in such insurance policy. thX waives and thX shall cause its insurers to waive, any right of subrogation or other recovery against Talis, its Affiliates, and their insurers.

13. MISCELLANEOUS

13.1 Injunctive Relief. Each Party acknowledges and agrees that, due to the unique and valuable nature of the other Party's proprietary information and materials, there may be no adequate remedy at law for any breach by such Party of the provisions of this Agreement, that any such breach may result in irreparable harm to the other Party for which monetary damages may be inadequate to compensate such Party and that the other Party shall have the right, in addition to any other rights available under applicable law, to obtain from any court of competent jurisdiction injunctive relief to restrain any breach or threatened breach of, or otherwise to specifically enforce, any covenant or obligation of such Party under such provisions.

13.2 Assignment; Delegation. This Agreement may not be assigned by either Party without the prior written consent of the other Party, except that either Party may assign this Agreement to an Affiliate, unless such Affiliate is a competitor of the other Party, provided that the assigning Party shall remain liable and responsible to the non-assigning Party hereto for the performance and observance of all such duties and obligations by such Affiliate, or in connection with a Change of Control of such Party. This Agreement shall inure to the benefit of and be binding upon each Party signatory hereto, its successors and permitted assigns. No assignment shall relieve either Party of the performance of any accrued obligation that such Party may then have under this Agreement. Talis may not delegate or subcontract any of its payment obligations under this Agreement, except with thX prior written consent. thX may not delegate or subcontract any of its obligations under this Agreement (other than to […***…]), except upon Talis' prior written consent. thX shall at all times be responsible for the payment of its permitted subcontractors, and for the compliance of its permitted subcontractors with the terms and conditions of this Agreement.

13.3 Publicity. No Party shall issue a press release or public announcement or otherwise make any public disclosure concerning the subject matter of this Agreement, without the prior written approval of the other Party.

13.4 Relationship of Parties. The Parties' relationship, as established by this Agreement, is solely that of independent contractors. This Agreement does not create any partnership, joint venture or similar business relationship between the Parties. Except as expressly provided herein, neither Party is a legal representative of the other Party, and neither Party can assume or create any obligation, representation, warranty or guarantee, express or implied, on behalf of the other Party for any purpose whatsoever.

13.5 Entire Agreement; Amendment. This Agreement, together with all Exhibits attached hereto, is both a final expression of the Parties' agreement and a complete and exclusive statement with respect to all of its terms. This Agreement supersedes all prior and contemporaneous agreements and communications between the Parties, whether oral, written or otherwise, concerning any and all matters contained herein, including, without limitation, the

Development Services Agreement. No amendment, modification or addition to this Agreement shall be binding upon the Parties hereto unless reduced to writing and signed by the respective authorized officers of the Parties.

13.6 Severability. If any provision of this Agreement shall be deemed void in whole or in part for any reason whatsoever, the remaining provisions shall remain in full force and effect. The Parties shall make a good faith effort to replace any such provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

13.7 Non-Waiver. The failure of a Party to insist upon strict performance of any provision of this Agreement or to exercise any right arising out of this Agreement shall neither impair that provision or right nor constitute a waiver of that provision or right, in whole or in part, in that instance or in any other instance. Any waiver by a Party of a particular provision or right shall be in writing, shall be as to a particular matter and, if applicable, for a particular period of time, and shall be signed by such Party.

13.8 Governing Law. This Agreement shall be governed by and construed under the laws of the State of Illinois, without reference to its conflicts of law principles. The United Nations Conventions on Contracts for the International Sale of Goods shall not be applicable to this Agreement.

13.9 Venue. Any dispute, controversy or claim arising out of or relating to this Agreement, will be made exclusively in the state or federal courts located in Chicago, Illinois and both Parties submit to the jurisdiction and venue of such courts.

13.10 Force Majeure. A Party shall be excused from performing its obligations under this Agreement if its performance is delayed or prevented by any event beyond such Party's reasonable control, including but not limited to, acts of God, fire, explosion, weather, disease, war, insurrection, civil strife, riots, government action, power failure, earthquake, tsunami or terrorism (each a "**Force Majeure Event**"), provided that such performance shall be excused only to the extent of and during such Force Majeure Event. The affected Party shall notify the other Party of such Force Majeure Event as soon as reasonably practical and shall take reasonable efforts to remove the Force Majeure Event or to avoid its affects so as to resume performance as soon as practicable. A Force Majeure Event shall not give rise to a right for either Party to terminate this Agreement.

13.11 Notices. Any notice required or permitted to be given under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be addressed to the appropriate Party at the address specified below or such other address as may be specified by such Party in writing in accordance with this Section, and shall be deemed to have been given for all purposes: (a) upon personal delivery to the Party to be notified; (b) when sent by confirmed electronic mail 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.

If to thX:	thinXXS Microtechnology AG Amerikastr. 21 66482 Zweibrücken, Germany Attention: General Manager
With a copy to:	IDEX Corporation 1925 West Field Court Lake Forest, IL 60045 Attention: Legal Department
If to Talis:	Talis Biomedical Corp. 230 Constitution Dr. Menlo Park, CA 94025 Attention: Legal Dept.

13.12 Interpretation. The following rules of interpretation apply to this Agreement: (a) he headings of clauses contained in this Agreement are inserted solely for convenience and ease of reference only and shall not constitute any part of this Agreement, or have any effect on its interpretation or construction; (b) ambiguities and uncertainties in this Agreement, if any, shall not be interpreted against either Party, irrespective of which Party may be deemed to have caused the ambiguity or uncertainty to exist; (c) definitions contained in this Agreement are applicable to the singular as well as the plural forms of such term; (d) references to an agreement or instrument mean such agreement or instrument as from time to time amended, modified or supplemented; and (e) in the event of a conflict between the body of this Agreement and a statement of work, the provisions of this Agreement shall take precedence unless and to the extent that a statement of work expressly provides that its terms are meant to take precedence. References to a Person are also to its permitted successors and assigns;

13.13 Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument. This Agreement may be executed by facsimile or PDF signatures, which signatures shall have the same force and effect as original signatures.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Parties hereto have duly executed this Supply Agreement as of the Effective Date.

thinXXS Microtechnology AG		**Talis Biomedical Corporation**	
By:	/s/ Joe Rytell	By:	/s/ Brian Coe
Name:	Joe Rytell	Name:	Brian Coe
Title:	President, IDEX Health & Science	Title:	Chief Executive Officer

EXHIBIT A

PRODUCTS

[…***…]

[…***…]

31.

[…***…]

32.

[…***…]

33.

EXHIBIT B

[QUALITY AGREEMENT TO BE ATTACHED]

EXHIBIT C

[LICENSE AGREEMENT TO BE ATTACHED]