As filed with the Securities and Exchange Commission on April 29, 2019.

Registration No. 333-230853

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

AMENDMENT NO. 2 TO FORM S-1 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CORTEXYME, INC.
(Exact name of Registrant as specified in its charter)

Delaware	**2836**	**90-1024039**
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

269 East Grand Ave.
South San Francisco, CA 94080
(415) 910-5717
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Casey C. Lynch
Chief Executive Officer
Cortexyme, Inc.
269 East Grand Ave.
South San Francisco, CA 94080
(415) 910-5717
(Name, address including zip code, and telephone number including area code, of agent for service)

COPIES TO:

Scott M. Iyama, Esq. **Andrew D. Thorpe, Esq.** **Peter M. Lamb, Esq.** **Orrick, Herrington & Sutcliffe LLP** **1000 Marsh Road** **Menlo Park, CA 94025** **(650) 614-7400**	**Brian J. Cuneo, Esq.** **B. Shayne Kennedy, Esq.** **Latham & Watkins LLP** **140 Scott Drive** **Menlo Park, CA 94025** **(650) 328-4600**

Approximate date of commencement of proposed sale to the public:
As soon as practicable after this Registration Statement becomes effective.

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

Large accelerated filer ☐ Accelerated filer ☐

Non-accelerated filer ☒ Smaller reporting company ☒

Emerging growth company ☒

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

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price (1)(2)	Amount of Registration Fee (3)
Common Stock, par value $0.001 per share	5,073,800	$ 18.00	$91,328,400.00	$ 11,069.00

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(a) under the Securities Act of 1933, as amended.
(2) Includes the aggregate offering price of any additional shares of common stock that the underwriters have the option to purchase. See "Underwriting."
(3) The Registrant previously paid $10,453.50 in connection with the initial filing of the Registration Statement on April 12, 2019.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until 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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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion
Preliminary Prospectus dated April 29, 2019

4,412,000 Shares

Common Stock

This is the initial public offering of common stock of Cortexyme, Inc. Prior to this offering, there has been no public market for our common stock. The initial public offering price is expected to be between $16.00 and $18.00 per share.

We have applied to list our common stock on the Nasdaq Global Select Market under the symbol "CRTX."

We are an "emerging growth company," as defined under the federal securities laws and, as such, we may elect to comply with certain reduced public company reporting requirements for this prospectus and future filings.

Investing in the common stock involves a high degree of risk. See the section entitled "Risk Factors" beginning on page 11 to read about factors you should consider before buying shares of our common stock.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds, before expenses, to Cortexyme, Inc.	$	$

(1) See "Underwriting" for additional disclosure regarding underwriting discounts, commissions and estimated offering expenses.

To the extent the underwriters sell more than 4,412,000 shares of common stock, we have granted the underwriters a 30-day option to purchase up to 661,800 additional shares of common stock from us at the initial public offering price less the underwriting discounts and commissions.

Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these persons or entities as they will on any other shares sold to the public in this offering.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to purchasers on or about , 2019.

Joint Book-Running Managers

BofA Merrill Lynch **Credit Suisse**

Co-Managers

Canaccord Genuity **JMP Securities**

The date of this prospectus is , 2019

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Neither we nor the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters 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 securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is accurate only as of its date regardless of the time of delivery of this prospectus or of any sale of our common stock.

For investors outside the United States, neither we nor the underwriters have 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 and any free writing prospectus related to this offering are required to inform themselves about and to observe any restrictions related to the offering of the shares of our common stock and the distribution of this prospectus and any such free writing prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary highlights certain significant aspects of our business and this offering and is a summary of information contained elsewhere in this prospectus. This summary does not contain all the information that you should consider before deciding to invest in our common stock. You should read the entire prospectus carefully, including the sections titled "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business" and our historical financial statements and the related notes thereto included elsewhere in this prospectus, before making an investment decision. Unless the context otherwise requires, all references in this prospectus to "Cortexyme," the "company," "we," "our," "us" or similar terms refer to Cortexyme, Inc.

Overview

We are a clinical stage biopharmaceutical company pioneering a novel disease-modifying therapeutic approach to treat what we believe to be a key underlying cause of Alzheimer's and other degenerative diseases. Our approach is based on the seminal discovery of the presence of *Porphyromonas gingivalis*, or *P. gingivalis*, and its secreted toxic virulence factor proteases, called gingipains, in the brains of greater than 90% of more than 100 Alzheimer's patients observed across multiple studies to date. Additionally, we have observed that *P. gingivalis* infection causes Alzheimer's pathology in animal models, and these effects have been successfully treated with a gingipain inhibitor in preclinical studies. Our proprietary lead drug candidate, COR388, is an orally-administered, brain-penetrating small molecule gingipain inhibitor. COR388 was well-tolerated with no concerning safety signals in our Phase 1a and Phase 1b clinical trials conducted to date, which enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. We initiated a global Phase 2/3 clinical trial of COR388, called the GAIN trial, in mild to moderate Alzheimer's patients in April 2019 and expect top-line results by the end of 2021.

Understanding the Foundation of Our Therapeutic Approach

P. gingivalis is an intracellular bacterial pathogen, and its gingipains are essential for *P. gingivalis* survival and pathogenicity. Our new understanding of the *P. gingivalis* brain infection and associated gingipain production, which we have observed to cause Alzheimer's pathology in animal models, provides a new opportunity for successful upstream treatment of all aspects of Alzheimer's disease pathology. Significant evidence in the last decade has shown that neurodegenerative diseases, including Alzheimer's disease, are linked to a dysfunctional immune system. Furthermore, the pathology of Alzheimer's disease has been shown in studies to be consistent with that of infection, including, for example, the pathological presence of amyloid beta, which recently has been characterized as an antimicrobial peptide produced in response to infection.

In preclinical mouse models, we and others have demonstrated that *P. gingivalis* is capable of accessing the brain and that its presence causes characteristic pathology observed in the brain of Alzheimer's patients, including amyloid beta production, inflammation and neurodegeneration. *P. gingivalis* and gingipains have been observed in the brains of greater than 90% of more than 100 Alzheimer's patients across multiple studies conducted by our team both independently and in collaboration with academic institutions.

COR388 for the Treatment of Alzheimer's Disease

COR388 is the first and only selective inhibitor of gingipain activity being investigated in clinical trials for the treatment of Alzheimer's disease. COR388 is designed to target an upstream driver of multiple Alzheimer's pathological pathways, including amyloid beta production, inflammation and neurodegeneration, in contrast to mechanisms of action targeting downstream effects, such as amyloid plaques and tau tangles, which have been largely unsuccessful in clinical trials to date. Accordingly, we believe COR388 could represent a disease-modifying therapy for the chronic treatment of Alzheimer's disease.

Our Phase 1a and Phase 1b clinical trials enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. In these placebo-controlled trials, COR388 was well-tolerated with no concerning safety signals. In the Alzheimer's patients treated with COR388 for 28 days, we found changes in a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including RANTES, an inflammatory marker, and Apolipoprotein protein E, or ApoE, a target for gingipains. For example, fragments of ApoE in the cerebral spinal fluid, or CSF, were reduced compared to placebo, and blood levels of RANTES were significantly reduced. In addition, data from the Alzheimer's patients treated with COR388 in our Phase 1b clinical trial showed improvements across several exploratory cognitive tests, such as Mean Mini-Mental State Exam, Cambridge Neuropsychological Test Automated Battery composite and Winterlight speech-based cognitive assessment. These improvements in cognitive tests should be interpreted with caution because they were not all statistically significant. We identified bacterial DNA from *P. gingivalis* in the CSF of all nine Alzheimer's patients, and this finding is supported by additional data from larger studies conducted by our team both independently and in collaboration with academic institutions. Moreover, we observed that COR388 successfully penetrated the blood-brain barrier. In addition, in our preclinical studies, we observed that COR388 reduced bacterial load in the brain, reduced amyloid beta levels, protected neurons and reduced markers of neuroinflammation.

We believe that the development of this compound represents a new paradigm for potential disease modification in Alzheimer's disease, based on our published and unpublished data, as well as a large body of third-party research. We plan to enroll approximately 570 mild to moderate Alzheimer's patients in our Phase 2/3 GAIN trial, or GingipAIN inhibitor for treatment of Alzheimer's disease trial, to evaluate safety and efficacy after one year of treatment as measured on key endpoints that have previously supported regulatory approval of drugs for Alzheimer's disease, including the Alzheimer's disease Assessment Scale-Cognitive Subscale 11, or ADAS-Cog11. We maintain rights to COR388 and hold issued U.S. patents providing composition of matter coverage through 2035 and pending U.S. and foreign patent applications, which, if issued, could extend coverage.

Summary of Our Clinical and Preclinical Data

We believe the following clinical and preclinical data generated to date by COR388 support its development as a potential disease-modifying treatment for Alzheimer's disease:

- We tested COR388 in two placebo-controlled Phase 1 clinical trials: (i) a Phase 1a single ascending dose, or SAD, study in 34 healthy volunteers and (ii) a Phase 1b multiple ascending dose, or MAD, study in 24 older healthy volunteers and nine Alzheimer's patients. We observed COR388 to be well-tolerated with no concerning safety signals.

- Our Phase 1 clinical trials also demonstrated that COR388 affected a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including blood levels of RANTES and fragments of ApoE in the CSF. Additionally, although not powered for statistical significance, in our Phase 1b clinical trial, data from the small group of Alzheimer's patients treated with COR388 showed improvements across several exploratory cognitive tests including:

    - a statistically significant improvement in three measures on the Winterlight speech-based cognitive assessment, or WLA, relative to baseline;

    - a numerical improvement in Mean Mini-Mental State Exam, or MMSE, scores relative to both baseline and placebo, which was not statistically significant; and

- an improvement in several measures of cognitive function in the Cambridge Neuropsychological Test Automated Battery, or CANTAB, relative to both baseline and placebo, which was not statistically significant.

- Using a proprietary polymerase chain reaction, or PCR, method, we identified fragmented bacterial DNA unique to *P. gingivalis* bacteria in the CSF of all nine mild to moderate Alzheimer's patients in our Phase 1b clinical trial, as well as all 50 Alzheimer's patients in a separate human observational study. We believe that finding fragments of this specific bacterial DNA in the CSF is consistent with a bacterial brain tissue infection with *P. gingivalis.*

- We and other research organizations have separately demonstrated that oral infection of wild type mice by *P. gingivalis* results in brain infiltration, neuroinflammation, amyloid beta production and plaque formation. This model and pathological reproduction closely resembles non-familial, or sporadic, Alzheimer's disease, which represents over 95% of Alzheimer's disease cases in humans. As a result, we believe our new physiological animal model is representative of Alzheimer's disease in human patients, unlike other animal models to date, which historically have not translated to successful disease modifying treatment in humans.

- In our preclinical studies using wild type mice infected with *P. gingivalis*, we have observed that gingipain inhibitors, including COR388, prevented further neurodegeneration, reduced amyloid beta levels and reduced markers of neuroinflammation.

- In our preclinical chronic toxicology studies, ranging from six to nine months in length, we observed a large potential therapeutic window with no adverse findings or dose-limiting toxicities after chronic administration.

Our Strategy

Our objective is to transform the treatment of Alzheimer's and other degenerative diseases by creating a broad portfolio of innovative therapeutics that target significant unmet medical needs. To achieve this objective, we are pursuing the following strategies:

- Rapidly advance COR388 through clinical development in patients with Alzheimer's disease;

- Develop COR388 for other diseases where both human observational data and preclinical experiments support its therapeutic potential;

- Expand our portfolio by developing additional compounds, including gingipain inhibitors from our proprietary library; and

- Optimize value of COR388 and future drug candidates in major markets.

Our Team

We are led by a management team with deep scientific and drug development experience and a commitment to serving patients with Alzheimer's and other degenerative diseases. Collectively, our management team has a rich set of experiences both in academia and in industry, leading clinical programs for large biopharmaceutical companies and advancing clinical assets in venture-backed and public companies. We were

founded by our Chief Executive Officer, Casey C. Lynch, our Chief Scientific Officer, Stephen S. Dominy, M.D., and our Senior Vice President, Legal and Administration, and Secretary, Kristen Gafric and are joined by Leslie Holsinger, Ph.D., our Executive Vice President of Preclinical Development, Michael Detke, M.D., Ph.D., our Chief Medical Officer and Christopher Lowe, our Chief Financial Officer. Our leadership is complemented by a team of drug development experts, approximately two-thirds of whom hold Ph.D. or M.D. degrees. Together, our management team brings expertise across relevant disciplines, including neuroscience, infectious disease, immunology, oncology, translational science, medicinal chemistry, manufacturing and biomarker development.

Our company is supported by a group of investors that include both biopharmaceutical companies and institutional investors, and we have raised approximately $99.5 million in funding as of December 31, 2018. Our key investors are comprised of strategic investors, including Pfizer Ventures, Takeda Ventures and Verily Life Sciences, as well as Sequoia Capital, Breakout Labs, Breakout Ventures, Dolby Family Ventures, EPIQ Capital Group, the Lamond Family and Vulcan Capital, amongst others.

Risks Associated with our Business

- We are a clinical stage biopharmaceutical company with a limited operating history.
- Even if this offering is successful, we will require substantial additional funding to finance our operations, complete the development and commercialization of COR388 and evaluate future drug candidates. If we are unable to raise this funding when needed, we may be forced to delay, reduce or eliminate our drug development programs or other operations.
- We are substantially dependent on the success of COR388 which will require significant additional clinical testing before we can seek regulatory approval and potentially launch commercial sales, and which may not be successful in clinical trials, receive regulatory approval or be successfully commercialized, even if approved.
- Our approach to the potential treatment of the underlying cause of Alzheimer’s and other neurodegenerative diseases is based on a novel therapeutic approach, which exposes us to unforeseen risks.
- Clinical drug development is a lengthy, expensive and uncertain process. The results of preclinical studies and early clinical trials are not always predictive of future results. Any drug candidate that we advance into clinical trials may not achieve favorable results in later clinical trials, if any, or receive marketing approval.
- We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our drug candidates.
- We have concentrated our research and development efforts on the treatment of degenerative diseases, a field that has seen very limited success in drug development. Further, our drug candidates are based on new approaches and novel technology, which makes it difficult to predict the time and cost of drug candidate development and the regulatory approval process.
- We expect to rely on third parties to conduct our clinical trials and some aspects of our research and preclinical testing, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research, or testing.

- We face significant competition in an environment of rapid technological and scientific change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced or more effective than ours.

- If we are unable to obtain and maintain sufficient intellectual property protection for our drug candidates, or if the scope of the intellectual property protection is not sufficiently broad, our competitors could develop and commercialize drug candidates similar or identical to ours, and our ability to successfully commercialize our drug candidates may be adversely affected.

- We have identified material weakness in our internal control over financial reporting which could, if not remedied, result in material misstatements in our financial statements.

Implications of being an Emerging Growth Company

We qualify as an "emerging growth company," as defined in Section 2(a) of the Securities Act of 1933, as amended, or the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. As such, we are eligible to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to:

- an exemption from complying with the auditor attestation requirements of Section 404 of the Sarbanes Oxley Act of 2002, as amended, or Section 404;

- a requirement to have only two years of audited financial statements and only two years of related selected financial data and management's discussion and analysis of financial condition and results of operations disclosure;

- reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and

- an exemption from the requirement to seek non-binding advisory votes on executive compensation and new executive compensation arrangements entered into in connection with a merger, acquisition, consolidation, proposed sale or disposition of all or substantially all of our assets.

We have not made a decision regarding whether to take advantage of these exemptions. If we do take advantage of any of these exemptions, we do not know if some investors will find our common stock less attractive as a result. The result may be a less active trading market for our common stock and our stock price may be more volatile.

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

We could remain an "emerging growth company" for up to five years, or until the earliest of (a) the last day of the first fiscal year in which our annual gross revenues exceed $1.07 billion, (b) the date that we become a "large accelerated filer" as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, or the Exchange Act, which would occur if the market value of our common stock that is held by non-affiliates exceeds $700 million as of the last business day of our most recently completed second fiscal quarter or (c) the date on which we have issued more than $1.0 billion in non-convertible debt during the preceding three-year period.

Corporate Information

We were incorporated in Delaware on June 20, 2012. Our principal executive offices are located at 269 East Grand Avenue, South San Francisco, CA 94080. Our telephone number at that location is (415) 910-5717. Our corporate website address is www.cortexyme.com. Information contained on, or that may be accessed through, our website is not incorporated by reference into this prospectus and should not be considered a part of this prospectus.

Trademarks

Cortexyme is a registered trademark of Cortexyme, Inc. All other brand names or trademarks appearing in this prospectus are the property of their respective holders. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

The Offering

The following information assumes that the underwriters do not exercise their option to purchase additional shares in the offering. See "Underwriting."

Common stock offered by us	4,412,000 shares
Common stock to be outstanding after the offering	26,013,334 shares
Option to purchase additional shares of common stock	The underwriters have a 30-day option to purchase up to 661,800 additional shares of common stock at the public offering price, less underwriting discounts and commissions.
Use of proceeds	We estimate that the net proceeds to us from this offering will be approximately $67.6 million, assuming an initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering to fund our global Phase 2/3 GAIN clinical trial for COR388, and to support future clinical and preclinical activities, manufacturing and development of our library of compounds, as well as for working capital and general corporate purposes, which may include the costs of operating as a public company. See "Use of Proceeds" for a more complete description.
Directed share program	At our request, the underwriters have reserved up to 5% of the shares offered by this prospectus for sale, at the initial public offering price, to certain persons associated with us. If these persons purchase reserved shares, it will reduce the number of shares available for sale to the general public. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares offered by this prospectus. For further information regarding our directed share program, see "Underwriting."
Listing	We have applied to list our common stock on the Nasdaq Global Select Market under the symbol "CRTX."
Risk factors	Investing in our common stock involves a high degree of risk. You should carefully read and consider the information set forth under "Risk Factors" and all other information in this prospectus before investing in our common stock.

Effective April 25, 2019, we effected a one-for-0.367647 reverse stock split, or the Reverse Stock Split, of our issued and outstanding common stock, redeemable convertible preferred stock, and stock options. We will make a cash payment to stockholders for all fractional shares which would otherwise be required to be issued as a result of the Reverse Stock Split.

Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering.

However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these persons or entities as they will on any other shares sold to the public in this offering.

Except as otherwise indicated, all information in this prospectus is based upon 21,601,334 shares of our common stock outstanding as of December 31, 2018, assuming the conversion of all of our outstanding shares of redeemable convertible preferred stock as of December 31, 2018 into 18,161,027 shares of common stock and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering, and excludes:

- 1,885,504 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock outstanding as of December 31, 2018, with a weighted-average exercise price of $1.57 per share;
- 525,728 shares of our common stock issuable upon exercise of options to purchase shares of our common stock granted after December 31, 2018, with a weighted-average exercise price of $7.99 per share;
- 2,682,942 shares of common stock reserved for future grant or issuance under our 2019 Equity Incentive Plan, or 2019 Plan, which share reserve will automatically increase each year, as more fully described in “Executive Compensation—Equity Incentive Plans;” and
- 268,295 shares of common stock reserved for issuance under our 2019 Employee Stock Purchase Plan, or 2019 ESPP, which share reserve will automatically increase each year, as more fully described in “Executive Compensation—Equity Incentive Plans.”

Except as otherwise indicated, all information in this prospectus reflects and assumes:

- a one-for-0.367647 reverse stock split of our capital stock on April 25, 2019 pursuant to which (i) every share of outstanding capital stock was converted and reconstituted into 0.367647 of a share of capital stock; (ii) the number of shares of common stock for which each outstanding option to purchase common stock is exercisable was proportionally decreased on a 0.367647-for-one basis; and (iii) the exercise price of each outstanding option to purchase common stock was proportionately increased on a one-for-0.367647 basis;
- the conversion upon the closing of this offering of all of our outstanding shares of redeemable convertible preferred stock into an aggregate of 18,161,027 shares of common stock;
- the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering;
- the filing and effectiveness of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws upon the closing of this offering;
- no purchase by certain of our existing investors, including those affiliated with certain of our directors, who have indicated an interest in purchasing up to approximately $35 million in shares of our common stock in this offering; and
- no exercise by the underwriters of their option to purchase additional shares of common stock from us in this offering.

Summary Financial Data

The following tables summarize our financial data for the periods and as of the dates indicated. We derived the summary statements of operations data for the years ended December 31, 2017 and 2018, and the summary balance sheet data as of December 31, 2018, from our audited financial statements and related notes thereto included elsewhere in this prospectus. Our historical results are not necessarily indicative of our future performance. The summary financial data included in this section are not intended to replace our financial statements and related notes thereto included elsewhere in this prospectus. You should read the following summary financial data together with our financial statements and related notes thereto included elsewhere in this prospectus and the sections titled "Selected Historical Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

(in thousands, except share and per share data)	Year Ended December 31, 2017	2018
Summary Statement of Operations Data:		
Operating expenses:		
Research and development	$ 9,099	$ 10,085
General and administrative	1,271	2,034
Net loss	(12,235)	(12,476)
Net loss per share	$ (3.70)	$ (3.71)
Pro forma net loss per share (unaudited)		(0.58)
Weighted average shares used in pro forma per share calculation (unaudited)(1)		21,551,160

(in thousands)	As of December 31, 2018 Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(unaudited)	
Summary Balance Sheet Data:			
Cash, cash equivalents and short-term investments	$ 71,716	$ 71,717	$ 139,357
Working capital(4)	71,127	71,128	138,768
Total assets	72,877	72,878	140,518
Long-term obligations less current portion	—	—	
Redeemable convertible preferred stock	104,046	—	
Additional paid-in capital	245	104,273	171,872
Total stockholders' equity (deficit)	(32,626)	71,421	139,061

(1) Reflects (i) the conversion of all of our outstanding shares of redeemable convertible preferred stock into an aggregate of 18,161,027 shares of our common stock, (ii) the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock upon the closing of this offering, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, in each case, immediately upon the closing of this offering. All common stock per share amounts have been adjusted retrospectively to reflect a one-for-0.367647 reverse stock split on April 25, 2019.

(2) Reflects the pro forma adjustments described in footnote (1) above and the sale and issuance of 4,412,000 shares of common stock by us in this offering, based upon the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro forma as adjusted amount of each of cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' equity by approximately $4.1 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 underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, an increase (decrease) of 1.0 million shares in the number of shares of common stock offered would increase (decrease) each of cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' equity by approximately $15.8 million, assuming the initial public offering price remains the

same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma information discussed above is illustrative only and will be adjusted based on the actual initial public offering price, the number of shares we sell and other terms of this offering that will be determined at pricing.

(4) We define working capital as current assets less current liabilities.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including our historical financial statements and related notes, before deciding whether to purchase shares of our common stock. If any of the following risks is realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the price of our common stock could decline, and you could lose part or all of your investment.

Risks Relating Our Financial Position

We are a clinical stage biopharmaceutical company with a limited operating history.

We are a clinical stage biopharmaceutical company with a limited operating history focused on developing therapeutics for degenerative diseases, including Alzheimer's disease. We were incorporated in June 2012 and commenced material operations in June 2014. We have a very limited operating history, which may make it difficult to evaluate the success of our business to date and assess our future viability. Drug development is a highly uncertain undertaking and involves a substantial degree of risk. We have recently initiated clinical trials for our lead drug candidate, COR388, and have not initiated clinical trials for any of our other drug candidates. To date, we have not initiated or completed a pivotal clinical trial, obtained marketing approval for any drug candidate, manufactured a commercial scale drug candidate, arranged for a third party to do so on our behalf, or conducted sales and marketing activities necessary for successful drug candidate commercialization. Our short operating history as a company makes any assessment of our future success and viability subject to significant uncertainty. We will encounter risks and difficulties frequently experienced by early-stage biopharmaceutical companies in rapidly evolving fields, and we have not yet demonstrated an ability to overcome such risks and difficulties successfully. If we do not address these risks and difficulties successfully, our business will suffer.

We have no drug candidates approved for commercial sale, we have never generated any revenue from sales and we may never be profitable.

We have no drug candidates approved for sale, have never generated any revenue from sales, have never been profitable and do not expect to be profitable in the foreseeable future. We have incurred net losses in each year since our inception. For the years ended December 31, 2017 and 2018, our net losses were $12.2 million and $12.5 million, respectively. We had an accumulated deficit of $32.8 million as of December 31, 2018.

To date, we have devoted most of our financial resources to our corporate overhead and research and development of COR388, including our preclinical development activities and clinical trials of COR388. We expect that it will be several years, if ever, before we have a drug candidate ready for commercialization. We expect to continue to incur losses for the foreseeable future, and we expect these losses to increase as we continue our development of, and seek regulatory approvals for our drug candidates, prepare for and begin the commercialization of any approved drug candidates, and add infrastructure and personnel to support our drug development efforts and operations as a public company. We anticipate that any such losses could be significant for the next several years. These net losses and negative cash flows have had, and will continue to have, an adverse effect on our stockholders' equity and working capital. Further, these net losses have fluctuated significantly in the past and are expected to continue to significantly fluctuate from quarter-to-quarter or year-to-year. To become and remain profitable, we must develop and eventually commercialize a drug with significant revenue.

We may never succeed in developing a commercial drug and, even if we succeed in commercializing one or more drug candidates, we may never generate revenues that are significant or large enough to achieve profitability. In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other

known and unknown challenges. Because of these numerous risks and uncertainties, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to generate revenues or achieve profitability. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis and we will continue to incur substantial research and development and other expenditures to develop and market additional drug candidates.

Even if this offering is successful, we will require substantial additional funding to finance our operations, complete the development and commercialization of COR388 and evaluate future drug candidates. If we are unable to raise this funding when needed, we may be forced to delay, reduce or eliminate our drug development programs or other operations.

Since our inception, we have used substantial amounts of cash to fund our operations, and we expect our expenses to increase substantially in the foreseeable future in connection with our ongoing activities, particularly as we continue the research and development of, initiate clinical trials of, and seek marketing approval for, COR388. Developing COR388 and conducting clinical trials for the treatment of Alzheimer's disease and any other indications that we may pursue in the future will require substantial amounts of capital. In addition, if we obtain marketing approval for COR388 or any future drug candidates, we expect to incur significant commercialization expenses related to sales, marketing, manufacturing and distribution. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company.

Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. As of December 31, 2018, we had $71.7 million in cash, cash equivalents and short-term investments. As of March 31, 2019, we had cash, cash equivalents and short-term investments of $59.0 million, which excludes long-term investments of $5.7 million. We believe that our existing capital resources, together with the net proceeds from this offering, will be sufficient to fund our projected operations through 2021. However, changing circumstances may cause us to increase our spending significantly faster than we currently anticipate, and we may need to spend more money than currently expected because of circumstances beyond our control. We may need to raise additional funds sooner than we anticipate if we choose to expand more rapidly than we presently anticipate.

The amount and timing of our future funding requirements will depend on many factors, some of which are outside of our control, including but not limited to:

- the progress, costs, trial design, results of and timing of our Phase 2/3 GAIN trial and other clinical trials of COR388, including for potential additional indications that we may pursue beyond Alzheimer's disease;
- the willingness of the U.S. Food and Drug Administration, or FDA, and European Medicines Agency, or EMA, to accept our GAIN trial, as well as data from our completed and planned clinical and preclinical studies and other work, as the basis for review and approval of COR388 for Alzheimer's disease;
- the outcome, costs and timing of seeking and obtaining FDA, EMA and any other regulatory approvals;
- the number and characteristics of drug candidates that we pursue;
- our ability to manufacture sufficient quantities of our drug candidates;
- our need to expand our research and development activities;
- the costs associated with securing and establishing commercialization and manufacturing capabilities;
- the costs of acquiring, licensing or investing in businesses, drug candidates and technologies;

- our ability to maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;

- our need and ability to retain management and hire scientific and clinical personnel;

- the effect of competing drugs and drug candidates and other market developments;

- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and

- the economic and other terms, timing of and success of any collaboration, licensing or other arrangements into which we may enter in the future.

Additional funding may not be available to us on acceptable terms or at all. Any such funding may result in dilution to stockholders, imposition of debt covenants and repayment obligations, or other restrictions that may affect our business. If we are unable to obtain funding on a timely basis, we may be required to significantly curtail one or more of our research or development programs. We also could be required to seek funds through arrangements with collaborative partners or otherwise that may require us to relinquish rights to some of our technologies or drug candidates or otherwise agree to terms unfavorable to us.

Risks Related to Our Business and the Development of Our Drug Candidates

We are substantially dependent on the success of COR388, which will require significant additional clinical testing before we can seek regulatory approval and potentially launch commercial sales, and which may not be successful in clinical trials, receive regulatory approval or be successfully commercialized, even if approved.

To date, we have invested substantially all of our efforts and financial resources in the research and development of COR388, which is currently our only drug candidate. Before seeking marketing approval from regulatory authorities for the sale of COR388, we must conduct extensive clinical trials to demonstrate the safety and efficacy of the drug in humans. We are not permitted to market or promote any of our drug candidates before we receive regulatory approval from the FDA, or comparable foreign regulatory authorities, and we may never receive such regulatory approval. We cannot be certain that COR388 will be successful in clinical trials. Further, COR388 may not receive regulatory approval even if it is successful in clinical trials. If we do not receive regulatory approvals for COR388, we may not be able to continue our operations. Our prospects, including our ability to finance our operations and generate revenue, will depend entirely on the successful development, regulatory approval and commercialization of COR388. The clinical and commercial success of COR388 will depend on a number of factors, including the following:

- the results from our Phase 2/3 GAIN trial, as well as other clinical trials of COR388;

- the frequency and severity of adverse effects of COR388;

- the ability of third-party manufacturers to manufacture supplies of COR388 and to develop, validate and maintain a commercial-scale manufacturing process that is compliant with current good manufacturing practices, or cGMP;

- our ability to demonstrate COR388’s safety and efficacy to the satisfaction of the FDA and foreign regulatory authorities;

- whether we are required by the FDA to conduct additional clinical trials prior to the approval to market COR388 and whether the FDA may disagree with the number, design, size, conduct or implementation of our clinical trials;
- the receipt of necessary marketing approvals from the FDA and foreign regulatory authorities;
- whether the FDA may require implementation of a Risk Evaluation and Mitigation Strategy, or REMS, as a condition of approval or post-approval;
- our ability to successfully commercialize COR388, if approved for marketing and sale by the FDA or foreign regulatory authorities, whether alone or in collaboration with others;
- our success in educating physicians and patients about the benefits, administration and use of COR388;
- acceptance of COR388 as safe and effective by patients and the medical community;
- the availability, perceived advantages, relative cost, relative safety and relative efficacy of alternative and competing treatments;
- achieving and maintaining compliance with all regulatory requirements applicable to COR388;
- the effectiveness of our own or any future collaborators' marketing, pricing, coverage and reimbursement, sales and distribution strategies and operations;
- our ability to maintain our existing patents and obtain newly issued patents that cover COR388 and to enforce such patents and other intellectual property rights in and to COR388;
- our ability to avoid third-party intellectual property claims; and
- a continued acceptable safety profile of COR388 following approval.

Many of these factors are beyond our control. Accordingly, we cannot assure you that we will ever be able to generate revenue through the sale of COR388. If we are not successful in commercializing COR388, or are significantly delayed in doing so, our business will be materially harmed.

Our approach to the potential treatment of the underlying cause of Alzheimer's and other neurodegenerative diseases is based on a novel therapeutic approach, which exposes us to unforeseen risks.

We have discovered and are developing a proprietary library of protease inhibitors from which we have selected our lead drug candidate, COR388, which is under development to treat Alzheimer's disease and other degenerative diseases. Our approach is based on the discovery of *P. gingivalis* and its secreted virulence factor proteases, gingipains, and represents a new approach to disease modification in Alzheimer's disease. There is no current academic or general consensus on the causation of Alzheimer's disease or method of action or current drugs that purport to treat Alzheimer's disease. Based on the results of our preclinical and clinical studies to date, we believe COR388 is neuroprotective and with potential to prevent further neurodegeneration, reduce amyloid beta levels and reduce inflammation, when administered orally. However, these ideas and this approach are novel, and we currently have only limited data based on physiological mouse models of Alzheimer's disease and our Phase 1 a/b clinical trials which enrolled 67 subjects, including nine patients with mild to moderate Alzheimer's disease. Our physiological animal model may not result in disease modifying treatment in humans. We are not aware of any other brain-penetrating gingipain protease inhibitors being tested in humans. We may ultimately discover that COR388, or any of our other protease inhibitors, do not possess certain properties required for therapeutic effectiveness. We have no long-term evidence regarding the efficacy, safety and tolerability of COR388 or other compounds in our proprietary library of protease inhibitors in humans. We may spend substantial funds attempting to develop these drug candidates and never succeed in doing so.

Clinical drug development is a lengthy, expensive and uncertain process. The results of preclinical studies and early clinical trials are not always predictive of future results. Any drug candidate that we advance into clinical trials may not achieve favorable results in later clinical trials, if any, or receive marketing approval.

The research and development of drugs is extremely risky. Only a small percentage of drug candidates that enter the development process ever receive marketing approval. Before obtaining marketing approval from regulatory authorities for the sale of any drug candidate, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of our drug candidates in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain.

The results of preclinical studies and completed clinical trials are not necessarily predictive of future results, and our current drug candidate may not be further developed or have favorable results in later studies or trials. Clinical trial failure may result from a multitude of factors including, but not limited to, flaws in study design, dose selection, placebo effect, patient enrollment criteria and failure to demonstrate favorable safety or efficacy traits. As such, failure in clinical trials can occur at any stage of testing. A number of companies in the pharmaceutical industry have suffered setbacks in the advancement of their drug candidates into later-stage clinical trials due to lack of efficacy or adverse safety profiles, notwithstanding results in earlier preclinical studies or clinical trials. The Phase 1a and Phase 1b clinical trials for our lead drug candidate, COR388, included only nine Alzheimer's patients and 58 healthy volunteers as of February 14, 2019. Further, the results of our earlier stage clinical trials and our preclinical animal studies may not be predictive of the results of outcomes in later-stage clinical studies. For example, data from six Alzheimer's patients treated with COR388 in our Phase 1b clinical trial showed improvements across several exploratory cognitive tests. However, these improvements should be interpreted with caution because they were not all statistically significant. When evaluated in a larger patient population, COR388 may not show similar improvements toward cognitive effects or may demonstrate different chemical and pharmacological properties in patients in unforeseen or harmful ways. Based upon negative or inconclusive results, we may decide, or regulatory authorities may require us, to conduct additional clinical trials or preclinical studies. In addition, data obtained from preclinical trials and clinical trials are susceptible to varying interpretations, and regulatory authorities may not interpret our data as favorably as we do, which may further delay, limit or prevent development efforts, clinical trials or marketing approval. Furthermore, as more competing drug candidates within a particular class of drugs proceed through clinical development to regulatory review and approval, the amount and type of clinical data that may be required by regulatory authorities may increase or change.

If we are unable to complete preclinical studies or clinical trials of current or future drug candidates, due to safety concerns, or if the results of these trials are not sufficient to convince regulatory authorities of their safety or efficacy, we will not be able to obtain marketing approval for commercialization on a timely basis or at all. Even if we are able to obtain marketing approval for our current and any future drug candidates, those approvals may be for indications or dose levels that deviate from our desired approach or may contain other limitations that would adversely affect our ability to generate revenue from sales of those drug candidates. Moreover, if we are not able to differentiate our drug candidate against other approved drug candidates within the same class of drugs, or if any of the other circumstances described above occur, our business would be harmed and our ability to generate revenue from that class of drugs would be severely impaired.

Adverse side effects or properties or other safety risks associated with COR388 or any future drug candidates could delay or preclude approval, cause us to suspend or discontinue clinical trials, abandon further development, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

As is the case with pharmaceuticals generally, it is possible that there may be side effects and adverse events associated with the use of COR388 or any future drug candidates. COR388 was well-tolerated with no concerning safety signals in our Phase 1a and Phase 1b clinical trials. While some subjects experienced minor changes in electrocardiograms, or ECGs, in particular transient increases in the QRS duration and PR interval,

these changes were not clinically significant, which means they did not result in the need to consider changes to the treatment of the patient. Similar measurements were seen at higher doses in animal studies. There were no discernable trends in the QTcF interval in human or animal studies. Relative to placebo, there were no patterns in laboratory abnormalities or changes in ECGs, vital signs or the results of physical examinations observed during these trials that would be deemed practically relevant to the treatment of the patient with COR388.

In addition, results of our Phase 2/3 GAIN trial, and future clinical trials, could reveal a high and unacceptable severity and prevalence of side effects or unexpected characteristics as the clinical trials progress to longer exposures and a larger number of patients. Undesirable side effects caused by, or unexpected or unacceptable characteristics associated with, COR388 or any future drug candidates could result in the delay, suspension or termination of clinical trials by us, the FDA or other regulatory authorities for a number of reasons. We may also elect to limit their development to more narrow uses or subpopulations in which the undesirable side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective, which may limit the commercial expectations for such drug candidate if approved. If we elect or are required to further delay, suspend or terminate any clinical trial of any drug candidates that we develop, the commercial prospects of such drug candidates will be harmed and our ability to generate drug revenues from any such drug candidates will be delayed or eliminated.

It is possible that, as we test COR388 in our Phase 2/3 GAIN trial or other trials, or as the use of COR388 becomes more widespread if it receives regulatory approval, we may identify additional adverse events that were not identified or not considered significant in our earlier trials. If such side effects become later known in development or upon approval, if any, such findings may harm our business, financial condition, results of operations and prospects significantly. If we or others later identify undesirable side effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw, suspend or limit approval of COR388 or any future drug candidates;
- we may be required to recall a drug or change the way such drug is administered to patients;
- regulatory authorities may require additional warnings or statements in the labeling, such as a boxed warning or a contraindication or issue safety alerts, press releases or other communications containing warnings or other safety information about the drug candidate, for example, field alerts to physicians and pharmacies;
- regulatory authorities may require a medication guide outlining the risks of such side effects for distribution to patients, or that we implement a risk evaluation and mitigation strategy, or REMS, to ensure that the benefits of the drug outweigh its risks; we may be required to change the way a drug is distributed or administered, conduct additional clinical trials or change the labeling of a drug, or be required to conduct additional post-marketing studies or surveillance;
- we could be sued and held liable for harm caused to patients;
- sales of the drug may decrease significantly or COR388 or any future drug could become less competitive; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of COR388 or any future drug candidates, if approved, and could significantly harm our business, financial condition, results of operations and prospects.

Success in preclinical studies or earlier clinical trials may not be indicative of results in future clinical trials.

Success in preclinical testing and early clinical trials does not ensure that later clinical trials will generate the same results or otherwise provide adequate data to demonstrate the efficacy and safety of a drug candidate. Preclinical tests and Phase 1 and Phase 2 clinical trials are primarily designed to test safety, to study pharmacokinetics and pharmacodynamics and to understand the side effects of drug candidates at various doses and schedules. Success in preclinical or animal studies and early clinical trials does not ensure that later large-scale efficacy trials will be successful nor does it predict final results. Our drug candidates may fail to show the desired safety and efficacy in clinical development despite positive results in preclinical studies or having successfully advanced through initial clinical trials. Further, our lead drug candidate, COR388, has been tested in only nine Alzheimer's patients and 58 healthy volunteers as of February 14, 2019.

Many companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in preclinical testing and earlier-stage clinical trials. Data obtained from preclinical and clinical activities are subject to varying interpretations, which may delay, limit or prevent regulatory approval. In addition, we may experience regulatory delays or rejections as a result of many factors, including changes in regulatory policy during the period of our drug candidate development. Any such delays could negatively impact our business, financial condition, results of operations and prospects.

Partial clinical hold imposed by the FDA will prevent us from administering COR388 at much higher doses than currently utilized.

Preclinical data for COR388 showed toxicity at very high exposure levels in mice and, as a result, the FDA placed COR388 on partial clinical hold to enforce an exposure cap on COR388 dosages in humans at approximately 2.4 times the currently planned top dose in our Phase 2/3 GAIN trial. Although the FDA has permitted the continuation of clinical trials at the planned doses of COR388, if we determine that we need to increase the dosage of COR388 in humans, the partial hold may have a negative impact on our ability to carry out such clinical studies, which could delay or prevent the commercialization of COR388 and may harm our business and financial condition.

We may not be successful in our efforts to continue to create a pipeline of drug candidates or to develop commercially successful drugs. If we fail to successfully identify and develop additional drug candidates, our commercial opportunity may be limited.

One of our strategies is to identify and pursue clinical development of additional drug candidates. We currently have four programs in the early phase of development, all of which are in the research, discovery and preclinical stages of development. Identifying, developing, obtaining regulatory approval and commercializing additional drug candidates will require substantial additional funding and is prone to the risks of failure inherent in drug development. We cannot provide you any assurance that we will be able to successfully identify or acquire additional drug candidates, advance any of these additional drug candidates through the development process, successfully commercialize any such additional drug candidates, if approved, or assemble sufficient resources to identify, acquire, develop or, if approved, commercialize additional drug candidates. If we are unable to successfully identify, acquire, develop and commercialize additional drug candidates, our commercial opportunity may be limited.

We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our drug candidates.

We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our drug candidates, including:

- regulatory authorities, institutional review boards or ethics committees, or IRBs or ECs, may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site or we may fail to reach a consensus with regulatory authorities on trial design;

- regulatory authorities in jurisdictions in which we seek to conduct clinical trials may differ from each other on our trial design, and it may be difficult or impossible to satisfy all such authorities with one approach;
- we may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different contract research organizations, or CROs, and trial sites;
- clinical trials of our drug candidates may produce negative or inconclusive results, and we may decide, or regulatory authorities may require us, to conduct additional clinical trials or abandon drug development programs;
- the number of patients required for clinical trials of our drug candidates may be larger than we anticipate;
- enrollment in our clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- changes to clinical trial protocols;
- our third-party contractors, including clinical investigators, contract manufacturers and vendors may fail to comply with applicable regulatory requirements, lose their licenses or permits, or otherwise fail, or lose the ability to, meet their contractual obligations to us in a timely manner, or at all;
- we might have to suspend or terminate clinical trials of our drug candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks;
- regulatory authorities or IRBs may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our drug candidates may be greater than we anticipate, and we may lack adequate funding to continue one or more clinical trials;
- the supply or quality of our drug candidates or other materials necessary to conduct clinical trials of our drug candidates may be insufficient or inadequate;
- our drug candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulatory authorities or institutional review boards to suspend or terminate the trials; and
- occurrence of serious adverse events in trials of the same class of agents conducted by other companies.

Clinical trials are expensive and time consuming, additional or unsuccessful clinical trials could cause our clinical development activities to be delayed or otherwise adversely affected.

If we are required to conduct additional clinical trials or other testing of our drug candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our drug candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval for our drug candidates;

- not obtain marketing approval at all;
- obtain approval for indications, dosages or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the medicine removed from the market after obtaining marketing approval.

Drug development costs will also increase if we experience delays in testing or in obtaining marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be amended or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our drug candidates, could allow our competitors to bring drug candidates to market before we do, and could impair our ability to successfully commercialize our drug candidates, if approved, any of which may harm our business and results of operations. In addition, many of the factors that cause, or lead to a delay in the commencement or completion of, clinical trials may also ultimately lead to termination or suspension of a clinical trial. Any of these occurrences may harm our business, financial condition and prospects significantly. Any termination of any clinical trial of our drug candidates will harm our commercial prospects and our ability to generate revenues.

Risks Relating to Regulatory Review and Approval of Our Drug Candidates and Other Legal Compliance Matters

We cannot be certain that COR388 or any of our future drug candidates will receive regulatory approval, and without regulatory approval we will not be able to market our drug candidates.

We currently have no drug candidates approved for sale and we cannot guarantee that we will ever have marketable drug candidates. We are initially developing COR388 for the treatment of patients with Alzheimer's disease and are also consulting with investigators to consider other possible indications. Our ability to generate revenue related to sales, if ever, will depend on the successful development and regulatory approval of COR388 for the treatment of Alzheimer's disease and other indications.

The development of a drug candidate and issues relating to its approval and marketing are subject to extensive regulation by the FDA in the United States, the EMA in Europe and regulatory authorities in other countries, with regulations differing from country to country. We are not permitted to market our drug candidates in the United States or Europe until we receive approval of a new drug application, or NDA, from the FDA or a marketing authorization application, or MAA, from the EMA, respectively. We have not submitted any marketing applications for any of our drug candidates.

NDAs and MAAs must include extensive preclinical and clinical data and supporting information to establish the drug candidate's safety and effectiveness for each desired indication. NDAs and MAAs must also include significant information regarding the chemistry, manufacturing and controls for the drug. Obtaining approval of a NDA or a MAA is a lengthy, expensive and uncertain process, and we may not be successful in obtaining approval. The FDA and the EMA review processes can take years to complete and approval is never guaranteed. If we submit a NDA to the FDA, the FDA must decide whether to accept or reject the submission for filing. We cannot be certain that any submissions will be accepted for filing and review by the FDA. Regulators of other jurisdictions, such as the EMA, have their own procedures for approval of drug candidates. Even if a drug is approved, the FDA or the EMA, as the case may be, may limit the indications for which the drug may be marketed, require extensive warnings on the drug labeling or require expensive and time-consuming clinical

trials or reporting as conditions of approval. Regulatory authorities in countries outside of the United States and Europe also have requirements for approval of drug candidates with which we must comply prior to marketing in those countries. Obtaining regulatory approval for marketing of a drug candidate in one country does not ensure that we will be able to obtain regulatory approval in any other country. In addition, delays in approvals or rejections of marketing applications in the United States, Europe or other countries may be based upon many factors, including regulatory requests for additional analyses, reports, data, preclinical studies and clinical trials, regulatory questions regarding different interpretations of data and results, changes in regulatory policy during the period of drug development and the emergence of new information regarding our drug candidates or other drug candidates. Also, regulatory approval for any of our drug candidates may be withdrawn.

We initiated our Phase 2/3 GAIN trial in patients with Alzheimer's disease in April 2019. Before we submit a NDA to the FDA or a MAA to the EMA for COR388 for the treatment of patients with Alzheimer's disease, we must successfully complete at least our Phase 2/3 GAIN trial and potentially additional late-stage clinical trials. The FDA generally requires two pivotal clinical trials to support approval. In addition, we must scale up manufacturing and complete other standard preclinical and clinical studies. We cannot predict whether our future trials will be successful or whether regulators will agree with our conclusions regarding the preclinical studies and clinical trials we have conducted to date and will conduct in the future.

We have concentrated our research and development efforts on the treatment of degenerative diseases, a field that has seen very limited success in drug development. Further, our drug candidates are based on new approaches and novel technology, which makes it difficult to predict the time and cost of drug candidate development and the regulatory approval process.

We have focused our research and development efforts on addressing degenerative diseases. Collectively, efforts by pharmaceutical companies in the field of degenerative diseases have seen very limited successes in drug development. There are few effective therapeutic options available for patients with Alzheimer's disease and other degenerative diseases. Our future success is highly dependent on the successful development of our technology and our drug candidates for treating degenerative diseases. Developing and, if approved, commercializing our drug candidates for treatment of degenerative diseases subjects us to a number of challenges, including ensuring that we have selected the optimal dose of the therapeutic to block gingipains in the brain, executing an appropriate trial to test for efficacy and obtaining regulatory approval from the FDA and other regulatory authorities.

Our approach to the treatment of degenerative diseases aims to understand the cause of disease pathogensis, select the right patient population, discover and develop potent and selective small molecules that act directly in the brain or other organs on these targets, and leverage both preclinical and human pharmacodynamic data for dose selection. This strategy may not prove to be successful. We cannot be sure that our approach will yield satisfactory therapeutic drug candidates that are safe and effective, scalable, or profitable. Moreover, public perception of drug safety issues, including adoption of new therapeutics or novel approaches to treatment, may adversely influence the willingness of subjects to participate in clinical trials, or if approved, of physicians to prescribe novel treatments.

Clinical failure can occur at any stage of clinical development and we have never conducted a Phase 3 trial or submitted an NDA or MAA before.

We have initiated our Phase 2/3 GAIN trial for Alzheimer's disease. The conduct of our Phase 2/3 GAIN trials and the submission of a successful NDA is a complicated process. As an organization, we have never conducted a registrational clinical trial and have limited experience in preparing, submitting and prosecuting regulatory filings, and have not submitted a NDA. Failure to commence or complete, or delays in, our planned clinical trials would prevent us from or delay us in seeking approval for, and if approved, commercializing our drug candidates, and failure to successfully complete any of these activities in a timely manner for any of our drug candidates could have a material adverse impact on our business and financial

performance. The commencement, enrollment and completion of clinical trials can be delayed or suspended for a variety of reasons, including:

- inability to obtain sufficient funds required for a clinical trial;
- inability to reach agreements on acceptable terms with prospective CROs and trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- clinical holds, other regulatory objections to commencing or continuing a clinical trial or the inability to obtain regulatory approval to commence a clinical trial in countries that require such approvals;
- discussions with the FDA or non-U.S. regulators regarding the scope or design of our clinical trials;
- inability to identify and maintain a sufficient number of trial sites, many of which may already be engaged in other clinical trial programs, including some that may be for the same indications targeted by our drug candidates;
- inability to obtain approval from IRBs to conduct a clinical trial at their respective sites;
- severe or unexpected drug-related adverse effects experienced by patients;
- inability to timely manufacture sufficient quantities of the drug candidate required for a clinical trial;
- difficulty recruiting and enrolling patients to participate in clinical trials for a variety of reasons, including meeting the enrollment criteria for our study and competition from other clinical trial programs for the same indications as our drug candidates; and
- inability to retain enrolled patients after a clinical trial is underway.

In addition, the design of a clinical trial can determine whether its results will support approval of a drug and flaws in the design of a clinical trial may not become apparent until the clinical trial is well-advanced. Changes in regulatory requirements and guidance may also occur and we may need to amend clinical trial protocols to reflect these changes with appropriate regulatory authorities. Amendments may require us to resubmit clinical trial protocols to IRBs for re-examination, which may impact the costs, timing or successful completion of a clinical trial.

In addition, if we are required to conduct additional clinical trials or other preclinical studies of our drug candidates beyond those contemplated, our ability to obtain regulatory approval of these drug candidates and generate revenue from their sales would be similarly harmed.

If clinical trials of our drug candidates fail to demonstrate safety and efficacy to the satisfaction of the FDA or similar regulatory authorities outside the United States or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of our drug candidates.

Before obtaining regulatory approvals for the commercial sale of any of our drug candidates, we must demonstrate through lengthy, complex and expensive preclinical studies and clinical trials that our drug candidates are both safe and effective for use in each target indication. Each drug candidate must demonstrate an adequate risk versus benefit profile in its intended patient population and for its intended use.

Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical studies of our drug candidates may not be predictive of the results of early-stage or later-stage clinical trials, and results of early clinical trials of our drug candidates may not be predictive of the results of later-stage clinical trials. The results of clinical trials in one set of patients or disease indications may not be predictive of those obtained in another. In some instances, there can be significant variability in safety or efficacy results between different clinical trials of the same drug candidate due to numerous factors, including changes in trial procedures set forth in protocols, differences in the size and type of the patient populations, changes in and adherence to the dosing regimen and other clinical trial protocols and the rate of dropout among clinical trial participants. Drug candidates in later stages of clinical trials may fail to show the desired safety and efficacy profile despite having progressed through preclinical studies and initial clinical trials. A number of companies in the pharmaceutical industry have suffered significant setbacks in advanced clinical trials due to lack of efficacy or unacceptable safety issues, notwithstanding promising results in earlier trials. This is particularly true in degenerative diseases, where failure rates historically have been higher than in many other disease areas. Most drug candidates that begin clinical trials are never approved by regulatory authorities for commercialization.

In addition, even if such clinical trials are successfully completed, we cannot guarantee that the FDA or foreign regulatory authorities will interpret the results as we do, and more trials could be required before we submit our drug candidates for approval. Moreover, principal investigators for our clinical trials may serve as scientific advisors or consultants to us from time to time and receive compensation in connection with such services. Under certain circumstances, we may be required to report some of these relationships to the FDA or other regulatory authorities. The FDA or other regulatory authorities may conclude that a financial relationship between us and a principal investigator has created a conflict of interest or otherwise affected the integrity of the study. The FDA or other regulatory authorities may therefore question the integrity of the data generated at the applicable clinical trial site and the utility of the clinical trial itself may be jeopardized. This could result in a delay in approval, or rejection, of our marketing applications by the FDA or other regulatory authorities, as the case may be, and may ultimately lead to the denial of marketing approval of any of our drug candidates. To the extent that the results of the trials are not satisfactory to the FDA or foreign regulatory authorities for support of a marketing application, we may be required to expend significant resources, which may not be available to us, to conduct additional trials in support of potential approval of our drug candidates. Even if regulatory approval is secured for any of our drug candidates, the terms of such approval may limit the scope and use of our drug candidate, which may also limit its commercial potential.

We expect to rely on third parties to conduct our clinical trials and some aspects of our research and preclinical testing, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, research, or testing.

We currently rely and expect to continue to rely on third parties, such as CROs, clinical data management organizations, medical institutions, and clinical investigators, to conduct some aspects of our research and preclinical testing and our clinical trials. Any of these third parties may terminate their engagements with us or be unable to fulfill their contractual obligations. If we need to enter into alternative arrangements, it would delay our drug development activities.

Our reliance on these third parties for research and development activities reduces our control over these activities but does not relieve us of our responsibilities. For example, we remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with current good clinical practice regulations, or GCP, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible, reproducible and accurate and that the rights, integrity, and confidentiality of trial participants are protected. We also are required to register ongoing clinical trials and post the results of completed clinical trials on a government-sponsored database within certain timeframes. Failure to do so can result in fines, adverse publicity, and civil and criminal sanctions.

If these third parties do not successfully carry out their contractual duties, meet expected deadlines, or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for any drug candidates we may develop and will not be able to, or may be delayed in our efforts to, successfully commercialize our medicines.

We also expect to rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of any drug candidates we may develop or commercialization of our medicines, producing additional losses and depriving us of potential drug revenue.

We face significant competition in an environment of rapid technological and scientific change, and there is a possibility that our competitors may achieve regulatory approval before us or develop therapies that are safer, more advanced or more effective than ours.

The development and commercialization of new drugs is highly competitive. Moreover, the degenerative disease field is characterized by strong competition and a strong emphasis on intellectual property. We may face competition with respect to any drug candidates that we seek to develop or commercialize in the future from major pharmaceutical companies, specialty pharmaceutical companies, and biotechnology companies worldwide. Potential competitors also include academic institutions, government agencies, and other public and private research organizations that conduct research, seek patent protection, and establish collaborative arrangements for research, development, manufacturing, and commercialization.

There are a number of large pharmaceutical and biotechnology companies that are currently pursuing the development of drug candidates for the treatment of the degenerative disease indications for which we have research programs, including Alzheimer’s disease. Companies that we are aware are developing therapeutics in the degenerative disease field include large companies with significant financial resources, such as AbbVie Inc., Biogen Inc., Celgene Corporation, Eli Lilly and Company, Eisai Co., Ltd., Merck & Company, Inc., Novartis AG, and Roche Holding AG Group (including Genentech, its wholly owned subsidiary), as well as companies pursuing a dysfunctional immune system approach to Alzheimer’s disease or other types of therapies.

Many of our current or potential competitors, either alone or with their strategic partners, have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals, and marketing approved drug candidates than we do. Mergers and acquisitions in the pharmaceutical and biotechnology industries 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. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize drug candidates that are safer, more effective, have fewer or less severe side effects, are more convenient, or are less expensive than any drug candidates that we may develop. Furthermore, currently approved drug candidates could be discovered to have application for treatment of degenerative disease indications, which could give such drug candidates significant regulatory and market timing advantages over any of our drug candidates. Our competitors also may obtain FDA, EMA or other regulatory approval for their drug candidates more rapidly than we may obtain approval for ours from the FDA for indications our drug candidates are targeting, which could result in our competitors establishing a strong market position before we are able to enter the market. Additionally, drug candidates or technologies developed by our competitors may render our potential drug candidates uneconomical or obsolete, and we may not be successful in marketing any drug candidates we may develop against competitors.

If our competitors market drug candidates that are more effective, safer or less expensive than our drug candidates, if approved, or that reach the market sooner than our drug candidates, if approved, we may not

achieve commercial success. In addition, the pharmaceutical industry is characterized by rapid technological change. If we fail to stay at the forefront of technological change, we may be unable to compete effectively. Technological advances or drug candidates developed by our competitors may render our technologies or drug candidates obsolete, less competitive or not economical.

If we or any of our third-party manufacturers encounter difficulties in production of our current or any future drug candidate, or fail to meet rigorously enforced regulatory standards, our ability to provide supply of our drug candidates for clinical trials or for patients, if approved, could be delayed or stopped, or we may be unable to maintain a commercially viable cost structure.

The processes involved in manufacturing our drug candidates are highly-regulated and subject to multiple risks. As drug candidates are developed through preclinical studies to late-stage clinical trials towards approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives, and any of these changes could cause our drug candidates to perform differently and affect the results of planned clinical trials or other future clinical trials.

In order to conduct clinical trials of our drug candidates, or supply commercial drug candidates, if approved, we will need to manufacture them in small and large quantities. We currently rely on third parties to manufacture COR388 for clinical trial purposes, and our manufacturing partners will have to modify and scale-up the manufacturing process when we transition to commercialization of our drug candidates. Our manufacturing partners may be unable to successfully modify or scale-up the manufacturing capacity for any of our drug candidates in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities. If our manufacturing partners are unable to successfully scale-up the manufacture of our drug candidates in sufficient quality and quantity, the development, testing and clinical trials of that drug candidate may be delayed or become infeasible, and regulatory approval or commercial launch of any resulting drug may be delayed or not obtained, which could significantly harm our business. The same risks would apply to our internal manufacturing facilities, should we in the future decide to build internal manufacturing capacity. In addition, building internal manufacturing capacity would carry significant risks in terms of being able to plan, design and execute on a complex project to build manufacturing facilities in a timely and cost-efficient manner.

In addition, the manufacturing process for any drug candidates that we may develop is subject to FDA, EMA and foreign regulatory requirements, and continuous oversight, and we will need to contract with manufacturers who can meet all applicable FDA, EMA and foreign regulatory authority requirements, including complying with current good manufacturing practices, or cGMPs, on an ongoing basis. If we or our third-party manufacturers are unable to reliably produce drug candidates in accordance with the requirements of the FDA, EMA or other regulatory authorities, we may not obtain or maintain the approvals we need to commercialize such drug candidates. Even if we obtain regulatory approval for any of our drug candidates, there is no assurance that either we or our third party contract manufacturers will be able to manufacture the approved drug in accordance with the requirements of the FDA, EMA or other regulatory authorities, to produce it in sufficient quantities to meet the requirements for the potential launch of the drug, or to meet potential future demand. Any of these challenges could delay completion of clinical trials, require bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of our drug candidate, impair commercialization efforts, increase our cost of goods, and have an adverse effect on our business, financial condition, results of operations and growth prospects.

If, in the future, we are unable to establish sales and marketing capabilities or enter into agreements with third parties to sell and market any drug candidates we may develop, we may not be successful in commercializing those drug candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing, or distribution of pharmaceutical drug candidates. To achieve commercial success for any approved drug candidate

for which we retain sales and marketing responsibilities, we must either develop a sales and marketing organization or outsource these functions to third parties. In the future, we may choose to build a focused sales, marketing, and commercial support infrastructure to sell, or participate in sales activities with collaborators for, some of our drug candidates if and when they are approved.

There are risks involved with both establishing our own commercial capabilities and entering into arrangements with third parties to perform these services. For example, factors that may inhibit our efforts to commercialize any approved drug candidates on our own include:

- our inability to recruit and retain adequate numbers of effective sales, marketing, coverage or reimbursement, customer service, medical affairs, and other support personnel;
- the inability of sales personnel to obtain access to physicians or persuade adequate numbers of physicians to prescribe any future approved drug candidates;
- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement, and other acceptance by payors;
- the inability to price our drug candidates at a sufficient price point to ensure an adequate and attractive level of profitability;
- restricted or closed distribution channels that make it difficult to distribute our drug candidates to segments of the patient population;
- the lack of complementary drug candidates to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive drug candidate lines; and
- unforeseen costs and expenses associated with creating an independent commercialization organization.

If the commercial launch of a drug candidate for which we recruit a sales force and establish marketing and other commercialization 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 commercialization personnel.

If we enter into arrangements with third parties to perform sales, marketing, commercial support, and distribution services, our sales revenue or the profitability of sales revenue may be lower than if we were to market and sell any drug candidates we may develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to commercialize our drug candidates or may be unable to do so on terms that are favorable to us. We may 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 drug candidates effectively. If we do not establish commercialization capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing our drug candidates if approved.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our drug candidates.

We face an inherent risk of product liability as a result of the clinical testing of our drug candidates and will face an even greater risk when and if we commercialize any drug candidates. For example, we may be sued if our drug candidates cause or are perceived to cause injury or are found to be otherwise unsuitable during clinical testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers inherent in the product, negligence, strict

liability or a breach of warranties. Product liability claims may be brought against us by participants enrolled in our clinical trials, patients, health care providers or others using, administering or selling our drug candidates. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit testing and commercialization of our drug candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased or interrupted demand for our drug candidates;
- withdrawal of clinical trial participants and inability to continue clinical trials;
- initiation of investigations by regulators;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- drug recalls, withdrawals or labeling, marketing or promotional restrictions;
- termination of clinical trial sites or entire trial programs;
- injury to our reputation and significant negative media attention;
- loss of revenue;
- exhaustion of any available insurance and our capital resources;
- the inability to commercialize any drug candidate; and
- a decline in our share price.

Our inability to obtain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the commercialization of drug candidates we develop, alone or with potential collaborators. Our insurance policies may have various exclusions, and we may be subject to a product liability claim for which we have no coverage. We may have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Even if our agreements with any future corporate collaborators entitle us to indemnification against losses, such indemnification may not be available or adequate should any claim arise.

We may be exposed to a variety of international risks that could materially adversely affect our business.

We may enter into agreements with third parties for the development and commercialization of drug candidates in international markets. International business relationships will subject us to additional risks that may materially adversely affect our ability to attain or sustain profitable operations, including:

- differing regulatory requirements for drug approvals internationally;
- potentially reduced protection for intellectual property rights;
- potential third-party patent rights in countries outside of the United States;

- the potential for so-called “parallel importing,” which is what occurs when a local seller, faced with relatively high local prices, opts to import goods from another jurisdiction with relatively low prices, rather than buying them locally;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability, particularly in non-U.S. economies and markets, including several countries in Europe;
- compliance with tax, employment, immigration and labor laws for employees traveling abroad;
- taxes in other countries;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad; and
- business interruptions resulting from geo-political actions, including war and terrorism, or natural disasters, including earthquakes, volcanoes, typhoons, floods, hurricanes and fires.

We will need to expand our operations and increase the size of our company, and we may experience difficulties in managing growth.

As we increase the number of ongoing drug development programs and advance our drug candidates through preclinical studies and clinical trials, we will need to increase our drug development, scientific and administrative headcount to manage these programs. In addition, to meet our obligations as a public company, we will need to increase our general and administrative capabilities. Our management, personnel and systems currently in place may not be adequate to support this future growth. Our need to effectively manage our operations, growth and various projects requires that we:

- successfully attract and recruit new employees or consultants with the expertise and experience we will require;
- manage our clinical programs effectively, which we anticipate being conducted at numerous clinical sites;
- develop a marketing and sales infrastructure; and
- continue to improve our operational, financial and management controls, reporting systems and procedures.

If we are unable to successfully manage this growth and increased complexity of operations, our business may be adversely affected.

We may not be able to manage our business effectively if we are unable to attract and retain key personnel and consultants.

We may not be able to attract or retain qualified management, finance, scientific and clinical personnel and consultants due to the intense competition for qualified personnel and consultants among biotechnology,

pharmaceutical and other businesses. If we are not able to attract and retain necessary personnel and consultants to accomplish our business objectives, we may experience constraints that will significantly impede the achievement of our development objectives, our ability to raise additional capital and our ability to implement our business strategy.

Our industry has experienced a high rate of turnover of management personnel in recent years. We are highly dependent on the development, regulatory, commercialization and business development expertise of Casey C. Lynch, our co-founder, and President and Chief Executive Officer. If we lose our Chief Executive Officer, our ability to implement our business strategy successfully could be seriously harmed. Any of our executive officers or key employees or consultants may terminate their employment at any time. Replacing executive officers, key employees and consultants may be difficult and may take an extended period because of the limited number of individuals in our industry with the breadth of skills and experience required to develop, gain regulatory approval of and commercialize drug candidates successfully. Competition to hire and retain employees and consultants from this limited pool is intense, and we may be unable to hire, train, retain or motivate these additional key personnel and consultants. Our failure to retain key personnel or consultants could materially harm our business.

We have scientific and clinical advisors and consultants who assist us in formulating our research, development and clinical strategies. These advisors are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. Non-compete agreements are not permissible or are limited by law in certain jurisdictions and, even where they are permitted, these individuals typically will not enter into non-compete agreements with us. If a conflict of interest arises between their work for us and their work for another entity, we may lose their services. In addition, our advisors may have arrangements with other companies to assist those companies in developing drug candidates or technologies that may compete with ours.

We have identified material weaknesses in our internal control over financial reporting which could, if not remediated, result in material misstatements in our financial statements.

Prior to this offering, we were a private company and had limited accounting and financial reporting personnel and other resources with which to address our internal controls and procedures. In connection with the audit of our consolidated financial statements for the years ended December 31, 2017 and 2018, our management identified material weaknesses in our internal control over financial reporting. A material weakness is defined as a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. Specifically, we identified material adjustments that were needed to modify the financial statements to comply with accounting principles generally accepted in the United States. Certain transactions were not adequately analyzed for accounting ramifications and accounting records contained errors and inaccuracies. We are developing a remediation plan designed to address these material weaknesses and other existing deficiencies. In addition, we have, and are in the process of, recruiting, hiring, and retaining additional financial reporting personnel to develop and implement appropriate internal controls and reporting procedures. If our remedial measures are insufficient to address the material weaknesses, or if additional material weakness or significant deficiencies in our internal control are discovered or occur in the future, our financial statements may contain material misstatements.

Failure to build our finance infrastructure and improve our accounting systems and controls could impair our ability to comply with the financial reporting and internal controls requirements for publicly traded companies.

As a public company, we will operate in an increasingly demanding regulatory environment, which requires us to comply with the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, the regulations of Nasdaq Global Select Market, the rules and regulations of the Securities and Exchange Commission, expanded

disclosure requirements, accelerated reporting requirements and more complex accounting rules. Company responsibilities required by the Sarbanes-Oxley Act include establishing corporate oversight and adequate internal control over financial reporting and disclosure controls and procedures. Effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent financial fraud. Commencing with our fiscal year ending the year after this offering is completed, we must perform system and process evaluation and testing of our internal controls over financial reporting to allow management to report on the effectiveness of our internal controls over financial reporting in our Form 10-K filing for that year, as required by Section 404 of the Sarbanes-Oxley Act. Prior to this offering, we have never been required to test our internal controls within a specified period and, as a result, we may experience difficulty in meeting these reporting requirements in a timely manner.

We anticipate that the process of building our accounting and financial functions and infrastructure will require significant additional professional fees, internal costs and management efforts. We expect that we will need to implement a new internal system to combine and streamline the management of our financial, accounting, human resources and other functions. However, such a system would likely require us to complete many processes and procedures for the effective use of the system or to run our business using the system, which may result in substantial costs. Any disruptions or difficulties in implementing or using such a system could adversely affect our controls and harm our business. Moreover, such disruption or difficulties could result in unanticipated costs and diversion of management attention. In addition, we may discover weaknesses in our system of internal financial and accounting controls and procedures that could result in a material misstatement of our financial statements. Our internal control over financial reporting will not prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

If we are not able to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we are unable to maintain proper and effective internal controls, we may not be able to produce timely and accurate financial statements. If we cannot provide reliable financial reports or prevent fraud, our business and results of operations could be harmed, investors could lose confidence in our reported financial information and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities.

Our employees, independent contractors, consultants, commercial partners and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading, which could significantly harm our business.

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, consultants, commercial partners and vendors. Misconduct by these parties could include intentional failures to comply with the regulations of the FDA and non-U.S. regulators, provide accurate information to the FDA and non-U.S. regulators, comply with health care 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 health care 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. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

Our insurance policies are expensive and only protect us from some business risks, which will leave us exposed to significant uninsured liabilities.

We do not carry insurance for all categories of risk that our business may encounter. Some of the policies we currently maintain include general liability, products liability and directors' and officers' insurance. We do not know, however, if we will be able to maintain insurance with adequate levels of coverage. Any significant uninsured liability may require us to pay substantial amounts, which would adversely affect our financial position and results of operations.

Failure to comply with health and data protection laws and regulations could lead to government enforcement actions, which could include civil or criminal penalties, private litigation, and/or adverse publicity and could negatively affect our operating results and business.

We and any of our potential collaborators may be subject to federal, state, and foreign data protection laws and regulations (i.e., laws and regulations that address privacy and data security). In the United States, numerous federal and state laws and regulations, including federal health information privacy laws, state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws, that govern the collection, use, disclosure, and protection of health-related and other personal information could apply to our operations or the operations of collaborators. In addition, we may obtain health information from third parties (including research institutions from which we obtain clinical trial data) that are subject to privacy and security requirements under the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH. Depending on the facts and circumstances, we could be subject to civil, criminal, and administrative penalties if we 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.

Several foreign jurisdictions, including the European Union, or the EU, its member states, the United Kingdom and Australia, among others, have adopted legislation and regulations that increase or change the requirements governing the collection, use, disclosure and transfer of the personal information of individuals in these jurisdictions. These laws and regulations are complex and change frequently, at times due to changes in political climate, and existing laws and regulations are subject to different and conflicting interpretations, which adds to the complexity of processing personal data from these jurisdictions. These laws have the potential to increase costs of compliance, risks of noncompliance and penalties for noncompliance.

The General Data Protection Regulation, or GDPR, replaced the EU Data Protection Directive on May 25, 2018. The GDPR introduced new data protection requirements in the EU, as well as potential fines for noncompliant companies of up to the greater of €20 million or 4% of annual global revenue. The regulation imposes numerous new requirements for the collection, use and disclosure of personal information, including more stringent requirements relating to consent and the information that must be shared with data subjects about how their personal information is used, the obligation to notify regulatory authorities and affected individuals of personal data breaches, extensive new internal privacy governance obligations, and obligations to honor expanded rights of individuals in relation to their personal information (for example, the right to access, correct and delete their data). In addition, the GDPR generally maintains the EU Data Protection Directive's restrictions on cross-border data transfer. The GDPR will increase our responsibility and liability in relation to personal data that we process, and we may be required to put in place additional potential mechanisms to ensure compliance with the new EU data protection rules.

Further, the United Kingdom's vote in favor of exiting the EU (often referred to as "Brexit") has created uncertainty with regard to data protection regulation in the United Kingdom. In particular, it is unclear whether the United Kingdom will enact data protection legislation equivalent to the GDPR and how data transfers to and from the United Kingdom will be regulated.

Compliance with U.S. and international data protection laws and regulations could require us to take on more onerous obligations in our contracts, restrict our ability to collect, use and disclose data, or in some cases, impact our ability to operate in certain jurisdictions. Failure to comply with these laws and regulations could result in government enforcement actions (which could include civil, criminal and administrative penalties), private litigation, and/or adverse publicity and could negatively affect our operating results and business. Moreover, clinical trial subjects, employees and other individuals about whom we or our potential collaborators obtain personal information, as well as the providers who share this information with us, may limit our ability to collect, use and disclose the information. Claims that we have violated individuals' privacy rights, failed to comply with data protection laws, or breached our contractual obligations, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business.

Changes in healthcare law and implementing regulations, as well as changes in healthcare policy, may impact our business in ways that we cannot currently predict, and may have a significant adverse effect on our business and results of operations.

In the United States and some foreign jurisdictions, there have been, and continue to be, several legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of drug candidates, restrict or regulate post-approval activities, and affect our ability to profitably sell any drug candidates for which we obtain marketing approval. Among policy makers and payors in the United States and elsewhere, including in the European Union, or EU, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and/or expanding access. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by major legislative initiatives.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the Affordable Care Act, substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry. The Affordable Care Act, among other things: (i) increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and expanded rebate liability from fee-for-service Medicaid utilization to include the utilization of Medicaid managed care organizations as well; (ii) established a branded prescription drug fee that pharmaceutical manufacturers of branded prescription drugs must pay to the federal government; (iii) expanded the list of covered entities eligible to participate in the 340B drug pricing program by adding new entities to the program; (iv) established a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period, as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D; (v) extended manufacturers' Medicaid rebate liability to covered drugs dispensed to individuals who are enrolled in Medicaid managed care organizations; (vi) expanded eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to additional individuals and by adding new mandatory eligibility categories for individuals with income at or below 133% of the federal poverty level, thereby potentially increasing manufacturers' Medicaid rebate liability; (vii) established a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research; and (viii) established a Center for Medicare Innovation at the Centers for Medicare and Medicaid Services, or CMS, to test innovative payment and service delivery models to lower Medicare and Medicaid spending, potentially including prescription drug spending.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the Affordable Care Act. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the Affordable Care Act or otherwise circumvent some of the requirements for health insurance mandated by the Affordable Care Act. Additionally, CMS promulgated regulations in 2018 that would give states greater flexibility in setting benchmarks for insurers

in the individual and small group marketplaces, which may have the effect of relaxing the essential health benefits required under the Affordable Care Act for plans sold through such marketplaces. Concurrently, Congress has considered legislation that would repeal, or repeal and replace, all or part of the Affordable Care Act. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the Affordable Care Act have been signed into law. The Tax Cuts and Jobs Act of 2017, or the Tax Act, includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the Affordable Care Act 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, ruled that the individual mandate is a critical and inseverable feature of the Affordable Care Act, and therefore, because it was repealed as part of the Tax Act, the remaining provisions of the Affordable Care Act are invalid as well. While the Trump Administration and the Centers for Medicare & Medicaid Services, or CMS, have both stated that the ruling will have no immediate effect, it is unclear how this decision, subsequent appeals, if any, and other efforts to repeal and replace the Affordable Care Act will impact the Affordable Care Act and our business. Moreover, the Bipartisan Budget Act of 2018, or the BBA, among other things, amends the Affordable Care Act, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Congress may consider additional legislation to repeal, or repeal and replace, other elements of the Affordable Care Act. We continue to evaluate the Affordable Care Act and its possible repeal and replacement, as it remains uncertain the extent to which any such changes may impact our business or financial condition.

Other legislative changes have been proposed and adopted since the Affordable Care Act was enacted. These changes include aggregate reductions to Medicare payments to providers of up to 2% per fiscal year pursuant to the Budget Control Act of 2011 and subsequent laws, which began in 2013 and, due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2027 unless additional Congressional action is taken. New laws may result in additional reductions in Medicare and other healthcare funding, which may adversely affect customer demand and affordability for our drug candidates and, accordingly, the results of our financial operations. Additional changes that may affect our business include the expansion of new programs such as Medicare payment for performance initiatives for physicians under the Medicare Access and CHIP Reauthorization Act of 2015, or MACRA, which will first affect physician payment in 2019. At this time, it is unclear how the introduction of the Medicare quality payment program will impact overall physician reimbursement.

Also, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed drug candidates, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drugs. At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological drug pricing, including price or patient reimbursement constraints, discounts, restrictions on certain drug access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. For example, since 2016, Vermont requires certain manufacturers identified by the state to justify their price increases.

Additionally, on May 30, 2018, the Trickett Wendler, Frank Mongiello, Jordan McLinn, and Matthew Bellina Right to Try Act of 2017, or Right to Try Act, was signed into law. The law, among other things, provides a federal framework for certain patients with life-threatening diseases or conditions to access certain investigational new drug candidates that have completed a Phase 1 clinical trial and that are undergoing investigation for FDA approval. Under certain circumstances, eligible patients can seek treatment without enrolling in clinical trials and without obtaining FDA permission under the FDA expanded access program. There is no obligation for a drug manufacturer to make its drugs available to eligible patients as a result of the Right to Try Act.

We expect that these and other healthcare reform measures that may be adopted in the future may result in more rigorous coverage criteria and lower reimbursement, and in additional downward pressure on the price that we receive for any approved drug candidate. Any reduction in reimbursement from Medicare or other government-funded programs may result in a similar reduction in payments from private payors. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our drug candidates, once marketing approval is obtained.

Our ability to successfully commercialize any drugs that we develop depends in part on the extent to which coverage and adequate reimbursement are available from government health administration authorities, private health insurers, and other organizations. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, each individually decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Government authorities currently impose mandatory discounts for certain patient groups, such as Medicare, Medicaid and Veterans Affairs, or VA, hospitals, and may seek to increase such discounts at any time. Future regulation may negatively impact the price of our product candidates, if approved. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. We cannot be sure that coverage or reimbursement will be available for any drug candidate that we commercialize and, if coverage or reimbursement is available, the level of reimbursement. Reimbursement may impact the demand for, or the price of, any drug candidate for which we obtain marketing approval. In order to get coverage and reimbursement, physicians may need to show that patients have superior treatment outcomes with our products compared to standard of care drugs, including lower-priced generic versions of standard of care drugs. If reimbursement is not available or is available only to limited levels, we may not be able to successfully commercialize any drug candidate for which we obtain marketing approval. In the United States, no uniform policy of coverage and reimbursement for products exists among third-party payors, and coverage decisions and reimbursement levels for products can differ significantly from payor to payor. As a result, the coverage determination process is often a time consuming and costly process that may require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be applied consistently or obtained.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the medicine is approved by the FDA, EMA or other comparable foreign regulatory authorities. Moreover, eligibility for reimbursement does not imply that any drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale, and distribution. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies, but make their determinations independently and may impose additional restrictions. Our inability to promptly obtain coverage and profitable payment rates from both government-funded and private payors for any approved products we may develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize drug candidates, and our overall financial condition.

In the EU, coverage and reimbursement status of any drug candidates for which we obtain regulatory approval are provided for by the national laws of EU Member States. The requirements may differ across the EU Member States. Also, at national level, actions have been taken to enact transparency laws regarding payments between pharmaceutical companies and health care professionals.

If we engage in acquisitions, we will incur a variety of costs and we may never realize the anticipated benefits of such acquisitions.

Although we currently have no plans to do so, we may attempt to acquire businesses, technologies or drug candidates that we believe are a strategic fit with our business. If we do undertake any acquisitions, the process of integrating an acquired business, technology or drug candidates into our business may result in unforeseen operating difficulties and expenditures, including diversion of resources and management's attention from our core business. In addition, we may fail to retain key executives and employees of the companies we acquire, which may reduce the value of the acquisition or give rise to additional integration costs. Future acquisitions could result in additional issuances of equity securities that would dilute the ownership of existing stockholders. Future acquisitions could also result in the incurrence of debt, contingent liabilities or the amortization of expenses related to other intangible assets, any of which could adversely affect our operating results. In addition, we may fail to realize the anticipated benefits of any acquisition.

We may in the future conduct clinical trials for our drug candidates outside the United States, and the FDA, EMA and applicable foreign regulatory authorities may not accept data from such trials.

We may in the future choose to conduct one or more of our clinical trials outside the United States, including in Europe. The acceptance of study data from clinical trials conducted outside the United States or another jurisdiction by the FDA, EMA or applicable foreign regulatory authorities may be subject to certain conditions. In cases where data from foreign clinical trials are intended to serve as the basis for marketing approval in the United States, the FDA will generally not approve the application on the basis of foreign data alone unless (i) the data are applicable to the United States population and United States medical practice; and (ii) the trials were performed by clinical investigators of recognized competence and pursuant to cGCP regulations. Additionally, the FDA's clinical trial requirements, including sufficient size of patient populations and statistical powering, must be met. Many foreign regulatory bodies have similar approval requirements. In addition, such foreign trials would be subject to the applicable local laws of the foreign jurisdictions where the trials are conducted. There can be no assurance that the FDA, EMA or any applicable foreign regulatory authority will accept data from trials conducted outside of the United States or the applicable jurisdiction. If the FDA, EMA or any applicable foreign regulatory authority does not accept such data, it would result in the need for additional trials, which would be costly and time-consuming and delay aspects of our business plan, and which may result in our drug candidates not receiving approval or clearance for commercialization in the applicable jurisdiction.

Interim, top-line and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose preliminary or top-line data from our clinical studies, which are based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the top-line results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Top-line data also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, top-line data should be viewed with caution until the final data are available. From time to time, we may also disclose interim data from our clinical studies.

In addition, we may report interim analyses of only certain endpoints rather than all endpoints. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes

may materially change as patient enrollment continues and more patient data become available. Adverse differences between preliminary or interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock after this offering.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular drug candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is the material or otherwise appropriate information to include in our disclosure, and any information we determine not to disclose may ultimately be deemed significant with respect to future decisions, conclusions, views, activities or otherwise regarding a particular drug, drug candidate or our business. If the top-line data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our drug candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Changes in funding for the FDA and other government agencies could hinder their ability to hire and retain key leadership and other personnel, or otherwise prevent new products and services from being developed or commercialized in a timely manner, which could negatively impact our business.

The ability of the FDA to review and approve new drugs 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. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies 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 prolong the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

Even if we obtain regulatory approval for a drug candidate, it will remain subject to extensive ongoing regulatory review and requirements.

If any of our drug candidates are approved, they will be subject to ongoing regulatory requirements for manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy, and other post-market information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities.

Manufacturers and manufacturers' facilities are required to comply with extensive requirements imposed by the FDA, EMA and comparable foreign regulatory authorities, including ensuring that quality control and manufacturing procedures conform to cGMPs regulations. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any NDA or MAA. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production and quality control.

Any regulatory approvals that we receive for our drug candidates will be subject to limitations on the approved indicated uses for which the drug candidate may be marketed and promoted or to the conditions of

approval (including the potential for a requirement to implement a Risk Evaluation and Mitigation Strategy), or contain requirements for potentially costly post-marketing testing. We will be required to report certain adverse reactions and production problems, if any, to the FDA, EMA and comparable foreign regulatory authorities. Any new legislation addressing drug safety issues could result in delays in drug development or commercialization, or increased costs to assure compliance. The FDA and other agencies, including the Department of Justice, closely regulate and monitor the post-approval marketing and promotion of drug candidates to ensure that they are manufactured, marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. We will have to comply with requirements concerning advertising and promotion for our drug candidates. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the drug candidate's approved label. As such, we may not promote our drug candidates for indications or uses for which they do not have approval. The holder of an approved NDA or MAA must submit new or supplemental applications and obtain approval for certain changes to the approved drug candidate labeling, or manufacturing process. We could also be asked to conduct post-marketing clinical trials to verify the safety and efficacy of our drug candidates in general or in specific patient subsets. If original marketing approval was obtained via the accelerated approval pathway, we could be required to conduct a successful post-marketing clinical trial to confirm clinical benefit for our drug candidates. An unsuccessful post-marketing study or failure to complete such a study could result in the withdrawal of marketing approval.

If a regulatory agency discovers previously unknown problems with a drug, such as adverse events of unanticipated severity or frequency, or problems with the facility where the drug candidate is manufactured, or disagrees with the promotion, marketing or labeling of a drug candidate, such regulatory agency may impose restrictions on that drug candidate or us, including requiring withdrawal of the drug candidate from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning or untitled letters that would result in adverse publicity;
- impose civil or criminal penalties;
- suspend or withdraw regulatory approvals;
- suspend any of our ongoing clinical trials;
- mandate modifications to promotional materials or require us to provide corrective information to healthcare practitioners;
- require us to enter into a consent decree or permanent injunction, which can include imposition of various fines, reimbursements for inspection costs, required due dates for specific actions and penalties for noncompliance;
- withdraw regulatory approval;
- refuse to approve pending applications or supplements to approved applications submitted by us;
- impose restrictions on our operations, including closing our contract manufacturers' facilities;
- seize or detain drug candidates; or
- require a drug candidate recall.

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 drug candidates. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

The policies of the FDA and of other regulatory authorities may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our drug candidates. 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. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these executive actions will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose restrictions on the FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted. 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 approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

Non-compliance by us or any future collaborator with regulatory requirements, including safety monitoring or pharmacovigilance, and with requirements related to the development of products for the pediatric population can also result in significant financial penalties.

If we fail to comply with healthcare laws, we could face substantial penalties and our business, operations and financial condition could be adversely affected.

Our operations are subject to various federal and state fraud and abuse laws. The laws that may impact our operations include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying any remuneration (including any kickback, bribe, or rebate), directly or indirectly, overtly or covertly, in cash or in kind, to induce, or in return for, either the referral of an individual, or the purchase, lease, order or recommendation of any good, facility, item or service for which payment may be made, in whole or in part, under a federal healthcare program, such as the Medicare and Medicaid programs. 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. 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 False Claims Act;

- federal civil and criminal false claims laws and civil monetary penalty laws, including the False Claims Act, which impose criminal and civil penalties, including through civil "qui tam" or "whistleblower" actions, against individuals or entities from knowingly presenting, or causing to be presented, claims for payment or approval from Medicare, Medicaid, or other third-party payors that are false or fraudulent or knowingly making a false statement to improperly avoid, decrease or conceal an obligation to pay money to the federal government. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of these statutes or specific intent to violate them in order to have committed a violation;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to

execute, a scheme to defraud any healthcare benefit program or obtain, by means of false or fraudulent pretenses, representations, or promises, any of the money or property owned by, or under the custody or control of, any healthcare benefit program, regardless of the payor (e.g., public or private) and knowingly and willfully falsifying, concealing or covering up by any trick or device a material fact or making any materially false statements in connection with the delivery of, or payment for, healthcare benefits, items or services relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, or HITECH, and their respective implementing regulations, which impose requirements on certain covered healthcare providers, health plans, and healthcare clearinghouses as well as their respective business associates that perform services for them that involve the use, or disclosure of, individually identifiable health information, relating to the privacy, security and transmission of individually identifiable health information without appropriate authorization;

- the federal Physician Payment Sunshine Act, created under the Affordable Care Act, and its implementing regulations, which require manufacturers of drugs, devices and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program to report annually to the U.S. Department of Health and Human Services under the Open Payments Program, information related to payments or other transfers of value made to physicians, certain other healthcare professionals and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members;

- federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm consumers; and

- analogous state and foreign laws and regulations, such as state and foreign anti-kickback, false claims, consumer protection and unfair competition laws which may apply to pharmaceutical business practices, including but not limited to, research, distribution, sales and marketing arrangements as well as submitting claims involving healthcare items or services reimbursed by any third-party payer, including commercial insurers; state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government that otherwise restricts payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to file reports with states regarding pricing and marketing information, such as the tracking and reporting of gifts, compensations and other remuneration and items of value provided to healthcare professionals and entities; and state and foreign laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities, including compensating physicians with stock or stock options, could, despite our efforts to comply, be subject to challenge under one or more of such laws. Efforts to ensure that our business arrangements will comply with applicable healthcare laws may involve substantial costs. It is possible that governmental and enforcement authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law interpreting applicable fraud and abuse or other healthcare laws and regulations. If any such actions are instituted against us, those actions could have a significant impact on our business, including the imposition of civil, criminal and administrative penalties, damages, disgorgement, monetary fines, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations. In addition, the approval and commercialization of any of our drug candidates outside the United States will also likely subject us to foreign equivalents of the healthcare laws mentioned above, among other foreign laws.

If we or any contract manufacturers and suppliers we engage 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 any contract manufacturers and suppliers we engage are subject to numerous federal, state, and local environmental, health, and safety laws, regulations, and permitting requirements, including those governing laboratory procedures; the generation, handling, use, storage, treatment, and disposal of hazardous and regulated materials and wastes; the emission and discharge of hazardous materials into the ground, air, and water; and employee health and safety. Our operations involve the use of hazardous and flammable materials, including chemicals and radioactive materials. Our operations also produce hazardous waste. 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. Under certain environmental laws, we could be held responsible for costs relating to any contamination at our current or past facilities and at third-party facilities. We also could incur significant costs associated with civil or criminal fines and penalties.

Compliance with applicable environmental laws and regulations may be expensive, and current or future environmental laws and regulations may impair our research, drug development and manufacturing efforts. In addition, we cannot entirely eliminate the risk of accidental injury or contamination from these materials or wastes. 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 carry specific hazardous waste insurance coverage, and our property, casualty, and general liability insurance policies specifically exclude coverage for damages and fines arising from hazardous waste exposure or contamination. Accordingly, in the event of contamination or injury, we could be held liable for damages or be penalized with fines in an amount exceeding our resources, and our clinical trials or regulatory approvals could be suspended, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our business activities may be subject to the Foreign Corrupt Practices Act, or FCPA, and similar anti-bribery and anti-corruption laws.

Our business activities may be subject to the FCPA and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we may operate, including the U.K. Bribery Act. The FCPA generally prohibits offering, promising, giving, or authorizing others to give anything of value, either directly or indirectly, to a non-U.S. government official in order to influence official action, or otherwise obtain or retain business. The FCPA also requires public companies to make and keep books and records that accurately and fairly reflect the transactions of the corporation and to devise and maintain an adequate system of internal accounting controls. Our business is heavily regulated and therefore involves significant interaction with public officials, including officials of non-U.S. governments. Additionally, in many other countries, the health care providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, our dealings with these prescribers and purchasers are subject to regulation under the FCPA. Recently the Securities and Exchange Commission, or SEC, and Department of Justice have increased their FCPA enforcement activities with respect to biotechnology and pharmaceutical companies. There is no certainty that all of our employees, agents, contractors, or those of our affiliates, will comply with all applicable laws and regulations, particularly given the high level of complexity of these laws. Violations of these laws and regulations could result in fines, criminal sanctions against us, our officers, or our employees, the closing down of our facilities, requirements to obtain export licenses, cessation of business activities in sanctioned countries, implementation of compliance programs, and prohibitions on the conduct of our business. Any such violations could include prohibitions on our ability to offer our drug candidates in one or more countries and could materially damage our reputation, our brand, our international expansion efforts, our ability to attract and retain employees, and our business, prospects, operating results, and financial condition.

Any collaboration arrangements that we may enter into in the future may not be successful, which could adversely affect our ability to develop and commercialize potential future drug candidates.

While we currently have no intention to enter into a collaboration agreement for COR388, in the future we may consider collaboration arrangements with pharmaceutical or biotechnology companies for the development or commercialization of drug candidates depending on the merits of retaining or divesting some or all commercialization rights. We will face, to the extent that we decide to enter into collaboration agreements, significant competition in seeking appropriate collaborators. Moreover, collaboration arrangements are complex and time-consuming to negotiate, document, implement and maintain. We may not be successful in our efforts to establish and implement collaborations or other alternative arrangements should we so chose to enter into such arrangements. The terms of any collaborations or other arrangements that we may establish may not be favorable to us.

Any future collaborations that we enter into may not be successful. The success of our collaboration arrangements will depend heavily on the efforts and activities of our collaborators. Collaborations are subject to numerous risks, which may include that:

- collaborators have significant discretion in determining the efforts and resources that they will apply to collaborations;
- collaborators may not pursue development and commercialization of our drug candidates or may elect not to continue or renew development or commercialization programs based on clinical trial results, changes in their strategic focus due to the acquisition of competitive drug candidates, availability of funding or other external factors, such as a business combination that diverts resources or creates competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial, abandon a drug candidate, repeat or conduct new clinical trials or require a new formulation of a drug candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, drug candidates that compete directly or indirectly with our drug candidates;
- a collaborator with marketing, manufacturing and distribution rights to one or more drug candidates may not commit sufficient resources to or otherwise not perform satisfactorily in carrying out these activities;
- we could grant exclusive rights to our collaborators that would prevent us from collaborating with others;
- collaborators may not properly maintain or defend our intellectual property rights or may use our intellectual property or proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential liability;
- disputes may arise between us and a collaborator that causes the delay or termination of the research, development or commercialization of our current or future drug candidates or that results in costly litigation or arbitration that diverts management attention and resources;
- collaborations may be terminated, and, if terminated, may result in a need for additional capital to pursue further development or commercialization of the applicable current or future drug candidates;

- collaborators may own or co-own intellectual property covering our drug candidates that results from our collaborating with them, and in such cases, we would not have the exclusive right to develop or commercialize such intellectual property; and

- a collaborator's sales and marketing activities or other operations may not be in compliance with applicable laws resulting in civil or criminal proceedings.

Risks Relating to Our Intellectual Property

If we are unable to obtain and maintain sufficient intellectual property protection for our drug candidates, or if the scope of the intellectual property protection is not sufficiently broad, our competitors could develop and commercialize drug candidates similar or identical to ours, and our ability to successfully commercialize our drug candidates may be adversely affected.

Our commercial success will depend in part on obtaining and maintaining patent protection and trade secret protection of our current and future drug candidates and the methods used to manufacture them, as well as successfully defending these patents against third-party challenges. Our ability to stop third parties from making, using, selling, offering to sell or importing our drug candidates is dependent upon the extent to which we have rights under valid and enforceable patents or trade secrets that cover these activities.

The patent positions of biotechnology and pharmaceutical companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in pharmaceutical patents has emerged to date in the United States or in many jurisdictions outside of the United States. Changes in either the patent laws or interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property. Accordingly, we cannot predict the breadth of claims that may be enforced in the patents that may be issued from the applications we currently or may in the future own or license from third parties. Further, if any patents we obtain or license are deemed invalid and unenforceable, our ability to commercialize or license our technology could be adversely affected.

Others may have filed, and in the future are likely to file, patent applications covering drug candidates that are similar, identical or competitive to ours or important to our business. We cannot be certain that any patent application owned by a third party will not have priority over patent applications filed or in-licensed by us, or that we or our licensors will not be involved in interference, opposition or invalidity proceedings before U.S. or non-U.S. patent offices.

The degree of future protection for our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. Only limited protection may be available and may not adequately protect our rights or permit us to gain or keep any competitive advantage. If we do not adequately protect our intellectual property and proprietary technology, competitors may be able to use our drug candidates and proprietary technologies and erode or negate any competitive advantage we may have, which could have a material adverse effect on our financial condition and results of operations. For example:

- others may be able to make compounds that are similar to our drug candidates but that are not covered by the claims of our patents;

- we might not have been the first to make the inventions covered by our pending patent applications;

- we might not have been the first to file patent applications for these inventions;

- others may independently develop similar or alternative technologies or duplicate any of our technologies;

- any patents that we obtain may not provide us with any competitive advantages;
- we may not develop additional proprietary technologies that are patentable; or
- the patents of others may have an adverse effect on our business.

We have applied, and we intend to continue applying, for patents covering aspects of our drug candidates, proprietary technologies and their uses that we deem appropriate. However, we may not be able to apply for patents on certain aspects of our current or future drug candidates, proprietary technologies and their uses in a timely fashion, at a reasonable cost, in all jurisdictions, or at all, and any potential patent coverage we obtain may not be sufficient to prevent substantial competition. As of December 31, 2018, we were the owner of record of one issued U.S. patent relating to COR388 with claims directed to pharmaceutical compounds, pharmaceutical compositions containing these compounds, and methods of using these compounds in the treatment of various indications. We were also the owner of record of 24 pending U.S. and non-U.S. patent applications relating to COR388 in the areas of pharmaceutical compounds, pharmaceutical compositions containing these compounds, methods of using these compounds in the treatment of various indications, and methods of making these compounds.

In addition, as of December 31, 2018, we were the owner of record of one issued U.S. patent relating to our drug candidates other than COR388, with claims directed to pharmaceutical compounds, pharmaceutical compositions and methods of using these compounds in the treatment of various indications. We were also the owner of record of 33 pending U.S. and non-U.S. patent applications relating to such other drug candidates in these areas; as well as diagnostic methods and assay methods.

Without patent protection on the composition of matter of our drug candidates, our ability to assert our patents to stop others from using or selling our drug candidates in a non-pharmaceutically acceptable formulation may be limited. Due to the patent laws of a country, or the decisions of a patent examiner in a country, or our own filing strategies, we may not obtain patent coverage for all of our drug candidates or methods involving the use of these candidates in a particular patent application. We plan to pursue divisional patent applications or continuation patent applications in the United States and other countries, where applicable, to obtain claim coverage for inventions which were disclosed but not claimed in a particular parent patent application.

The patent application process is subject to numerous risks and uncertainties, and there can be no assurance that we or any of our actual or potential future collaborators will be successful in protecting our drug candidates, proprietary technologies and their uses by obtaining and/or defending patents. These risks and uncertainties include the following:

- the U.S. Patent and Trademark Office, or USPTO, and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions during the patent process, the noncompliance with which can result in abandonment or lapse of a patent or patent application, and partial or complete loss of patent rights in the relevant jurisdiction;
- patent applications may not result in any patents being issued;
- patents that may be issued or in-licensed may be challenged, invalidated, modified, revoked, circumvented, found to be unenforceable or otherwise may not provide any competitive advantage;
- our competitors, many of whom have substantially greater resources than we do and many of whom have made significant investments in competing technologies, may seek or may have already obtained patents that will limit, interfere with or eliminate our ability to make, use and sell our potential drug candidates;

- other parties may have designed around our claims or developed technologies that may be related or competitive to our platform, may have filed or may file patent applications and may have received or may receive patents that overlap or conflict with our patent applications, either by claiming the same compounds, compositions or methods or by claiming subject matter that could dominate our patent position;

- any successful opposition to any patents owned by or licensed to us could deprive us of rights necessary to prevent others from practicing our technologies or to successfully commercialize any drug candidates that we may develop;

- because patent applications in the United States and most other countries are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our drug candidates, proprietary technologies and their uses;

- 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 applications we may in-license which have an effective filing date before March 16, 2013;

- there may be significant pressure on the U.S. government and international governmental bodies to limit the scope of patent protection both inside and outside the United States for disease treatments that prove successful, as a matter of public policy regarding worldwide health concerns; and

- countries other than the United States may have patent laws less favorable to patentees than those upheld by U.S. courts, allowing foreign competitors a better opportunity to create, develop and market competing drug candidates.

The patent prosecution process is also expensive and time-consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Although we enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of our research and development output, such as our employees, outside scientific collaborators, CROs, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach such agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. We may also rely on trade secrets to protect our technology, especially where we do not believe patent protection is appropriate or feasible. However, trade secrets are difficult to protect. Although we use reasonable efforts to protect our trade secrets, our employees, consultants, contractors, outside scientific collaborators and other advisors may unintentionally or willfully disclose our information to competitors. Enforcing a claim that a third party illegally obtained and is using any of our trade secrets is expensive and time consuming, and the outcome is unpredictable. In addition, courts outside the United States are sometimes less willing to protect trade secrets. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how.

We may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time consuming, and unsuccessful. Further, our issued patents could be found invalid or unenforceable if challenged in court, and we may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights.

Competitors may infringe our intellectual property rights. To prevent infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. If we choose to go to court to stop another party from using the inventions claimed in any patents we obtain, that individual or company has the right to ask the court to rule that such patents are invalid or should not be enforced against that third party. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or

unenforceability are commonplace. Grounds for a validity challenge include an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness or non-enablement. Grounds for an unenforceability assertion could include an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO or made a misleading statement during prosecution. Third parties may also raise similar claims before the USPTO, even outside the context of litigation. Similar mechanisms for challenging the validity and enforceability of a patent exist in non-U.S. patent offices and may result in the revocation, cancellation, or amendment of any non-U.S. patents we hold in the future. The outcome following legal assertions of invalidity and unenforceability is unpredictable, and prior art could render our patents invalid. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability, we would lose at least part, and perhaps all, of the patent protection on one or more drug candidates. Such a loss of patent protection would have a material adverse impact on our business.

These lawsuits are expensive and would consume time and resources and divert the attention of managerial and scientific personnel even if we were successful in stopping the infringement of such patents. In addition, there is a risk that the court will decide that such patents are not valid and that we do not have the right to stop the other party from using the claimed inventions. There is also the risk that, even if the validity of such patents is upheld, the court will refuse to stop the other party on the ground that such other party's activities do not infringe our rights to such patents. In addition, the U.S. Supreme Court has recently modified some tests used by the USPTO in granting patents over the past 20 years, which may decrease the likelihood that we will be able to obtain patents and increase the likelihood of challenge of any patents we obtain or license.

Interference or derivation proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties or enter into development or manufacturing partnerships that would help us bring our drug candidates to market.

Even if resolved in our favor, litigation or other legal proceedings relating to our intellectual property rights may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could compromise our ability to compete in the marketplace.

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

Our ability to enforce our patent rights depends on our ability to detect infringement. It may be difficult to detect infringers who do not advertise the components or methods that are used in connection with their drug candidates. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or

potential competitor's drug candidate. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded if we were to prevail may not be commercially meaningful.

In addition, proceedings to enforce or defend our patents could put our patents at risk of being invalidated, held unenforceable or interpreted narrowly. Such proceedings could also provoke third parties to assert claims against us, including that some or all of the claims in one or more of our patents are invalid or otherwise unenforceable. If any of our patents covering our drug candidates are invalidated or found unenforceable, or if a court found that valid, enforceable patents held by third parties covered one or more of our drug candidates, our competitive position could be harmed or we could be required to incur significant expenses to enforce or defend our rights. If we initiate lawsuits to protect or enforce our patents, or litigate against third party claims, such proceedings would be expensive and would divert the attention of our management and technical personnel.

We may infringe the intellectual property rights of others, which may prevent or delay our drug development efforts and stop us from commercializing or increase the costs of commercializing our drug candidates.

Our success will depend in part on our ability to operate without infringing the intellectual property rights of third parties. We cannot guarantee that our drug candidates, or manufacture or use of our drug candidates, will not infringe third-party patents. Furthermore, a third party may claim that we or our manufacturing or commercialization collaborators are using inventions covered by the third party's patent rights and may go to court to stop us from engaging in our normal operations and activities, including making or selling our drug candidates. These lawsuits are costly and could affect our results of operations and divert the attention of managerial and scientific personnel. There is a risk that a court would decide that we or our commercialization collaborators are infringing the third party's patents and would order us or our collaborators to stop the activities covered by the patents. In that event, we or our commercialization collaborators may not have a viable way around the patent and may need to halt commercialization of the relevant drug candidate. In addition, there is a risk that a court will order us or our collaborators to pay the other party damages for having violated the other party's patents. If we collaborate with third parties in the development of technology in the future, our collaborators may not properly maintain or defend our intellectual property rights or may use our proprietary information in such a way as to invite litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to litigation or potential liability. Further, our collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability. In the future, we may agree to indemnify our collaborators against certain intellectual property infringement claims brought by third parties. The pharmaceutical and biotechnology industries have produced a proliferation of patents, and it is not always clear to industry participants, including us, which patents cover various types of drug candidates or methods of use. The coverage of patents is subject to interpretation by the courts, and the interpretation is not always uniform.

Any claims of patent infringement asserted by third parties would be time consuming and could:

- result in costly litigation;
- divert the time and attention of our technical personnel and management;
- cause development delays;
- prevent us from commercializing COR388 or our other drug candidates until the asserted patent expires or is finally held invalid or not infringed in a court of law;
- require us to develop non-infringing technology, which may not be possible on a cost-effective basis;

- require us to pay damages to the party whose intellectual property rights we may be found to be infringing, which may include treble damages if we are found to have been willfully infringing such intellectual property;

- require us to pay the attorney's fees and costs of litigation to the party whose intellectual property rights we may be found to be infringing; and/or

- require us to enter into royalty or licensing agreements, which may not be available on commercially reasonable terms, or at all.

If we are sued for patent infringement, we would need to demonstrate that our drug candidates or methods either do not infringe the patent claims of the relevant patent or that the patent claims are invalid, and we may not be able to do this. Proving invalidity is difficult.

For example, in the United States, proving invalidity requires a showing of clear and convincing evidence to overcome the presumption of validity enjoyed by issued patents. Even if we are successful in these proceedings, we may incur substantial costs and divert management's time and attention in pursuing these proceedings, which could have a material adverse effect on us. If we are unable to avoid infringing the patent rights of others, we may be required to seek a license, which may not be available, defend an infringement action or challenge the validity of the patents in court. Patent litigation is costly and time consuming. We may not have sufficient resources to bring these actions to a successful conclusion. In addition, if we do not obtain a license, develop or obtain non-infringing technology, fail to defend an infringement action successfully or have infringed patents declared invalid, we may incur substantial monetary damages, encounter significant delays in bringing our drug candidates to market and be precluded from manufacturing or selling our drug candidates.

We do not routinely conduct independent reviews of pending patent applications of and patents issued to third parties. We cannot be certain that others have not filed patent applications for technology covered by our pending applications, or that we were the first to invent the technology, because:

- some patent applications in the United States may be maintained in secrecy until the patents are issued;

- patent applications in the United States and elsewhere can be pending for many years before issuance, or unintentionally abandoned patents or applications can be revived;

- pending patent applications that have been published can, subject to certain limitations, be later amended in a manner that could cover our technologies, our drug candidates or the use of our drug candidates;

- identification of third-party patent rights that may be relevant to our technology is difficult because patent searching is imperfect due to differences in terminology among patents, incomplete databases and the difficulty in assessing the meaning of patent claims;

- patent applications in the United States are typically not published until 18 months after the priority date; and

- publications in the scientific literature often lag behind actual discoveries.

Furthermore, 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, and can involve other factors such as expert opinion. Our interpretation of the relevance or the scope of claims in a patent or a pending application may be incorrect, which may negatively impact our ability to market our drug candidates. Further, we may incorrectly determine

that our technologies, or drug candidates are not covered by a third-party patent or may incorrectly predict whether a third party's pending patent 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 drug candidates.

Our competitors may have filed, and may in the future file, patent applications covering technology similar to ours, and others may have or obtain patents or proprietary rights that could limit our ability to make, use, sell, offer for sale or import our drug candidates and future approved products or impair our competitive position. Numerous third-party U.S. and foreign issued patents and pending patent applications exist in the fields in which we are developing drug candidates. There may be third-party patents or patent applications with claims to compositions, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our drug candidates. Any such patent application may have priority over our patent applications, which could further require us to obtain rights to issued patents covering such technologies. If another party has filed a U.S. patent application on inventions similar to ours, we may have to participate in an interference proceeding declared by the USPTO to determine priority of invention in the United States. The costs of these proceedings could be substantial, and it is possible that such efforts would be unsuccessful if, unbeknownst to us, the other party had independently arrived at the same or similar inventions prior to our own inventions, resulting in a loss of our U.S. patent position with respect to such inventions. Other countries have similar laws that permit secrecy of patent applications, and may be entitled to priority over our applications in such jurisdictions.

Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources. In addition, any uncertainties resulting from the initiation and continuation of any litigation could have a material adverse effect on our ability to raise the funds necessary to continue our operations.

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

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States in several stages over the lifetime of the patents and/or applications. We have systems in place to remind us to pay these fees, and we employ an outside firm to pay these fees due to the USPTO and non-U.S. patent agencies. The USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. If we license intellectual property we may have to rely upon our licensors to comply with these requirements and effect payment of these fees with respect to any patents and patent applications that we license. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market and this circumstance would have a material adverse effect on our business.

We may be subject to claims that we have wrongfully hired an employee from a competitor or that we or our employees have wrongfully used or disclosed alleged confidential information or trade secrets of their former employers.

We may be subject to claims that our employees have wrongfully used or disclosed alleged trade secrets of their former employers. If we are not able to adequately prevent disclosure of trade secrets and other proprietary information, the value of our technology and drug candidate could be significantly diminished.

As is common in the biotechnology and pharmaceutical industries, we employ individuals who were previously employed at other biotechnology or pharmaceutical companies, including our competitors or potential

competitors. We may be subject to claims that these employees, or we, have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. We may also be subject to claims that former employees, or other third parties have an ownership interest in our patents or other intellectual property. In addition, we may face claims by third parties that our agreements with employees, contractors or consultants obligating them to assign intellectual property to us are ineffective or in conflict with prior or competing contractual obligations of assignment, which could result in ownership disputes regarding intellectual property we have developed or will develop and interfere with our ability to capture the commercial value of such intellectual property. 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, which could adversely affect our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed. Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

We rely on trade secrets to protect our proprietary technologies, especially where we do not believe patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors, and invention assignment agreements with employees, consultants and advisors, to protect our trade secrets and other proprietary information. In addition to contractual measures, we try to protect the confidential nature of our proprietary information using commonly accepted physical and technological security measures. Despite these efforts, we cannot provide any assurances that all such agreements have been duly executed, and these agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets and proprietary information. For example, the FDA, as part of its Transparency Initiative, is currently considering whether to make additional information publicly available on a routine basis, including information that we may consider to be trade secrets or other proprietary information, and it is not clear at the present time how the FDA's disclosure policies may change in the future, if at all. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

In addition, such security measures may not provide adequate protection for our proprietary information, for example, in the case of misappropriation of a trade secret by an employee, consultant, customer or third party with authorized access. Our security measures may not prevent an employee, consultant or customer from misappropriating our trade secrets and providing them to a competitor, and any recourse we take against such misconduct may not provide an adequate remedy to protect our interests fully. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our drug candidates that we consider proprietary. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time-consuming, and the outcome is unpredictable. Even though we use commonly accepted security measures, the criteria for protection of trade secrets can vary among different jurisdictions.

Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. Moreover, third parties may still obtain this information or may come upon this or similar information independently, and we would have no right to prevent them from using that technology or information to compete with us. Trade secrets could over time be disseminated within the industry through independent development, the publication of journal articles and the movement of personnel skilled in the art from company to company or academic to industry scientific positions.

Though our agreements with third parties typically restrict the ability of our advisors, employees, licensors, suppliers, third-party contractors and consultants to publish data potentially relating to our trade secrets, our agreements may contain certain limited publication rights. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent such competitor from using that technology or information to compete with us, which could harm our competitive position. Because from time to time we expect to rely on third parties in the development, manufacture, and distribution of our drug candidates and provision of our services, we must, at times, share trade secrets with them. Despite employing the contractual and other security precautions described above, the need to share trade secrets increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. If any of these events occurs or if we otherwise lose protection for our trade secrets, the value of this information may be greatly reduced and our competitive position would be harmed.

In the future, we may need to obtain licenses of third-party technology that may not be available to us or are available only on commercially unreasonable terms, and which may cause us to operate our business in a more costly or otherwise adverse manner that was not anticipated.

From time to time we may be required to license technology from third parties to further develop or commercialize our drug candidates. Should we be required to obtain licenses to any third-party technology, including any such patents required to manufacture, use or sell our drug candidates, such licenses may not be available to us on commercially reasonable terms, or at all. The inability to obtain any third-party license required to develop or commercialize any of our drug candidates could cause us to abandon any related efforts, which could seriously harm our business and operations.

Where we obtain licenses from or collaborate with third parties, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering technology that we license from third parties, or such activities, if controlled by us, may require the input of such third parties. We may also require the cooperation of our licensors and collaborators to enforce any licensed patent rights, and such cooperation may not be provided. Therefore, these patents and applications may not be prosecuted and enforced in a manner consistent with the best interests of our business, in compliance with applicable laws and regulations, which may affect the validity and enforceability of such patents or any patents that may issue from such applications. Moreover, if we do obtain necessary licenses, we will likely have obligations under those licenses, including making royalty and milestone payments, and any failure to satisfy those obligations could give our licensor the right to terminate the license. Termination of a necessary license, or expiration of licensed patents or patent applications, could have a material adverse impact on our business. Our business would suffer if any such licenses terminate, if the 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. Furthermore, if any exclusive licenses terminate, or if the underlying patents fail to provide the intended exclusivity, competitors or other third parties may gain the freedom to seek regulatory approval of, and to market, drug candidates identical to ours. 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 drug candidates, if any, the amounts may be significant. The amount of our future royalty obligations will likely depend on the technology and intellectual property we use in drug candidates that we successfully develop and commercialize, if any. Therefore, even if we successfully develop and commercialize drug candidates, we may be unable to achieve or maintain profitability.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

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 drug candidates that are similar to ours but that are not covered by the claims of the patents that we own;
- we or future collaborators might not have been the first to make the inventions covered by the issued patent or pending patent application that we own or have exclusively licensed;
- we or future collaborators might not have been the first to file patent applications covering certain of our 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 will not lead to issued patents;
- issued patents that we own or have exclusively licensed may be held invalid or unenforceable, as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive drug candidates for sale in our major commercial markets;
- we cannot ensure that any of our patents, or any of our pending patent applications, if issued, or those of our licensors, will include claims having a scope sufficient to protect our drug candidates;
- we cannot ensure that any patents issued to us or our licensors will provide a basis for an exclusive market for our commercially viable drug candidates or will provide us with any competitive advantages;
- we cannot ensure that our commercial activities or drug candidates will not infringe upon the patents of others;
- we cannot ensure that we will be able to successfully commercialize our drug candidates on a substantial scale, if approved, before the relevant patents that we own or license expire;
- we may not develop additional proprietary technologies that are patentable; and
- the patents of others may have an adverse effect on our business.

Should any of these events occur, they would significantly harm our business, results of operations and prospects.

Because of the expense and uncertainty of litigation, we may not be in a position to enforce our intellectual property rights against third parties.

Because of the expense and uncertainty of litigation, we may conclude that even if a third party is infringing our issued patent, any patents that may be issued as a result of our pending or future patent

applications or other intellectual property rights, the risk-adjusted cost of bringing and enforcing such a claim or action may be too high or not in the best interest of our company or our stockholders. In such cases, we may decide that the more prudent course of action is to simply monitor the situation or initiate or seek some other non-litigious action or solution.

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

Patents are of national or regional effect, and filing, prosecuting and defending patents on all of our drug candidates throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. As such, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing drug candidates made using our inventions in and into the United States or other jurisdictions. Further, the legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to pharmaceuticals, which could make it difficult for us to stop the infringement of our patents or marketing of competing drug candidates in violation of our proprietary rights generally. In addition, certain developing countries, including China and India, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, some 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, and in those countries, we and our licensors and licensees may have limited remedies if patents are infringed or if we or our licensors or licensees are compelled to grant a license to a third party, which could diminish the value of those patents. This could limit our potential revenue opportunities. Further, competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own drug candidates and, further, may export otherwise infringing drug candidates to territories where we have patent protection but where enforcement is not as strong as that in the United States. These drug candidates may compete with our drug candidates, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing. 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, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Changes in patent law in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our drug candidates.

As is the case with other biopharmaceutical companies, our success is heavily dependent on intellectual property, particularly patents. Our patent rights may be affected by developments or uncertainty in U.S. or non-U.S. patent statutes, patent case laws in USPTO rules and regulations or in the rules and regulations of non-U.S. patent offices.

Obtaining and enforcing patents in the pharmaceutical industry involves both technological and legal complexity and is therefore costly, time consuming and inherently uncertain. Changes in either the patent laws or interpretation of the patent laws in the United States could increase the uncertainties and costs. Recent patent reform legislation in the United States and other countries, including the Leahy-Smith America Invents Act (the Leahy-Smith Act), signed into law on September 16, 2011, could increase those uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents. The Leahy-Smith Act includes a number of significant changes to U.S. patent law. These include provisions that affect the way patent applications are prosecuted, redefine prior art and provide more efficient and cost-effective avenues for competitors to challenge the validity of patents. These include allowing third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent by

USPTO administered post-grant proceedings, including post-grant review, inter partes review, and derivation proceedings. After March 2013, under the Leahy-Smith Act, the United States transitioned to a first inventor to file system in which, assuming that the other statutory requirements are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. However, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects. In addition, Congress may pass patent reform legislation that is unfavorable to us.

The U.S. Supreme Court has ruled on several patent cases in recent years, narrowing the scope of patent protection available in certain circumstances and weakening the rights of patent owners in certain situations. Depending on future actions by the U.S. Congress, the U.S. courts, the USPTO and the relevant law-making bodies in other countries, the laws and regulations governing 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.

We may become subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We may be subject to claims that former employees 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 drug candidates or as a result of questions regarding co-ownership of potential joint inventions. Litigation may be necessary to resolve these and other claims challenging inventorship and/or ownership. Alternatively, or additionally, we may enter into agreements to clarify the scope of our rights in such intellectual property. 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 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.

Patent terms may be inadequate to protect our competitive position on our drug candidates for an adequate amount of time, and if we do not obtain patent term extension for our drug candidates, our business may be materially harmed.

Patent rights are of limited duration. In the United States, the natural expiration of a patent is generally 20 years after its first effective non-provisional filing date. In addition, although upon issuance a U.S. 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. Given the amount of time required for the development, testing and regulatory review of new drug candidates, patents protecting such candidates might expire before or shortly after such drug candidates are commercialized. Even if patents covering our drug candidates are obtained, once the patent life has expired for a drug candidate, we may be open to competition from generic products. A patent term extension of up to five years based on regulatory delay may be available in the United States under the Hatch-Waxman Act. However, only a single patent can be extended for each marketing approval, and any patent can be extended only once, for a single drug candidate. Moreover, the scope of protection during the period of the patent term extension does not extend to the full scope of the claim, but instead only to the scope of the drug candidate as approved. Further, a patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of drug candidate approval and only those claims covering such approved drug candidate, a method for using it or a method for manufacturing it may be extended. Laws governing analogous patent term extensions in foreign jurisdictions vary widely, as do

laws governing the ability to obtain multiple patents from a single patent family. Additionally, we may not receive an extension if we fail to apply within applicable deadlines, fail to apply prior to expiration of relevant patents or otherwise fail to satisfy applicable requirements. Moreover, the applicable time period or the scope of patent protection afforded could be less than we request. If we are unable to obtain patent term extension or restoration, or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our drug candidate will be shortened and our competitors may obtain approval of competing drug candidates following our patent expiration, and our revenue could be reduced.

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

Our current or future trademarks or trade names may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names, which we need to build name recognition among potential partners or customers in our markets of interest. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively and our business may be adversely affected. We 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 efforts to enforce or protect our proprietary rights related to trademarks, trade names, trade secrets, domain names, copyrights or other intellectual property may be ineffective and could result in substantial costs and diversion of resources and could adversely affect our financial condition or results of operations.

Moreover, any name we have proposed to use with our drug candidate in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. Similar requirements exist in Europe. The FDA typically conducts a review of proposed drug candidate names, including an evaluation of potential for confusion with other drug candidate names. If the FDA (or an equivalent administrative body in a foreign jurisdiction) objects to any of our proposed proprietary drug candidate names, we may be required to expend significant additional resources in an effort to identify a suitable substitute name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA. Furthermore, in many countries, owning and maintaining a trademark registration may not provide an adequate defense against a subsequent infringement claim asserted by the owner of a senior trademark. At times, competitors or other third parties may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. 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 COR388, our lead drug candidate, obtains regulatory approval, additional competitors could enter the market with generic versions, which may result in a material decline in sales of affected drugs.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, or the Hatch-Waxman Act, a pharmaceutical manufacturer may file an abbreviated new drug application, or ANDA, seeking approval of a generic copy of an approved, small molecule innovator drug. Under the Hatch-Waxman Act, a manufacturer may also submit a new drug application, or NDA, under section 505(b)(2) that references the FDA's prior approval of

the small molecule innovator drug. A 505(b)(2) NDA drug may be for a new or improved version of the original innovator drug. The Hatch-Waxman Act also provides for certain periods of regulatory exclusivity, which preclude FDA approval (or in some circumstances, FDA filing and reviewing) of an ANDA or 505(b)(2) NDA. In addition to the benefits of regulatory exclusivity, an innovator NDA holder may have patents claiming the active ingredient, drug formulation or an approved use of the drug, which would be listed with the drug in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," known as the "Orange Book." If there are patents listed in the Orange Book, a generic or 505(b)(2) applicant that seeks to market its drug before expiration of the patents must include in the ANDA a "Paragraph IV certification," challenging the validity or enforceability of, or claiming non-infringement of, the listed patent or patents. Notice of the certification must be given to the innovator, too, and if within 45 days of receiving notice the innovator sues to protect its patents, approval of the ANDA is stayed for 30 months, or as lengthened or shortened by the court.

Accordingly, if any of our small molecule drug candidates receive FDA approval, competitors could file ANDAs for generic versions of our drugs or 505(b)(2) NDAs that reference our drugs, respectively. If there are patents listed for COR388 in the Orange Book, those ANDAs and 505(b)(2) NDAs would be required to include a certification as to each listed patent indicating whether the ANDA applicant does or does not intend to challenge the patent. We cannot predict how any generic competitor would address patents we may list in the Orange Book, if any, whether we would sue on any such patents, or the outcome of any such suit.

We may not be successful in securing or maintaining proprietary patent protection for drug candidates and technologies we develop or license. Moreover, if any of our owned or in-licensed patents that are listed in the Orange Book are successfully challenged by way of a Paragraph IV certification and subsequent litigation, the affected drug could immediately face generic competition and its sales would likely decline rapidly and materially. Should sales decline, we may have to write off a portion or all of the intangible assets associated with the affected drug and our results of operations and cash flows could be materially and adversely affected.

Risks Relating to Owning Our Common Stock and This Offering

Our share price may be volatile, and you may be unable to sell your shares at or above the offering price.

The market price of our common stock is likely to be volatile and could be subject to wide fluctuations in response to many risk factors listed in this section, and others beyond our control, including:

- results of clinical trials and, in particular, our Phase 2/3 GAIN trial;
- results of clinical trials of other drug candidates being evaluated for Alzheimer's disease or other neurodegenerative diseases;
- regulatory actions with respect to our drug candidates or our competitors' drug candidates;
- actual or anticipated fluctuations in our financial condition and operating results, including fluctuations in our quarterly and annual results;
- announcements of technological innovations by us or our competitors;
- overall conditions in our industry and the markets in which we operate;
- addition or loss of significant customers, or other developments with respect to significant customers;
- changes in laws or regulations applicable to our drug candidates;
- actual or anticipated changes in our growth rate relative to our competitors;

- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- additions or departures of key personnel;
- competition from existing drug candidates or new drug candidates that may emerge;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- disputes or other developments related to proprietary rights, including patents, litigation matters, and our ability to obtain intellectual property protection for our technologies;
- announcement or expectation of additional financing efforts;
- sales of our common stock by us or our stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- market conditions for pharmaceutical stocks in general;
- the expiration of contractual lock-up agreements with our executive officers, directors and stockholders; and
- general economic and market conditions.

Furthermore, the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our common stock. In addition, prior to this offering, there has been no public market for our common stock. Although we have applied to have our common stock listed on the Nasdaq Global Select Market, an active trading market may not develop following the closing of this offering or, if developed, 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. If the market price of our common stock after this offering does not exceed the initial public offering price, you may not realize any return on your investment in us and may lose some or all of your investment. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

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

Sales of a substantial number of shares of our common stock in the public market after 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. Based on the number of shares of common stock outstanding as of December 31, 2018, upon the closing of this offering, we will have 26,013,334 shares of common stock outstanding, assuming no exercise of our outstanding options (and no exercise of the underwriters' option to purchase additional shares from us) or 26,675,134 shares of common stock if the underwriters' option to purchase additional shares is exercised in full.

All of the common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares held by our affiliates as defined in Rule 144 under the Securities Act. The remaining 21,601,334 shares of common stock outstanding after this offering, based on shares outstanding as of December 31, 2018, will be restricted as a result of securities laws, lock-up agreements or other contractual restrictions that restrict transfers for at least 180 days after the date of this prospectus, subject to certain extensions. See also the section of this prospectus captioned “Shares Eligible for Future Sale.”

The underwriters may, in their sole discretion, release all or some portion of the shares subject to lock-up agreements with the underwriters prior to expiration of the lock-up period. See also the section of this prospectus captioned “Shares Eligible for Future Sale.” For more information regarding the lock-up agreements with the underwriters see the section of this prospectus captioned “Underwriting.”

The holders of 21,330,749 shares of common stock, or 98.75% based on shares outstanding on an as-converted basis as of December 31, 2018, will be entitled to rights with respect to registration of such shares under the Securities Act pursuant to a registration rights agreement between such holders and us. If such holders, by exercising their registration rights, sell a large number of shares, they could adversely affect the market price for our common stock. If we file a registration statement for the purpose of selling additional shares to raise capital and are required to include shares held by these holders pursuant to the exercise of their registration rights, our ability to raise capital may be impaired. We intend to file a registration statement on Form S-8 under the Securities Act to register 5,141,732 shares subject to outstanding stock options issued under the 2014 Plan and shares of common stock reserved for issuance under the 2019 Plan and the 2019 ESPP. Both the 2019 Plan and the 2019 ESPP provide for automatic increases in the shares reserved for issuance under the plans which could result in additional dilution to our stockholders. Once we register the shares under these plans, they can be freely sold in the public market upon issuance and vesting, subject to a 180-day lock-up period and other restrictions provided under the terms of the applicable plan and/or the equity award agreements entered into with participants in the plan.

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a return.

Our management will have broad discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. Accordingly, investors will need to rely on our judgment with respect to the use of these proceeds. We intend to use the net proceeds from this offering to fund our global Phase 2/3 GAIN clinical trial for COR388, and to support future clinical and preclinical activities, manufacturing and development of our library of compounds, as well as for working capital and general corporate purposes, which may include the costs of operating as a public company. While we have no current agreements, commitments or understandings for any specific strategic acquisitions or in-licenses at this time, we may use a portion of the net proceeds for these purposes. For more information see, “Use of Proceeds.” The failure by our management to apply these funds effectively could adversely affect our ability to continue maintaining and expanding our business. Until the net proceeds are used, they may be placed in investments that do not produce significant income or that may lose value.

We have never paid dividends on our capital stock and we do not intend to pay dividends for the foreseeable future. Consequently, any gains from an investment in our common stock will likely depend on whether the price of our common stock increases.

We have never declared or paid any dividends on our common stock and do not intend to pay any dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Insiders have substantial control over us and will be able to influence corporate matters.

As of March 31, 2019, our directors and executive officers and our affiliates will beneficially own, in the aggregate, approximately 32.32% of our outstanding capital stock upon the closing of this offering, based on the assumed initial public offering price of $17.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, and assuming no exercise of the underwriters' option to purchase additional shares. In addition, certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. If such stockholders purchase all shares they have indicated an interest in purchasing, our directors and executive officers and their affiliates will beneficially own in the aggregate, approximately 40.79% of our outstanding capital stock upon the completion of this offering (based on the assumed initial public offering price of $17.00 per share, the midpoint of the estimated price range set forth on the cover page of this prospectus, and assuming no exercise of the underwriters' option to purchase additional shares). As a result, these stockholders will be able to exercise significant influence over all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as a merger or other sale of our company or its assets. This concentration of ownership could limit stockholders' ability to influence corporate matters and may have the effect of delaying or preventing a third party from acquiring control over us.

Because the public offering price of our common stock will be substantially higher than the net tangible book value per share of our outstanding common stock following this offering, new investors will experience immediate and substantial dilution.

The public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock immediately following this offering based on the total value of our tangible assets less our total liabilities. Therefore, if you purchase shares of our common stock in this offering, you will experience immediate dilution of approximately $11.65 per share, the difference between the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and the net tangible book value per share of our common stock as of December 31, 2018, after giving effect to the issuance of shares of our common stock in this offering. Furthermore, if the underwriters exercise their overallotment option, or outstanding options and warrants are exercised, you could experience further dilution. For a further description of the dilution that you will experience immediately after the offering, see the section of this prospectus captioned "Dilution."

Our failure to meet the continued listing requirements of the Nasdaq Global Select Market could result in a delisting of our common stock.

If, after listing, we fail to satisfy the continued listing requirements of the Nasdaq Global Select Market, such as the corporate governance requirements or the minimum closing bid price requirement, Nasdaq may take steps to delist our common stock. Such a delisting would likely have a negative effect on the price of our common stock and would impair your ability to sell or purchase our common stock when you wish to do so. In the event of a delisting, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our common stock to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the Nasdaq minimum bid price requirement or prevent future non-compliance with Nasdaq's listing requirements.

If securities or industry analysts do not publish research or reports about our business or publish negative reports about our business, our share price and trading volume could decline.

The trading market for our common stock will depend on the research and reports that securities or industry analysts publish about us or our business. Currently, we do not have any analyst coverage and we may not obtain analyst coverage in the future. In the event we obtain analyst coverage, we will not have any control over such analysts. If one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our share price would likely decline. If one or more of these analysts cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Our charter documents and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our amended and restated certificate of incorporation and our amended and restated bylaws to be in effect upon the closing of this offering will contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions. These provisions include:

- providing for a classified board of directors with staggered, three-year terms;
- authorizing our board of directors to issue preferred stock with voting or other rights or preferences that could discourage a takeover attempt or delay changes in control;
- prohibiting cumulative voting in the election of directors;
- providing that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- prohibiting the adoption, amendment or repeal of our amended and restated bylaws or the repeal of the provisions of our amended and restated certificate of incorporation to be in effect upon the closing of this offering regarding the election and removal of directors without the required approval of at least 66.67% of the shares entitled to vote at an election of directors;
- prohibiting stockholder action by written consent;
- limiting the persons who may call special meetings of stockholders; and
- requiring advance notification of stockholder nominations and proposals.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, the provisions of Section 203 of the Delaware General Corporate Law, or the DGCL, govern us. 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 without the consent of our board of directors.

These and other provisions in our amended and restated certificate of incorporation and our amended and restated bylaws to be in effect upon the closing of this offering and under Delaware law could discourage potential takeover attempts, reduce the price investors might be willing to pay in the future for shares of our common stock and result in the market price of our common stock being lower than it would be without these provisions. For more information, see the section of this prospectus captioned “Description of Capital Stock—Anti-takeover Effects of Delaware Law and Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws.”

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

Our amended and restated certificate of incorporation will provide that, unless we consent to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for:

- any derivative action or proceeding brought on our behalf;

- any action asserting a claim of breach of a fiduciary duty owed by, or other wrongdoing by, any of our directors, officers, employees or agents or our stockholders;

- any action asserting a claim against us arising under the DGCL, our amended and restated certificate of incorporation, or our amended and restated bylaws; and

- any action asserting a claim against us that is governed by the internal-affairs doctrine;

provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees or agents and arising under the Securities Act. We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. However, these provisions may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any applicable action brought against us, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

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

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the DGCL, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;

- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;

- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;

- we will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification;

- the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and

- we may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

We are an "emerging growth company," and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended, or the JOBS Act, and we intend to take advantage of some of the exemptions from reporting requirements that are applicable to other public companies that are not emerging growth companies, including:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;

- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

- 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

- not being required to hold non-binding advisory votes on executive compensation or new executive compensation arrangements in connection with a merger, acquisition, consolidation, proposed sale or disposition of all or substantially all of our assets.

Further, the JOBS Act permits an "emerging growth company" such as us to take advantage of an extended transition time to comply with new or revised accounting standards as applicable to public companies. We have irrevocably opted out of the extended transition period for complying with new or revised accounting standards applicable to public companies.

We cannot predict if investors will find our common stock less attractive because we will rely on these exemptions. 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 may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

Our internal computer systems, or those used by our third-party research institution collaborators, CROs or other contractors or consultants, may fail or suffer security breaches.

Despite the implementation of security measures, our internal computer systems and those of our future CROs and other contractors and consultants may be vulnerable to damage from computer viruses and unauthorized access. Although to our knowledge we have not experienced any such material system failure or

security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations. For example, the loss of clinical trial data from completed, ongoing or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Likewise, we rely on our third-party research institution collaborators for research and development of our drug candidates and other third parties for the manufacture of our drug candidates and to conduct clinical trials, and similar events relating to their computer systems could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or systems, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our drug candidates could be delayed.

Our ability to utilize our federal net operating loss and tax credit carryforwards may be limited under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code.

The limitations apply 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 by certain stockholders over a three-year period. If we have experienced an ownership change at any time since our incorporation, we may already be subject to limitations on our ability to utilize our existing net operating losses, or NOLs, and other tax attributes to offset taxable income or tax liability. In addition, this offering and future changes in our stock ownership, which may be outside of our control, may trigger an ownership change. Similar provisions of state tax law may also apply to limit our use of accumulated state tax attributes. As a result, even if we earn net taxable income in the future, our ability to use our pre-change NOL carryforwards and other tax attributes to offset such taxable income or tax liability may be subject to limitations, which could potentially result in increased future income tax liability to us.

Recent U.S. tax legislation and future changes to applicable U.S. tax laws and regulations may have a material adverse effect on our business, financial condition and results of operations.

Changes in laws and policy relating to taxes may have an adverse effect on our business, financial condition and results of operations. For example, the U.S. government recently enacted significant tax reform legislation, and certain provisions of the new law may adversely affect us. Changes include, but are not limited to, a federal corporate income tax rate decrease to 21% for tax years beginning after December 31, 2017, a reduction to the maximum deduction allowed for net operating losses generated in tax years after December 31, 2017 and the elimination of carrybacks of net operating losses. The legislation is unclear in many respects and could be subject to potential amendments and technical corrections, and is subject to interpretations and implementing regulations by the Treasury and Internal Revenue Service, any of which could mitigate or increase certain adverse effects of the legislation. In addition, it is unclear how these U.S. federal income tax changes will affect state and local taxation. Generally, future changes in applicable U.S. tax laws and regulations, or their interpretation and application could have an adverse effect on our business, financial condition and results of operations.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements concerning our business, operations and financial performance and condition, as well as our plans and expectations for our business operations and financial performance and condition. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "anticipate," "assume," "believe," "contemplate," "continue," "could," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "predict," "potential," "positioned," "seek," "should," "target," "will," "would" and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology.

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

- our financial performance;
- the sufficiency of our existing cash and cash equivalents to fund our future operating expenses and capital expenditure requirements;
- our ability to obtain funding for our operations, including funding necessary to develop and commercialize our drug candidates;
- the ability of our clinical trials to demonstrate safety and efficacy of our drug candidates, and other positive results;
- the success, cost and timing of our development activities, preclinical studies and clinical trials
- the timing and focus of our future clinical trials, and the reporting of data from those trials;
- our plans relating to commercializing our drug candidates, if approved;
- our plans and ability to establish sales, marketing and distribution infrastructure to commercialize any drug candidates for which we obtain approval;
- our ability to attract and retain key scientific and clinical personnel;
- our ability to contract with third-party suppliers and manufacturers and their ability to perform adequately;
- our reliance on third parties to conduct clinical trials of our drug candidates, and for the manufacture of our drug candidates for preclinical studies and clinical trials;
- our ability to expand our drug candidates into additional indications and patient populations;
- the success of competing therapies that are or may become available;
- the beneficial characteristics, safety and efficacy of our drug candidate;
- existing regulations and regulatory developments in the United States and other jurisdictions;

- our ability to obtain and maintain regulatory approval of our drug candidates, and any related restrictions, limitations and/or warnings in the label of any approved drug candidate;
- our plans relating to the further development and manufacturing of our drug candidates, including additional indications for which we may pursue;
- our plans and ability to obtain or protect intellectual property rights, including extensions of existing patent terms where available;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our drug candidates and technology;
- the potential purchases of common stock by certain of our existing stockholders and their affiliated entities, including stockholders who are associated with certain of our directors, in this offering;
- potential claims relating to our intellectual property; and
- other risk factors included under “Risk Factors” in this prospectus.

We operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this prospectus. The results, events and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time those statements are made and/or management’s good faith belief as of that time with respect to future events. While we believe that information provides a reasonable basis for these statements, that information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely on these statements.

Forward-looking statements speak only as of the date of this prospectus. You should not put undue reliance on any forward-looking statements. We assume no obligation to update forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information, except to the extent required by applicable laws. If we update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the Securities and Exchange Commission as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

INDUSTRY AND MARKET DATA

This prospectus contains estimates, projections and other information concerning our industry, our business, and the markets for our drug candidates, including data regarding the estimated size of such markets and the incidence of certain medical conditions. We obtained the industry, market and similar data set forth in this prospectus from our internal estimates and research and from academic and industry research, publications, surveys, and studies conducted by third parties, including governmental agencies, including the following:

- The Alzheimer's Association, "2018 Alzheimer's Disease Facts and Figures;"
- The Alzheimer's Association, "2017 Alzheimer's Disease Facts and Figures;"
- Eke, P.I., Dye, B.A., Wei, L., Thornton-Evans, G.O., Genco, R.J. "Prevalence of Periodontitis in Adults in the United States: 2009 and 2010." *Journal of Dental Research*. Volume 91, Issue 10, August 2012;
- Pharmaceutical Research and Manufacturers of America, "2017 Medicines in Development for Alzheimer's Disease;"
- University of California San Francisco Memory and Aging Center, "Familial Alzheimer's Disease;" and
- World Health Organization, "Dementia fact sheet."

The content of the above sources, except to the extent specifically set forth in this prospectus, does not constitute a portion of this prospectus and is not incorporated herein. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. While we believe that the data we use from third parties are reliable, we have not independently verified the accuracy or completeness of the data. Further, while we believe our internal research is reliable, such research has not been verified by any third party. You are cautioned not to give undue weight to any such information, projections, and estimates.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of shares of our common stock in this offering will be approximately $67.6 million, assuming an initial public offering price of $17.00 per share, which is the midpoint of the estimated price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise in full their option to purchase additional shares, we estimate that the net proceeds from this offering will be approximately $78.1 million.

A $1.00 increase (decrease) in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our net proceeds from this offering by approximately $4.1 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 underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase (decrease) the number of shares of common stock we are offering. An increase (decrease) of 1.0 million shares in the number of shares of common stock offered would increase (decrease) our net proceeds from this offering by approximately $15.8 million, assuming the initial public offering price remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable to us.

We intend to use the net proceeds from this offering to fund our global Phase 2/3 GAIN clinical trial for COR388, and to support future clinical and preclinical activities, manufacturing and development of our library of compounds, as well as for working capital and general corporate purposes, which may include the costs of operating as a public company.

We estimate that our current capital resources, along with the net proceeds from this offering, will be sufficient to fund our operating expenses and capital expenditure requirements through 2021, including through the completion and the announcement of the top-line results of our Phase 2/3 GAIN trial. However, the net proceeds from this offering, together with our current cash, will not be sufficient for us to fund the development of COR388 through regulatory approval, and we will need to raise additional capital to complete the development and commercialization of COR388. At this time, we cannot predict with certainty the amount of capital needed to complete the development and commercialization of COR388, but we anticipate seeking additional capital in the future to fund such capital needs through further equity offerings and/or debt borrowings. We cannot guarantee that we will be able to raise additional capital on reasonable terms or at all.

This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. 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 closing of this offering or the amounts that we will actually spend on the uses set forth above.

The amounts and timing of our actual expenditures and the extent of our Phase 2/3 GAIN trial and research and development activities may vary significantly depending on numerous factors, including the progress of our development efforts, the status of and results from any preclinical or clinical trials we may commence in the future, our ability to take advantage of expedited programs or to obtain regulatory approval for any other drug candidates we may identify and pursue, the timing and costs associated with the manufacture and supply of any other drug candidates we may identify and pursue for clinical development or commercialization, and any unforeseen cash needs. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

We intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any cash dividends in the foreseeable future. Any future determination regarding the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short-term investments and capitalization as of December 31, 2018, after giving effect to a one-for-0.367647 reverse split of our capital stock, on:

- an actual basis;
- a pro forma basis, giving effect to (i) the conversion of all of our outstanding shares of our redeemable convertible preferred stock into an aggregate of 18,161,027 shares of our common stock, (ii) the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, and (iii) the effectiveness of our amended and restated certificate of incorporation, in each case, upon the closing of this offering; and
- a pro forma as adjusted basis, giving effect to (i) the pro forma adjustments set forth above and (ii) the sale and issuance of shares of our common stock by us in this offering, based upon the assumed initial public offering price of $17.00 per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The information below is illustrative only, and our capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of the offering determined at the pricing of this offering. You should read this table together with the section of this prospectus entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our historical financial statements and related notes thereto included elsewhere in this prospectus.

	As of December 31, 2018		
(In thousands, except share and per share data)	Actual	Pro Forma	Pro Forma As Adjusted
		(Unaudited)	
Cash, cash equivalents and short-term investments	$ 71,716	$ 71,717	$ 139,357
Redeemable convertible preferred stock, par value $0.001—18,439,076 shares authorized; 18,161,027 shares issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	104,046	—	—
Stockholders’ (deficit) equity:			
Preferred stock, $0.001 par value—no shares authorized, issued and outstanding, actual; 10,000,000 shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted			
Common stock, par value $0.001 – 24,794,114 shares authorized; 3,412,366 shares issued and outstanding, actual; 100,000,000 shares authorized, 21,601,334 shares issued and outstanding, pro forma; 100,000,000 shares authorized, 26,013,334 shares issued and outstanding, pro forma as adjusted	3	22	26
Additional paid-in capital	245	104,273	171,909
Accumulated other comprehensive loss	(49)	(49)	(49)
Accumulated deficit	(32,825)	(32,825)	(32,825)
Total stockholders’ (deficit) equity	(32,626)	71,421	139,061
Total capitalization	$ 71,420	$ 71,421	$ 139,061

A $1.00 increase (decrease) in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the pro

forma as adjusted amount of each of cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' equity by approximately $4.1 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 underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, an increase (decrease) of 1.0 million shares in the number of shares of common stock offered would increase (decrease) each of cash, cash equivalents and short-term investments, working capital, total assets and total stockholders' equity by approximately $15.8 million, assuming the initial public offering price remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. The pro forma information discussed above is illustrative only and will be adjusted based on the actual initial public offering price, the number of shares we sell and other terms of this offering that will be determined at pricing.

Except as otherwise indicated, all information in this prospectus is based upon 21,601,334 shares of our common stock outstanding as of December 31, 2018, assuming the conversion of all of our outstanding shares of redeemable convertible preferred stock as of December 31, 2018 into 18,161,027 shares of common stock and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering, and excludes:

- 1,885,504 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock outstanding as of December 31, 2018, with a weighted-average exercise price of $1.57 per share;
- 525,728 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock granted after December 31, 2018, with a weighted-average exercise price of $7.99 per share;
- 2,682,942 shares of common stock reserved for future grants or issuance under our 2019 Plan, which share reserve will automatically increase each year, as more fully described in "Executive Compensation—Equity Incentive Plans;" and
- 268,295 shares of common stock reserved for future issuance under our 2019 ESPP, which share reserve will automatically increase each year, as more fully described in "Executive Compensation—Equity Incentive Plans."

DILUTION

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

Our historical net tangible book value (deficit) as of December 31, 2018 was $(32.6) million, or $(9.56) per share of common stock. Our historical net tangible book value (deficit) per share represents total tangible assets less total liabilities, less redeemable convertible preferred stock, divided by the number of our shares of common stock outstanding as of December 31, 2018.

Our pro forma net tangible book value (deficit) as of December 31, 2018, before giving effect to the issuance and sale of our shares of common stock in this offering, was $71.4 million, or $3.31 per share of our common stock. Our pro forma net tangible book value before the issuance and sale of our shares of common stock in this offering represents the amount of our total tangible assets reduced by the amount of our total liabilities and divided by the total number of shares of our common stock outstanding as of December 31, 2018, assuming the conversion of all of our outstanding shares of redeemable convertible preferred stock into 18,161,027 shares of our common stock and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock upon the closing of this offering.

After giving effect to our sale of 4,412,000 shares of our common stock in this offering at an assumed initial public offering price of $17.00 per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of December 31, 2018, after giving effect to a one-for-0.367647 reverse split of our capital stock on April 25, 2019, would have been $139.1, or $5.35 per share. This represents an immediate increase in net tangible book value of $2.04 per share to our existing stockholders and an immediate dilution of $11.65 per share to new investors purchasing shares of common stock in this offering. We determine dilution by subtracting the pro forma as adjusted net tangible book value per share after this offering from the amount of cash that a new investor paid for a share of common stock.

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

Assumed initial public offering price per share		$17.00
Historical net tangible book value per share as of December 31, 2018	$(9.56)	
Increase in pro forma net tangible book value per share	12.87	
Pro forma net tangible book value per share as of December 31, 2018	3.31	
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares in this offering	$ 2.04	
Pro forma net tangible book value per share after this offering		5.35
Dilution per share to new investors in this offering		$11.65

The dilution information discussed above is illustrative only and may change based on the actual initial public offering price and other terms of this offering. A $1.00 increase (decrease) in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value by approximately $0.15 per share and the dilution per share to new investors in this offering by $0.15 per share, 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 underwriting discounts and commissions and estimated offering expenses payable by us.

Similarly, an increase (decrease) of 1.0 million shares in the number of shares of common stock offered would increase (decrease) our pro forma as adjusted net tangible book value by $0.38 per share and the dilution

per share to new investors in this offering by $0.38 per share, assuming the initial public offering price remains the same, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The following table summarizes, as of December 31, 2018, on the pro forma as-adjusted basis described above, the difference between the existing stockholders and new investors with respect to the number of shares of common stock purchased from us, the total consideration paid to us and the average price per share paid or to be paid to us at an assumed initial public offering price of $17.00 per share, which is the midpoint of the estimated offering price range set forth on the cover page of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	Percent	Amount	Percent	
Existing stockholders	21,601,334	83.0%	$ 99,487,880	57.0%	$ 4.61
New investors	4,412,000	17.0%	$ 75,004,000	43.0%	$ 17.00
Total	26,013,334	100.0%	$174,491,880	100.0%	$ 6.71

(1) Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these persons or entities as they will on any other shares sold to the public in this offering. The presentation in this table regarding ownership by existing stockholders does not give effect to any purchases in this offering by such investors.

If the underwriters exercise their option to purchase additional shares in full, the percentage of shares of our common stock held by existing stockholders would be 80.98% and the percentage of shares of our common stock held by new investors would be 19.02%.

Each $1.00 increase (decrease) in the assumed initial public offering price of $17.00 per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) total consideration paid by new investors and total consideration paid by all stockholders by $4.1 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 underwriting discounts and commissions and estimated offering expenses payable by us.

Except as otherwise indicated, the above discussion and tables assume no exercise of the underwriters' option to purchase additional shares of common stock from us. If the underwriters exercise their option to purchase additional shares in full, the pro forma as-adjusted net tangible book value per share would be $5.61 per share, and the dilution per share to new investors in this offering would be $11.39 per share.

Except as otherwise indicated, all information in this prospectus is based upon 21,601,334 shares of our common stock outstanding as of December 31, 2018, assuming the conversion of all of our outstanding shares of redeemable convertible preferred stock as of December 31, 2018 into 18,161,027 shares of common stock and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering, and excludes:

- 1,885,504 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock outstanding as of December 31, 2018, with a weighted-average exercise price of $1.57 per share;
- 525,728 shares of our common stock issuable upon the exercise of options to purchase shares of our common stock granted after December 31, 2018, with a weighted-average exercise price of $7.99 per share;

- 2,682,942 shares of common stock reserved for future grants or issuance under our 2019 Plan, which share reserve will automatically increase each year, as more fully described in "Executive Compensation—Equity Incentive Plans;" and

- 268,295 shares of common stock reserved for future issuance under our 2019 ESPP, which share reserve will automatically increase each year, as more fully described in "Executive Compensation—Equity Incentive Plans."

To the extent that any outstanding options are exercised, new options are issued under our equity incentive plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

SELECTED HISTORICAL FINANCIAL DATA

You should read the selected historical financial data set forth below in conjunction with our historical financial statements and related noted thereto included elsewhere in this prospectus and the information under the section "Management's Discussion and Analysis of Financial Condition and Results of Operations."

We derived the selected historical statements of operations data for the years ended December 31, 2017 and 2018 and the historical balance sheet data as of December 31, 2017 and 2018, from our audited historical financial statements appearing elsewhere in this prospectus. The selected historical financial data included in this section are not intended to replace the historical financial statements and related notes thereto included elsewhere in this prospectus. Our historical results are not necessarily indicative of our future performance.

Selected Historical Financial Data

(in thousands, except share and per share data)	Year Ended December 31, 2017	2018
Summary Statement of Operations Data:		
Operating expenses:		
Research and development	$ 9,099	$ 10,085
General and administrative	1,271	2,034
Net loss	(12,235)	(12,476)
Net loss per share	(3.70)	(3.71)

(in thousands)	As of December 31, 2017	2018
Summary Balance Sheet Data:		
Cash, cash equivalents and short-term investments	$ 7,343	$ 71,716
Working capital(1)	5,774	71,127
Total assets	7,718	72,877
Long-term obligations less current portion	7,171	—
Redeemable convertible preferred stock	17,178	104,046
Additional paid-in capital	66	245
Total stockholders' equity (deficit)	(20,280)	(32,626)

(1) We define working capital as current assets less 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 the section of this prospectus entitled "Selected Historical Financial Data" and our historical financial statements and related notes thereto included elsewhere in this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations, and intentions, that are based on the beliefs of our management. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section of this prospectus entitled "Risk Factors."

Overview

We are a clinical stage biopharmaceutical company pioneering a novel disease-modifying therapeutic approach to treat what we believe to be a key underlying cause of Alzheimer's and other degenerative diseases. Our approach is based on the seminal discovery of the presence of *Porphyromonas gingivalis*, or *P. gingivalis*, and its secreted toxic virulence factor proteases, called gingipains, in the brains of greater than 90% of more than 100 Alzheimer's patients observed across multiple studies to date. Additionally, we have observed that *P. gingivalis* infection causes Alzheimer's pathology in animal models, and these effects have been successfully treated with a gingipain inhibitor in preclinical studies. Our proprietary lead drug candidate, COR388, is an orally-administered, brain-penetrating small molecule gingipain protease inhibitor. COR388 was well-tolerated with no concerning safety signals in our Phase 1a and Phase 1b clinical trials conducted to date, which enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. We initiated a global Phase 2/3 clinical trial of COR388, called the GAIN trial, in mild to moderate Alzheimer's patients in April 2019 and expect top-line results by the end of 2021.

Financial Overview

Since commencing material operations in 2014, we have devoted substantially all of our efforts and financial resources to building our research and development capabilities and establishing our corporate infrastructure.

To date, we have not generated any revenue and we have never been profitable. We have incurred net losses since the commencement of our operations. As of December 31, 2018, we had an accumulated deficit of $32.8 million. We incurred a net loss of $12.5 million in the year ended December 31, 2018. We do not expect to generate product revenue unless and until we obtain marketing approval for and commercialize a drug candidate, and we cannot assure you that we will ever generate significant revenue or profits.

To date, we have financed our operations primarily through issuance of convertible promissory notes and redeemable convertible preferred stock. From inception through December 31, 2018, we received net proceeds of approximately $99.5 million from the issuance of redeemable convertible preferred stock and convertible promissory notes. To date, we received net proceeds of $7.8 million from the sale and issuance of shares of our Series A redeemable convertible preferred stock in the year ended December 31, 2015 net proceeds of $8.0 million from the sales of our redeemable Series A convertible stock in the year ended December 31, 2016 net proceeds of $7.8 million from the sale and issuance of convertible promissory notes in the year ended December 31, 2017, net proceeds of $0.2 million from the sale and issuance of convertible promissory notes and net proceeds of $75.7 million from the sale and issuance of shares of our Series B redeemable convertible preferred stock in the year ended December 31, 2018. As of December 31, 2018, we had cash, cash equivalents and short-term investments of $71.7 million. As of March 31, 2019, we had cash, cash equivalents and short-term investments of $59.0 million, which excludes long-term investments of $5.7 million.

Our cash equivalents and short-term investments are held in money market funds, investments in corporate securities and government agency obligations.

We believe that our existing cash, cash equivalents and short-term investments, together with the net proceeds of this offering, will be sufficient to fund our planned operations through 2021, including through the completion and the announcement of the top-line results of our Phase 2/3 GAIN trial. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect.

We expect to incur substantial expenditures in the foreseeable future as we expand our pipeline and advance our drug candidates through clinical development, the regulatory approval process and, if approved, commercial launch activities. Specifically, in the near term we expect to incur substantial expenses relating to our ongoing and planned clinical trials, the development and validation of our manufacturing processes, and other development activities. Furthermore, upon the closing of this offering, we expect to incur additional costs associated with operating as a public company, including significant legal, accounting, investor relations and other expenses that we did not incur as a private company.

We will need substantial additional funding to support our continuing operations and pursue our development strategy. Until such time as we can generate significant revenue from sales of an approved drug, if ever, we expect to finance our operations through the sale of equity, debt financings or other capital sources. Adequate funding may not be available to us on acceptable terms, or at all. If we fail to raise capital or enter into such agreements as, and when, needed, we may have to significantly delay, scale back or discontinue the development and commercialization of our drug candidates or delay our efforts to expand our product pipeline.

Components of Operating Results

Operating Expenses

Research and Development Expenses

Our research and development expenses consist of expenses incurred in connection with the research and development of our research programs. These expenses include payroll and personnel expenses, including stock-based compensation, for our research and product development employees, laboratory supplies, product licenses, consulting costs, contract research, preclinical and clinical expenses, and depreciation. We expense both internal and external research and development costs as they are incurred. Non-refundable advance payments and deposits for services that will be used or rendered for future research and development activities are recorded as prepaid expenses and recognized as an expense as the related services are performed.

To date, substantially all of our research and development expenses have supported the advancement of COR388 and our other drug candidates are in early-stage preclinical development. As a result, we do not allocate our costs to individual drug candidates. We expect that at least for the foreseeable future, a substantial majority of our research and development expense will support the clinical and regulatory development of COR388.

We expect our research and development expenses to increase substantially during the next few years as we seek to complete existing and initiate additional clinical trials, pursue regulatory approval of COR388 and advance other drug candidates into preclinical and clinical development. Over the next few years, we expect our preclinical, clinical and contract manufacturing expenses to increase significantly relative to what we have incurred to date. Predicting the timing or the final cost to complete our clinical program or validation of our manufacturing and supply processes is difficult and delays may occur because of many factors.

General and Administrative Expenses

General and administrative expenses consist principally of personnel-related costs, including payroll and stock-based compensation, for personnel in executive, finance, human resources, business and corporate development, and other administrative functions, professional fees for legal, consulting, and accounting services, rent and other facilities costs, depreciation, and other general operating expenses not otherwise classified as research and development expenses.

We anticipate that our general and administrative expenses will increase substantially as a result of staff expansion and additional occupancy costs, as well as costs associated with being a public company, including higher legal and accounting fees, investor relations costs, higher insurance premiums and other compliance costs associated with being a public company.

Interest Income

Interest and other income, net consists primarily of interest earned on our short-term investments in corporate notes and government agency notes.

Interest Expense

Interest and other expense, consists primarily of non-cash charges relating to expenses settled with the issuance of equity.

Change in fair value of derivative liability

The change in the fair value of the derivative liability is the change in valuation of the bifurcated redemption premium related to the convertible promissory notes.

Critical Accounting Policies, Significant Judgments and Use of Estimates

Our financial statements have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We believe that the accounting policies discussed below are critical to understanding our historical and future performance, as these policies relate to the more significant areas involving management's judgments and estimates.

While our significant accounting policies are described in the notes to our financial statements, we believe that the following critical accounting policies are most important to understanding and evaluating our reported financial results.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development expenses consist primarily of personnel costs for our research and product development employees. Also included are non-personnel costs such as professional fees payable to third parties for preclinical and clinical studies and research services, laboratory supplies and equipment maintenance, product licenses, and other consulting costs.

We estimate preclinical and clinical study and research expenses based on the services performed, pursuant to arrangements with contract research organizations, or CROs that conduct and manage preclinical and clinical studies and research services on our behalf. We estimate these expenses based on regular reviews with internal management personnel and external service providers as to the progress or stage of completion of services and the contracted fees to be paid for such services. Based upon the combined inputs of internal and external resources, if the actual timing of the performance of services or the level of effort varies from the original estimates, we will adjust the accrual accordingly. Payments associated with licensing agreements to acquire exclusive licenses to develop, use, manufacture and commercialize products that have not reached

technological feasibility and do not have alternate commercial use are expensed as incurred. Payments made to third parties under these arrangements in advance of the performance of the related services by the third parties are recorded as prepaid expenses until the services are rendered.

Stock-Based Compensation Expense

Stock-based compensation expense represents the cost of the grant date fair value of employee awards over the requisite service period of the awards (usually the vesting period) on a straight-line basis. For stock awards for which vesting is subject to performance-based milestones, the expense is recorded over the remaining service period after the point when the achievement of the milestone is probable or the performance condition has been achieved. We account for awards to nonemployees using the fair value method. Awards to nonemployees are subject to periodic revaluation over their vesting terms and was not material for all periods presented. We estimate the fair value of all stock option grants using the Black-Scholes option pricing model and recognize forfeitures as they occur.

The fair value of a stock-based award is recognized over the period during which an optionee is required to provide services in exchange for the option award, known as the requisite service period (usually the vesting period) on a straight-line basis. Stock-based compensation expense is recognized based on the fair value determined on the date of grant and is reduced for forfeitures as they occur.

Prior to 2017, equity instruments issued to non-employees are accounted for in accordance with ASC 505-50 *Equity Based Payments to Non-Employees* and are recorded at their fair value on the measurement date and are subject to periodic adjustments as the underlying equity instruments vest. The fair value of options granted to consultants is expensed when vested. Non-employee stock-based compensation expense was not material for all periods presented.

Estimating the fair value of equity-settled awards as of the grant date using valuation models, such as the Black-Scholes option pricing model, is affected by assumptions regarding a number of complex variables. Changes in the assumptions can materially affect the fair value and ultimately how much stock-based compensation expense is recognized. These inputs are subjective and generally require significant analysis and judgment to develop.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* (“ASU 2018-07”), to align the accounting for share-based payment awards issued to employees and nonemployees, particularly with regard to the measurement date and the impact of performance conditions. The new guidance requires equity-classified share-based payment awards issued to nonemployees to be measured on the grant date, instead of being remeasured through the performance completion date under the current guidance. For public entities, ASU 2018-07 is effective for fiscal years beginning after December 15, 2018. This update supersedes previous guidance for equity-based payments to nonemployees under Subtopic 505-50, Equity—Equity-Based Payments to Non-Employees. The Company chose to early adopt ASU 2018-07 effective for its financial statements starting January 1, 2017 and cumulative adjustment upon adoption was immaterial.

We estimate the fair value of stock-based compensation utilizing the Black-Scholes option-pricing model, which is impacted by the following variables:

Expected Term—We have opted to use the “simplified method” for estimating the expected term of options, whereby the expected term equals the arithmetic average of the vesting term and the original contractual term of the option (generally 10 years).

Expected Volatility—Due to our limited operating history and a lack of company specific historical and implied volatility data, we have based our estimate of expected volatility on the historical volatility of a group of

similar companies that are publicly traded. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards.

Risk-Free Interest Rate—The risk-free rate assumption is based on the U.S. Treasury instruments with maturities similar to the expected term of our stock options.

Expected Dividend—We have not issued any dividends in our history and do not expect to issue dividends over the life of the options and therefore have estimated the dividend yield to be zero.

The following assumptions were used to calculate the fair value of awards granted to employees, non-employees and directors during the periods indicated:

	Year Ended December 31,	
	2017	2018
Risk-free interest rate	1.83%-2.04%	2.39%-2.99%
Expected term (in years)	6.25	6.25
Volatility	63.0%	65.0%-70.0%
Dividend yield	0%	0%

We will continue to use judgment in evaluating the expected volatility, expected terms, and interest rates utilized for our stock-based compensation expense calculations on a prospective basis.

Stock-based compensation expense, net of actual forfeitures, is reflected in the statements of operations and comprehensive loss as follows (in thousands):

	Year Ended December 31,	
	2017	2018
Research and development	$ 32	$ 77
General and administrative	6	78
Total stock-based compensation	$ 38	$ 155

As of December 31, 2018, total unamortized stock-based compensation was $1.6 million.

Common Stock Valuations

The estimated fair value of the common stock underlying our stock options was determined at each grant date by our board of directors, with input from management. All options to purchase shares of our common stock are intended 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.

In the absence of a public trading market for our common stock, on each grant date, our board of directors made a reasonable determination of the fair value of our common stock based on the information known to us on the date of grant, upon a review of any recent events and their potential impact on the estimated fair value per share of the common stock, and timely valuations from an independent third-party valuation in accordance with guidance provided by the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation* (the Practice Aid). The methodology to determine the fair value of our common stock included estimating the fair value of the enterprise using a market approach, which estimates the fair value of the company by including an estimation of the value of the business based on guideline public companies under a number of different scenarios. In determining the fair value of our common stock on each grant date, our board of directors considered numerous objective and

subjective factors, including the results of independent third party valuations, external market conditions affecting the pharmaceutical and biotechnology industry and trends within the industry; our stage of development; the rights, preferences and privileges of our redeemable convertible preferred stock relative to those of our common stock; the prices at which we sold shares of our redeemable convertible preferred stock; our financial condition and operating results, including our levels of available capital resources; the progress of our research and development efforts, our stage of development and business strategy; equity market conditions affecting comparable public companies; general U.S. market conditions and the lack of marketability of our common stock.

Following the closing of this offering, our board of directors intends to determine the fair value of our common stock based on the closing price of our common stock on the date of grant.

Income Taxes

We account for income taxes under the asset and liability method. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Deferred income tax assets and liabilities are determined based on differences between the financial statement reporting and tax bases of assets and liabilities and net operating loss and credit carryforwards and are measured using the enacted tax rates and laws that will be in effect when such items are expected to reverse. Deferred income tax assets are reduced, as necessary, by a valuation allowance when management determines it is more likely than not that some or all of the tax benefits will not be realized.

We account for uncertain tax positions in accordance with ASC 740-10, *Accounting for Uncertainty in Income Taxes*. We assess all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position's sustainability and is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and we will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgment. Judgments concerning the recognition and measurement of a tax benefit might change as new information becomes available.

As of December 31, 2018, our total deferred tax assets were $8.0 million. Due to our lack of earnings history and uncertainties surrounding our ability to generate future taxable income, the net deferred tax assets have been fully offset by a valuation allowance. The deferred tax assets were primarily comprised of federal and state tax net operating losses, or NOLs. Utilization of NOLs may be limited by the "ownership change" rules, as defined in Section 382 of the Code. Similar rules may apply under state tax laws. Our ability to use our remaining NOLs may be further limited if we experience an ownership change in connection with this offering, future offerings or as a result of future changes in our stock ownership.

Results of Operations

Comparison of the Years Ended December 31, 2017 and 2018

The following table summarizes our results of operations for the periods indicated (dollars in thousands):

	Year Ended December 31,		Change	
	2017	2018	$	%
Operating expenses:				
Research and development	$ 9,099	$ 10,085	$ 986	11%
General and administrative	1,271	2,034	763	60%
Loss from operations	(10,370)	(12,119)	1,749	17%
Interest income	—	806	806	NA
Interest expense	(1,643)	(957)	(686)	(42)%
Changes in fair value of derivative liability	(222)	(206)	(16)	(7)%
Net loss	$ (12,235)	$ (12,476)	$ 241	2%

Research and Development Expenses

The following table summarizes our research and development expenses:

	Year ended December 31,	
	2017	2018
	(in thousands)	
Direct research and development expenses:		
COR388	$ 5,730	$ 6,066
Other direct research costs	665	736
Indirect research and development expenses:		
Personnel related (including stock-based compensation)	1,946	2,403
Facilities and other research and development expenses	758	880
Total research and development expenses	$ 9,099	$ 10,085

Research and development expenses were $9.1 million for the year ended December 31, 2017, compared to $10.1 million for the year ended December 31, 2018. The increase of $1.0 million was driven by an increase of $2.7 million in expenses for our lead product candidate, COR388, which entered into Phase 1 clinical trials, which increase was offset by a decrease of $2.4 million in preclinical and drug candidate manufacturing costs. In addition, we had an increase of $0.1 million in research and development expenses related to other preclinical programs currently in development. Personnel-related expenses, including stock-based compensation, increased by $0.5 million due to an increase in headcount.

General and Administrative Expenses

General and administrative expenses increased $0.8 million, or 60%, from $1.3 million for the year ended December 31, 2017 to $2.0 million for the year ended December 31, 2018. The increase in general and administrative expenses was primarily due to an increase of $0.6 million in personnel costs as a result of an increase in our employee headcount and an increase of $0.2 million in legal and accounting fees and other professional service fees.

Interest Income

Interest income, increased $0.8 million from $0 for the year ended December 31, 2018. The increase was due to interest income of $0.8 million as a result of increased average cash balances and rising interest rates on short term investments.

Interest Expense

Interest expense decreased $0.7 million, or 42%, from $1.6 million for the year ended December 31, 2017 to $1.0 million for the year ended December 31, 2018. The decrease was primarily due to a decrease in non-cash charges relating to interest and accretion of discount for convertible promissory notes payable.

Change in fair value of derivative liability

The change in fair value of derivative liability decreased $16,000, or 7%, from $222,000 for the year ended December 31, 2017 to $206,000 for the year ended December 31, 2018. The decrease is due to change in assumptions used in the fair value assessment and the extinguishment of the liability upon the conversion of the convertible promissory note to redeemable convertible preferred stock in May 2018.

Liquidity and Capital Resources

We have incurred cumulative net losses and negative cash flows from operations since our inception and anticipate we will continue to incur net losses for the foreseeable future. As of December 31, 2018, we had an accumulated deficit of $32.8 million. As of December 31, 2018, we had cash, cash equivalents and short-term investments of $71.7 million.

Based on our existing business plan, we believe that our existing cash, cash equivalents, and short-term investments will be sufficient to fund our anticipated level of operations through at least the next 12 months.

We will continue to require additional capital to develop our drug candidates and fund operations for the foreseeable future. We may seek to raise capital through private or public equity or debt financings, collaborative or other arrangements with other companies, or through other sources of financing. Adequate additional funding may not be available to us on acceptable terms or at all. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategies. We anticipate that we will need to raise substantial additional capital, the requirements of which will depend on many factors, including:

- the progress, costs, trial design, results of and timing of our Phase 2/3 GAIN trial and other clinical trials of COR388, including for potential additional indications that we may pursue beyond Alzheimer’s disease;
- the willingness of the FDA or EMA to accept our Phase 2/3 GAIN trial, as well as data from our completed and planned clinical and preclinical studies and other work, as the basis for review and approval of COR388 for Alzheimer’s disease;
- the outcome, costs and timing of seeking and obtaining FDA, EMA and any other regulatory approvals;
- the number and characteristics of drug candidates that we pursue;
- our ability to manufacture sufficient quantities of our drug candidates;
- our need to expand our research and development activities;

- the costs associated with securing and establishing commercialization and manufacturing capabilities;
- the costs of acquiring, licensing or investing in businesses, drug candidates and technologies;
- our ability to maintain, expand and defend the scope of our intellectual property portfolio, including the amount and timing of any payments we may be required to make, or that we may receive, in connection with the licensing, filing, prosecution, defense and enforcement of any patents or other intellectual property rights;
- our need and ability to retain management and hire scientific and clinical personnel;
- the effect of competing drugs and drug candidates and other market developments;
- our need to implement additional internal systems and infrastructure, including financial and reporting systems; and
- the economic and other terms, timing of and success of any collaboration, licensing or other arrangements into which we may enter in the future.

If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Any future debt financing into which we enter may impose upon us additional covenants that restrict our operations, including limitations on our ability to incur liens or additional debt, pay dividends, repurchase our common stock, make certain investments and engage in certain merger, consolidation or asset sale transactions. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. If we are unable to raise additional funds when needed, we may be required to delay, reduce, or terminate some or all of our development programs and clinical trials. We may also be required to sell or license to others rights to our drug candidates in certain territories or indications that we would prefer to develop and commercialize ourselves.

Summary Statement of Cash Flows

The following table sets forth the primary sources and uses of cash and cash equivalents for each of the periods presented below (in thousands):

	Year Ended December 31,	
	2017	2018
Net cash (used in) provided by:		
Operating activities	$ (9,827)	$ (11,695)
Investing activities	(77)	(46,754)
Financing activities	7,750	75,928
Net increase (decrease) in cash and cash equivalents	$ (2,154)	$ 17,479

Cash Used in Operating Activities

Net cash used in operating activities was $11.7 million for the year ended December 31, 2018 and $9.8 million for the year ended December 31, 2017.

Cash used in operating activities in the year ended December 31, 2018 was primarily due to our net loss for the period of $12.5 million, and was also affected by changes to accrued interest, debt discount on conversion features, operating assets and liabilities, other current assets and long-term assets that totaled $1.5 million. Cash

used in operating activities was also affected by changes in operating assets and liabilities, a decrease in prepaids of $0.7 million and increase in accrued liabilities of $0.3 million, and non-cash charges relating to depreciation and amortization and stock-based compensation expense of $0.1 million.

Cash used in operating activities in the year ended December 31, 2017 was primarily due to our net loss for the period of $12.2 million, and was also affected by changes to accrued interest, debt discount on conversion features, operating assets and liabilities, other current assets and long-term assets that totaled $1.9 million, an increase in accounts payable and accrued liabilities of $0.5 million.

Cash Used in Investing Activities

Cash used in investing activities was $46.8 million in the year ended December 31, 2018, primarily related to the purchase of investments of $55.2 million, and maturities of short-term investments of $8.7 million.

Cash Provided by Financing Activities

Cash provided by financing activities was $75.9 million in the year ended December 31, 2018, which consisted primarily of net proceeds of $75.7 million from the issuance and sale of shares of our Series B redeemable convertible preferred stock.

Cash provided by financing activities was $7.8 million in the year ended December 31, 2017, which consisted of net proceeds of $7.8 million from the issuance of convertible notes.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations as of December 31, 2018 (in thousands):

	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Operating lease obligations(1)	$947	$ 367	$580	$—	$ —
Total contractual obligations	$947	$ 367	$580	$—	$ —

(1) Operating lease obligations represent future rent expense to be incurred for our current facility lease for the three-year term. The Company had issued 114,437 shares of its Series B redeemable convertible preferred stock in full satisfaction of rent expense for the term of the lease upon commencement of the lease period. No cash consideration was payable. The lease obligation above represents the recognition of rent expense on a straight-line basis and is determined based on the fair value of shares issued.

We enter into contracts in the normal course of business with third party contract organizations for clinical trials, non-clinical studies and testing, manufacturing, and other services and products for operating purposes. The amount and timing of the payments under these contracts varies based upon the timing of the services.

Off-Balance Sheet Arrangements

Since our inception, we have not engaged in any off-balance sheet arrangements, as defined in the rules and regulations of the Securities and Exchange Commission.

Indemnification

As permitted under Delaware law and in accordance with our bylaws, we indemnify our officers and directors for certain events or occurrences while the officer or director is or was serving in such capacity. We are also party to indemnification agreements with our officers and directors. We believe the fair value of the indemnification rights and agreements is minimal. Accordingly, we have not recorded any liabilities for these indemnification rights and agreements as of December 31, 2018 and December 31, 2017.

JOBS Act Accounting Election

The Jumpstart Our Business Startups Act of 2012 (the JOBS Act), permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We are choosing to irrevocably opt out of the extended transition period for complying with certain new or revised accounting standards pursuant to Section 107(b) of the JOBS Act.

We will remain an emerging growth company until the earliest of (1) the last day of our first fiscal year (a) following the fifth anniversary of the closing of this offering, (b) in which we have total annual gross revenue of at least $1.07 billion, or (ii) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700.0 million of the prior June 30th and (2) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board, or FASB or other standard setting bodies and adopted by us as of the specified effective date. Unless otherwise discussed, the impact of recently issued standards that are not yet effective will not have a material impact on our financial statements upon adoption.

Recently Adopted Accounting Standards Updates

In May 2014, FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606), which will replace numerous requirements in U.S. GAAP, including industry-specific requirements, and provide companies with a single revenue recognition model for recognizing revenue from contracts with customers. The core principle of the new standard is that a company should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. On January 1, 2017, the Company early adopted the new accounting standard and all the related amendments. However, as the Company did not have any contracts with customers during 2017 or 2018, the adoption had no impact on the financial statements.

In November 2015, the FASB issued ASU No. 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). The standard requires that deferred tax assets and liabilities be classified as noncurrent on the balance sheet rather than being separated into current and noncurrent. ASU 2015-17 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. Early adoption is permitted, and the standard may be applied either retrospectively or on a prospective basis to all deferred tax assets and liabilities. Adoption of ASU 2015-17 did not have a material impact on the Company's financial position, results of operations and cash flows.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). ASU 2016-01 requires equity investments (except those accounted for under the equity method or those that result in consolidation) to be measured at fair value with changes in fair value recognized in net income unless a policy election is made for investments without readily determinable fair values. Additionally, ASU 2016-01 requires public entities to use the exit price notion when measuring the fair value of financial instruments for measurement purposes and eliminates the requirement to disclose the method(s) and significant assumptions used to estimate the fair value of financial instruments measured at amortized cost on the balance sheet. Furthermore, it requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the balance sheet or the accompanying notes to the financial statements. ASU 2016-01 is effective for interim and annual periods beginning after December 15, 2017. Adoption of ASU 2016-01 did not have a material impact on the Company's financial position, results of operations and cash flows.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation—Stock Compensation (Topic 718)*: Improvements to Employee Share-Based Payment Accounting ("ASU 2016-09"). ASU 2016-09 requires, among other things, that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the statement of operations rather than as additional paid-in capital, changes the classification of excess tax benefits from a financing activity to an operating activity in the statement of cash flows, and allows forfeitures to be accounted for when they occur rather than estimated. ASU 2016-09 became effective for the Company on January 1, 2017. Adoption of ASU 2016-09 did not have a material impact on the Company's financial position, results of operations and cash flows.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), to address diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. For public entities, the standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of ASU 2016-15 did not have a material impact on the Company's financial position, results of operations and cash flows.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230)* ("ASU 2016-18"), which was intended to reduce diversity in practice in the classification and presentation of changes in restricted cash on the Statement of Cash Flows. ASU 2016-18 requires that the Statement of Cash Flows explain the change in total cash and equivalents and amounts generally described as restricted cash or restricted cash equivalents when reconciling the beginning-of-period and end-of-period total amounts. The standard also requires reconciliation between the total cash and cash equivalents and restricted cash presented on the Statement of Cash Flows and the cash and cash equivalents balance presented on the Balance Sheet. For public entities, ASU 2016-18 is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years and early adoption is permitted. The Company adopted the standard which resulted in 2017 restricted cash of $50,000 included in the reconciliation within the Statements of Cash Flows.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting* ("ASU 2017-09"), which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. The adoption of ASU 2017-09 did not have an impact on the Company's financial position, results of operations or cash flows.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), to align the accounting for share-based payment awards issued to employees and nonemployees, particularly with regard to the measurement date and the impact of performance conditions. The new guidance requires equity-classified share-based payment awards issued to nonemployees to be measured on the grant date, instead of being remeasured through the performance completion date under the current guidance. For public entities, ASU 2018-07 is effective for fiscal years beginning after December 15, 2018. This update supersedes previous guidance for equity-based payments to nonemployees under Subtopic 505-50, Equity—Equity-Based Payments to Non-Employees. The Company chose to early adopt ASU 2018-07 effective for its financial statements starting January 1, 2017 and cumulative adjustment upon adoption was immaterial.

Recently Issued Accounting Standards or Updates Not Yet Effective

In February 2016, the FASB issued ASU *No. 2016-02 (Topic 842), Leases.* ASU 2016-02 requires an entity to recognize assets and liabilities arising from a lease for both financing and operating leases. The ASU will also require new qualitative and quantitative disclosures to help investors and other financial statement users

better understand the amount, timing, and uncertainty of cash flows arising from leases. For public entities, ASU 2016-02 is effective for fiscal years beginning after December 15, 2018. Early adoption is permitted. The Company is in the process of evaluating the impact of adoption of ASU 2016-02 on its financial statements and currently believes the most significant change will be related to the recognition of lease liabilities and right-of-use assets on the balance sheet for real estate operating leases.

Quantitative and Qualitative Disclosures about Market Risk

The market risk inherent in our financial instruments and in our financial position represents the potential loss arising from adverse changes in interest rates or exchange rates. As of December 31, 2018, we had cash, cash equivalents, and short-term investments of $71.7 million, consisting of interest-bearing money market accounts, and investments in corporate notes and government agency securities, for which the fair market value would be affected by changes in the general level of United States interest rates. While we invest in short-term maturities and intend to hold these securities to maturity, an immediate 10% change in interest rates would have a material effect on the fair market value of our cash, cash equivalents and short-term investments, which we estimate to be approximately $0.4 million based upon current cash, cash equivalents and short-term investments,

We do not believe that inflation, interest rate changes, or exchange rate fluctuations had a significant impact on our results of operations for any periods presented herein.

BUSINESS

Overview

We are a clinical stage biopharmaceutical company pioneering a novel disease-modifying therapeutic approach to treat what we believe to be a key underlying cause of Alzheimer's and other degenerative diseases. Our approach is based on the seminal discovery of the presence of *Porphyromonas gingivalis*, or *P. gingivalis*, and its secreted toxic virulence factor proteases, called gingipains, in the brains of greater than 90% of more than 100 Alzheimer's patients observed across multiple studies to date. Additionally, we have observed that *P. gingivalis* infection causes Alzheimer's pathology in animal models, and these effects have been successfully treated with a gingipain inhibitor in preclinical studies. Our proprietary lead drug candidate, COR388, is an orally-administered, brain-penetrating small molecule gingipain inhibitor. COR388 was well-tolerated with no concerning safety signals in our Phase 1a and Phase 1b clinical trials conducted to date, which enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. We initiated a global Phase 2/3 clinical trial of COR388, called the GAIN trial, in mild to moderate Alzheimer's patients in April 2019 and expect top-line results by the end of 2021.

COR388 is the first and only selective inhibitor of gingipain activity being investigated in clinical trials for the treatment of Alzheimer's disease. COR388 is designed to target an upstream driver of multiple Alzheimer's pathological pathways, including amyloid beta production, inflammation and neurodegeneration, in contrast to mechanisms of action targeting downstream effects, such as amyloid plaques and tau tangles, which have been largely unsuccessful in clinical trials to date. Accordingly, we believe COR388 could represent a disease-modifying therapy for the chronic treatment of Alzheimer's disease.

Our Phase 1a and Phase 1b clinical trials enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. In these placebo-controlled trials, COR388 was well-tolerated with no concerning safety signals. In the Alzheimer's patients treated with COR388 for 28 days, we found changes in a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including RANTES, an inflammatory marker, and Apolipoprotein protein E, or ApoE, a target for gingipains. For example, fragments of ApoE in the CSF were reduced compared to placebo, and blood levels of RANTES were significantly reduced. In addition, data from the Alzheimer's patients treated with COR388 in our Phase 1b clinical trial showed improvements across several exploratory cognitive tests. These improvements in cognitive tests should be interpreted with caution because they were not all statistically significant. We identified bacterial DNA from *P. gingivalis* in the cerebral spinal fluid, or CSF, of all nine Alzheimer's patients, and this finding is supported by additional data from larger studies conducted by our team both independently and in collaboration with academic institutions. Moreover, we observed that COR388 successfully penetrated the blood-brain barrier. In addition, in our preclinical studies, we observed that COR388 reduced bacterial load in the brain, reduced amyloid beta levels, protected neurons and reduced markers of neuroinflammation. We plan to enroll approximately 570 mild to moderate Alzheimer's patients in our Phase 2/3 GAIN trial, or GingipAIN Inhibitor for the Treatment of Alzheimer's Disease Trial, to evaluate safety and efficacy after one year of treatment as measured on key endpoints that have previously supported regulatory approval of drugs for Alzheimer's disease, including the Alzheimer's disease Assessment Scale-Cognitive Subscale 11, or ADAS-Cog11. We expect to report top-line data from this trial by the end of 2021.

Alzheimer's disease represents one of the most significant unmet medical needs of our time and there are no marketed treatments that address the underlying cause of the disease. The disease afflicts an estimated 5.7 million people in the United States and more than 30 million people worldwide, and is expected to grow to 14.0 million people in the United States by 2050. The direct costs of caring for individuals with Alzheimer's disease and other dementias in the United States were estimated to total $277 billion in 2018 and are projected to increase to $1.1 trillion by 2050, according to the Alzheimer's Association. Historical challenges in developing effective therapeutics for this disease include a poor understanding of disease causation and animal models that do not translate to efficacy in humans. We believe our novel approach can overcome these challenges by targeting an upstream cause of neuroinflammation and neurodegeneration. Our drug candidate has demonstrated

proof of concept in a new physiological animal model that we believe is representative of human Alzheimer's disease pathology.

Understanding the Foundation of Our Therapeutic Approach

P. gingivalis is an intracellular bacterial pathogen, and its gingipains are essential for *P. gingivalis* survival and pathogenicity. Our new understanding of the *P. gingivalis* brain infection and associated gingipain production, which we have observed to cause Alzheimer's pathology in animal models, provides a new opportunity for successful upstream treatment of all aspects of Alzheimer's disease pathology. Significant evidence in the last decade has shown that neurodegenerative diseases, including Alzheimer's disease, are linked to a dysfunctional immune system. Furthermore, the pathology of Alzheimer's disease has been shown in studies to be consistent with that of infection, including, for example, the pathological presence of amyloid beta, which recently has been characterized as an antimicrobial peptide produced in response to infection.

In preclinical mouse models, we and others have demonstrated that *P. gingivalis* is capable of accessing the brain and that its presence causes amyloid beta production, inflammation and neurodegeneration, which are characteristic pathology observed in the brain of Alzheimer's patients. *P. gingivalis* and gingipains have been observed in the brains of greater than 90% of more than 100 Alzheimer's patients across multiple studies conducted by our team both independently and in collaboration with academic institutions.

Our Lead Drug Candidate-COR388

We have discovered and developed a proprietary library of protease inhibitors from which we have selected our lead drug candidate, COR388, an orally-administered, brain-penetrating small molecule being developed for chronic treatment of Alzheimer's disease.

We believe that the development of this compound represents a new paradigm for potential disease modification in Alzheimer's disease, based on our published and unpublished data, as well as a large body of third-party research. We maintain rights to COR388 and hold issued U.S. patents providing composition of matter coverage through 2035 and pending U.S. and foreign patent applications, which, if issued, could extend coverage.

Summary of Our Clinical and Preclinical Data

We have completed two Phase 1 clinical trials for COR388 which enrolled 67 subjects, including nine patients with mild to moderate Alzheimer's disease. We believe the following clinical and preclinical data generated to date by COR388 support its development as a potential disease-modifying treatment for Alzheimer's disease:

- We tested COR388 in two placebo-controlled Phase 1 clinical trials: (i) a Phase 1a single ascending dose, or SAD, study in 34 healthy volunteers and (ii) a Phase 1b multiple ascending dose, or MAD, study in 24 older healthy volunteers and nine Alzheimer's patients. We observed COR388 to be well-tolerated with no concerning safety signals.

- Our Phase 1 clinical trials also demonstrated that COR388 affected a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including blood levels of RANTES and fragments of ApoE in the CSF. Additionally, although not powered for statistical significance, in our Phase 1b clinical trial, data from the small group of Alzheimer's patients treated with COR388 showed improvements across several exploratory cognitive tests including:

    - a statistically significant improvement in three measures on the Winterlight speech-based cognitive assessment, or WLA, relative to baseline;

  - a numerical improvement in Mean Mini-Mental State Exam, or MMSE, scores relative to both baseline and placebo, which was not statistically significant; and

  - an improvement in several measures of cognitive function in the Cambridge Neuropsychological Test Automated Battery, or CANTAB, relative to both baseline and placebo, which was not statistically significant.

- Using a proprietary polymerase chain reaction, or PCR, method, we identified fragmented bacterial DNA unique to *P. gingivalis* bacteria in the CSF of all nine mild to moderate Alzheimer's patients in our Phase 1b clinical trial, as well as all 50 Alzheimer's patients in a separate human observational study. We believe that finding fragments of this specific bacterial DNA in the CSF is consistent with a bacterial brain infection with *P. gingivalis*.

- We and other research organizations have separately demonstrated that oral infection of wild type mice by *P. gingivalis* results in brain infiltration, neuroinflammation, amyloid beta production and plaque formation. This model and pathological reproduction closely resembles non-familial, or sporadic, Alzheimer's disease, which represents over 95% of Alzheimer's disease cases in humans. As a result, we believe our new physiological animal model is representative of Alzheimer's disease in human patients, unlike other animal models to date, which have historically not translated to successful disease modifying treatment in humans.

- In our preclinical studies using wild type mice infected with *P. gingivalis*, we have observed that gingipain inhibitors, including COR388, prevented further neurodegeneration, reduced amyloid beta levels and reduced markers of neuroinflammation.

- In our preclinical chronic toxicology studies, ranging from six to nine months in length, we observed a large potential therapeutic window with no adverse findings or dose-limiting toxicities after chronic administration.

The following table identifies preclinical studies described in this prospectus relating to the presence of *P. gingivalis* in the human brain, the causal link between this bacteria and Alzheimer's disease pathology, and the activity of our gingipain inhibitors:

Study Name	Primary Purpose of Study
Human Brain Immunohistochemistry (IHC)	Demonstrate higher amount of *P. gingivalis gingipains* in the brain of Alzheimer's patient autopsy samples compared to controls and correlation to tau pathology
Human Brain PCR	Confirm presence of *P. gingivalis* specific DNA in Alzheimer's autopsy brains using PCR and sequencing
Human Cerebral Spinal Fluid (CSF) PCR	Demonstrate presence of *P. gingivalis* in the brain of live Alzheimer's patients through the detection of specific DNA fragments in cerebral spinal fluid
Oral Infection of Mice with *P. gingivalis*	Demonstrate that *P. gingivalis* infiltrates the brain and causes Alzheimer's disease pathology, including amyloid beta production, neuroinflammation, and neurodegeneration in orally infected wild type mice
Neuroprotection assay	Examine the impact of COR388 compared to other molecules on neuronal cell toxicity caused by *P. gingivalis* infection, using SH-SY5Y cells, which is a neuroblastoma cell line from human neural tissue commonly used in neuroscience research

Study Name	Primary Purpose of Study
Brain Injection of Gingipain Proteins into Mouse Brain, or Stereotactic Injection Study	Demonstrate toxicity of gingipains to neurons after injection into mouse brain
COR388 Dose Response in Mice Infected with *P. gingivalis*	Demonstrate COR388 blood exposures associated with efficacy in wild type mice infected with *P. gingivalis*
Identification of Gingipain Protease Substrates, tau and ApoE	Demonstrate the ability of gingipains to fragment proteins associated with Alzheimer's disease risk and pathology and the benefit of COR388 to reduce ApoE fragments in Alzheimer's patients

Our Strategy

Our objective is to transform the treatment of Alzheimer's and other degenerative diseases by creating a broad portfolio of innovative therapeutics that target significant unmet medical needs. Our novel therapeutic approach is focused on targets that show evidence of disease causation with impacts on multiple downstream pathways, rather than targeting downstream effects or rare genetic risk factors that are unlikely to have a large impact on the course of disease progression. To achieve this objective, we are pursuing the following strategies:

- **Rapidly advance COR388 through clinical development in patients with Alzheimer's disease.** Based on the strength of the data we observed in our two completed Phase 1 clinical trials, we initiated a Phase 2/3 randomized, double-blind, placebo-controlled trial in April 2019 that is designed to assess the efficacy, safety and tolerability of COR388 in mild to moderate Alzheimer's patients.

- **Develop COR388 for other diseases.** *P. gingivalis* infection and associated protein-cleaving, or proteolytic, gingipain activity have been implicated in multiple disease pathologies in preclinical and epidemiological studies. We plan to conduct clinical trials of COR388 in other indications where both human observational data and preclinical experiments support its therapeutic potential.

- **Expand our portfolio by developing additional compounds.** A key element of our portfolio strategy is to advance additional molecules from our proprietary library. We have initiated several other protease inhibitor programs. Additionally, we are developing a positron emission tomography, or PET, imaging agent for detection of gingipains in the human brain and advancing candidate compounds through lead optimization.

- **Optimize value of COR388 and future drug candidates in major markets.** We own rights to COR388 and our library of compounds. We plan to develop and pursue approval of COR388 and other future drug candidates in major markets. Where appropriate, we may use strategic collaborations and partnerships to accelerate the development and maximize the commercial potential of our programs.

Our Team

We are led by a management team with deep scientific and drug development experience and a commitment to serving patients with Alzheimer's and other degenerative diseases. Collectively, our management team has a rich set of experiences both in academia and in industry, leading clinical programs for large biopharmaceutical companies and advancing clinical assets in venture-backed and public companies. We were founded by our Chief Executive Officer, Casey C. Lynch, our Chief Scientific Officer, Stephen S. Dominy, M.D., and our Senior Vice President, Legal and Administration, and Secretary, Kristen Gafric and are joined by

Leslie Holsinger, Ph.D., our Executive Vice President of Preclinical Development, Michael Detke, M.D., Ph.D., our Chief Medical Officer and Christopher Lowe, our Chief Financial Officer. Our leadership is complemented by a team of drug development experts, approximately two-thirds of whom hold Ph.D. or M.D. degrees. Together, our management team brings expertise across relevant disciplines, including neuroscience, infectious disease, immunology, oncology, translational science, medicinal chemistry, manufacturing and biomarker development.

Our board of directors is comprised of our CEO and CSO and industry leaders that bring relevant biopharma and finance experience, including Margi McLoughlin, Ph.D., Executive Director at Pfizer Ventures; David A. Lamond, President of En Pointe LLC; Kevin Young, CBE, former Chief Operating Officer of Gilead; Una Ryan, OBE, Ph.D., former Chief Executive Officer of AVANT Immunotherapeutics and Christopher J. Senner, Chief Financial Officer at Exelixis, Inc. Our clinical advisory board is comprised of scientific leaders in the fields of Alzheimer's, neurodegeneration and medicine, including Martin Farlow, M.D. and Marwan Sabbagh, M.D., who are directors of neuroscience institutes; Mark Brody, M.D., and Louis Kirby, M.D., who are founders of clinical research organizations specializing in neurodegenerative diseases; Eric Siemers, M.D., who was a fellow of Alzheimer's clinical development at Eli Lilly; David Munoz, M.D. and Mark Ryder, D.M.D., who are professors of pathology and orofacial sciences, respectively; and David Hosford, M.D, Ph.D., who is a regulatory expert and previous clinical reviewer of the FDA Division of Neurology Products.

Our company is supported by a group of investors that include both biopharmaceutical companies and institutional investors, and we have raised approximately $99.5 million in funding as of December 31, 2018. Our key investors are comprised of strategic investors, including Pfizer Ventures, Takeda Ventures and Verily Life Sciences, as well as Sequoia Capital, Breakout Labs, Breakout Ventures, Dolby Family Ventures, EPIQ Capital Group, the Lamond Family and Vulcan Capital, amongst others.

Overview of Alzheimer's Disease and Relationship to *P. gingivalis*

Significant Unmet Medical Need

Alzheimer's disease represents a significant unmet medical need and there are no marketed treatments that address the underlying cause of the disease. Alzheimer's disease is a progressive neurodegenerative disease that spreads throughout the brain and destroys memory and other important cognitive functions. The disease afflicts an estimated 5.7 million people in the United States and more than 30 million people worldwide, and is expected to grow to 14.0 million people in the United States by 2050. Alzheimer's disease can have a significant burden on family and caretakers. On average, caregivers devote approximately 22 hours per week or approximately 1,140 hours per year caring for patients. The direct costs of caring for individuals with Alzheimer's disease and other dementias in the United States were estimated to total $277 billion in 2018, and are projected to increase to $1.1 trillion by 2050, according to the Alzheimer's Association.

P. gingivalis Precedes and Is Correlated with Alzheimer's Disease Symptoms and Pathology

P. gingivalis is an asaccharolytic Gram-negative bacterium that secretes toxic virulence factor proteases known as gingipains. Evidence shows that brain infiltration by *P. gingivalis* precedes, and is correlated with, Alzheimer's disease symptoms and pathology. Significant evidence over the last decade has shown that a dysfunctional immune system in the brain is a risk factor linked to Alzheimer's disease. We believe that these genetic variations in essential immune pathways may cause a dysfunctional response to, or defective clearance of, *P. gingivalis* and gingipains in the brain.

Patients with Alzheimer's disease manifest with numerous pathologies, which we have found to be downstream of *P. gingivalis* infection. The disease mechanism of *P. gingivalis* and the therapeutic mechanism

for COR388, which blocks the downstream pathological effects of gingipains and *P. gingivalis*, are presented below in Figure 1.

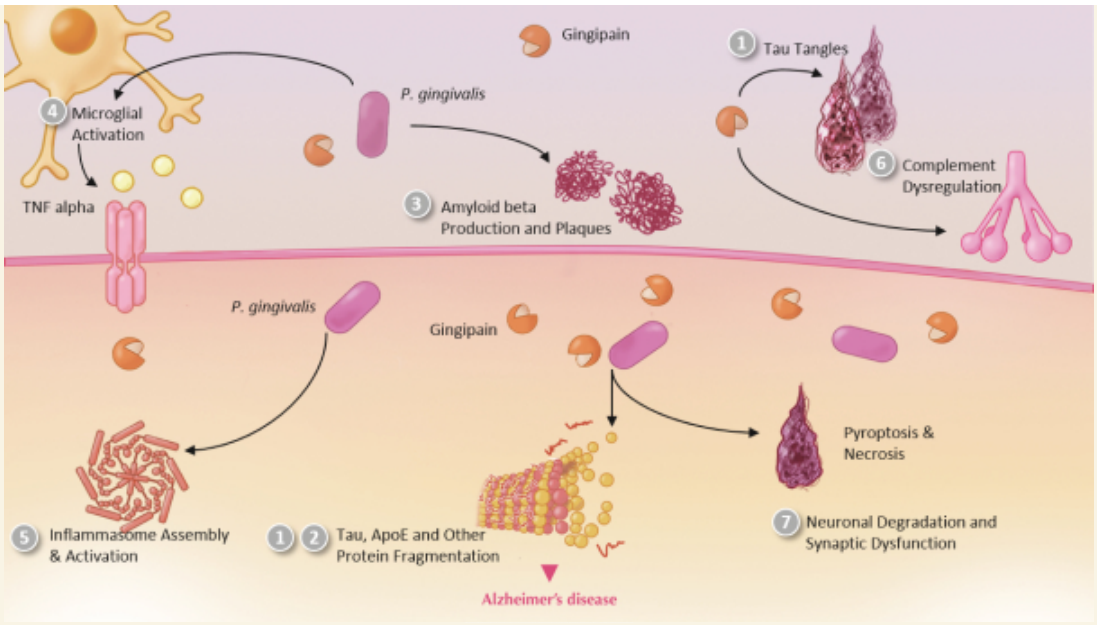

Figure 1. *P. gingivalis* infiltration of the brain and gingipain proteolytic activity affect the following characteristic pathology observed in the brain of Alzheimer's patients:

1. **Tau tangles**, also known as neurofibrillary tangles, are aggregates of hyperphosphorylated and fragmented tau protein usually found inside neurons. It has been demonstrated that tau is a target of gingipain proteolysis and that *P. gingivalis* infection for 22 weeks resulted in hyperphosphorylated tau tangles in the brains of mice.
2. **Apolipoprotein protein E**, or ApoE, is known to be fragmented in the Alzheimer's disease brain and fragmentation may lead to loss of function or toxicity. ApoE4 carriers have a higher risk of fragmentation and development of Alzheimer's disease compared to people with ApoE2 or ApoE3 alleles. ApoE is a target of gingipain proteolysis, with ApoE4 being a better gingipain target than ApoE2 and ApoE3. ApoE has many documented functions including in immune response
3. **Amyloid beta** production and plaque formation represent the abnormal accumulations of amyloid beta peptide. It has been demonstrated that amyloid beta is an antimicrobial peptide produced in response to infection, including infection by *P. gingivalis.*
4. **Microglial activation**, the process by which microglia, the immune cells of the brain, proliferate and are activated in the Alzheimer's disease brain and by *P. gingivalis.* Activated microglia can release inflammatory proteins in response to infection, such as tumor necrosis factor, or TNF, alpha.
5. **Inflammasomes**, a multiprotein intracellular complex that detects pathogenic microorganisms, are activated in the Alzheimer's disease brain in neurons and microglia, and by P. gingivalis infection. Inflammasomes activate pro-inflammatory cytokines and induce a form of cell death termed pyroptosis.
6. **Complement pathway**, a part of the innate immune system, is activated in the Alzheimer's disease brain. Bacterial infections, including *P. gingivalis*, are known to contribute to complement activation and dysregulation, as this pathway is a common component of the innate immune system's clearance of pathogens.
7. **Chronic neurodegeneration** represents the loss of neurons in the brain and, research has demonstrated that neurodegeneration spreads through the brain of Alzheimer's patients. *P. gingivalis* resides inside cells causing slowly progressive damage and death of neurons and other cells.

We believe the discovery of *P. gingivalis* and associated gingipains in the Alzheimer's disease brain, which we have observed to cause Alzheimer's pathology in animal models, provides a unique opportunity for successful upstream treatment of the underlying cause of Alzheimer's disease pathology in humans. We believe that previously unsuccessful approaches, like blocking production of amyloid beta, have been focusing on the downstream effects of infection rather than the underlying cause, which has led to the unsuccessful clinical development in the field.

Statistical Significance

In the description of our clinical trials and preclinical studies below, n represents the number of patients in a particular group and p or p-values represent the probability that random chance caused the result (e.g., a p-value = 0.001 means that there is a 0.1% probability that the difference between the placebo group and the treatment group is purely due to random chance). A p-value £ 0.05 is a commonly used criterion for statistical significance, and may be supportive of a finding of efficacy by regulatory authorities.

P. gingivalis and the Role of Gingipains

P. gingivalis is most commonly known as a cause of periodontal disease, which, like Alzheimer's disease, is an age-related degenerative condition. However, it is less commonly known that *P. gingivalis* can migrate from the mouth to other tissues in the body, including the brain, where we believe it causes degenerative conditions such as Alzheimer's disease. Furthermore, the presence of *P. gingivalis* has been observed in the brain of Alzheimer's disease patients with no concurrent periodontal disease, demonstrating that periodontal disease is a risk factor, but not a prerequisite, for Alzheimer's disease.

P. gingivalis secretes two different gingipain proteases, lysine gingipain, or Kgp, and arginine gingipain, or Rgp. Both are essential for *P. gingivalis* survival and pathogenicity. In January 2019, we co-authored a peer reviewed paper published in *Science Advances* that included research conducted by our co-authors at the University of Auckland. Based on that research, we reported the presence of higher levels of gingipains inside neurons in postmortem Alzheimer's disease brains relative to the presence observed in the brains of postmortem control patients (Figure 2 A, C). It is understood in the field that Alzheimer's disease pathology begins several decades prior to the manifestation of symptoms. Therefore, the presence of gingipains in some control patients is consistent with a disease initiating event. Both Rgp and Kgp load correlated strongly to Alzheimer's disease pathology as measured by tau load (Figure 2 B, D).

Gingipain levels in Alzheimer's disease brains correlates with Alzheimer's disease diagnosis and pathology, as demonstrated below in Figure 2.

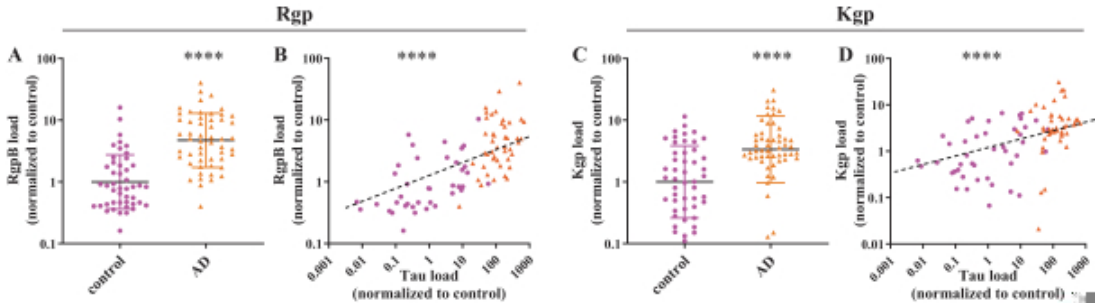

Figure 2. Greater than 90% of Alzheimer's patients had high gingipain levels in the brain (A and C). Rgp and Kgp are present in 96% and 91% of Alzheimer's disease brains, respectively, which is significantly higher than those observed in the brains of control patients. (B and D) Gingipain levels are correlated with Alzheimer's

pathology. (B) Spearman r = 0.674, n = 84. (D) Spearman r = 0.563, n = 89; AD = Alzheimer's Disease (**** p £ 0.0001).

In addition to the identification of *P. gingivalis* gingipains in the postmortem brain tissue of Alzheimer's disease subjects, we conducted a separate study where we identified bacterial DNA in the brain tissue of Alzheimer's patients from two separate gene sequences found only in *P. gingivalis* (16S and hmuY), confirming the presence of this specific bacteria.

Separately, we have developed a proprietary PCR method for detecting fragments of *P. gingivalis* DNA in CSF as a marker of bacterial infection within the central nervous system, or CNS, of human subjects. This method, which is not yet an FDA approved diagnostic test, detects fragments of bacterial DNA that are specifically found in *P. gingivalis* bacteria, recently shed or released from areas of the brain in contact with the CSF, which we believe is consistent with the presence of a CNS infection. Using this method, we identified fragmented bacterial DNA from *P. gingivalis* bacteria in the CSF of all nine mild to moderate Alzheimer's patients in our Phase 1b clinical trial, as well as in the CSF of all 50 mild to moderate Alzheimer's patients in a separate human observational study.

Examining CSF samples provides certain advantages relative to postmortem brain tissue, as CSF is readily available with a significant volume that can be sampled from live subjects in a clinical trial setting before and after treatment. Further, CSF generally circulates throughout the entire brain and, as such, may better indicate the bacterial DNA present throughout the brain and across the whole brain, as opposed to the bacterial DNA present on a specific small sample of brain tissue. However, there are also challenges inherent in the detection of fragments of *P. gingivalis* DNA in CSF that include:

- the DNA found is fragmented and represents a fraction of the genomic bacterial DNA present in the whole brain;
- the level of fragmented DNA is small and isolation of small amounts of DNA is subject to high variability;
- the fragmented DNA is a qualitative measure of the presence of a CNS infection, and while specific amounts of DNA can be identified in a specified volume of CSF, we cannot currently correlate it to a specific amount of bacteria present in the whole brain; and
- CSF is a biofluid that turns over regularly and will only contain DNA that has been released or shed within a specific timeframe.

P. gingivalis Infection Causes Alzheimer's Disease Pathology in Mice

We believe that the findings above in human brains and CSF, and the animal studies described below, suggest support for a causal relationship between *P. gingivalis* and Alzheimer's disease by satisfying several criteria for establishing disease causation by an infection. This criteria was originally described by Koch's Postulates and modified over time based on modern scientific discoveries. First, we have identified fragments of *P. gingivalis* DNA in the CSF of 59 Alzheimer's patients that we have reviewed with our current proprietary PCR method. Additionally, we have identified *P. gingivalis* gingipains and DNA in the brains of Alzheimer's disease patients and fewer gingipains in non-demented control brains. The presence of gingipains predates disease symptoms and correlates with severity of tau and ubiquitin pathology. Finally, researchers have demonstrated evidence of causation by reproducing Alzheimer's pathology in animal models after infection with *P. gingivalis*, as discussed in more detail below.

An important criterion for demonstrating causation by an infectious agent is to demonstrate that infection of an animal can reproduce the disease. One of the first studies in this regard was conducted by

researchers at University of Central Lancashire in ApoE genetic knockout mice, where it was shown that oral infection with *P. gingivalis* resulted in brain infection and activation of the complement pathway. In this model, *P. gingivalis* was shown to be unique in infecting the brain after oral infection, as two other oral bacteria inoculated into the oral cavity did not infect the brain. In another study, researchers at the National Center for Geriatrics and Gerontology in Japan, used a different model based on transgenic mice overexpressing the mutated human amyloid precursor protein and showed that oral infection with *P. gingivalis* impaired cognitive function and increased the deposition of amyloid beta plaques.

Researchers at the University of Illinois at Chicago, working independently of us, have demonstrated that oral infection of wild type mice with *P. gingivalis* for 22 weeks results in brain infiltration, neuroinflammation, amyloid beta production and plaque formation, tau phosphorylation and tau tangles, and neurodegeneration, as shown in figure 3.

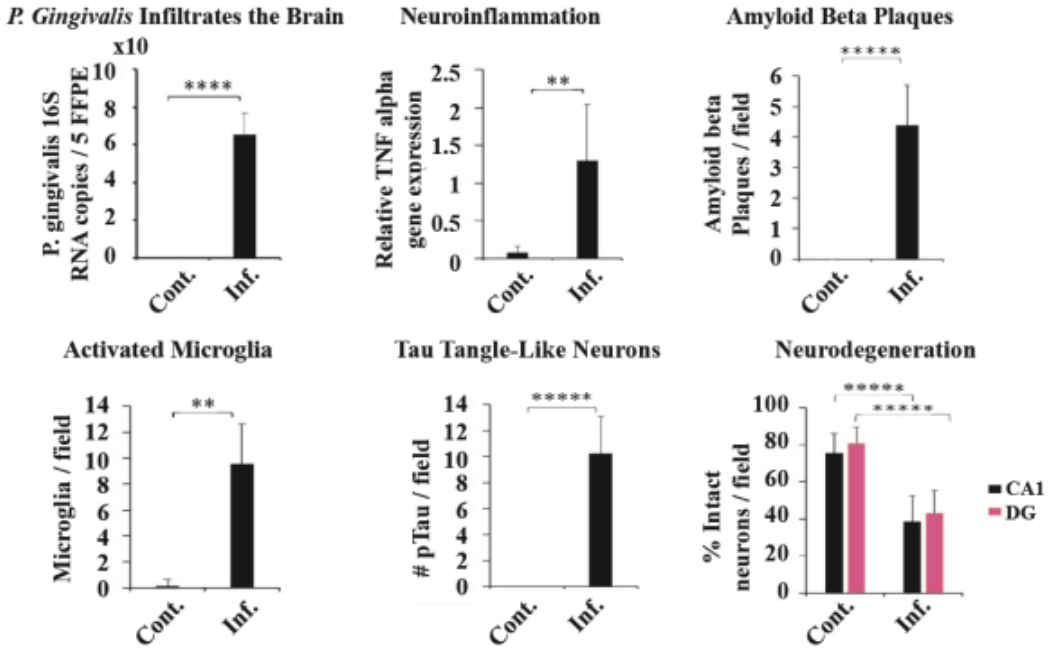

Figure 3. Results from 22-week oral infection with *P. gingivalis* of wild type mice. Adapted from Iliesvki et al. PLOS One 2018 (Cont. = control; Inf. = Infection; FFPE = formalin fixed paraffin embedded; pTau = phosphorylated Tau; ** p £ 0.01; **** p £ 0.0001; ***** p £ 0.00001).

Separately, in our January 2019 peer reviewed publication in *Science Advances*, we reported on a similar wild type mouse model of oral *P. gingivalis* infection. We found that oral infection of wild type mice with *P. gingivalis* results in *P. gingivalis* brain infection, neuroinflammation, loss of neurons in the hippocampus and increased production of amyloid beta. We further demonstrated that oral administration of small-molecule gingipain inhibitors to mice with an established *P. gingivalis* brain infection reduced the bacterial amount of *P. gingivalis* in the brain, reduced amyloid beta levels, protected neurons and reduced markers of neuroinflammation.

We believe this wild type mouse model and pathological reproduction closely resembles non-familial, or sporadic, Alzheimer's disease, which represents over 95% of Alzheimer's disease cases in humans. As a

result, we believe our new physiological animal model is representative of Alzheimer's disease in human patients, unlike other animal models, which have historically not translated to successful disease modifying treatment in humans.

***Gingipains Are Responsible for Neurotoxicity of* P. gingivalis**

Gingipains have been shown to mediate the toxicity of *P. gingivalis* in many cell types, including neurons. In an in vitro study, human neuronal cells were infected with *P. gingivalis* and treated with test compounds in parallel. The results of the study indicated that infection with *P. gingivalis* for 48 hours results in approximately 40% cell death. As shown in Figure 4 below, this toxicity was blocked by gingipain inhibitors, including COR388, but not by common broad-spectrum antibiotics such as moxifloxacin and doxycycline, nor by semagacestat, a gamma-secretase inhibitor that blocks amyloid beta production.

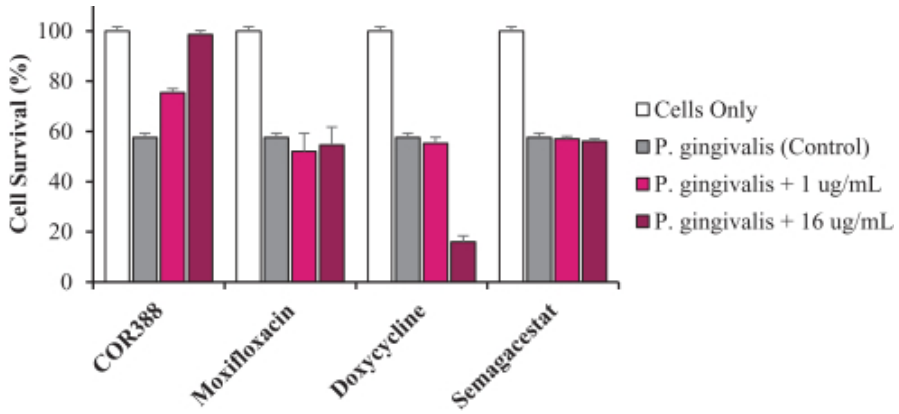

Figure 4. Human cells infected with *P. gingivalis* showed approximately 40% cell death, which was blocked by gingipain inhibitors, such as COR388, but not by broad-spectrum antibiotics nor by semagacestat.

In a separate study, injection of gingipains into the brain of wild type mice resulted in neurodegeneration within 7 days. Similar to the cell culture study, systemic gingipain inhibitors were effective in protecting neurons from gingipain-induced degradation. The exact mechanisms of *P. gingivalis* toxicity to neurons is under investigation. However, among the identified gingipain substrates we have documented, tau is a target of gingipain proteolysis and potentially contributes to the development and toxicity of tau tangles.

Gingipain Inhibition Reduces Pressure for Antibiotic Resistance

We believe that virulence factor inhibitors, such as COR388, have significant potential benefits over broad-spectrum antibiotics, including moxifloxacin and doxycycline. These highly-targeted inhibitors are intended to (i) not disrupt the normal bacterial microbiome, (ii) selectively target only *P. gingivalis* and (iii) have a mechanism of action less likely to generate pressure for antibiotic resistance. Potential for development of resistance was assessed in a typical assay involving the monitoring of the growth of the bacteria in the presence of drug. While no significant resistance to COR388 was detected, significant resistance with over 1,000-fold increase in the minimal inhibitory concentration, or MIC, was developed to moxifloxacin, a commonly used broad-spectrum antibiotic. While therapeutic resistance will continue to be monitored, these data are encouraging that resistance in human studies may be nonexistent or minimal.

COR388 – Our Differentiated Approach to the Treatment of Alzheimer's Disease

Our proprietary lead drug candidate, COR388, is an orally-administered, brain-penetrating small molecule gingipain inhibitor. In two Phase 1 clinical trials conducted to date, COR388 was well-tolerated in

healthy volunteers and Alzheimer's patients. In addition, data from the Alzheimer's patients treated with COR388 in our Phase 1b clinical trial showed improvements across several exploratory cognitive tests. These improvements should be interpreted with caution because they were not all statistically significant. Furthermore, in our preclinical studies involving wild type mouse models, we observed that COR388 reduced bacterial load in the brain, reduced amyloid beta levels, protected neurons and reduced markers of neuroinflammation. We initiated our Phase 2/3 GAIN trial in mild to moderate Alzheimer's patients in April 2019 and expect top-line results by the end of 2021.

Pharmacological Properties and Preclinical Evidence

We designed COR388 to target a key upstream driver of Alzheimer's pathological pathways. Our clinical and preclinical studies demonstrated the presence of *P. gingivalis* in Alzheimer's patients that we tested, and we have observed in our preclinical data a causal relationship of *P. gingivalis* infection on developing neurodegenerative and neuroinflammatory disease pathology in animal models. In preclinical studies with *P. gingivalis*-infected mice, Kgp and Rgp inhibitors reduced the amount of *P. gingivalis* in mice brains and protected neurons in the hippocampus after oral administration. We found that neither the addition of an Rgp inhibitor nor a traditional antibiotic improved effectiveness over a Kgp inhibitor alone. Accordingly, we are developing COR388, an optimized Kgp inhibitor based on its favorable pharmacological properties, which include potency, selectivity, oral bioavailability and blood-brain barrier penetration.

Our preclinical studies of COR388 demonstrated dose-dependent reductions in infection measures when administered to mice with an established *P. gingivalis* brain infection. Doses of 10 mg/kg and 30 mg/kg both reduced *P. gingivalis* load, amyloid beta levels and TNF alpha levels in brain tissue relative to those observed in the infected control group. We also observed a dose-dependent, downward trend in blood levels of chemokine ligand 5, or CCL5 or RANTES, an inflammatory signaling protein that is elevated in the brain microvessels of

Alzheimer's patients. Importantly, COR388 was associated with maintenance of hippocampal interneurons in these studies. Summary results of these findings are presented below in Figure 5.

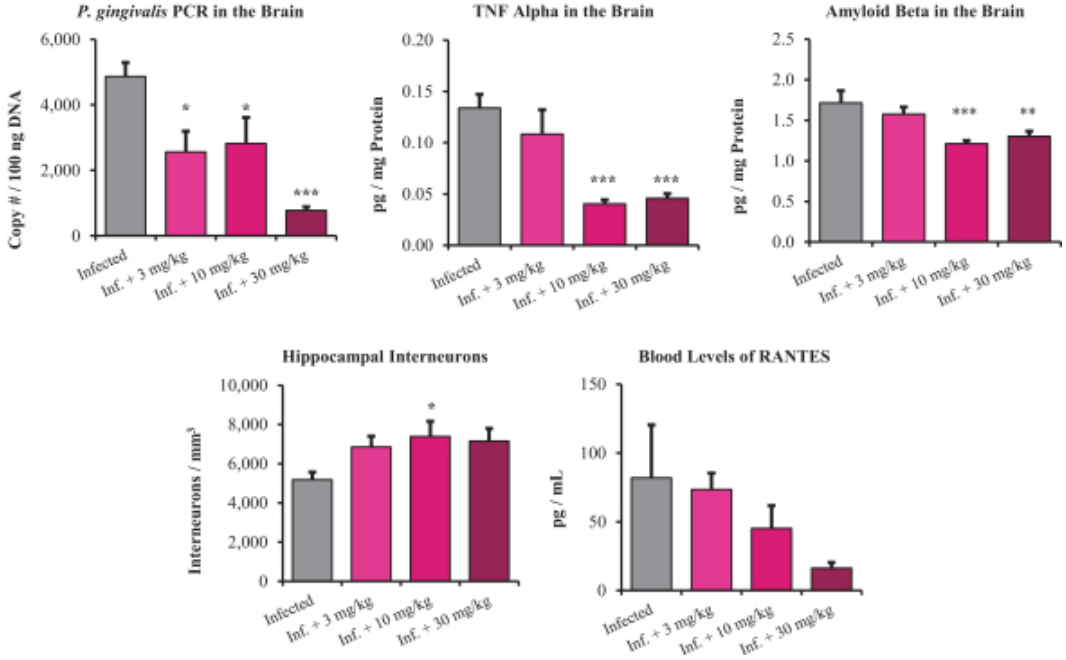

Figure 5. In preclinical studies, COR388 has demonstrated significant reductions in *P. gingivalis* load in the brain, TNF alpha, amyloid beta, as well as signs of neuronal preservation and a reduction in systemic inflammation depicted by levels of RANTES (Control = infected + 0 mg/kg COR388; 30 mg/kg = infected + 30 mg/kg COR388; 10 mg/kg = infected + 10 mg/kg COR388; 3 mg/kg = infected + 3 mg/kg COR388; pg = picogram; * p £ 0.05; ** p £ 0.01; *** p £ 0.001).

Our COR388 Clinical Results

Our Phase 1a and Phase 1b clinical trials enrolled a total of 67 subjects, including nine patients with mild to moderate Alzheimer's disease. In these placebo-controlled trials, COR388 was well-tolerated with no concerning safety signals. In the Alzheimer's patients treated with COR388 for 28 days, we found changes in a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including reduced blood levels of RANTES and a reduction of fragments of ApoE in the CSF. In addition, data from the Alzheimer's patients treated with COR388 in our Phase 1b clinical trial showed improvements across several exploratory cognitive tests, including a statistically significant improvement in three measures on the WLA, relative to baseline, numerical but not statistically significant improvements in MMSE scores relative to baseline and placebo and improvements in several measures of cognitive function in the CANTAB relative to baseline and placebo that were not statistically significant.

Phase 1a Single Ascending Dose Study Results in Healthy Volunteers

In our Phase 1a SAD clinical study referred to as COR388-001, we treated 34 subjects with a single dose of COR388, at doses of 5 mg, 25 mg, 50 mg, 150 mg and 250 mg, or placebo. COR388 was found to be well-tolerated, with no increase in the incidence or severity of adverse events with increasing doses. There was only one treatment-emergent adverse event, or TEAE, that was considered related to study drug by the

investigator, a mild headache in the 25 mg cohort. Electrocardiograms, or ECGs, were closely monitored due to increases in the QRS duration and PR interval seen at very high doses in animal studies. While some subjects experienced transient small increases in the QRS duration and PR interval, there was variability in both placebo and COR388 patients, all readings were below the range considered abnormal and no readings were clinically significant, which means they did not result in the need to consider changes to the treatment of the patient. There were no discernable trends or abnormalities in the QTcF interval in this study or in animal studies. Summary results of these findings are presented below in Table 1.

Table 1. Drug related TEAEs in our Phase 1a study

	Placebo n=9	5 mg n=6	25 mg n=6	50 mg n=6	150 mg n=6	250 mg n=1
Mild Headache	0	0	1 (17%)	0	0	0

Phase 1b Multiple Ascending Dose Study Results in Healthy Older Volunteers and Alzheimer's Patients

In our Phase 1b MAD clinical study referred to as COR388-002, we treated 33 subjects across four dose cohorts. Cohorts 1-3 included 24 healthy older volunteers from 55 to 70 years of age who received 25 mg, 50 mg or 100 mg of COR388, or placebo, every 12 hours for 10 consecutive days. Cohort 4 included nine mild to moderate Alzheimer's patients who received 50 mg of COR388 or placebo every 12 hours for 28 days.

In healthy older volunteers, COR388 was found to be well-tolerated in this study. Adverse events for subjects treated with COR388 were infrequent, transient and mild to moderate in severity, and consistent with those treated with placebo. Four subjects administered COR388, or 22% of those treated with COR388, and two subjects administered placebo, or 33% of the placebo treated group, experienced at least one TEAE that was considered to be study-drug related or possibly study-drug related by the investigator. There were no clinically significant ECG events or abnormalities noted. While transient minor increases in the QRS duration and PR interval were seen in some subjects, there was variability in both placebo and COR388 patients, these readings were within the range expected for older subjects and no readings were clinically significant. In addition, there were no discernable trends in the QTcF interval. Summary results of these findings in healthy older volunteers are presented below in Table 2.

Table 2. Drug Related TEAEs: Cohorts 1-3 in Older Healthy Volunteers; 10 Days of Treatment

	Placebo n=6	25 mg n=6	50 mg n=6	100 mg n=6
Dizziness[1]	0	0	1 (17%)	1 (17%)
Dysgeusia[1]	1 (17%)	0	0	0
Nausea[1]	0	0	0	1 (17%)
Presyncope[2]	1 (17%)	0	0	0
Restlessness[1]	0	0	0	1 (17%)
Tachycardia[1, 3]	0	0	1 (17%)	0

[1] Mild AE severity, [2] Moderate AE severity. [3] AE consisted of six beats of transient tachycardia that occurred again 48 hours after stopping study drug and was at that time determined to be unrelated to study drug by the investigator. No serious adverse events were reported.

Cohort 4 enrolled nine mild to moderate Alzheimer's patients from 55 to 83 years of age with baseline MMSE scores between 14 and 25. These patients were allowed to stay on stable doses of background medications, including symptomatic Alzheimer's disease treatments, during the trial. COR388 was well-tolerated in Alzheimer's patients in this study. Two patients administered COR388, or 33% of those administered COR388, and two patients administered placebo, or 66% of the placebo treated group, experienced at least one mild to moderate TEAE that was considered to be study-drug related or possibly study-drug related by the

investigator. While some transient increases in the QRS duration and PR interval were seen, these readings were within the range expected for older subjects and were not clinically significant. Relative to placebo, there were no patterns in laboratory abnormalities or changes in ECGs, vital signs, physical examinations, or brain magnetic resonance imaging, or MRI, observed during these trials that would be deemed practically relevant to the treatment of the patient with COR388. Summary results of these findings in Alzheimer's patients are presented below in Table 3.

Table 3. Drug Related TEAE: Cohorts 4 in Alzheimer's Patients; 28 Days of Treatment

	Placebo n=3	50 mg n=6
Bradycardia[1]	1 (33%)	0
Orthostasis[1]	1 (33%)	0
Liver Enzyme Elevation[2]	0	1 (17%)
Pancreatic Enzyme Elevation[1]	0	1 (17%)
Transient QT Prolongation[1]	1 (33%)	1 (17%)

[1] Mild AE severity, [2] Moderate AE severity. No serious adverse events were reported.

Pharmacokinetic, Biomarker and Exploratory Cognitive Data from our Phase 1b MAD Study

Pharmacokinetics

In our Phase 1b MAD study, pharmacokinetic analysis of COR388 levels in human blood were generally consistent with, or higher than, blood levels in animal studies that were associated with reduced infection, reduced markers of inflammation and protection of neurons. Furthermore, COR388 was detected in the CSF at levels consistent with those observed in animal models, indicating potentially therapeutic levels of the drug were achieved in the CNS. Our proprietary method for detecting fragments of *P. gingivalis* DNA in CSF found fragmented DNA from *P. gingivalis* in the CSF of all nine Alzheimer's patients in our Phase 1b clinical trial, which is consistent with and suggests the presence of an infection in the CNS. COR388 was found to be rapidly absorbed after oral administration with a four to five-hour half-life, providing a profile that may allow for twice a day oral administration based on pharmacokinetic and irreversible binding properties of COR388.

Pharmacodynamic Markers

In the Alzheimer's patients treated with COR388 for 28 days, we found changes in a number of pharmacodynamic biomarkers associated with Alzheimer's disease, including RANTES and ApoE. Levels of RANTES, an inflammatory marker, were significantly reduced in the blood of Alzheimer's patients after treatment with COR388 for 28 days, consistent with the dose response demonstrated in our preclinical study. Additionally, we have shown that ApoE, a target for gingipains, can be proteolytically cleaved into peptides consistent with those identified by others in the brain and by us in the CSF of Alzheimer's patients. In the Alzheimer's patients treated with COR388, fragments of ApoE in the CSF were reduced compared to placebo. Summary results of these findings in Alzheimer's patients are presented below in Figure 6.

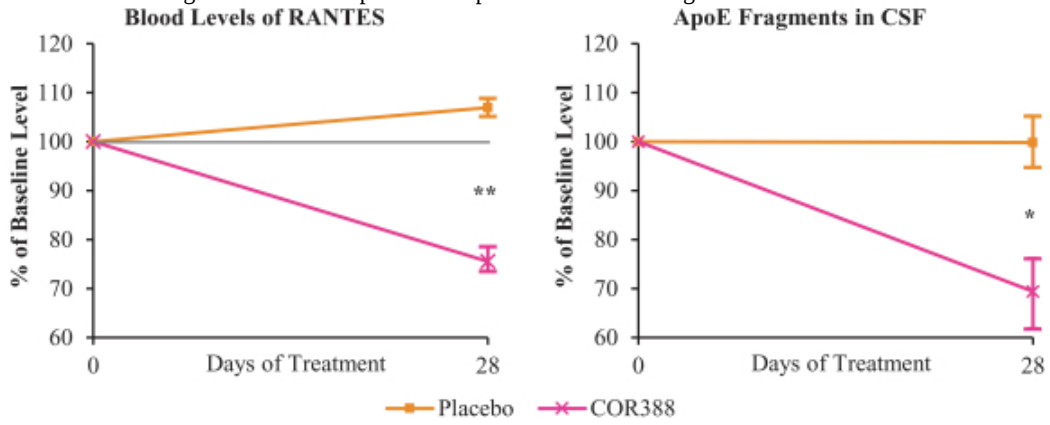

Figure 6. After 28 days of treatment with COR388, RANTES concentration in human blood and ApoE fragments generated by gingipains in CSF were significantly reduced (* p £ 0.05; ** p £ 0.01).

Exploratory Cognitive Testing

While the primary goals of our Phase 1a SAD and Phase 1b MAD trials were related to safety measures and assessment of human pharmacokinetics, we also observed improvements in some exploratory cognitive measures data from six Alzheimer's patients treated with COR388 in our Phase 1b MAD trial, as presented below. However, these improvements should be interpreted with caution because they were not all statistically significant.

- **Mini-Mental State Exam, or MMSE**: MMSE is a 30-point questionnaire commonly used in Alzheimer's trials to assess problems with memory and other cognitive functions, where people with MMSE scores of 14 to 25, enrolled in this study, represent a mild to moderate stage of disease. After treatment with COR388, MMSE scores increased from baseline, reflecting improvement. A difference of 1.7 and 1.2 points on the MMSE were seen in subjects treated with COR388 compared to those dosed with placebos on day 15 and day 28, respectively. This difference was not statistically significant.

- **Cambridge Neuropsychological Test Automated Battery, or CANTAB**: CANTAB is a computer-based cognitive assessment system that measures various aspects of cognitive function, including memory, attention and psychomotor skills. CANTAB is commonly used with Alzheimer's patients. We observed improvements for the Alzheimer's patients treated with COR388 from baseline and as compared to the placebo group on measures of episodic memory, working memory and psychomotor

speed. The improvement in the memory component of cognitive function, a composite combined score assessing both working memory as well as episodic memory, is shown in Figure 7B. An increase of 0.29 and 0.32 in this composite Z score from baseline was seen in subjects treated with COR388 on day 15 and day 28, respectively, indicating potential improvement over time. No such increase was observed in subjects dosed with placebos. The difference was not statistically significant.

- **Winterlight Speech-Based Cognitive Assessment, or WLA**: WLA is a new speech-based testing platform designed to detect cognitive impairment associated with dementia and mental illness. In the WLA utilized in our Phase 1b study, patients were asked to describe a picture in as much detail as possible, and their speech patterns were analyzed using 35 parameters available with Winterlight's speech analysis technology. Our results demonstrated statistically significant improvements from baseline after COR388 in three key measurements, previously shown in the literature to be some of the most important indicators of the presence and severity of Alzheimer's disease. The 32 other parameters either showed improvements that were not statistically significant, or showed no statistically significant changes over the course of the study. Additionally, the placebo group did not show any statistically significant improvements in any of the 35 measures. Parameters that showed statistically significant improvement from baseline after COR388 treatment included an increase in the use of prepositions and conjunctions, an increase in Content Units, or details identified in an image, and an increase in the number of Object Units identified in the image. Prepositions and conjunctions are words used to link and qualify how things are related to each other within an utterance and an increase in their use suggests an improvement in the quality and thoroughness of participant's picture descriptions. Prepositions and subordinating conjunctions represented, on average, 12% of all words contained within the transcript for the COR388 treatment group participants at Day 28, which is a statistically significant 5-point increase from Day 1 (p=0.001). The corresponding proportion for patients dosed with placebo was, on average, 9% of all words in the transcript at Day 28, which is a 0-point change from Day 1. For total Content Units, the COR388 treatment group reported, on average, 58% of all the image details at Day 28, which is a statistically significant 17-point increase from Day 1 (p=0.00008). In contrast, the placebo group reported 53% of all image details at Day 28, an insignificant increase of only six points from Day 1. For Object Units, the COR388 treatment group reported, on average, 69% of all objects (*e.g.*, "Books" and "Glasses") depicted in the image at Day 28, which is a statistically significant 23-point increase from Day 1 (p=0.00001). In contrast, the placebo group reported 57% of all depicted objects at Day 28, an insignificant increase of only 7 points from Day 1. In comparing subjects treated with COR388 versus subjects dosed with placebos, two of the measures (prepositions/conjunctions used and Object Units identified) were statistically significantly greater for COR388, one of the measures (prepositions/conjunctions used) remained statistically significantly greater with a conservative Bonferroni correction for multiple comparisons and one of the measures (Content Units identified) improved, but was not statistically significantly greater. The statistical analysis plan for WLA in the GAIN trial is still under finalization, but we plan to focus only on key parameters for demonstrating the effects of COR388 on Alzheimer's patients instead of all 35 speech analysis parameters.

Summary findings from these exploratory cognitive tests are presented below in Figure 7.

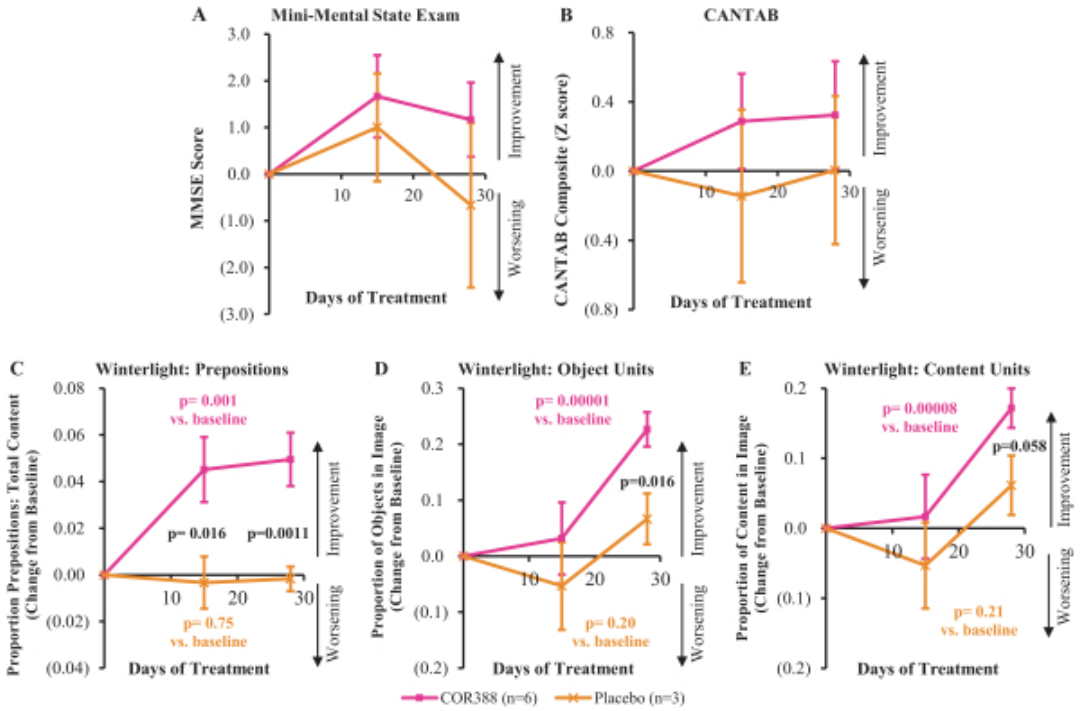

Figure 7. COR388 effects on selected cognitive tests (A) MMSE, (B) CANTAB Memory Composite of Cognitive Function, (C) WLA prepositions, encompassing analysis of prepositions and subordinating conjunctions, (D) WLA Object Units and (E) WLA Content Units.

Phase 2/3 Enabling Preclinical Safety and Chronic Toxicology

Safety pharmacology studies in appropriate preclinical species, mouse and dog, demonstrated large safety margins in cardiovascular, CNS, and respiratory safety studies: 12-fold in cardiovascular studies and 25-fold in CNS and respiratory studies over the top exposure planned in our Phase 2/3 GAIN trial. These safety margins were calculated by dividing the highest plasma concentration, or Cmax, at the "no adverse event level," or NOAEL, dose in the animal study by the projected Cmax for an 80 mg human dose. Standard six-to-nine-month chronic GLP toxicology studies in mice and dogs showed no adverse findings in clinical observations, behavior, clinical pathology laboratory parameters or histopathology. COR388 was observed to have a 24-fold therapeutic window between our top exposure planned in our Phase 2/3 GAIN trial and the NOAEL from mouse studies. Standard regulatory genotoxicity tests have been conducted with no evidence of genotoxicity.

Our Planned Phase 2/3 GAIN Clinical Trial of COR388 in Mild to Moderate Alzheimer's Patients

We initiated a global Phase 2/3 randomized, double-blind, placebo-controlled study in April 2019, which we refer to as the GingipAIN Inhibitor for the Treatment of Alzheimer's Disease, or GAIN, trial. This study is designed to assess the efficacy, safety and tolerability of two dose levels of COR388 (40 mg and 80 mg) in subjects with mild to moderate Alzheimer's disease compared to placebos. The study is intended to enroll approximately 570 male and female subjects between the ages of 55 and 80. Enrolled subjects must have a diagnosis of mild to moderate Alzheimer's disease dementia, with MMSE scores between 12 and 22 points, a range that is documented to provide an average decline in the placebo group sufficient to show efficacy of a disease slowing treatment over a one-year

treatment period. Randomization will be stratified by baseline MMSE and ApoE4 genotype to assure balanced distribution of mild and moderate Alzheimer's disease and a balanced distribution of ApoE4 carriers, across treatment arms. Patients will be able to remain on stable doses of background medications, including symptomatic Alzheimer's disease treatments, during the trial. The study will consist of a treatment period of up to 48 weeks and a safety follow-up period of 6 weeks. Periodic safety reviews will be conducted during the study. All supporting studies to update the COR388 IND, including the GAIN trial protocol, chronic toxicology studies and metabolite studies, have been submitted to the FDA and have completed the 30-day review period indicating acceptance of the IND update and clearance to proceed with the Phase 2/3 GAIN trial.

The primary endpoint will be the mean change in ADAS-Cog11 from baseline to the end of treatment period at 48 weeks. Secondary endpoints in all subjects will include: (i) change in Alzheimer's Disease Cooperative Study Group-Activities of Daily Living, or ADCS-ADL; and (ii) Change in Clinical Dementia Rating-Sum of Boxes, or CDR-SB. Exploratory endpoints will include change from baseline to the end of treatment period in the following measures: (i) MMSE score; (ii) Neuropsychiatric Inventory, or NPI; (iii) blood, saliva and CSF biomarkers; (iv) WLA measures; and (v) MRI brain measurements. Additionally, periodontal disease, including pocket depth and bleeding on probing, will be tracked in a subset of patients.

We also plan to invite placebo and treated patients who complete our Phase 2/3 GAIN trial to participate in an open label extension in which patients will receive either 40 mg or 80 mg COR388 twice daily. The purpose of this extension study is to evaluate the long-term safety and tolerability of COR388 as well as encourage patient enrollment and retention.

Pipeline Compounds

We have a library of small molecule protease inhibitors, including additional Kgp and Rgp inhibitors with structures that are distinct from COR388. The most advanced of these Kgp inhibitors have been shown to be potent at less than 100 picomolar concentrations, highly selective for Kgp versus human anti-targets and to possess good oral bioavailability, favorable pharmacokinetic profiles and sufficient brain levels in multiple preclinical species. In a 28-day toxicology study in mice, these compounds were dosed with exposures significantly above predicted levels needed for efficacy with no changes in clinical pathology laboratory parameters, no clinical observations and no brain histopathology findings.

Our library of inhibitors also includes a series of Rgp inhibitor lead compounds. Key compounds in this series are potent and highly selective for Rgp vs human anti-targets, with efficacy demonstrated in a mouse model of *P. gingivalis* brain infection. We are advancing multiple lead compounds. Our compound collection was also used to develop activity-based probe reagents that bind the active sites of Kgp and Rgp, enabling the detection of their activity as well as potential target engagement and inhibition by therapeutic compounds. These probe reagents are utilized in biomarker studies helping to establish target potency and inhibition in studies.

We are also leveraging our library of inhibitors to develop a positron emission tomography, or PET, imaging agent for detection of gingipains in the human brain. We are seeking to identify candidates and planning to advance a PET agent through lead optimization.

Additional Markets of Interest

Periodontal Disease

P. gingivalis has been identified as a key pathogen in the development of periodontal disease. Periodontal disease is a common age-related disease affecting nearly 50% of the population over 50 years of age, or 65 million people, in the United States. The disease presents with symptoms including chronic inflammation, degeneration of gum tissue and tooth loss. Periodontal disease is associated with increased risk of cardiovascular disease, diabetes and certain cancers. The disease is often chronic and recurring due to persistent bacterial

infection and antibiotic resistance. Current standard of care for the treatment of periodontal disease commonly involves scaling and root planning to remove bacterial plaque and tartar, in addition to local delivery of antibiotics in some cases. COR388 reduced periodontal disease and associated bone loss in multiple animal models of periodontal disease. Accordingly, we plan to assess periodontal pocket depth as a secondary endpoint in our Phase 2/3 GAIN trial.

Other Systemic Disease Indications

P. gingivalis infection has been associated with disease pathology in a number of large market opportunities including atherosclerosis, diabetes, cancer and arthritis. We continue to conduct preclinical research in physiological animal models representing these disease states to assess the potential for other novel gingipain inhibitors in our portfolio to be disease modifying.

Manufacturing

We do not currently own or operate facilities for manufacturing, storing, distributing or testing our drug candidates. We rely on third-party contract manufacturing organizations, or CMOs, to manufacture and supply our preclinical and clinical materials to be used during the development of our drug candidates.

We currently have sufficient COR388 on hand to begin our Phase 2/3 GAIN trial in Alzheimer's disease as currently planned and ongoing preclinical studies. Additional cGMP API campaigns are in process to ensure full supply for our Phase 2/3 GAIN trial including the potential open label extension.

COR388 is a low molecular weight compound isolated as a stable crystalline solid. We believe the synthesis of COR388 is reliable and reproducible from readily available starting materials, and the synthetic routes are amenable to large-scale production and do not require unusual equipment or handling in the manufacturing process. We are in the process of further optimizing the synthetic route for commercial manufacturing as well as developing related methodologies for the production of analog compounds in our pipeline. We expect to continue to identify and develop drug candidates that are amenable to cost-effective production at CMOs.

Our COR388 is neat powder in a capsule and we believe its stability will mimic the stability of the drug substance, which has been demonstrated to be stable for 15 months at room temperature. Stability studies are ongoing and we are working with our CMOs to continue to optimize the drug candidate. Currently API is stored refrigerated, out of an abundance of caution while stability studies are ongoing, while the storage condition for the drug candidate is room temperature.

We have established relationships with several key CMOs to enable both the non-clinical and clinical supply lines for COR388 active pharmaceutical ingredient, or API, as well as drug candidate under cGMP protocols. The cGMP API manufacturing process is completed with a single vendor from readily available commercial starting materials and reagents. We do not currently have arrangements in place for redundant supply of bulk drug substance; however, this could easily be established by transferring the existing technology to any number of vendors as there are no proprietary technologies required for manufacturing. The drug candidate manufacturing is a simple capsule filling operation that could also be transferred to additional vendors as necessary. It is our intent to identify and qualify additional manufacturers to provide API and drug candidate manufacturing services prior to submission of a new drug application to the FDA for all drug candidates.

Commercialization Plan

We do not currently have any approved drugs and we do not expect to have any approved drugs in the near term. Therefore, we have no sales, marketing or commercial product distribution capabilities and have no experience as a company in marketing drugs.

When and if any of our drug candidates are approaching commercialization, we intend to develop a commercialization infrastructure for those drug candidates in the United States and potentially in certain other key markets. We may also rely on partnerships to provide commercialization infrastructure, including sales and marketing and commercial distribution.

Competition

We face competition from a number of different sources, including large and specialty pharmaceutical and biotechnology companies, academic research institutions, governmental agencies and public and private research institutions. We believe that the key competitive factors affecting the success of COR388 and any other drug candidates will include efficacy, safety profile, method of administration, cost, level of promotional activity and intellectual property protection. We know of no competitors developing clinical stage therapeutics targeting *P. gingivalis* or gingipains for the chronic treatment of Alzheimer's disease.

Our drug candidates, if successfully developed and approved, will compete with current therapies approved for the treatment of Alzheimer's disease, which to date have been primarily targeted at treating the symptoms of such diseases rather than halting or slowing the progression of the disease. However, in addition to such currently approved therapies, we believe that our drug candidates, if approved, may also compete with other potential therapies intended to halt or slow the progression of neurodegenerative disease that are being developed by a number of companies and institutions, including but not limited to potentially disease modifying therapeutics that are being developed by several large and specialty pharmaceutical and biotechnology companies, including AbbVie Inc., Biogen Inc., Celgene Corporation, Eli Lilly and Company, Eisai Co., Ltd., Merck & Company, Inc., Novartis AG and Roche Holding AG (including Genentech, its wholly owned subsidiary), as well as companies pursuing a dysfunctional immune system approach to Alzheimer's disease or other types of therapies.

Intellectual Property

We maintain rights to COR388 and hold issued U.S. patents providing composition of matter and method of use coverage through 2035. We also hold pending U.S. and foreign patent applications, which, if issued, could extend coverage for COR388. Our foreign patent applications are currently pending in Argentina, Australia, Brazil, Canada, Chile, China, Colombia, the European Patent Office, Hong Kong, Israel, India, Japan, South Korea, Mexico, Malaysia, New Zealand, Peru, the Philippines, Russia, Singapore, Taiwan, and South Africa.

Other patent families in our patent portfolio disclose and claim other small-molecule inhibitors of lysine gingipain and arginine gingipain, gingipain activity probes for biological imaging, and assay methods for the detection of microbial pathogens in cerebrospinal fluid and other bodily fluids.

As with other biotechnology and pharmaceutical companies, our ability to maintain and solidify our proprietary and intellectual property position for our drug candidates and technologies will depend on our success in obtaining effective patent claims and enforcing those claims if granted. However, our pending patent applications, and any patent applications that we may in the future file or license from third parties may not result in the issuance of patents. We cannot guarantee that our owned pending patent applications, or any patent applications that we may in the future file or license from third parties, will result in the issuance of patents. We also cannot predict the scope of claims that may be allowed or enforced in our patents. In addition, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Consequently, we may not obtain or maintain adequate patent protection for any of our programs and drug candidates. Any issued patents that we may receive in the future may be challenged, invalidated or circumvented. For example, we cannot be certain of the priority rights of inventions covered by pending third-party patent applications. If third parties prepare and file patent applications in the United States or other jurisdictions that also claim technology or therapeutics to which we have rights, we may have to participate in interference proceedings, post-grant review, reissue, or reexamination in the USPTO and equivalent foreign courts to determine priority rights of invention, which could result in substantial costs to us even if the eventual

outcome, which is highly unpredictable, is favorable to us. In addition, because of the extensive time required for clinical development and regulatory review of a drug candidate we may develop, it is possible that, before any of our drug candidates can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thereby limiting any protection such patent would afford the respective product and any competitive advantage such patent may provide. For more information regarding the risks related to our intellectual property, see "Risk Factors —Risks Related to Our Intellectual Property."

The term of individual patents depends upon the legal term of the patents in the countries in which they are obtained. In most countries in which we file, the patent term is 20 years from the earliest date of filing a non-provisional patent application in the United States. In the United States, the patent term of a patent that covers an FDA-approved drug may also be eligible for patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Hatch-Waxman Act permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, only one patent applicable to an approved drug may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in Europe and other foreign jurisdictions to extend the term of a patent that covers an approved drug. In the future, if and when our drug candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those drug candidates. We plan to seek patent term extensions to any of our issued patents in any jurisdiction where these are available, however there is no guarantee that the applicable authorities, including the FDA in the United States, will agree with our assessment of whether such extensions should be granted, and if granted, the length of such extensions. For more information regarding the risks related to our intellectual property, see "Risk Factors —Risks Related to Our Intellectual Property."

In addition to patent protection, we also rely on trademark registration, trade secrets, know how, other proprietary information and continuing technological innovation to develop and maintain our competitive position. We seek to protect and maintain the confidentiality of proprietary information to protect aspects of our business that are not amenable to, or that we do not consider appropriate for, patent protection. Although we take steps to protect our proprietary information and trade secrets, including through contractual means with our employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets or disclose our technology. Thus, we may not be able to meaningfully protect our trade secrets and we cannot guarantee, however, that these agreements will afford us adequate protection of our intellectual property and proprietary information rights. It is our policy to require our employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with us. These agreements provide that all confidential information concerning our business or financial affairs developed or made known to the individual during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. Our agreements with employees also provide that all inventions conceived by the employee in the course of employment with us or from the employee's use of our confidential information are our exclusive property. However, such confidentiality agreements and invention assignment agreements can be breached and we may not have adequate remedies for any such breach. Additionally, some of our trade secrets and know-how for which we decide to not pursue additional patent protection may, over time, be disseminated within the industry through independent development and public presentations describing the methodology. For more information regarding the risks related to our intellectual property, see "Risk Factors—Risks Related to Our Intellectual Property."

The patent positions of biotechnology companies like ours are generally uncertain and involve complex legal, scientific and factual questions. Our commercial success will also depend in part on not infringing upon the proprietary rights of third parties. It is uncertain whether the issuance of any third-party patent would require us to alter our development or commercial strategies, or our drugs or processes, obtain licenses or cease certain activities. Our breach of any license agreements or our failure to obtain a license to proprietary rights required to

develop or commercialize our future drug candidates may have a material adverse impact on us. If third parties prepare and file patent applications in the United States that also claim technology to which we have rights, we may have to participate in interference or derivation proceedings in the USPTO to determine priority of invention. For more information, see "Risk Factors—Risks Related to Our Intellectual Property."

Regulatory Matters

Government Regulation

Government authorities in the United States at the federal, state and local level, and in other countries and jurisdictions, including the European Union, extensively regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing, sampling and export and import of pharmaceutical products. Generally, before a new drug can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by the regulatory authority.

U.S. Drug Development

In the United States, the FDA regulates drugs under the Federal Food, Drug, and Cosmetic Act, or FDCA, and its implementing regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties.

An applicant seeking approval to market and distribute a new drug product in the United States must typically undertake the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's good laboratory practice, or GLP, regulations;
- submission to the FDA of an Investigational New Drug application, or IND, which must take effect before human clinical trials may begin;
- approval by an independent institutional review board, or IRB, representing each clinical site before each clinical trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with good clinical practices, or GCP, to establish the safety and efficacy of the proposed drug product for each proposed indication;
- preparation and submission to the FDA of a New Drug Application, or NDA, requesting marketing for one or more proposed indications;
- review by an FDA advisory committee, where appropriate or if applicable;
- satisfactory completion of one or more FDA inspections of the manufacturing facility or facilities at which the product, or components thereof, are produced to assess compliance with current Good Manufacturing Practices, or cGMP, requirements and to assure that the facilities, methods and controls are adequate to preserve the product's identity, strength, quality and purity;

- satisfactory completion of FDA audits of clinical trial sites to assure compliance with GCPs and the integrity of the clinical data;
- payment of user fees and securing FDA approval of the NDA; and
- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy, or REMS, and the potential requirement to conduct post-approval studies.

Preclinical Studies

Before an applicant begins testing a compound with potential therapeutic value in humans, the drug candidate enters the preclinical testing stage. Preclinical studies include laboratory evaluation of product chemistry, toxicity and formulation, as well as *in vitro* and animal studies to assess the potential safety and activity of the drug for initial testing in humans and to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations. The results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted.

The IND and IRB Processes

The authorization for an IND must be secured prior to interstate shipment and administration of any new drug that is not the subject of an approved NDA. In support of a request for an IND, applicants must submit a protocol for each clinical trial and any subsequent protocol amendments must be submitted to the FDA as part of the IND. In addition, the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical trials, among other things, are submitted to the FDA as part of an IND. The FDA requires a 30-day waiting period after the filing of each IND before clinical trials may begin. This waiting period is designed to allow the FDA to review the IND to determine whether human research subjects will be exposed to unreasonable health risks. At any time during this 30-day period, the FDA may raise concerns or questions about the conduct of the trials as outlined in the IND and impose a clinical hold. In this case, the IND sponsor and the FDA must resolve any outstanding concerns before clinical trials can begin.

Following commencement of a clinical trial under an IND, the FDA may also place a clinical hold or partial clinical hold on that trial. A clinical hold is an order issued by the FDA to the sponsor to delay a proposed clinical investigation or to suspend an ongoing investigation. A partial clinical hold is a delay or suspension of only part of the clinical work requested under the IND. For example, a specific protocol or part of a protocol is not allowed to proceed, while other protocols may do so. Following issuance of a clinical hold or partial clinical hold, an investigation may only resume after the FDA has notified the sponsor that the investigation may proceed. The FDA will base that determination on information provided by the sponsor correcting the deficiencies previously cited or otherwise satisfying the FDA that the investigation can proceed.

A sponsor may choose, but is not required, to conduct a foreign clinical study under an IND. When a foreign clinical study is conducted under an IND, all IND requirements must be met unless waived. When the foreign clinical study is not conducted under an IND, the sponsor must ensure that the study complies with certain FDA regulatory requirements in order to use the study as support for an IND or application for marketing approval. Specifically, the FDA has promulgated regulations governing the acceptance of foreign clinical studies not conducted under an IND, establishing that such studies will be accepted as support for an IND or application for marketing approval if the study was conducted in accordance with GCP including review and approval by an independent ethics committee, or IEC, and informed consent from subjects, and the FDA is able to validate the data from the study through an on-site inspection if the FDA deems such inspection necessary. The GCP

requirements encompass both ethical and data integrity standards for clinical studies. The FDA's regulations are intended to help ensure the protection of human subjects enrolled in non-IND foreign clinical studies, as well as the quality and integrity of the resulting data. They further help ensure that non-IND foreign studies are conducted in a manner comparable to that required for IND studies. If a marketing application is based solely on foreign clinical data, the FDA requires that the foreign data be applicable to the U.S. population and U.S. medical practice; the studies must have been performed by clinical investigators of recognized competence; and the FDA must be able to validate the data through an on-site inspection or other appropriate means, if the FDA deems such an inspection to be necessary.

In addition to the foregoing IND requirements, an IRB representing each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution, and the IRB must conduct continuing review and reapprove the study at least annually. The IRB must review and approve, among other things, the study protocol and informed consent information to be provided to study subjects. An IRB must operate in compliance with FDA regulations. An IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug candidate has been associated with unexpected serious harm to patients.

Additionally, some trials are overseen by an independent group of qualified experts organized by the trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access that only the group maintains to available data from the study. Suspension or termination of development during any phase of clinical trials can occur if it is determined that the participants or patients are being exposed to an unacceptable health risk. Other reasons for suspension or termination may be made by us based on evolving business objectives and/or competitive climate.

Information about certain clinical trials must be submitted within specific timeframes to the National Institutes of Health, or NIH, for public dissemination on its ClinicalTrials.gov website.

Human Clinical Studies in Support of an NDA

Clinical trials involve the administration of the investigational product to human subjects under the supervision of qualified investigators in accordance with GCP requirements, which include, among other things, the requirement that all research subjects provide their informed consent in writing before their participation in any clinical trial. Clinical trials are conducted under written study protocols detailing, among other things, the inclusion and exclusion criteria, the objectives of the study, the parameters to be used in monitoring safety and the effectiveness criteria to be evaluated.

Human clinical trials are typically conducted in the following sequential phases, which may overlap or be combined:

- *Phase 1:* The drug is initially introduced into healthy human subjects or, in certain indications such as cancer, patients with the target disease or condition and tested for safety, dosage tolerance, absorption, metabolism, distribution, excretion and, if possible, to gain an early indication of its effectiveness and to determine optimal dosage.

- *Phase 2:* The drug is administered to a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

- *Phase 3:* The drug is administered to an expanded patient population, generally at geographically dispersed clinical trial sites, in well-controlled clinical trials to generate enough data to statistically evaluate the efficacy and safety of the product for approval, to establish the overall risk-benefit profile of the product, and to provide adequate information for the labeling of the product.

- *Phase 4:* Post-approval studies, which are conducted following initial approval, are typically conducted to gain additional experience and data from treatment of patients in the intended therapeutic indication.

The clinical drug development phases described above are general guidelines. The phases are not clearly delineated from each other in every regard, and it is common practice to separate (e.g., Phase 1a and 1b trials) or combine (e.g., a Phase 2/3 trial) phases, which is accepted by the FDA and other global regulatory agencies. As one example of overlapping definitions, both Phase 2 and Phase 3 involve patient populations with assessments of both efficacy and safety. The GAIN trial combines a Phase 2 dose-finding design to identify the optimal dosage, with a Phase 3 magnitude of enrollment adequate to statistically evaluate the efficacy and safety. For indications like Alzheimer's disease with cognitive endpoints requiring a large number of subjects for sufficient powering to demonstrate convincing efficacy, it may be beneficial to advance rapidly to Phase 3 when the investigational drug is relatively well tolerated and is not producing concerning safety signals. In other indications or for other therapeutics, a smaller Phase 2 (or even a Phase 2a followed by a Phase 2b) may be useful and appropriate prior to progression to a larger Phase 3 study.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. In addition, IND safety reports must be submitted to the FDA for any of the following: serious and unexpected suspected adverse reactions; findings from other studies or animal or *in vitro* testing that suggest a significant risk in humans exposed to the drug; and any clinically important increase in the case of a serious suspected adverse reaction over that listed in the protocol or investigator brochure. Phase 1, Phase 2 and Phase 3 clinical trials may not be completed successfully within any specified period, or at all. Furthermore, the FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution, or an institution it represents, if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. The FDA will typically inspect one or more clinical sites to assure compliance with GCP and the integrity of the clinical data submitted.

Concurrent with clinical trials, companies often complete additional animal studies and must also develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, must develop methods for testing the identity, strength, quality, and purity of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

Submission of an NDA to the FDA

Assuming successful completion of required clinical testing and other requirements, the results of the preclinical studies and clinical trials, together with detailed information relating to the product's chemistry, manufacture, controls and proposed labeling, among other things, are submitted to the FDA as part of an NDA requesting approval to market the drug product for one or more indications. Under federal law, the submission of most NDAs is additionally subject to an application user fee, and the sponsor of an approved NDA is also subject to annual program fees.

The FDA conducts a preliminary review of an NDA within 60 days of its receipt and informs the sponsor by the 74th day after the FDA's receipt of the submission to determine whether the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. The resubmitted application is also subject to review before the FDA accepts it for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA has agreed to specified

performance goals in the review process of NDAs. Most such applications are meant to be reviewed within ten months from the filing date, and most applications for "priority review" products are meant to be reviewed within six months of the filing date. The review process and the Prescription Drug User Fee Act goal date may be extended by the FDA for three additional months to consider new information or clarification provided by the applicant to address an outstanding deficiency identified by the FDA following the original submission.

Before approving an NDA, the FDA typically will inspect the facility or facilities where the product is or will be manufactured. These pre-approval inspections may cover all facilities associated with an NDA submission, including drug component manufacturing (such as active pharmaceutical ingredients), finished drug product manufacturing, and control testing laboratories. The FDA will not approve an application unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. Additionally, before approving an NDA, the FDA will typically inspect one or more clinical sites to assure compliance with GCP.

In addition, as a condition of approval, the FDA may require an applicant to develop a REMS. A REMS use risk minimization strategies beyond the professional labeling to ensure that the benefits of the product outweigh the potential risks. To determine whether a REMS is needed, the FDA will consider the size of the population likely to use the product, seriousness of the disease, expected benefit of the product, expected duration of treatment, seriousness of known or potential adverse events, and whether the product is a new molecular entity. A REMS can include medication guides, physician communication plans for healthcare professionals, and elements to assure safe use, or ETASU. ETASU may include, but are not limited to, special training or certification for prescribing or dispensing, dispensing only under certain circumstances, special monitoring, and the use of patient registries. The FDA may require a REMS before approval or post-approval if it becomes aware of a serious risk associated with use of the product. The requirement for a REMS can materially affect the potential market and profitability of a product.

The FDA is required to refer an application for a novel drug to an advisory committee or explain why such referral was not made. Typically, an advisory committee is a panel of independent experts, including clinicians and other scientific experts, that reviews, evaluates and provides a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendations of an advisory committee, but it considers such recommendations carefully when making decisions.

Fast Track, Breakthrough Therapy and Priority Review Designations

The FDA is authorized to designate certain products for expedited review if they are intended to address an unmet medical need in the treatment of a serious or life-threatening disease or condition. These programs are referred to as fast track designation, breakthrough therapy designation and priority review designation.

Specifically, the FDA may designate a product for Fast Track review if it is intended, whether alone or in combination with one or more other products, for the treatment of a serious or life-threatening disease or condition, and it demonstrates the potential to address unmet medical needs for such a disease or condition. For Fast Track products, sponsors may have greater interactions with the FDA and the FDA may initiate review of sections of a Fast Track product's application before the application is complete, subject to agreement between the sponsor and the FDA on a schedule for the submission of the various sections of the NDA and the sponsor's payment of applicable user fees. However, the FDA's PDUFA goal for reviewing a Fast Track application does not begin until the last section of the application is submitted. In addition, the Fast Track designation may be withdrawn by the FDA if the FDA believes that the designation is no longer supported by data emerging in the clinical trial process.

Second, a product may be designated as a Breakthrough Therapy if it is intended, either alone or in combination with one or more other products, to treat a serious or life-threatening disease or condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. The

FDA may take certain actions with respect to Breakthrough Therapies, including holding meetings with the sponsor throughout the development process; providing timely advice to the product sponsor regarding development and approval; involving more senior staff in the review process; assigning a cross-disciplinary project lead for the review team; and taking other steps to design the clinical trials in an efficient manner.

Third, the FDA may designate a product for priority review if it is a product that treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness. The FDA determines, on a case-by-case basis, whether the proposed product represents a significant improvement when compared with other available therapies. Significant improvement may be illustrated by evidence of increased effectiveness in the treatment of a condition, elimination or substantial reduction of a treatment-limiting product reaction, documented enhancement of patient compliance that may lead to improvement in serious outcomes, and evidence of safety and effectiveness in a new subpopulation. A priority designation is intended to direct overall attention and resources to the evaluation of such applications, and to shorten the FDA's goal for taking action on a marketing application from ten months to six months.

Even if a product qualifies for one or more of these programs, the FDA may later decide that the product no longer meets the conditions for qualification or decide that the time period for FDA review or approval will not be shortened. Furthermore, fast track designation, priority review, and breakthrough therapy designation do not change the standards for approval, but may expedite the development or approval process. We may explore some of these opportunities for our drug candidates as appropriate.

Accelerated Approval Pathway

The FDA may grant accelerated approval to a drug for a serious or life-threatening condition that provides meaningful therapeutic advantage to patients over existing treatments based upon a determination that the drug has an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit. The FDA may also grant accelerated approval for such a condition when the product has an effect on an intermediate clinical endpoint that can be measured earlier than an effect on irreversible morbidity or mortality, or IMM, and that is reasonably likely to predict an effect on irreversible morbidity or mortality or other clinical benefit, taking into account the severity, rarity or prevalence of the condition and the availability or lack of alternative treatments.

For the purposes of accelerated approval, a surrogate endpoint is a marker, such as a laboratory measurement, radiographic image, physical sign or other measure that is thought to predict clinical benefit, but is not itself a measure of clinical benefit. Surrogate endpoints can often be measured more easily or more rapidly than clinical endpoints. An intermediate clinical endpoint is a measurement of a therapeutic effect that is considered reasonably likely to predict the clinical benefit of a drug, such as an effect on IMM. The FDA has limited experience with accelerated approvals based on intermediate clinical endpoints, but has indicated that such endpoints generally may support accelerated approval where the therapeutic effect measured by the endpoint is not itself a clinical benefit and basis for traditional approval, if there is a basis for concluding that the therapeutic effect is reasonably likely to predict the ultimate clinical benefit of a drug.

The accelerated approval pathway is most often used in settings in which the course of a disease is long and an extended period of time is required to measure the intended clinical benefit of a drug, even if the effect on the surrogate or intermediate clinical endpoint occurs rapidly. Thus, accelerated approval has been used extensively in the development and approval of drugs for treatment of a variety of cancers in which the goal of therapy is generally to improve survival or decrease morbidity and the duration of the typical disease course requires lengthy and sometimes large trials to demonstrate a clinical or survival benefit.

The accelerated approval pathway is usually contingent on a sponsor's agreement to conduct, in a diligent manner, additional post-approval confirmatory studies to verify and describe the drug's clinical benefit. As a result, a drug candidate approved on this basis is subject to rigorous post-marketing compliance requirements, including the completion of Phase 4 or post-approval clinical trials to confirm the effect on the

clinical endpoint. Failure to conduct required post-approval studies, or confirm a clinical benefit during post-marketing studies, would allow the FDA to withdraw the drug from the market on an expedited basis. All promotional materials for drug candidates approved under accelerated regulations are subject to prior review by the FDA.

The FDA's Decision on an NDA

On the basis of the FDA's evaluation of the NDA and accompanying information, including the results of the inspection of the manufacturing facilities, the FDA may issue an approval letter or a complete response letter. An approval letter authorizes commercial marketing of the product with specific prescribing information for specific indications. A complete response letter generally outlines the deficiencies in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the NDA, the FDA will issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of information included. Even with submission of this additional information, the FDA ultimately may decide that the application does not satisfy the regulatory criteria for approval.

If the FDA approves a product, it may limit the approved indications for use for the product, require that contraindications, warnings or precautions be included in the product labeling, require that post-approval studies, including Phase 4 clinical trials, be conducted to further assess the drug's safety after approval, require testing and surveillance programs to monitor the product after commercialization, or impose other conditions, including distribution restrictions or other risk management mechanisms, including REMS, which can materially affect the potential market and profitability of the product. The FDA may prevent or limit further marketing of a product based on the results of post-market studies or surveillance programs. After approval, many types of changes to the approved product, such as adding new indications, manufacturing changes and additional labeling claims, are subject to further testing requirements and FDA review and approval.

Post-Approval Requirements

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing regulation by the FDA, including, among other things, requirements relating to recordkeeping, periodic reporting, product sampling and distribution, advertising and promotion and reporting of adverse experiences with the product. After approval, most changes to the approved product, such as adding new indications or other labeling claims, are subject to prior FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

In addition, drug manufacturers and other entities involved in the manufacture and distribution of approved drugs are required to register their establishments with the FDA and state agencies, and are subject to periodic unannounced inspections by the FDA and these state agencies for compliance with cGMP requirements. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the area of production and quality control to maintain cGMP compliance.

Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical

trials to assess new safety risks; or imposition of distribution or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market or product recalls;
- safety alerts, Dear Healthcare Provider letters, press releases or other communications containing warning or other safety information about the product;
- fines, warning letters or holds on post-approval clinical trials;
- refusal of the FDA to approve pending NDAs or supplements to approved NDAs, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Prescription Drug Marketing Act, or PDMA, which regulates the distribution of drugs and drug samples at the federal level, and sets minimum standards for the registration and regulation of drug distributors by the states. Both the PDMA and state laws limit the distribution of prescription pharmaceutical product samples and impose requirements to ensure accountability in distribution.

The 21st Century Cures Act

On December 13, 2016, then-President Obama signed 21st Century Cures Act, or the Cures Act, into law. The Cures Act is designed to modernize and personalize healthcare, spur innovation and research, and streamline the discovery and development of new therapies through increased federal funding of particular programs. It authorizes increased funding for the FDA to spend on innovation projects. Further, the Cures Act directs the Centers for Disease Control and Prevention to expand surveillance of neurological diseases.

Regulation Outside the United States

European Union Drug Development

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the EU, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority, or NCA, and one or more Ethics Committees, or ECs. Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

The EU clinical trials legislation currently is undergoing a transition process mainly aimed at harmonizing and streamlining clinical-trial authorization, simplifying adverse-event reporting procedures, improving the supervision of clinical trials and increasing their transparency. In April 2014, the EU passed the Clinical Trials Regulation (Regulation 536/2014), which will replace the current Clinical Trials Directive. To ensure that the rules for clinical trials are identical throughout the European Union, the EU Clinical Trials Regulation was passed as a regulation that is directly applicable in all EU Member States. All clinical trials performed in the European Union are required to be conducted in accordance with the Clinical Trials Directive until the Clinical Trials Regulation becomes applicable. According to the current plans of the EMA, the Clinical Trials Regulation is expected to become applicable during 2019. In the meantime, Clinical Trials Directive 2001/20/EC continues to govern all clinical trials performed in the EU.

European Union Drug Review and Approval

In the European Economic Area, or EEA, which is comprised of the 27 Member States of the European Union (including Norway and excluding Croatia), Iceland and Liechtenstein, medicinal products can only be commercialized after obtaining a Marketing Authorization, or MA. There are two types of marketing authorizations.

- The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use, or CHMP, of the European Medicines Agency, or EMA, and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines and medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.

- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State, or RMS. The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics, or SPC, and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e., in the RMS and the Member States Concerned).

Under the above described procedures, before granting the MA, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States and markets in other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided, and reimbursement is adequate to cover a significant portion of the cost of our products. Significant uncertainty exists as to the coverage and reimbursement status of products approved by the FDA and other government authorities. Even if our drug candidates are approved, sales of our products will depend, in part, on the extent to which third-party payors, including government health programs in the United States such as Medicare and Medicaid, commercial health insurers and managed care organizations, provide coverage, and establish adequate reimbursement levels for, such products. The process for determining whether a payor will provide coverage for a product is separate from the process for setting the price or reimbursement rate that the payor will pay for the product if coverage is approved. Third-party payors are increasingly challenging the prices charged, examining the medical necessity, and reviewing the cost-effectiveness of medical products and services and imposing controls to manage costs. Third-party payors may limit coverage to specific products on an approved list, also known as a formulary, which might not include all of the approved products for a particular indication.

In order to secure coverage and reimbursement for any product that might be approved for sale, a company may need to conduct expensive pharmacoeconomic studies in order to demonstrate the medical necessity and cost-effectiveness of the product, in addition to the costs required to obtain FDA or other comparable marketing approvals. Nonetheless, drug candidates may not be considered medically necessary or cost effective. A decision by a third-party payor not to cover our drug candidates could reduce physician utilization of our products once approved and have a material adverse effect on our sales, results of operations and financial condition. Additionally, a payor's decision to provide coverage for a product does not imply that an adequate reimbursement rate will be approved. Further, one payor's determination to provide coverage for a drug product does not assure that other payors will also provide coverage and reimbursement for the product, and the level of coverage and reimbursement can differ significantly from payor to payor. Third-party reimbursement and coverage may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

The containment of healthcare costs also has become a priority of federal, state and foreign governments and the prices of drugs have been a focus in this effort. Governments have shown significant interest in implementing cost-containment programs, including price controls, restrictions on reimbursement and requirements for substitution of generic products. Adoption of price controls and cost-containment measures, and adoption of more restrictive policies in jurisdictions with existing controls and measures, could further limit a company's revenue generated from the sale of any approved products. Coverage policies and third-party reimbursement rates may change at any time. Even if favorable coverage and reimbursement status is attained for one or more products for which a company or its collaborators receive marketing approval, less favorable coverage policies and reimbursement rates may be implemented in the future.

Outside the United States, ensuring adequate coverage and payment for our drug candidates will face challenges. Pricing of prescription pharmaceuticals is subject to governmental control in many countries. Pricing negotiations with governmental authorities can extend well beyond the receipt of marketing approval for a product and may require us to conduct a clinical trial that compares the cost effectiveness of our drug candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in our commercialization efforts.

In the European Union, pricing and reimbursement schemes vary widely from country to country. Some countries provide that products may be marketed only after a reimbursement price has been agreed. Some countries may require the completion of additional studies that compare the cost-effectiveness of a particular drug candidate to currently available therapies (so called health technology assessment, or HTA) in order to obtain reimbursement or pricing approval. For example, the European Union provides options for its member states to restrict the range of

products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. European Union member states may approve a specific price for a product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the product on the market. Other member states allow companies to fix their own prices for products, but monitor and control prescription volumes and issue guidance to physicians to limit prescriptions. Recently, many countries in the European Union have increased the amount of discounts required on pharmaceuticals and these efforts could continue as countries attempt to manage healthcare expenditures, especially in light of the severe fiscal and debt crises experienced by many countries in the European Union. The downward pressure on healthcare costs in general, particularly prescription drugs, has become intense. As a result, increasingly high barriers are being erected to the entry of new products. Political, economic and regulatory developments may further complicate pricing negotiations, and pricing negotiations may continue after reimbursement has been obtained. Reference pricing used by various European Union member states, and parallel trade (arbitrage between low-priced and high-priced member states), can further reduce prices. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products, if approved in those countries.

Healthcare Law and Regulation

Healthcare providers and third-party payors play a primary role in the recommendation and prescription of drug products that are granted marketing approval. Arrangements with providers, consultants, third-party payors and customers are subject to broadly applicable fraud and abuse, anti-kickback, false claims laws, reporting of payments to physicians, certain other healthcare providers and teaching hospitals and patient privacy laws and regulations and other healthcare laws and regulations that may constrain our business and/or financial arrangements. Restrictions under applicable federal and state healthcare laws and regulations, include the following:

- the U.S. federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from knowingly and willfully soliciting, offering, paying, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made, in whole or in part, under a federal healthcare program such as Medicare and Medicaid;

- the federal civil and criminal false claims laws, including the civil False Claims Act, and civil monetary penalties laws, which prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false, fictitious or fraudulent or knowingly making, using or causing to made or used a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government.

- HIPAA, which created additional federal criminal laws that prohibit, among other things, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by HITECH, and their respective implementing regulations, including the Final Omnibus Rule published in January 2013, which impose obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal transparency requirements known as the federal Physician Payments Sunshine Act, under the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively the Affordable Care Act, which requires certain manufacturers of drugs, devices, biologics and medical supplies to report annually to the Centers for Medicare & Medicaid Services, or CMS, within the U.S. Department of Health and Human Services, information related to payments and other transfers of value made by that entity to physicians, certain other healthcare providers, and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws, which may apply to healthcare items or services that are reimbursed by non-governmental third-party payors, including private insurers.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures and pricing information. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Healthcare Reform

A primary trend in the United States healthcare industry and elsewhere is cost containment. There have been a number of federal and state proposals during the last few years regarding the pricing of pharmaceutical and biopharmaceutical products, limiting coverage and reimbursement for drugs and other medical products, government control and other changes to the healthcare system in the United States

In March 2010, the United States Congress enacted the Affordable Care Act, or ACA, which, among other things, includes changes to the coverage and payment for drug products under government healthcare programs. Among the provisions of the ACA of importance to our potential drug candidates are:

- an annual, nondeductible fee on any entity that manufactures, or imports specified branded prescription drugs and biologic agents, apportioned among these entities according to their market share in certain government healthcare programs;

- expansion of eligibility criteria for Medicaid programs by, among other things, allowing states to offer Medicaid coverage to certain individuals with income at or below 133% of the federal poverty level, thereby potentially increasing a manufacturer's Medicaid rebate liability;

- expanded manufacturers' rebate liability under the Medicaid Drug Rebate Program by increasing the minimum rebate for both branded and generic drugs and revising the definition of "average manufacturer price," or AMP, for calculating and reporting Medicaid drug rebates on outpatient prescription drug prices;

- addressed a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted or injected;

- expanded the types of entities eligible for the 340B drug discount program;

- established the Medicare Part D coverage gap discount program by requiring manufacturers to provide a 70% point-of-sale-discount off the negotiated price of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturers' outpatient drugs to be covered under Medicare Part D; and

- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required

goals, thereby triggering the legislation's automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2027 unless additional Congressional action is taken. In January 2013, then-President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. In addition, recently there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their commercial products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, reform government program reimbursement methodologies.

Since its enactment, there have been numerous legal challenges and Congressional actions to repeal and replace provisions of the ACA. Some of the provisions of the ACA have yet to be implemented, and there have been legal and political challenges to certain aspects of the ACA. Since January 2017, President Trump has signed two executive orders and other directives designed to delay, circumvent, or loosen certain requirements mandated by the ACA. Moreover, the Tax Cuts and Jobs Act of 2017, or the Tax Act, was enacted on December 22, 2017, and 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, 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. While the Trump Administration and CMS have both stated that the ruling will have no immediate effect, it is unclear how this decision, subsequent appeals, if any, and other efforts to repeal and replace the ACA will impact the ACA and our business. Congress may consider other legislation to repeal or replace additional elements of the ACA. We continue to evaluate the effect that the ACA, the repeal of the individual mandate, and any additional repeal and replacement efforts may have on our business but expect that the ACA, as currently enacted or as it may be amended in the future, and other healthcare reform measures that may be adopted in the future could have a material adverse effect on our industry generally and on our ability to maintain or increase sales of our existing products that we successfully commercialize or to successfully commercialize our drug candidates, if approved. In addition to the ACA, there will continue to be proposals by legislators at both the federal and state levels, regulators and third-party payors to keep healthcare costs down while expanding individual healthcare benefits.

Employees and Consultants

As of March 31, 2019, we had 19 employees, including 14 in research and development and two in general and administrative functions. We also utilize seven consultants in various roles related to research and development. We believe our employee relations are good.

Legal Proceedings

We are not currently subject to any material legal proceedings.

Facilities

Our corporate headquarters are currently located in South San Francisco, California, where we sublease 3,185 square feet of office, research and development, and laboratory space pursuant to a lease agreement that expires in July 2021. We believe that these facilities will be adequate for our near-term needs. If required, we believe that suitable additional or alternative space would be available in the future on commercially reasonable terms.

MANAGEMENT

Executive Officers and Directors

The names and ages of our executive officers and directors as of March 31, 2019, are as follows:

Name	Age	Position(s)
Executive Officers:		
Casey C. Lynch	45	President, Chief Executive Officer and Chairman of the Board
Christopher Lowe	51	Chief Financial Officer and Treasurer
Kristen Gafric	43	Senior Vice President, Legal and Administration, and Secretary
Michael Detke, M.D.	52	Chief Medical Officer
Stephen S. Dominy, M.D.	63	Chief Scientific Officer and Director
Leslie Holsinger, Ph.D.	53	Executive Vice President of Preclinical Development
Non-Employee Directors:		
David A. Lamond(2)	44	Director
Margi McLoughlin, Ph.D(2)(3).	56	Director
Una Ryan, OBE, Ph.D(1)(3).	77	Director
Christopher J. Senner(1)	51	Director
Kevin Young, CBE(1)(2)(3)	61	Director

(1) Member of audit committee
(2) Member of compensation committee
(3) Member of nominating and corporate governance committee

Executive Officers

Casey C. Lynch has served as our President and Chief Executive Officer and a member of our board of directors since July 2014, and as Chairman of our board of directors since November 2018. Prior to co-founding Cortexyme, Ms. Lynch co-founded various companies and organizations in the biotechnology industry including Aspira Biosystems, Inc. and NeuroInsights, LLC. She served as Aspira's co-founder, President and Chief Executive Officer from 1999 to 2004 and she co-founded NeuroInsights, LLC and served as its Managing Director from 2004 to 2015. Ms. Lynch also co-founded Neurotechnology Industry Organization and served as a board member from March 2005 to September 2018. Ms. Lynch holds a B.S. in Neuroscience from the University of California, Los Angeles, an M.S. in Neuroscience from the University of California, San Francisco and obtained a certificate in Management Development for Entrepreneurs Program from the University of California, Los Angeles. We believe that Ms. Lynch is qualified to serve as a director because of her operational and historical expertise gained from serving as our President and Chief Executive Officer, and her extensive professional and educational experience in the biotechnology industry.

Christopher Lowe has served as our Chief Financial Officer since January 2019 and as our Treasurer since April 2019. From June 2018 until January 2019, Mr. Lowe served as a consultant to us and our interim Chief Financial Officer through his capacity as a partner at FLG Partners. Mr. Lowe has also served as the Managing Partner of the Innventus Fund at Innventure since January 2017 and he has served as a partner at FLG Partners since January 2014 and its Managing Partner since January 2018. Prior to joining Cortexyme, Mr. Lowe served as the Interim Chief Executive Officer and Chief Financial Officer of Hansen Medical from February 2014 to July 2016, and he served as the Chief Business Officer and Chief Financial Officer of Anthera Pharmaceuticals from September 2007 to June 2013. Mr. Lowe served as a director for Inspyr Therapeutics from September 2016 to December 2018. He also served as a director of EpiBiome from May 2016 to June 2018, and he served as a director and Chairman of the Audit Committee for Asante Solutions from December 2014 to October 2015. Mr. Lowe holds

a B.S. in Business Administration from California Polytechnic State University and an M.B.A. from St. Mary's University.

Kristen Gafric has served as our Secretary since July 2014, as our Vice President of Operations since September 2017, and as our Senior Vice President, Legal and Administration since April 2019. Prior to co-founding Cortexyme, Ms. Gafric served as the Senior Manager of Commercial Contracts Management at Triton Container International from June 2014 to September 2016. Ms. Gafric was also the Senior Contracts Manager at San Francisco Health Plan from June 2013 to June 2014 and Manager of Contracts and Grants at the University of California San Francisco from October 2011 to June 2013. Ms. Gafric holds a B.A. in Psychology and Philosophy from Emory University and a J.D. from Cleveland State University.

Michael Detke, M.D., has served as our Chief Medical Officer since December 2018. Dr. Detke has over 25 years of research experience and extensive clinical and drug development expertise. Prior to joining Cortexyme, Dr. Detke served as the Chief Medical Officer at Embera NeuroTherapeutics, Inc. from September 2016 to December 2018, and he served as President of Detke Biopharma Consulting LLC from April 2013 to December 2018, including as Chief Medical Officer for CoMentis Pharmaceuticals. He served as Chief Medical Officer and Director of the MedAvante Research Institute of MedAvante, Inc. Dr. Detke joined MedAvante from Eli Lilly, Inc. where he served as Executive Director and head of early phase development of CNS therapeutics. At Lilly, he led clinical development of one of the industry's deepest and strongest pipelines of CNS products. He served as Senior Medical Director responsible for Phase III development for Cymbalta and Phase IV for Prozac. Dr. Detke has served as an Adjunct volunteer Clinical Professor of Psychiatry at Indiana University School of Medicine since July 2000. Dr. Detke holds a B.A. and M.S. in Psychology from Yale University and an M.A., M.D. and Ph.D. in Psychology and Behavioral Pharmacology from the University of Pennsylvania. He also received post-doctoral training in Psychiatry from Harvard Medical School.

Stephen S. Dominy, M.D., has served as a member of our board of directors since December 2015 and as our Chief Scientific Officer since April 2016. Prior to co-founding Cortexyme, Dr. Dominy served as a Division Director at San Francisco General Hospital and as Associate Professor of Psychiatry at the University of California, San Francisco School of Medicine from 2006 to 2016. Dr. Dominy holds a B.S. in Pharmacy from The Ohio State University College of Pharmacy and an M.D. from the Wright State University Boonshoft School of Medicine. We believe that Dr. Dominy is qualified to serve as a director because of his educational background, as well as his extensive research and technical experience that provides an important perspective on operations and development.

Leslie Holsinger, Ph.D., has served as our Executive Vice President of Preclinical Development since January 2018. She also served as our Vice President of Preclinical Development from April 2016 to December 2017. Prior to joining Cortexyme, Dr. Holsinger served as Director of Biology and Vice President of Biology at Virobay Inc. from 2006 to 2016. Prior to her work at Virobay, Dr. Holsinger held positions of increasing responsibility at Celera and Sugen Inc. Dr. Holsinger holds an A.B. in Biochemistry from Occidental College and a Ph.D. in Biochemistry, Molecular and Cellular Biology from Northwestern University. She also received post-doctoral training at Stanford University School of Medicine.

Non-employee Directors

David A. Lamond has served on our board of directors since December 2015. Mr. Lamond has served as the president of En Pointe LLC, an investment firm, since 2016. He served as the President, Chief Executive Officer and Chief Investment Officer of Lamond Capital Partners LLC from 2011 to 2016. He also serves on the board of directors of Applied Molecular Transport, a biotechnology company. He previously served on the board of Arrinex, a medical device company. In addition, he serves on the board of directors of two non-profit organizations, Tipping Point Community and Ubuntu Pathways. Mr. Lamond holds a B.A. in History from Duke University and a J.D. from Duke Law School. We believe that Mr. Lamond is qualified to serve as a director because of his extensive experience in important ecosystem partners, and his service on a number of boards provides an important perspective on operations, finance and corporate governance matters.

Margi McLoughlin, Ph.D., has served on our board of directors since December 2015. Since January 2014, Dr. McLoughlin has served as an Executive Director in World Wide Business Development, at Pfizer Inc. focusing on venture investments, and since June, 2018 was transitioned to a role as a Partner in Pfizer Ventures, a venture capital arm of Pfizer Inc. focused on companies working in areas aligned with the future directions of Pfizer Inc. Dr. McLoughlin serves as a director on the board of directors of 4D Molecular Therapeutics, System1 Biosciences and Adapsyn Biosciences. Dr. McLoughlin joined Pfizer Inc. in 2001 and prior to focusing on venture investments, had roles of increasing responsibility within Worldwide Business Development where she led transactions with multiple biotech companies, academic institutions and other large pharma companies. Prior to working at Pfizer Inc., Dr. McLoughlin served as a Director in Yale's Office of Cooperative Research for two years. Dr. McLoughlin served in various positions at Mallinckrodt Medical from 1992 to 1999, holding positions in Discovery Research, followed by Technology Planning. Dr. McLoughlin holds a B.S. in Chemistry from the University of California, Irvine and a Ph.D. in Chemistry from the University of California, Santa Barbara. We believe that Dr. McLoughlin is qualified to serve as a director because of her extensive experience in the biotechnology industry and her service on a number of boards, which provides an important perspective on operations and corporate governance matters, as well as her education in biotechnology.

Una Ryan, OBE, Ph.D., has served on our board of directors since January 2019. Dr. Ryan has served as a Managing Director at Golden Seeds LLC since 2012, a Partner at Astia Angel since 2012, and a Limited Partner at Breakout Ventures since 2016. She was Chairman of The Bay Area BioEconomy Initiative from 2012 to 2015. Dr. Ryan served as the President and Chief Executive Officer at Waltham Technologies, Inc. from 2008 to 2010. She served as the Chief Executive Officer, President and Chief Operating Officer of AVANT Immunotherapeutics Inc. from 1998 to 2008 (which then became known as Celldex, Inc). She also served as the President and Chief Executive Officer of Diagnostics for All, or DFA from 2009 to 2012 and as Director of Health Sciences at Monsanto Corporation from 1989 to 1993. Dr. Ryan serves on the board of directors of the following private companies: RenovoRx, Elemental Machines and Nativis, Inc. She also serves on the board of directors of the following non-profit entities: Cambridge in America, the University of Bristol Foundation and the San Francisco Art Institute. Dr. Ryan served as a director on the board of directors for AVANT Immunotherapeutics, Inc, AMRIGlobal, Inc, BayBio, MassBio, BIO, or Biotechnology Innovation Organization, New England Healthcare Institute, Board of Associates of the Whitehead Institute and Strategy & Policy Council of the MIT Center for Biomedical Innovation. Dr. Ryan holds a B.S. in Zoology, Microbiology, Chemistry from Bristol University and a Ph.D. in Cellular and Molecular Biology from Cambridge University. Dr. Ryan was awarded the Order of the British Empire for services to biotechnology. We believe that Dr. Ryan is qualified to serve as a director because of her extensive experience in the biotechnology industry and her service on a number of boards of companies, which provides an important perspective on operations and corporate governance matters.

Christopher J. Senner has served on our board of directors since March 2019. Mr. Senner has served as Executive Vice President and Chief Financial Officer for Exelixis, Inc. since 2015. Prior to joining Exelixis, Inc., Mr. Senner served as Vice President, Corporate Finance for Gilead Sciences, Inc., a biopharmaceutical company, from 2010 to 2015, where he was accountable for controllership, tax, treasury and corporate and operational financial planning. Mr. Senner previously spent 18 years at Wyeth, a pharmaceutical company acquired by Pfizer Inc. in 2009, in a variety of financial roles with increasing responsibility, most notably as Chief Financial Officer of Wyeth's United States pharmaceuticals business and the BioPharma business unit. Mr. Senner holds an undergraduate degree in Finance from Bentley University. We believe that Mr. Senner's extensive executive and professional experience in the biotechnology industry qualify him to serve as a director.

Kevin Young, CBE has served on our board of directors since January 2019. Mr. Young served as the Chief Operating Officer and Executive Vice President of Commercial Operations for Gilead Sciences, Inc. from 2004 to 2018. Mr. Young previously held positions at ICI Pharmaceuticals and Amgen, Inc., where Mr. Young was Head of the U.S. Inflammation Business Unit from 2001 to 2004. Mr. Young holds undergraduate and graduate degrees in Sports Science and Exercise from Liverpool John Moores University and the University of Nottingham, respectively, and has completed the Executive Program at the University of Michigan, School of

Business Administration. Mr. Young was appointed a commander of the Most Excellent Order of the British Empire, recognizing his services to the healthcare and pharmaceutical industries. We believe that Mr. Young is qualified to serve as a director because of his extensive executive and professional experience in the biotechnology industry.

There are no family relationships among any of our directors or executive officers.

Board of Directors

Our board of directors is currently comprised of seven members. Our amended and restated bylaws permit our board of directors to establish by resolution the authorized number of directors, and eight directors are currently authorized. Upon the closing of this offering our board of directors will consist of seven members with one vacancy in Class I, to be filled by the affirmative vote of a majority of the directors then in office. In addition, Una Ryan, OBE, Ph.D. was appointed as Lead Non-Management Director, effective upon the closing of this offering until the 2020 annual meeting of stockholders.

Voting Arrangements

The election of the members of our board of directors is currently governed by the amended and restated voting agreement that we entered into with certain holders of our common stock and certain holders of our redeemable convertible preferred stock in May 2018, as amended in December 2018 and March 2019, and the related provisions of our amended and restated certificate of incorporation. Pursuant to the voting agreement and these provisions, Drs. Dominy, McLoughlin, and Ryan, and Messrs. Lamond, Senner and Young and Ms. Lynch have been designated to serve on our board of directors.

- Dr. Margi McLoughlin (who was designated by Pfizer Ventures (US) LLC) and Mr. David A. Lamond (who was designated by the Pierre R. and Christine E. Lamond Trust 11-22-85) were elected by the holders of our redeemable convertible preferred stock;
- Ms. Casey C. Lynch and Dr. Stephen S. Dominy were elected by the holders of our common stock; and
- Dr. Una Ryan, Mr. Christopher J. Senner and Mr. Kevin Young were elected by the holders of our common stock and redeemable convertible preferred stock voting together as a single class on an as-converted basis.

The holders of our common stock and redeemable convertible preferred stock who are parties to our voting agreement are obligated to vote for such designees indicated above. The provisions of this voting agreement will terminate upon the closing of this offering and our certificate of incorporation will be amended and restated, after which there will be no further contractual obligations or charter provisions regarding the election of our directors.

Our directors hold office until their successors have been elected and qualified or appointed, or the earlier of their death, resignation or removal.

Classified Board

In connection with the closing of this offering, we will file our amended and restated certificate of incorporation which will provide that our board of directors will be divided into three classes, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes of directors continuing for the remainder of their respective three-year terms. Upon the expiration of

the term of a class of directors, a director in that class will be eligible to be elected for a new three-year term at the annual meeting of stockholders in the year in which their term expires. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of our directors.

Our directors will be divided among the three classes as follows:

- the Class I directors will be Margi McLoughlin, Ph.D. and Una Ryan, OBE, Ph.D., and their terms will expire at the annual meeting of stockholders to be held in 2020;
- the Class II directors will be Kevin Young, CBE and David A. Lamond and their terms will expire at the annual meeting of stockholders to be held in 2021; and
- the Class III directors will be Casey C. Lynch, Stephen S. Dominy, M.D. and Christopher J. Senner and their terms will expire at the annual meeting of stockholders to be held in 2022.

In addition, our amended and restated bylaws and amended and restated certificate of incorporation will provide that, subject to the rights of any series of preferred stock, (i) only the board of directors may fill vacancies on the board of directors until the next annual meeting of stockholders and (ii) the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the total number of directors.

This classification of the board of directors and the provisions described above may have the effect of delaying or preventing changes in our control or management. See “Description of Capital Stock—Anti-Takeover Effects of Delaware Law and Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws.”

Role of the Board in Risk Oversight

One of the key functions of our board of directors is informed oversight of our risk management process. Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through the board of directors as a whole, as well as through its standing committees that address risks inherent in their respective areas of oversight. In particular, our board of directors is responsible for monitoring and assessing strategic risk exposure. Our audit committee is responsible for reviewing and discussing our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies with respect to risk assessment and risk management. Our audit committee also monitors compliance with legal and regulatory requirements. Our nominating and corporate governance committee monitors the effectiveness of our governance guidelines. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

Director Independence

In connection with this offering, we have applied to list our common stock on the Nasdaq Global Select Market. Under Nasdaq rules, independent directors must comprise a majority of a listed company’s board of directors within a specified period of time after the closing of such company’s initial public offering. In addition, the Nasdaq rules require that, subject to specified exceptions, each member of a listed company’s audit, compensation, and nominating committees be independent. Audit committee members and compensation committee members must also satisfy the independence criteria set forth in Rule 10A-3 and Rule 10C-1, respectively, under the Exchange Act. Under Nasdaq rules, a director will only qualify as an “independent” director if, in the opinion of that company’s board of directors, that director does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director with the listed company.

In order to be considered independent for purposes of Rule 10A-3 and under Nasdaq rules, each member of the audit committee of a listed company may not, other than in his or her capacity as a member of such committee, the board of directors, or any other board committee: (i) accept, directly or indirectly, any consulting, advisory, or other compensatory fees from the listed company or any of its subsidiaries; or (ii) be an affiliated person of the listed company or any of its subsidiaries.

To be considered independent for purposes of Rule 10C-1 and under Nasdaq rules, the board of directors must affirmatively determine that each member of the compensation committee is independent, including a consideration of all factors specifically relevant to determining whether the director has a relationship to the company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: (i) the source of compensation of such director, including any consulting, advisory or other compensatory fee paid by the company to such director; and (ii) whether such director is affiliated with the company, a subsidiary of the company or an affiliate of a subsidiary of the company.

Our board of directors undertook a review of its composition, the composition of its committees and the independence of our directors and considered whether any director has a material relationship with us that could compromise his or her ability to exercise independent judgment in carrying out his or her responsibilities. Based on information provided by each director concerning his or her background, employment, and affiliations, our board of directors has determined that all of our directors other than Casey C. Lynch and Stephen S. Dominy, M.D. do not have relationships that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the applicable rules and regulations of the Securities and Exchange Commission, and the listing and independence standards of the Nasdaq Global Select Market.

In making these determinations, our board of directors considered the current and prior relationships that each non-employee director has with us and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section entitled "Certain Relationships and Related Party Transactions."

Committees of the Board of Directors

Our board of directors has established an audit committee, a compensation committee and a nominating and corporate governance committee. The composition and responsibilities of each committee are described below. Immediately prior to the closing of this offering, copies of the charters for each committee will be available on the investor relations portion of our website at www.cortexyme.com. Members serve on these committees until their resignations or removal. The inclusion of our website in this prospectus does not include or incorporate by reference the information on our website into this prospectus.

Audit Committee

Following the closing of this offering, our audit committee will be comprised of Christopher J. Senner, Kevin Young, CBE and Una Ryan, OBE, Ph.D., with Mr. Senner serving as audit committee chair person. Our board of directors has determined that each of the members of our audit committee satisfies the requirements for independence and financial literacy under the current listing standards of the Nasdaq Global Select Market and the Securities and Exchange Commission rules and regulations, including Rule 10A-3. Our board of directors has also determined that Christopher J. Senner and Una Ryan, OBE, Ph.D. are each an audit committee financial expert within the meaning of Item 407(d) of Regulation S-K of the Securities Act.

Our audit committee will be responsible for, among other things:

- selecting a qualified firm to serve as independent registered public accounting firm to audit our financial statements;

- helping to ensure the independence and overseeing the performance of the independent registered public accounting firm;
- reviewing and discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent accountants, our interim and year-end operating results;
- reviewing our financial statements and our critical accounting policies and estimates;
- reviewing the adequacy and effectiveness of our internal controls;
- developing procedures for employees to submit concerns anonymously about questionable accounting, internal accounting controls, or audit matters;
- overseeing our policies on risk assessment and risk management;
- overseeing compliance with our code of business conduct and ethics;
- reviewing related-party transactions; and
- pre-approving all audit and all permissible non-audit services (other than de minimis non-audit services) to be performed by the independent registered public accounting firm.

Our audit committee will operate under a written charter, to be effective on the date of this offering, which satisfies the applicable rules of the Securities and Exchange Commission and the listing standards of the Nasdaq Global Select Market, and which will be available on our website upon the closing of this offering. All audit services to be provided to us and all permissible non-audit services, other than *de minimis* non-audit services, to be provided to us by our independent registered public accounting firm will be approved in advance by our audit committee.

Compensation Committee

Following the closing of this offering, our compensation committee will be comprised of David A. Lamond, Margi McLoughlin, Ph.D. and Kevin Young, CBE, each of whom will meet the requirements for independence under the listing standards of Nasdaq and the Securities and Exchange Commission rules and regulations. In addition, each member of our compensation committee will also be a non-employee director, as defined pursuant to Rule 16b-3 of the Exchange Act. David A. Lamond will be the chair of our compensation committee. Following the closing of this offering, the compensation committee will be responsible for, among other things:

- reviewing, approving and determining, or making recommendations to our board of directors regarding, the compensation of our executive officers, including our Chief Executive Officer;
- administering our equity compensation plans and agreements with our executive officers;
- reviewing, approving and administering incentive compensation and equity compensation plans;
- reviewing and approving our overall compensation philosophy; and
- making recommendations regarding non-employee director compensation to our full board of directors.

Our compensation committee will operate under a written charter, to be effective on the date of this offering, will satisfy the applicable rules of the Securities and Exchange Commission and the listing standards of the Nasdaq Global Select Market, and will be available on our website upon the closing of this offering.

Nominating and Corporate Governance Committee

Following the closing of this offering, our nominating and corporate governance committee will consist of Margi McLoughlin, Ph.D., Una Ryan, OBE, Ph.D. and Kevin Young, CBE, each of whom will meet the requirements for independence under the listing standards of Nasdaq and SEC rules and regulations. Kevin Young will be the chair of our nominating and corporate governance committee. Following the closing of this offering, the nominating and corporate governance committee will be responsible for, among other things:

- identifying, evaluating and selecting, or making recommendations to our board of directors regarding nominees for election to our board of directors and its committees;
- overseeing the evaluation and the performance of our board of directors and of individual directors;
- considering and making recommendations to our board of directors regarding the composition of our board of directors and its committees;
- overseeing our corporate governance practices;
- contributing to succession planning; and
- developing and making recommendations to our board of directors regarding corporate governance guidelines and matters.

Our nominating and corporate governance committee will operate under a written charter, to be effective prior to the closing of this offering, which will satisfy the applicable rules of the SEC and the listing standards of Nasdaq and will be available on our website at www.cortexyme.com.

Compensation Committee Interlocks and Inside Participation

None of the members of our compensation committee is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the board of directors or compensation committee (or other board of directors committee performing equivalent functions or, in the absence of any such committee, the entire board of directors) of any entity that has one or more executive officers serving on our board of directors or compensation committee. Certain members of our compensation committee are affiliated with entities that purchased our preferred stock. Please see “Certain Relationships and Related-Party Transactions—Equity Financings” for more information.

Non-Employee Director Compensation

Historically, we have neither had a formal compensation policy for our non-employee directors, nor have we had a formal policy of reimbursing expenses incurred by our non-employee directors in connection with their board service. However, we have reimbursed our non-employee directors for reasonable expenses incurred in connection with their attendance at board of directors or committee meetings and occasionally granted stock options to our non-employee directors. Except to the limited extent described below, we did not provide our non-employee directors, in their capacities as such, with any cash, equity or other compensation in fiscal 2018. Neither Casey C. Lynch, our President and Chief Executive Officer, nor Stephen S. Dominy, M.D., our Chief Scientific Officer, received compensation for services as a director. Compensation provided to Casey C. Lynch and Stephen S. Dominy, M.D. is discussed in the section titled “Executive Compensation.”

The following table sets forth information regarding compensation awarded, earned or paid for services rendered to us by our non-employee directors for fiscal 2018:

Name	Option Awards ($)(1)(2)	Total ($)
Current Non-Employee Directors		
David A. Lamond	—	—
Margi McLoughlin, Ph.D.	—	—
Una Ryan, OBE, Ph.D.(3)	—	—
Christopher J. Senner(4)	—	—
Kevin Young, CBE(5)	—	—
Former Non-Employee Directors		
Michael Martin, Ph.D.	—	—
Roger Quy, Ph.D.(6)	26,720(6)	26,720
Ilan Zipkin, Ph.D.	44,840	44,840

(1) The amounts reported in this column represent the aggregate grant date fair value for financial statement reporting purposes of stock options granted in fiscal 2018 under our 2014 Stock Plan, or 2014 Plan, as determined in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, or FASB ASC Topic 718. These amounts reflect our accounting expense for these stock options and do not represent the actual economic value that may be realized by each holder. There can be no assurance that these amounts will ever be realized. For information on the assumptions used in valuing these awards, refer to Note 7 to the historical financial statements included at the end of this prospectus. As required by Securities and Exchange Commission rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions.
(2) The number of outstanding stock options held by each non-employee director and former non-employee director, as applicable, as of December 31, 2018 was as follows: Mr. Lamond (0), Dr. McLoughlin (0), Dr. Ryan (0), Mr. Senner (0), Mr. Young (0), Mr. Martin (0), Mr. Quy (36,764), and Mr. Zipkin (36,764).
(3) Dr. Ryan was appointed to the board of directors in January 2019.
(4) Mr. Senner was appointed to the board of directors in March 2019.
(5) Mr. Young was appointed to the board of directors in January 2019.
(6) As of December 31, 2018, Mr. Quy held outstanding stock options covering 36,764 shares, which included (i) an option to purchase 18,382 shares of common stock granted on March 23, 2016 and (ii) an option to purchase 18,382 shares of common stock granted on July 25, 2018. The option granted to Mr. Quy on July 25, 2018 was cancelled on January 23, 2019. The aggregate grant date fair value of the cancelled option was $26,720.

On April 9, 2019, our board of directors approved an outside director compensation policy that will become effective upon the closing of this offering. Under this policy, we will pay our directors who are not employees of the company an annual cash retainer for service on the board of directors and an additional annual cash retainer for service on each committee on which the director is a member, which will be paid quarterly in arrears. Our Lead Independent Director and the chairman of each committee will receive higher annual cash retainers for such service. The fees paid to non-employee directors for service on the board of directors and for service on each committee of the board of directors of which the director is a member are as follows:

	Member Annual Cash Retainer	Lead/ Chairperson Annual Cash Retainer
Board of Directors	$ 35,000	$ 45,000
Audit Committee	$ 7,500	$ 15,000
Compensation Committee	$ 5,000	$ 10,000
Nominating and Corporate Governance Committee	$ 4,000	$ 8,000

In addition, each non-employee director elected to our board of directors following the completion of this offering will, upon the date of his or her initial election or appointment to be a non-employee director, be granted a stock option to purchase 22,058 shares of our common stock. One-third of the shares subject to such initial stock option grant will vest on each anniversary of the date of grant, subject to the director's continued service as a member of our board of directors through each vesting date. Further, at the close of business on the

date of each annual meeting of stockholders following this offering, each continuing non-employee director will be granted a stock option to purchase the total shares of our common stock set forth below:

- If the non-employee director's appointment to our board of directors was more than 6 months prior to the annual meeting of our stockholders, the stock option will cover 11,029 shares of our common Stock.
- If the non-employee director's appointment to our board of directors was between 3 and 6 months prior to the annual meeting of our stockholders, the stock option will cover 5,514 shares of our common stock.
- If the non-employee director's appointment to our board of directors was less than 3 months prior to the annual meeting of our stockholders, the non-employee director will not receive a stock option on the date of the annual meeting of our stockholders.

100% of the shares subject to any such annual stock option grant will vest in full on the one-year anniversary of the grant date, subject to the director's continued service as a member of our board of directors through the vesting date.

All stock options granted to non-employee directors following the completion of this offering are expected to be made pursuant to our 2019 Plan as more fully described in "Executive Compensation—Equity Incentive Plans" and will vest in full immediately prior to, and contingent upon, the consummation of a change in control of our company, subject to the director's continued service as a member of our board of directors through the change in control.

We will also continue to reimburse our non-employee directors for ordinary, necessary and reasonable out-of-pocket travel expenses to cover in-person attendance at, and participation in, Board and committee meetings.

The non-employee director compensation program is intended to provide a total compensation package that enables us to attract and retain qualified and experienced individuals to serve as directors and to align our directors' interests with those of our stockholders.

Director and Officer Indemnification Agreements

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, require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, penalties, 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 as a director or executive officer of any other company or enterprise to which the person provides services at our request.

EXECUTIVE COMPENSATION

Overview

As an emerging growth company, we have opted to comply with the executive compensation disclosure rules applicable to "smaller reporting companies," as such term is defined in the rules promulgated under the Securities Act.

Our named executive officers for fiscal 2018, as determined in accordance with these rules, were:

- Casey C. Lynch, our President and Chief Executive Officer;
- Stephen S. Dominy, M.D., our Chief Scientific Officer; and
- Christopher Lowe, our Chief Financial Officer.

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt following the closing of this offering may differ materially from the currently planned programs and arrangements summarized in this discussion.

Summary Compensation Table

The following table sets forth certain information regarding the compensation awarded to, earned by and paid to each of our named executive officers for fiscal 2018:

Name and Principal Position	Year	Salary ($)(1)	Bonus ($)(2)	Option Awards ($)(3)	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
Casey C. Lynch *President and Chief Executive Officer*	2018	277,019	82,500	557,814	—	—	917,333
Stephen S. Dominy, M.D. *Chief Scientific Officer*	2018	260,707	64,688	171,949	—	—	497,344
Christopher Lowe(4) *Chief Financial Officer and Treasurer*	2018	—	—	342,336	—	95,200(5)	437,536

(1) The amounts reported in this column represent salary earned by each of our named executive officers in fiscal year 2018.
(2) The amounts reported in this column represent performance-based cash incentives earned by each named executive officer based on fiscal year 2018 performance.
(3) The amounts reported in this column reflect the aggregate grant date fair value for financial statement reporting purposes of stock options granted in fiscal year 2018 as determined in accordance with FASB ASC Topic 718. These amounts reflect our accounting expense for these stock options and do not represent the actual economic value that may be realized by each named executive officer. There can be no assurance that these amounts will ever be realized. For information on the assumptions used in valuing these awards, refer to Note 7 to the historical financial statements included at the end of this prospectus. As required by the Securities and Exchange Commission rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions.
(4) In January 2019, Mr. Lowe became an employee of the company. From June 2018 until January 2019, Mr. Lowe was a consultant to the company, serving as our Interim Chief Financial Officer through his capacity as a partner at FLG Partners.
(5) This amount represents fees paid for Mr. Lowe's services pursuant to a consulting agreement entered into by and between FLG Partners, LLC and the company effective as of June 20, 2018.

Outstanding Equity Awards as of December 31, 2018

The following table provides information regarding the unexercised stock options held by each of our named executive officers as of December 31, 2018:

		Option Awards(1)			
Name	Grant Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)(2)	Option Expiration Date
Casey C. Lynch	6/2/2017	0(3)	83,159(3)	0.46	6/1/2022
	10/30/2018	29,512(4)	442,692(4)	2.23	10/29/2028
Stephen S. Dominy, M.D.	11/18/2016	83,159(5)	49,896(5)	0.41	11/17/2026
	10/30/2018	7,377(6)	110,674(6)	2.23	10/29/2028
Christopher Lowe	11/28/2018	0(7)	235,294(7)	2.23	11/27/2028

(1) All awards were granted under our 2014 Plan.
(2) This column represents the fair market value of a share of our common stock on the date of grant, or, in the case of Ms. Lynch's June 2, 2017 grant, 110% of fair market value of a share of our common stock on the date of grant, as determined by our board of directors.
(3) These option shares were part of a stock option grant covering 133,055 shares of our common stock. 1/48th of the stock option grant vested on July 13, 2017 and 1/48th of the grant vested and will vest on each monthly anniversary thereafter, subject to Ms. Lynch's continuous service through the applicable vesting date. In addition, if we terminate Ms. Lynch's employment without "cause," or if Ms. Lynch resigns for "good reason" (each as defined in a supplemental agreement applicable to Ms. Lynch's options), in either case, in connection with or following a change of control (as defined in the 2014 Plan), then 100% of the then unvested shares subject to the stock option grant will vest effective immediately as of such termination or resignation or, if later, the closing of the change of control (the "Lynch Acceleration").
(4) These option shares were part of a stock option grant covering 472,205 shares of our common stock. 1/48th of the stock option grant vested on October 1, 2018 and 1/48th of the grant vested and will vest on each monthly anniversary thereafter, subject to Ms. Lynch's continuous service through the applicable vesting date. In addition, the Lynch Acceleration applies to these option shares prior to their full vesting.
(5) These option shares were part of a stock option grant covering 133,055 shares of our common stock. 1/48th of the stock option grant vested on July 15, 2016 and 1/48th of the grant vested and will vest on each monthly anniversary thereafter, subject to Dr. Dominy's continuous service through the applicable vesting date. In addition, if we terminate Dr. Dominy's employment without "cause," or if Dr. Dominy resigns for "good reason" (each as defined in a supplemental agreement applicable to Dr. Dominy's options), in either case, in connection with or following a change of control (as defined in the 2014 Plan), then 100% of the then unvested shares subject to the stock option grant will vest effective immediately as of such termination or resignation or, if later, the closing of the change of control (the "Dominy Acceleration").
(6) These option shares were part of a stock option grant covering 118,051 shares of our common stock. 1/48th of the stock option grant vested on October 1, 2018 and 1/48th of the grant vested and will vest on each monthly anniversary thereafter, subject to Dr. Dominy's continuous service through the applicable vesting date. In addition, the Dominy Acceleration applies to these option shares prior to their full vesting.
(7) These option shares were part of a stock option grant covering 235,294 shares of our common stock. 1/4th of the stock option grant will vest on November 15, 2019 and 1/48th of the grant will vest on each monthly anniversary thereafter, subject to Mr. Lowe's continuous service through the applicable vesting date. In addition, if we terminate Mr. Lowe's service without "cause," or if Mr. Lowe resigns for "good reason" (each as defined in the stock option agreement applicable to Mr. Lowe's options), in either case, in connection with or following a change of control (as defined in the 2014 Plan), then 100% of the then unvested shares subject to the stock option grant will vest effective immediately as of such termination or resignation or, if later, the closing of the change of control.

Executive Employment Arrangements

Each of our named executive officers was an at-will employee of the company for fiscal 2018, except Mr. Lowe. From June 2018 until January 2019, Mr. Lowe was a consultant to the company, serving as our interim Chief Financial Officer through his capacity as a partner at FLG Partners. We have no employment agreements or offer letters with our named executive officers.

Equity Incentive Plans

2019 Equity Incentive Plan

General. Our 2014 Stock Plan was amended, restated and re-named the 2019 Equity Incentive Plan, or 2019 Plan, by our board of directors on April 24, 2019 and our stockholders on April 25, 2019. The 2019 Plan will become effective on the day immediately prior to the date that the registration statement of which this prospectus forms a part becomes effective.

Share Reserve. The maximum aggregate number of shares that may be issued under the 2019 Plan is 5,131,549 shares of our common stock. In addition, the number of shares reserved for issuance under the 2019 Plan will be increased automatically on the first day of each fiscal year beginning with the 2020 fiscal year, by a number equal to the least of:

- 2,146,354 shares;
- 4% of the shares of common stock outstanding on the last day of the prior fiscal year; or
- such number of shares determined by our board of directors.

If an award expires, is forfeited or becomes unexercisable for any reason without having been exercised in full, or is surrendered pursuant to an exchange program, the unissued shares that were subject to the award will, unless the 2019 Plan is terminated, continue to be available under the 2019 Plan for issuance pursuant to future awards. In addition, any shares which are retained by the company upon exercise of an award in order to satisfy the exercise or purchase price for such award or any withholding taxes due with respect to such award will be treated as not issued and will continue to be available under the 2019 Plan for issuance pursuant to future awards. Shares issued under the 2019 Plan and later forfeited to the company due to the failure to vest or repurchased by the company at the original purchase price paid to the company for the shares (including, without limitation, upon forfeiture to or repurchase by the company in connection with a participant ceasing to be a service provider) will again be available for future grant under the 2019 Plan. To the extent an award under the 2019 Plan is paid out in cash rather than shares, such cash payment will not result in reducing the number of Shares available for issuance under the 2019 Plan.

Plan administration. Our board of directors has delegated its authority to administer the 2019 Plan to our compensation committee. Subject to the provisions of our 2019 Plan, the administrator has the power to determine the terms of awards, including the recipients, the exercise price, if any, the number of shares subject to each award, the fair market value of a share of our common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise of the award and the terms of the award agreement for use under the 2019 Plan. The administrator also has the authority, subject to the terms of the 2019 Plan, to amend existing awards, to prescribe rules and to construe and interpret the 2019 Plan and awards granted thereunder and to institute an exchange program by which outstanding awards may be surrendered in exchange for awards of the same type which may have a lower exercise price or different terms, awards of a different type and/or cash subject to stockholder approval.

Eligibility. Employees, members of our board of directors who are not employees and consultants are eligible to participate in our 2019 Plan.

Non-employee directors. Our 2019 Plan provides that all non-employee directors will be eligible to receive all types of awards under our 2019 Plan except for incentive stock options. On April 9, 2019, our board of directors approved an outside director compensation policy that will become effective upon the closing of this offering pursuant to which our non-employee directors will be eligible to receive equity awards under our 2019 Plan as more fully described in “Management—Non-Employee Director Compensation.” In addition, in order to

provide a maximum limit on awards that can be provided to our non-employee directors under the 2019 Plan, our 2019 Plan provides that no non-employee director may receive awards under the 2019 Plan that, when combined with cash compensation received for service as a non-employee director, exceeds $1,000,000 in a calendar year. For purposes of this limit, the value of stock options and stock appreciation rights will be calculated using the Black-Scholes valuation methodology on the date of grant, and the value for all other types of awards will be determined by either (i) calculating the product of the fair market value per share on the date of grant and the aggregate number of shares subject to the award or (ii) calculating the product using an average of the fair market value over a number of trading days and the aggregate number of shares subject to the award.

Types of award. Our 2019 Plan provides for the grant of incentive stock options, within the meaning of Section 422 of the Code, to our employees and the employees of our subsidiaries, and for the grant of nonstatutory stock options, stock appreciation rights, restricted stock, restricted stock units, performance units, and performance shares to our employees, directors, and consultants and the employees and consultants of our subsidiaries.

Stock options. The administrator may grant incentive and/or non-statutory stock options under our 2019 Plan, provided that incentive stock options may only be granted to employees. The exercise price of such options must generally be equal to at least the fair market value of our common stock on the date of grant. The term of an option may not exceed 10 years; provided, however, that an incentive stock option held by a participant who owns more than 10% of the total combined voting power of all classes of our stock, or of certain of our subsidiary corporations, may not have a term in excess of five years and must have an exercise price of at least 110% of the fair market value of our common stock on the grant date. The administrator will determine the methods of payment of the exercise price of an option, which may include cash, shares or other property acceptable to the administrator. Subject to the provisions of our 2019 Plan, the administrator determines the remaining terms of the options (e.g., vesting). After the termination of service of an employee, director or consultant, the participant may exercise his or her option, to the extent vested, for the period of time stated in his or her option agreement. Generally, if termination is due to death or disability, the option will remain exercisable for 12 months. In the event of a termination for cause, options generally terminate immediately upon the termination of the participant for cause. In all other cases, the option will generally remain exercisable for three months following the termination of service. However, in no event may an option be exercised later than the expiration of its term. The maximum aggregate number of shares of our common stock that may be issued under the 2019 Plan pursuant to incentive stock options may not exceed the maximum number of shares reserved under the 2019 Plan and to the extent allowable under Section 422 of the Internal Revenue Code, or the Code, any other shares that become available for issuance or reissuance pursuant to the terms of the 2019 Plan.

Stock appreciation rights. Stock appreciation rights may be granted under our 2019 Plan. Stock appreciation rights allow the recipient to receive the appreciation in the fair market value of our common stock between the date of grant and the exercise date. Subject to the provisions of our 2019 Plan, the administrator determines the terms of stock appreciation rights, including when such rights vest and become exercisable and whether to settle such awards in cash or with shares of our common stock, or a combination thereof, except that the per share exercise price for the shares to be issued pursuant to the exercise of a stock appreciation right will be no less than 100% of the fair market value per share on the date of grant. The specific terms will be set forth in an award agreement.

Restricted stock. Restricted stock may be granted under our 2019 Plan. Restricted stock awards are grants of shares of our common stock that are subject to various restrictions, including restrictions on transferability and forfeiture provisions. Shares of restricted stock will vest and the restrictions on such shares will lapse, in accordance with terms and conditions established by the administrator. Such terms may include, among other things, vesting upon the achievement of specific performance goals determined by the administrator and/or continued service. The administrator, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. Recipients of restricted stock awards generally will have voting and dividend rights with respect to such shares upon grant without regard to vesting, unless the administrator

provides otherwise. Shares of restricted stock that do not vest for any reason will be subject to our right of repurchase or forfeited by the recipient and will revert to us. The specific terms will be set forth in an award agreement.

Restricted stock units. Restricted stock units may be granted under our 2019 Plan, and may include the right to dividend equivalents, as determined in the discretion of the administrator. Each restricted stock unit granted is a bookkeeping entry representing an amount equal to the fair market value of one share of our common stock. The administrator determines the terms and conditions of restricted stock units, including the vesting criteria, which may include achievement of specified performance criteria and/or continued service, and the form and timing of payment. The administrator, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. The administrator determines, in its sole discretion, whether an award will be settled in stock, cash or a combination of both. The specific terms will be set forth in an award agreement.

Performance units/performance shares. Performance units and performance shares may be granted under our 2019 Plan. Performance units and performance shares are awards that will result in a payment to a participant if performance goals established by the administrator are achieved and any other applicable vesting provisions are satisfied. The administrator will establish organizational or individual performance goals in its discretion, which, depending on the extent to which they are met, will determine the number and/or the value of performance units and performance shares to be paid out to participants. For purposes of such awards, the performance goals may be based on one or more of the following performance criteria and any adjustment(s) thereto, in each case as determined by the administrator: (i) sales or non-sales revenue; (ii) return on revenues; (iii) operating income; (iv) income or earnings including operating income; (v) income or earnings before or after taxes, interest, depreciation, and/or amortization; (vi) income or earnings from continuing operations; (vii) net income; (viii) pre-tax income or after-tax income; (ix) net income excluding amortization of intangible assets, depreciation and impairment of goodwill and intangible assets, and/or excluding charges attributable to the adoption of new accounting pronouncements; (x) raising of financing or fundraising; (xi) project financing; (xii) revenue backlog; (xiii) gross margin; (xiv) operating margin or profit margin; (xv) capital expenditures, cost targets, reductions and savings, and expense management; (xvi) return on assets (gross or net), return on investment, return on capital or invested capital, or return on stockholder equity; (xvii) cash flow, free cash flow, cash flow return on investment (discounted or otherwise), net cash provided by operations, or cash flow in excess of cost of capital; (xviii) performance warranty and/or guarantee claims; (xix) stock price or total stockholder return; (xx) earnings or book value per share (basic or diluted); (xxi) economic value created; (xxii) pre-tax profit or after-tax profit; (xxiii) strategic business criteria, consisting of one or more objectives based on meeting specified market penetration or market share, completion of strategic agreements such as licenses, funded collaborations, joint ventures, acquisitions, and the like, geographic business expansion, objective customer satisfaction or information technology goals, and/or intellectual property asset metrics; (xxiv) objective goals relating to divestitures, joint ventures, mergers, acquisitions, and similar transactions; (xxv) objective goals relating to staff management, results from staff attitude and/or opinion surveys, staff satisfaction scores, staff safety, staff accident and/or injury rates, compliance headcount, performance management, and completion of critical staff training initiatives; (xxvi) objective goals relating to projects, including project completion timing and/or achievement of milestones, project budget, and technical progress against work plans; and (xxvii) enterprise resource planning. However, awards issued to participants may take into account other factors (including subjective factors). In addition, performance goals may differ from participant to participant, performance period to performance period, and from award to award. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, any increase (or decrease) over the passage of time and/or any measurement against other companies or financial or business or stock index metrics particular to us), (iii) on a per share and/or share per capita basis, (iv) against our performance as a whole or against any of our affiliate(s), or a particular segment(s), a business unit(s) or a product(s) of ours or individual project company, (v) on a pre-tax or after-tax basis, and/or (vi) using an actual foreign exchange rate or on a foreign exchange neutral basis. After the grant of a performance unit or performance share, the administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such performance units or performance shares. Performance units shall have an initial dollar value established by the

administrator prior to the grant date. Performance shares shall have an initial value equal to the fair market value of our common stock on the grant date. The administrator, in its sole discretion, may pay earned performance units or performance shares in the form of cash, in shares, or in some combination thereof.

Non-transferability of awards. Unless the administrator provides otherwise, our 2019 Plan generally does not allow for the transfer of awards and only the recipient of an option or stock appreciation right may exercise such an award during his or her lifetime.

Certain adjustments. In the event of certain corporate events or changes in our capitalization, to prevent diminution or enlargement of the benefits or potential benefits available under the 2019 Plan, the administrator will make adjustments to one or more of the number, kind and class of securities that may be delivered under the 2019 Plan and/or the number, kind, class and price of securities covered by each outstanding award.

Liquidation or dissolution. In the event of our proposed winding up, liquidation or dissolution, the administrator will notify participants as soon as practicable and all awards will terminate immediately prior to the consummation of such proposed transaction.

Corporate transaction. Our 2019 Plan provides that in the event of certain significant corporate transactions, including: (1) a transfer of all or substantially all of our assets, (2) a merger, consolidation or other capital, reorganization or business combination transaction of the company with or into another corporation, entity or person, or (3) the consummation of a transaction, or series of related transactions, in which any person becomes the beneficial owner, directly or indirectly, of more than 50% of the company's then outstanding capital stock, each outstanding award will be treated as the administrator determines. Such determination, without the consent of any Participant, may provide that such awards will be (i) continued if we are the surviving corporation, (ii) assumed by the surviving corporation or its parent, (iii) substituted by the surviving corporation or its parent for a new award, (iv) canceled in exchange for a payment equal to the excess of the fair market value of our shares subject to such award over the exercise price or purchase price paid for such shares, or (v) in the case of options, participants may be given an opportunity to exercise options prior to the transaction and, if not exercised, such options may be terminated upon consummation of the transaction.

Change of control. The administrator may provide, in an individual award agreement or in any other written agreement between a participant and us that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change of control. Under the 2019 Plan, a "change of control" is generally (1) a merger, consolidation, or any other corporate reorganization in which our stockholders immediately before the transaction do not own, directly or indirectly, more than a majority of the combined voting power of the surviving entity (or the parent of the surviving entity), (2) the consummation of the sale, transfer or other disposition of all or substantially all of our assets, (3) an unapproved change in the majority of the board of directors during any 12-month period, and (4) the acquisition by any person or company of more than 50% of the total voting power of our then outstanding stock.

Clawback/recovery. Stock awards granted under the 2019 Plan will be subject to recoupment in accordance with any clawback policy we may be required to adopt pursuant to applicable law and listing requirements. In addition, the administrator may impose such other clawback, recovery or recoupment provisions in any stock award agreement as it determines necessary or appropriate.

Amendment or termination. Our board of directors has the authority to amend, suspend or terminate the 2019 Plan provided such action does not impair the existing rights of any participant. Our 2019 Plan will automatically terminate on April 23, 2029 unless we terminate it sooner. We will obtain stockholder approval of any amendment to our 2019 Plan as required by applicable law or listing requirements.

2014 Stock Plan

General. Our board of directors originally adopted, and our stockholders approved, our 2014 Stock Plan, or the 2014 Plan, on August 8, 2014 and December 4, 2014, respectively. The 2014 Plan was last amended on

November 28, 2018. Our 2014 Plan provides for the grant of incentive stock options to our employees (and employees of any parent or subsidiary of the company), and for the grant of non-statutory stock options and stock purchase rights to our employees, directors and consultants (and employees and consultants of any parent, subsidiary or affiliate of the company). On April 24, 2019 and April 25, 2019, our board of directors and our stockholders approved the amendment and restatement of our 2014 Plan as the 2019 Plan, which amendment and restatement will become effective on the day immediately prior to the date that the registration statement of which this prospectus forms a part becomes effective. The terms of the 2014 Plan as described herein will continue to govern the terms and conditions of the outstanding awards previously granted thereunder.

Share Reserve. We have reserved an aggregate of 2,973,736 shares that may be issued under our 2014 Plan. As of December 31, 2018, options to purchase 1,885,504 shares of our common stock were outstanding and 984,680 shares were available for future grants.

Plan Administration. Our board of directors has administered the 2014 Plan before this offering. Our board of directors has delegated its authority to administer the 2014 Plan to our compensation committee following this offering.

Types of Award. Our 2014 Plan provides for the grant of incentive stock options, nonstatutory stock options, and stock purchase rights.

Stock Options. Our board of directors granted incentive and/or non-statutory stock options under our 2014 Plan, provided that incentive stock options were only granted to employees. The exercise price of such options was generally equal to at least the fair market value of our common stock on the date of grant. The term of an option did not exceed 10 years; provided, however, that an incentive stock option held by a participant who owns more than 10% of the total combined voting power of all classes of our stock, or of certain of our subsidiary corporations, did not have a term in excess of 5 years and had an exercise price of at least 110% of the fair market value of our common stock on the grant date. Subject to the provisions of our 2014 Plan, the administrator determined the remaining terms of the options (e.g., vesting). After the termination of service of an employee, director or consultant, the participant may exercise his or her option, to the extent vested, for the period of time stated in his or her option agreement. Generally, if termination is due to death or disability, the option will remain exercisable for 12 months. In all other cases except for cause, the option will generally remain exercisable for 3 months following the termination of service. In the event of a termination for cause, the option will immediately terminate. However, in no event may an option be exercised later than the expiration of its term.

Stock purchase rights. Our board of directors granted stock purchase rights under our 2014 Plan. Stock purchase rights are rights to purchase our common stock that either are fully vested at grant or that will vest in accordance with terms and conditions established by the administrator, in its sole discretion. The administrator determined the number of shares that the participant may purchase, the price to be paid (if any) and the time in which the participant must accept the offer. The offer must be accepted by execution of a restricted stock purchase agreement in the form determined by the administrator. Once a stock purchase right is exercised, the participant has all the rights of a stockholder.

Non-transferability of Awards. Unless the administrator provides otherwise, our 2014 Plan generally does not allow for the transfer of awards and only the recipient of an option may exercise such an award during his or her lifetime.

Certain Adjustments. In the event of certain corporate events or changes in our capitalization, to prevent diminution or enlargement of the benefits or potential benefits available under the 2014 Plan, the administrator will make adjustments to one or more of the number, kind and class of securities that may be delivered under the 2014 Plan and/or the number, kind, class and price of securities covered by each outstanding award. *Dissolution or liquidation*. In the event of our dissolution or liquidation of the company, each option and stock purchase right

will terminate immediately prior to the consummation of such action, unless otherwise determined by the administrator.

Corporate Transaction. Our 2014 Plan provides that in the event of certain significant corporate transactions, including: (1) a transfer of all or substantially all of our assets, (2) a merger, consolidation or other capital, reorganization or business combination transaction of the Company with or into another corporation, entity or person, or (3) the consummation of a transaction, or series of related transactions, in which any person becomes the beneficial owner, directly or indirectly, of more than 50% of the Company's then outstanding capital stock, each outstanding award will be treated as the administrator determines.

Amendment or Termination. Our board of directors may amend or terminate the 2014 Plan at any time, provided such action does not materially and adversely affect the rights of any participant without his or her consent. In addition, stockholder approval must be obtained to the extent necessary and desirable to comply with applicable laws. Although our 2014 Plan will be amended and restated in the form of our 2019 Plan immediately prior to, and contingent upon, the effectiveness of this offering; our 2014 Plan will continue to govern the terms and conditions of awards previously granted under the 2014 Plan.

Employee Stock Purchase Plan

General. Our Employee Stock Purchase Plan, or 2019 ESPP, was adopted by our board of directors on April 24, 2019 and approved by our stockholders on April 25, 2019. The 2019 ESPP will become effective on the day immediately prior to the date that the registration statement of which this prospectus forms a part becomes effective. The 2019 ESPP is intended to qualify as an "employee stock purchase plan" within the meaning of Section 423 of the Code for U.S. employees. In addition, the 2019 ESPP authorizes grants of purchase rights that do not comply with Section 423 of the Code under a separate non-423 component for non-U.S. employees and certain non-U.S. service providers.

Share reserve. We have reserved 268,295 shares of our common stock for issuance under the 2019 ESPP. The number of shares reserved for issuance under the 2019 ESPP will be increased automatically on the first day of each fiscal year for a period of up to ten years, starting with the 2020 fiscal year, by a number equal to the least of:

- 536,589 shares;
- 1% of the shares of common stock outstanding on the last day of the prior fiscal year; or
- such lesser number of shares determined by our board of directors.

As of the date hereof, no shares of our common stock have been purchased under the 2019 ESPP.

Plan administration. The 2019 ESPP will be administered by our board of directors or a committee designated by our board of directors. Our board of directors has delegated its authority to administer the 2019 ESPP to our compensation committee.

Eligibility. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates and certain non-U.S. service providers may participate in the 2019 ESPP.

Employees may have to satisfy one or more of the following service requirements before participating in the 2019 ESPP, as determined by the administrator, including: (1) being customarily employed for more than 20 hours per week, (2) being customarily employed for more than 5 months per calendar year, or (3) continuous employment with us or one of our affiliates for a period of time (not to exceed 2 years). No employee may purchase shares under the 2019 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 year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the 2019 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.

Non-U.S. service providers must provide bona fide services to the company and may be subject to additional eligibility criteria as the administrator may determine even if such criteria is not consistent with Section 423 of the Code.

Offerings. The 2019 ESPP is expected to be implemented through a series of offerings under which participants are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the 2019 ESPP, we may specify offerings with durations of not more than 27 months, and we 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 participants in the offering. An offering under the 2019 ESPP may be terminated under certain circumstances. The administrator will have the discretion to structure an offering so that if the fair market value of a share of our common stock on the first trading day of a new purchase period within that offering is less than or equal to the fair market value of a share of our common stock on the offering date for that offering, then that offering will terminate immediately as of that first trading day, and the participants in such terminated offering will be automatically enrolled in a new offering beginning on the first trading day of such new offering period. The administrator has not yet approved an offering under our 2019 ESPP and we are not certain whether or when this will occur.

Payroll deductions. Participants who are employees may contribute, normally through payroll deductions, up to 15% of their earnings (as defined by the board of directors in each offering) for the purchase of our common stock under the 2019 ESPP. Participants who are not employees will contribute on an after-tax basis in a manner determined by the administrator.

Unless otherwise determined by the administrator, common stock will be purchased for the accounts of participants in the 2019 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.

Certain adjustments. In the event that there occurs a change in our capital structure through such actions as a stock split, reverse stock split, stock dividend, combination, consolidation, recapitalization (including a recapitalization through a large nonrecurring cash dividend) or reclassification of our common stock, subdivision of our common stock, a rights offering, a reorganization, merger, spin-off, split-up, repurchase, or exchange of our common stock or other significant corporate transaction, or other change affecting our common stock, the administrator will make appropriate adjustments to: (1) the class(es) and maximum number of shares reserved under the 2019 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 and purchase price of all outstanding purchase rights, and (4) the class(es) and number of shares that are subject to purchase limits under ongoing offerings.

Dissolution or liquidation. In the event of our proposed winding up, liquidation or dissolution, any offering period then in progress will be shortened by setting a new purchase date and will terminate immediately prior to the consummation of such proposed dissolution or liquidation, unless provided otherwise by the administrator. The administrator will notify each participant that the purchase date has been changed and that the participant's purchase right will be exercised automatically on the new purchase date unless prior to such date the participant has withdrawn from the offering period.

Corporate transactions. The 2019 ESPP provides that in the event of certain significant corporate transactions, including: (1) a transfer of all or substantially all of our assets, (2) a merger, consolidation or other capital, reorganization or business combination transaction of the company with or into another corporation,

entity or person, or (3) the consummation of a transaction, or series of related transactions, in which any person becomes the beneficial owner, directly or indirectly, of more than 50% of the company's then outstanding capital stock, a successor corporation may assume or substitute each outstanding purchase right. If the successor corporation refuses to assume or substitute the purchase right, the offering period then in progress will be shortened, and a new purchase date will be set. The administrator will notify each participant that the purchase date has been changed and that the participant's purchase right will be exercised automatically on the new purchase date unless prior to such date the participant has withdrawn from the offering period.

Amendment or termination. The administrator has the authority to amend, suspend or terminate our 2019 ESPP, except that, subject to certain exceptions described in our 2019 ESPP, no such action may adversely affect any outstanding rights to purchase stock under our 2019 ESPP without the holder's consent. We will obtain stockholder approval of any amendment to our 2019 ESPP as required by applicable law or listing requirements.

Executive Incentive Bonus Plan

Our Executive Incentive Bonus Plan, or Bonus Plan, was adopted by our board of directors on . The Bonus Plan will become effective on the day immediately prior to the effectiveness of the registration statement of which this prospectus forms a part. The purpose of the Bonus Plan is to motivate and reward eligible officers and employees for their contributions toward the achievement of certain performance goals.

Administration. The Bonus Plan will be administered by the compensation committee, which shall have the discretionary authority to interpret the provisions of the Bonus Plan, including all decisions on eligibility to participate, the establishment of performance goals, the number of awards payable under the plan, and the payment of awards. The compensation committee, in its sole discretion and on such terms and conditions as it may provide, may delegate all or part of its authority and powers under the Bonus Plan to one or more directors and/or officers of the Company.

Performance criteria. Commencing with our 2020 fiscal year, we expect the compensation committee to establish cash bonus targets and corporate performance metrics for a specific performance period or fiscal year pursuant to the Bonus Plan. Corporate performance goals may be based on one or more of the following criteria, as determined by our compensation committee and any adjustments thereto established by the compensation committee: (i) sales or non-sales revenue; (ii) return on revenues; (iii) operating income; (iv) income or earnings including operating income; (v) income or earnings before or after taxes, interest, depreciation, and/or amortization; (vi) income or earnings from continuing operations; (vii) net income; (viii) pre-tax income or after-tax income; (ix) net income excluding amortization of intangible assets, depreciation, and impairment of goodwill and intangible assets and/or excluding charges attributable to the adoption of new accounting pronouncements; (x) raising of financing or fundraising; (xi) project financing; (xii) revenue backlog; (xiii) gross margin; (xiv) operating margin or profit margin; (xv) capital expenditures, cost targets, reductions, and savings and expense management; (xvi) return on assets (gross or net), return on investment, return on capital or invested capital, or return on stockholder equity; (xvii) cash flow, free cash flow, cash flow return on investment (discounted or otherwise), net cash provided by operations, or cash flow in excess of cost of capital; (xviii) performance warranty and/or guarantee claims; (xix) stock price or total stockholder return; (xx) earnings or book value per share (basic or diluted); (xxi) economic value created; (xxii) pre-tax profit or after-tax profit; (xxiii) strategic business criteria, consisting of one or more objectives based on meeting specified market penetration or market share, completion of strategic agreements such as licenses, funded collaborations, joint ventures acquisitions, and the like, geographic business expansion, objective customer satisfaction or information technology goals, or intellectual property asset metrics; (xxiv) objective goals relating to divestitures, joint ventures, mergers, acquisitions, and similar transactions; (xxv) objective goals relating to staff management, results from staff attitude and/or opinion surveys, staff satisfaction scores, staff safety, staff accident and/or injury rates, compliance, headcount, performance management, or completion of critical staff training initiatives; (xxvi) objective goals relating to projects, including project completion, timing and/or achievement of

milestones, project budget, or technical progress against work plans; (xxvii) key regulatory objectives or milestones; and (xxviii) enterprise resource planning.

However, awards issued to participants may take into account other factors (including subjective factors). Performance goals may differ from participant to participant, performance period to performance period, and from award to award. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, any increase (or decrease) over the passage of time and/or any measurement against other companies or financial or business or stock index metrics particular to us), (iii) on a per share and/or share per capita basis, (iv) against our performance as a whole or against any of our affiliate(s), or a particular segment(s), a business unit(s) or a product(s) of ours or individual project company, (v) on a pre-tax or after-tax basis, and/or (vi) using an actual foreign exchange rate or on a foreign exchange neutral basis.

Service requirement. Unless otherwise determined by the compensation committee, a participant must be actively employed and in good standing with the Company on the date the award is paid. The compensation committee may make exceptions to this requirement in the case of retirement, death or disability, an unqualified leave of absence or under other circumstances, as determined by the compensation committee in its sole discretion.

Limits. The total awards under the Bonus Plan may not exceed $15 million in the aggregate during the applicable reliance period (within the meaning of Section 162(m)).

Amendment or Termination. The compensation committee may terminate the Bonus Plan at any time, provided such termination shall not affect the payment of any awards accrued under the Bonus Plan prior to the date of the termination. The compensation committee may, at any time, or from time to time, amend or suspend and, if suspended, reinstate, the Bonus Plan in whole or in part.

Perquisites, Health, Welfare and Retirement Benefits

Health and Welfare Benefits

Our named executive officers are eligible to participate in our employee benefit plans, including our medical, dental and vision plans, in each case on the same basis as all of our other employees.

Perquisites

We do not provide perquisites or personal benefits to our named executive officers. We do not make gross-up payments to cover our named executive officers' personal income taxes that may pertain to any of the compensation paid by us.

Retirement Benefits 401(k) Plan

We maintain a 401(k) defined contribution retirement plan for our eligible U.S. employees. Participants may make pre-tax and post-tax contributions to the plan from their eligible earnings, and we may make matching contributions and profit sharing contributions to eligible participants, in each case, up to the statutorily prescribed annual limits on contributions under the Internal Revenue Code. The 401(k) plan permits us to make matching contributions and profit sharing contributions to eligible participants. Contributions are allocated to each participant's individual account and are then invested in selected investment alternatives according to the participants' directions. The plan is intended to be qualified under Section 401(a) of the Internal Revenue Code, and the plan's trust is intended to be tax exempt. Income earned on pre-tax contributions made to the plan is not taxable to participants until withdrawn or distributed from the 401(k) plan.

Pension Benefits

None of our named executive officers participate in or have an account balance in any qualified or non-qualified defined benefit plan sponsored by us.

Nonqualified Deferred Compensation

We have not offered any nonqualified deferred compensation plans or arrangements or entered into any such arrangements with any of our named executive officers.

Rule 10b5-1 Sales Plans

We expect that some of our executive officers may enter into stock selling plans in accordance with Rule 10b5-1 of the Exchange Act, and our insider trading policy.

Registration Statements on Form S-8

We intend to file a registration statement on Form S-8 under the Securities Act to register all of the shares of common stock subject to outstanding stock options issued under our 2014 Plan or reserved for future issuance under our 2019 Plan and 2019 ESPP, which will be effective upon the consummation of this offering. This registration statement would cover approximately 5,141,732 shares. Shares registered under the registration statement will generally be available for sale in the open market after the 180-day lock-up period immediately following the date of this prospectus (as such period may be extended in certain circumstances).

Limitation of Liability and Indemnification of Directors and Officers

Our amended and restated certificate of incorporation, which will become effective upon the closing of this offering, will contain provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any 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
- any transaction from which they derived an improper personal benefit.

Our amended and restated bylaws, which will become effective upon the closing of this offering, will provide that we shall indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit or proceeding, by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust or other enterprise. Our amended and restated bylaws will provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit or proceeding, by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise. Our amended and restated bylaws will also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

Prior to the closing of this offering, we intend to obtain insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these officers and directors pursuant to our indemnification obligations or otherwise as a matter of law.

Prior to the closing of this offering, we intend to enter into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements may require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements may also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The underwriting agreement provides for indemnification by the underwriters of us and our officers, directors and employees for certain liabilities arising under the Securities Act, or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the Securities and Exchange Commission, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The following includes a summary of transactions since January 1, 2015, to which we have been a party in which the amount involved exceeded or will exceed $120,000, 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 Compensation." We also describe below certain other transactions with our directors, executive officers and stockholders.

Equity Financings

Series A Convertible Promissory Notes

Between November 2013 and May 2015, we entered into convertible note purchase agreements pursuant to which we issued $2.3 million in aggregate principal amount of convertible promissory notes, which we refer to as the Series A Convertible Promissory Notes. The Series A Convertible Promissory Notes accrued interest at a rate of 6% per year. The aggregate principal amount and accrued interest on the Series A Convertible Promissory Notes converted into shares of our Series A redeemable convertible preferred stock at a conversion price of $1.9067 per share, minus a discount, upon the closing of the initial tranche of our Series A redeemable convertible preferred stock financing in December 2015.

The following table summarizes the Series A Convertible Promissory Notes purchased by holders of more than 5% of our capital stock, and the conversion of such Series A Convertible Promissory Notes and accrued interest thereon into shares of our Series A redeemable convertible preferred stock.

Name of Stockholder*(1)	Series A Convertible Promissory Notes Principal Amount and Interest($)	Shares of Series A Redeemable Convertible Preferred Stock
David A. Lamond(2)	517,955.24	301,829
Pierre R. and Christine E. Lamond and affiliated entities(2)(3)	517,707.18	301,685

* Owners of more than 5% of our common stock.
(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the section "Principal Stockholders."
(2) Mr. David A. Lamond is a member of our board and was designated to our board by the Pierre R. and Christine E. Lamond Trust 11-22-85, but Mr. Lamond does not beneficially own any of the shares held by the Pierre R. and Christine E. Lamond Trust 11-22-85.
(3) Series A Convertible Promissory Note was purchased and held of record by Pierre R. and Christine E. Lamond Trust 11-22-85.

Sale of Series A Redeemable Convertible Preferred Stock

From December 2015 through September 2016, we sold an aggregate of 9,008,919 shares of our Series A redeemable convertible preferred stock at a purchase price of $1.9067 per share for an aggregate purchase price of $15.9 million. This included the conversion of the Series A Convertible Promissory Notes, with an aggregate conversion amount of approximately $2.4 million. The shares were issued in two tranches, with the first tranche of 4,660,730 shares closing in December 2015 and the second tranche of 4,348,189 shares closing in September 2016. Each share of our Series A redeemable convertible preferred stock will convert into one share of our common stock immediately prior to the closing of this offering in accordance with our certificate of incorporation.

The following table summarizes the Series A redeemable convertible preferred stock purchased by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The terms of these

purchases, notwithstanding the conversion terms of the convertible promissory notes, were the same for all purchasers of Series A redeemable convertible preferred stock.

	Initial Closing		Second Closing			
Name of Stockholder*(1)	Shares of Series A Redeemable Convertible Preferred Stock	Aggregate Purchase Price ($)	Shares of Series A Redeemable Convertible Preferred Stock	Aggregate Purchase ($)	Total Shares Purchased	Aggregate Purchase Price ($)(6)
David Lamond(2)(3)	301,829	517,955.24	699,280	1,333,332.85	1,001,109	1,851,288.09
Entities affiliated with Pfizer Inc.(4)	961,510	1,833,332.31	1,398,561	2,666,666.39	2,360,071	4,499,998.70
Pierre R. and Christine E. Lamond and affiliated entities(2)(5)	1,263,195	2,351,039.49	699,280	1,333,333.35	1,962,475	3,684,372.84
Takeda Ventures, Inc.	961,510	1,833,332.31	1,398,561	2,666,666.39	2,360,071	4,499,998.70

* Owners of more than 5% of our common stock

(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the section "Principal Stockholders."

(2) Mr. David A. Lamond is a member of our board of directors and was designated to our board by the Pierre R. and Christine E. Lamond Trust 11-22-85, but Mr. Lamond does not beneficially own any of the shares held by the Pierre R. and Christine E. Lamond Trust 11-22-85.

(3) Consists of (i) 699,280 shares of Series A redeemable convertible preferred stock held of record by Blue Devil Trust dated 12/03/2010 and (ii) 301,829 shares of Series A redeemable convertible preferred stock held of record by David Lamond.

(4) Dr. McLoughlin is a member of our board of directors and was designated to our board by entities affiliated with Pfizer Inc., but Dr. McLoughlin does not beneficially own any of the shares held by entities affiliated with Pfizer Inc.

(5) Pierre R. and Christine E. Lamond Trust 11-22-85 purchased shares of Series A redeemable convertible preferred stock in December 2015 and September 2016, and subsequently transferred shares of Series A redeemable convertible preferred stock to affiliated entities. Shares owned prior to this offering consist of (i) 961,510 shares of Series A redeemable convertible preferred stock held of record by Pierre R. and Christine E. Lamond Trust 11-22-85, (ii) 500,482 shares of Series A redeemable convertible preferred stock held of record by the Pierre R. Lamond 2019 Annuity Trust A dated March 4, 2019 and (iii) 500,483 shares of Series A redeemable convertible preferred stock held of record by the Christine E. Lamond 2019 Annuity Trust A dated March 4, 2019.

(6) A portion of the consideration paid for the shares of Series A redeemable convertible preferred stock issued in the initial closing was funded through the conversion of the aggregate principal amount and accrued interest under the Series A Convertible Promissory Notes. See "Certain Relationships and Related Transactions—Series A Convertible Promissory Notes."

Series B Convertible Promissory Notes

From February 2017 through January 2018, we entered into convertible note purchase agreements pursuant to which we issued $8.0 million in aggregate principal amount of convertible promissory notes, which we refer to as the Series B Convertible Promissory Notes. The Series B Convertible Promissory Notes accrued interest at a rate of 8% per year. The aggregate principal amount and accrued interest on the Series B Convertible Promissory Notes converted into shares of our Series B redeemable convertible preferred stock at a conversion price of $9.6122 per share, minus a discount, upon the closing of the initial tranche of our Series B redeemable convertible preferred stock financing in May 2018.

The following table summarizes the Series B Convertible Promissory Note purchased by holders of more than 5% of our capital stock, and the conversion of such Series B Convertible Promissory Notes and accrued interest thereon into shares of our Series B redeemable convertible preferred stock.

Name of Stockholder*(1)	Series B Convertible Promissory Notes Principal Amount and Interest($)	Shares of Series B Redeemable Convertible Preferred Stock
Blue Devil Trust Date 12/03/2010(2)	1,105,777.10	143,798
Entities affiliated with Pfizer Inc.(3)	1,658,665.65	215,697
Takeda Ventures, Inc.	1,658,665.65	215,697
Pierre R. and Christine E. Lamond and affiliated entities(2)(4)	1,105,777.10	143,798

* Owners of more than 5% of our common stock.
(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the section "Principal Stockholders."
(2) Mr. David A. Lamond, a member of our board of directors, is the trustee of the Blue Devil Trust dated 12/03/2010. Mr. Lamond was designated to our board by the Pierre R. and Christine E. Lamond Trust 11-22-85, but Mr. Lamond does not beneficially own any of the shares held by the Pierre R. and Christine E. Lamond Trust 11-22-85.
(3) Dr. McLoughlin is a member of our board of directors and was designated to our board by entities affiliated with Pfizer Inc., but Dr. McLoughlin does not beneficially own any of the shares held by entities affiliated with Pfizer Inc.
(4) Series B Convertible Promissory Note was purchased and held of record by Pierre and Christine E. Lamond Trust 11-22-85.

Sale of Series B Redeemable Convertible Preferred Stock

Between May 2018 and July 2018, we sold an aggregate of 9,152,108 shares of our Series B redeemable convertible preferred stock at a purchase price of $9.6122 per share for an aggregate purchase price of $85.8 million. This included the conversion of the Series B convertible promissory notes with an aggregate conversion amount of approximately $8.8 million. Each share of our Series B redeemable convertible preferred stock will convert into one share of our common stock upon the closing of this offering in accordance with our certificate of incorporation.

The following table summarizes the Series B redeemable convertible preferred stock purchased by our directors, executive officers and beneficial holders of more than 5% of our capital stock. The terms of these purchases were the same for all purchasers of our Series B redeemable convertible preferred stock.

Name of Stockholder*(1)	Shares of Series B Redeemable Convertible Preferred Stock	Aggregate Purchase Price($)(2)
Blue Devil Trust dated 12/03/2010(3)	924,056	8,605,776.61
Entities affiliated with Pfizer Inc.(4)	839,902	7,658,662.43
Takeda Ventures, Inc.	319,731	2,658,663.94
Pierre R. and Christine E. Lamond and affiliated entities(3)(5)	924,055	8,605,776.61
SMALLCAP World Fund, Inc.	1,560,515	14,999,999.01

* owners of more than 5% of our common stock
(1) Additional details regarding these stockholders and their equity holdings are provided in this prospectus under the section "Principal Stockholders."
(2) A portion of the consideration paid for the shares of Series B redeemable convertible preferred stock issued in the initial closing was funded through the conversion of the aggregate principal amount and accrued interest under the Series B Convertible Promissory Notes. See "Certain Relationships and Related Transactions—Series B Convertible Promissory Notes."
(3) Mr. David A. Lamond, a member of our board of directors, is the trustee of the Blue Devil Trust dated 12/03/2010. Mr. Lamond was designated to our board by Pierre R. and Christine E. Lamond Trust 11-22-85, but Mr. Lamond does not beneficially own any of the shares held by Pierre R. and Christine E. Lamond Trust 11-22-85.
(4) Dr. McLoughlin is a member of our board of directors and was designated to our board by entities affiliated with Pfizer Inc., but Dr. McLoughlin does not beneficially own any of the shares held by entities affiliated with Pfizer Inc.

(5) Pierre R. and Christine E. Lamond Trust 11-22-85 purchased shares of Series B redeemable convertible preferred stock in May 2018, and subsequently transferred shares of Series B redeemable convertible preferred stock to affiliated entities. Shares owned prior to this offering consist of (i) 462,028 shares of Series B redeemable convertible preferred stock held of record by the Pierre R. Lamond 2019 Annuity Trust A dated March 4, 2019 and (ii) 462,027 shares of Series B redeemable convertible preferred stock held of record by the Christine E. Lamond 2019 Annuity Trust A dated March 4, 2019.

Directed Share Program

At our request, the underwriters have reserved up to 5% of the shares offered by this prospectus for sale, at the initial public offering price, to certain persons associated with us. The directed share program will not limit the ability of certain holders of more than 5% of our common stock, to purchase more than $120,000 in value of our common stock. We do not currently know the extent to which these related persons will participate in our directed share program, if at all, or to the extent they will purchase more than $120,000 in value of our common stock.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and officers. The indemnification agreements and our certificate of incorporation and bylaws require us to indemnify our directors and officers to the fullest extent permitted by Delaware law. For more information regarding these indemnification agreements, see “Management—Limitation of Liability and Indemnification.”

Participation in this Offering

Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering.

Policies and Procedures for Related Party Transactions

Our board of directors intends to adopt a written related person transaction policy to set forth the policies and procedures for the review and approval or ratification of related person transactions. This policy will cover any transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships in which we were or are to be a participant, the amount involved exceeds $120,000 and a related person had or will have a direct or indirect material interest, including, without limitation, purchases of goods or services by or from the related person or entities in which the related person has a material interest, indebtedness, guarantees of indebtedness or employment by us of a related person.

We believe that we have executed all of the transactions set forth under the section entitled “Policies and Procedures for Related Party Transactions” on terms no less favorable to us than we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions between us and our officers, directors and principal stockholders and their affiliates, are approved by the audit committee of our board of directors, and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

PRINCIPAL STOCKHOLDERS

The following table and footnotes set forth information regarding the beneficial ownership of our common stock as of March 31, 2019 and as adjusted to reflect the sale of the common stock offered by us under this prospectus by:

- each of our directors and named executive officers;
- all of our current directors and executive officers as a group; and
- each person who is known to us to beneficially own more than 5% of our common stock.

Except as otherwise noted, the address of each person listed in the table is c/o Cortexyme, Inc., 269 East Grand Avenue, South San Francisco, CA 94080. The table includes all shares of common stock issuable within 60 days of March 31, 2019 upon the exercise of options and other rights beneficially owned by the indicated stockholders on that date. Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and includes voting and investment power with respect to shares. To our knowledge, except under applicable community property laws or as otherwise indicated, the persons named in the table have sole voting and sole investment control with respect to all shares beneficially owned.

The applicable percentage of ownership for each stockholder is based on 21,755,889 shares of common stock outstanding as of March 31, 2019, which reflects the assumed conversion of all of our outstanding shares of redeemable convertible preferred stock and the exercise of an outstanding warrant to purchase shares of common stock. Percentage ownership of our common stock after the offering assumes the sale of shares by us in this offering. Shares of common stock issuable upon exercise of options and other rights beneficially owned are deemed outstanding for the purpose of computing the percentage ownership of the person holding these options and other rights, but are not deemed outstanding for computing the percentage ownership of any other person. The following table does not reflect any shares of our common stock that may be purchased pursuant to our directed share program described under “Underwriting—Directed Share Program.”

Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering. The figures in the table below do not reflect the purchase of the shares in this offering by these potential investors in the amounts they have indicated an interest in purchasing.

Name of Beneficial Owner	Shares beneficially owned prior to the offering: Common Stock	Options Exercisable within 60 days	Aggregate Number of Shares Beneficially Owned	%	Shares beneficially owned after the offering: Assuming no exercise of option to purchase additional shares	%	Assuming exercise of option to purchase additional shares	%
5% Stockholders								
Entities affiliated with Pfizer Inc.(1)	3,199,973	—	3,199,973	14.71%	3,199,973	12.23%	3,199,973	11.93%
Pierre R. and Christine E. Lamond and affiliated entities(2)	2,886,530	—	2,886,530	13.27%	2,886,530	11.03%	2,886,530	10.76%
SMALLCAP World Fund, Inc.(3)	1,560,515	—	1,560,515	7.17%	1,560,515	5.96%	1,560,515	5.82%
Takeda Ventures, Inc.(4)	2,679,802	—	2,679,802	12.32%	2,679,802	10.24%	2,679,802	9.99%
Named Executive Officers and Directors								
Casey C. Lynch(5)	1,240,580	92,560	1,333,140	6.10%	1,333,140	5.08%	1,333,140	4.95%
Christopher Lowe	—	—	—	*	—	*	—	*
Stephen S. Dominy, M.D.(6)	1,436,911	116,693	1,553,604	7.10%	1,553,604	5.91%	1,553,604	5.77%
David A. Lamond(7)	1,925,165	—	1,925,165	8.85%	1,925,165	7.36%	1,925,165	7.18%
Margi McLoughlin, Ph.D.(8)	3,199,973	—	3,199,973	14.71%	3,199,973	12.23%	3,199,973	11.93%
Una Ryan, OBE, Ph.D.	—	—	—	*	—	*	—	*
Kevin Young, CBE	—	—	—	*	—	*	—	*
Christopher J. Senner	—	—	—	*	—	*	—	*
All executive officers and directors as a group (11 persons)	8,133,511	333,638	8,467,149	38.85%	8,467,149	32.32%	8,467,149	31.52%

* Represents beneficial ownership of less than one percent of the outstanding shares of our common stock.

(1) Consists of (i) 624,205 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Pfizer Inc. (“Pfizer”), (ii) 215,697 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Pfizer Strategic Investment Holdings LLC (“PSIH”), a controlled affiliate of Pfizer and (iii) 2,360,071 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Pfizer Ventures (US) LLC (“PVUS”), a controlled affiliate of Pfizer. The address for each of Pfizer, PSIH and PVUS is 235 East 42nd Street, New York, New York 10017.

(2) Consists of (i) 961,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Pierre R. and Christine E. Lamond Trust 11-22-85, (ii) 962,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by the Pierre R. Lamond 2019 Annuity Trust A dated March 4, 2019 and (iii) 962,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by the Christine E. Lamond 2019 Annuity Trust A dated March 4, 2019. Pierre R. Lamond is the trustee of Pierre R. and Christine E. Lamond Trust 11-22-85, and has sole voting and dispositive power with respect to the 961,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Pierre R. and Christine E. Lamond Trust 11-22-85. Pierre R. Lamond is the trustee of the Pierre R. Lamond 2019 Annuity Trust A dated March 4, 2019, and has sole voting and dispositive power with respect to the 962,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by the Pierre R. Lamond 2019 Annuity Trust A dated March 4, 2019. Christine E. Lamond is the trustee of the Christine E. Lamond 2019 Annuity Trust A dated March 4, 2019, and has sole voting and dispositive power with respect to the 962,510 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by the Christine E. Lamond 2019 Annuity Trust A dated March 4, 2019.

(3) Consists of 1,560,515 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by SMALLCAP World Fund, Inc. Julian N. Abdey, Noriko H. Chen, Peter Eliot, Brady L. Enright, Bradford F. Freer, Leo Hee, Roz Hongsaranagon, Claudia P. Huntington, Jonathan Knowles, Harold H. La, Aidan O’Connell, Andraz Razen, Gregory W. Wendt and Dylan Yolles, as portfolio managers, have voting and investment power over the securities held by SMALLCAP WORLD FUND, Inc. The address of SMALLCAP World Fund, Inc. is 333 S. Hope St., 53rd Floor, Los Angeles, California 90071.

(4) Consists of 2,679,802 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Takeda Ventures, Inc., a controlled affiliate of Takeda Pharmaceutical Company Limited. The address of Takeda Ventures, Inc. is 435 Tasso Street, Suite 300, Palo Alto, California 94301.

(5) Consists of (i) 49,895 shares of common stock held of record by Casey C. Lynch, (ii) 1,098,774 shares of common stock held of record by Zachary J. Lynch and Casey C. Lynch, Trustees of the Zachary and Casey Lynch Living Trust dated February 24, 2009, (iii) 91,911 shares of common stock held of record by the Casey C. Lynch 2019 Annuity Trust and (iv) 92,560 shares subject to stock options issuable upon the exercise of options exercisable within 60 days after March 31, 2019. Casey C. Lynch and Zachary Lynch are the trustees of the Zachary and Casey Lynch Living Trust dated February 24, 2009, and share voting and dispositive power with respect to the 1,098,774 shares of common stock held of record by Zachary J. Lynch and Casey C. Lynch, Trustees of the Zachary and Casey Lynch Living Trust dated February 24, 2009. Casey C. Lynch is the trustee of the Casey C. Lynch 2019 Annuity Trust, and holds sole voting and dispositive power with respect to (a) 49,895 shares of common stock held of record by Casey C. Lynch and (b) 91,911 shares of common stock held of record by the Casey C. Lynch 2019 Annuity Trust.

(6) Consists of (i) 1,216,323 shares of common stock held of record by Stephen S. Dominy and Ylva K. Dominy, Trustees of the Dominy Family Trust, (ii) 220,588 shares of common stock held of record by the Stephen Dominy 2019 Annuity Trust and (iii) 116,693 shares subject to stock options issuable upon the exercise of options exercisable within 60 days after March 31, 2019. Stephen S. Dominy and Ylva Dominy are trustees of the Dominy Family Trust 2016, and share voting and dispositive power with respect to the 1,216,323 shares of common stock held of record by Stephen S. Dominy and Ylva K. Dominy, Trustees of the Dominy Family Trust. Stephen S. Dominy is the trustee of the Stephen Dominy 2019 Annuity Trust, and has sole voting and dispositive power with respect to the 220,588 shares of common stock held of record by the Stephen Dominy 2019 Annuity Trust.

(7) Consists of (i) 301,829 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by David A. Lamond and (ii) 1,623,336 shares of common stock issuable upon the conversion of shares of the redeemable convertible preferred stock held of record by Blue Devil Trust dated 12/03/2010. Mr. Lamond is the trustee of the Blue Devil Trust dated 12/03/2010, and holds sole voting and dispositive power with respect to the shares held of record by Blue Devil Trust dated 12/03/2010. Mr. Lamond does not have voting and dispositive power with respect to the shares held of record by the Pierre R. and Christine E. Lamond Trust 11-22-85.

(8) Dr. McLoughlin is affiliated with Pfizer Inc., but does not have voting and dispositive power with respect to the shares held of record by entities affiliated with Pfizer Inc.

DESCRIPTION OF CAPITAL STOCK

Description of Capital Stock

The following is a description of the material terms of our amended and restated certificate of incorporation and amended and restated bylaws as each will be in effect as of the closing of this offering, and of specific provisions of Delaware law. The following description is intended as a summary only and is qualified in its entirety by reference to our amended and restated certificate of incorporation, our amended and restated bylaws and the Delaware General Corporation Law, or DGCL. Copies of our amended and restated certificate of incorporation and amended and restated bylaws have been filed as exhibits to the registration statement of which this prospectus is a part.

General

Immediately following the closing of this offering, our authorized capital stock will consist of 100,000,000 shares of common stock, $0.001 par value per share, and 10,000,000 shares of preferred stock, $0.001 par value per share, all of which preferred stock will be undesignated. The following information reflects the filing of our amended and restated certificate of incorporation and the conversion of all outstanding shares of our preferred stock into shares of common stock immediately prior to the closing of this offering.

Upon the closing of this offering and based on 21,601,334 shares of our common stock outstanding as of December 31, 2018, 26,013,334 shares of our common stock will be outstanding, assuming the conversion of all outstanding shares of our redeemable convertible preferred stock into 18,161,027 shares of our common stock immediately prior to the closing of this offering and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering. As of December 31, 2018, we had 68 stockholders of record.

Effective April 25, 2019, we effected a one-for-0.367647 reverse stock split, or the Reverse Stock Split, of our issued and outstanding common stock, convertible preferred stock, and stock options. We will make a cash payment to stockholders for all fractional shares which would otherwise be required to be issued as a result of the Reverse Stock Split.

Common Stock

As of December 31, 2018, we had 21,601,334 shares of common stock issued and outstanding assuming the conversion of all outstanding shares of our redeemable convertible preferred stock into 18,161,027 shares of our common stock as if such conversion had occurred on December 31, 2018 and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock, as of December 31, 2018, upon the closing of this offering.

Voting Rights

The holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders. Cumulative voting for the election of directors is not provided for in our certificate of incorporation, which means the holders of a majority of our shares of common stock can elect all of the directors then standing for election.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by the board of directors out of legally available funds. For more information, see the section of this prospectus captioned “Dividend Policy.”

Liquidation

In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

Rights and Preferences

Holders of common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued pursuant to this offering, when paid for, will be fully paid and nonassessable.

Preferred Stock

As of December 31, 2018, there were 18,161,027 shares of redeemable convertible preferred stock outstanding, which will convert, upon the closing of this offering, into 18,161,027 shares of our common stock. After the closing of this offering, the board of directors will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock, $0.001 par value per share, in one or more series. The board of directors will also have the authority to designate the rights, preferences, privileges and restrictions of each such series, including dividend rights, preferences, privileges and restrictions of each such series, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences, sinking fund terms and the number of shares constituting any series.

The issuance of preferred stock may have the effect of delaying, deferring or preventing a change in control of the company without further action by the stockholders. The issuance of redeemable convertible preferred stock with voting and conversion rights may also adversely affect the voting power of the holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In certain circumstances, an issuance of preferred stock could have the effect of decreasing the market price of the common stock. As of the closing of the offering, no shares of redeemable convertible preferred stock will be outstanding. We currently have no plans to issue any shares of redeemable convertible preferred stock.

Warrants

As of December 31, 2018, we had warrants outstanding to purchase 27,941 shares of our common stock at an exercise price of $0.03 per share. The warrant was exercised in full in April 2019.

Options

As of December 31, 2018, we had outstanding options to purchase 1,885,504 shares of our common stock under our 2014 Plan and 984,680 shares remained available for future awards.

Registration Rights

Based on the number of shares outstanding as of December 31, 2018, under our amended and restated investors' rights agreement, the holders of up to approximately 21.3 million shares of common stock, or their affiliates or transferees, have the right to require us to register their shares under the Securities Act so that those shares may be publicly resold, or to include their shares in any registration statement we file, in each case as described below.

The registration rights terminate with respect to the registration rights of an individual holder on the earliest to occur of five years following the consummation of this offering, the liquidation, dissolution or indefinite cessation of the business operations of our company, or the closing of a deemed liquidation, dissolution or winding up of our company pursuant to our amended and restated certificate of incorporation, or with respect to any particular stockholder, such time after the effective date of the registration statement that such stockholder can sell all of its shares under Rule 144 of the Securities Act during any three-month period without registration.

Demand Registration Rights

At any time after one hundred eighty (180) days after this offering, the holders of at least 35% of the registrable securities may demand that we effect a registration under the Securities Act covering the public offering and sale of at least the number of registrable securities held by such stockholders having an anticipated aggregate offering price of at least $10,000,000. Upon any such demand we must effect the registration of such registrable securities that have been requested to register together with all other registrable securities that we may have been requested to register by other stockholders pursuant to the incidental registration rights described below. We are only obligated to effect two registrations in response to these demand registration rights.

Piggyback Registration Rights

In connection with this offering, certain holders were entitled to, and the necessary percentage of holders waived, their rights to notice of this offering and to include their shares of registrable securities in this offering. If we register any securities for public sale in another offering, including pursuant to any stockholder-initiated demand registration, holders of such registrable securities will have the right to include their shares in the registration statement for such offering, subject to certain exceptions. The underwriters of any underwritten offering will have the right to limit the number registrable securities to be included in the registration statement, subject to certain restrictions.

Form S-3 Registration Rights

Following this offering, we may be obligated under our registration rights agreement to effect a registration on Form S-3 under the Securities Act. At any time after we are qualified to file a registration statement on Form S-3, the holders of registrable securities anticipated to have an aggregate sale price, net of underwriting discounts and commission, of at least $1,000,000 may request in writing that we effect a registration on Form S-3.

Expenses of Registration

We will pay all registration expenses related to any demand, piggyback or Form S-3 registration, including reasonable fees and disbursements of one special counsel for the holders of such registrable securities, other than underwriting fees, discounts or commissions (if any), which will be borne by the holders of such registrable securities.

Anti-Takeover Effects of Delaware Law and Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and our amended and restated bylaws, which will be in effect upon the closing of this offering, will contain certain provisions that could have the effect of delaying, deterring or preventing another party from acquiring control of us. These provisions and certain provisions of Delaware law, which are summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate more favorable terms with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us.

Undesignated Preferred Stock

As discussed above, our board of directors will have the ability to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Limits on Ability of Stockholders to Act by Written Consent or Call a Special Meeting

Our amended and restated certificate of incorporation will provide that our stockholders may not act by written consent, which may lengthen the amount of time required to take stockholder actions. As a result, a holder controlling a majority of our capital stock would not be able to amend our bylaws or remove directors without holding a meeting of our stockholders called in accordance with our bylaws.

In addition, our amended and restated bylaws will provide that special meetings of the stockholders may be called only by the chairperson of the board, the Chief Executive Officer, the lead independent director, or at the request of a majority of our board of directors. Stockholders may not call a special meeting, which may delay the ability of our stockholders to force consideration of a proposal or for holders controlling a majority of our capital stock to take any action, including the removal of directors.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our amended and restated bylaws will establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board of directors or a committee of our board of directors. These provisions may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed. These provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Board Classification

Upon the closing of the offering, our board of directors will be divided into three classes, one class of which is elected each year by our stockholders. The directors in each class will serve three-year terms. For more information on the classified board, see "Management—Board of Directors." A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is it more difficult and time-consuming for stockholders to replace a majority of the directors on a classified board.

No Cumulative Voting

Our amended and restated certificate of incorporation and amended and restated bylaws will not permit cumulative voting in the election of directors. Cumulative voting allows a stockholder to vote a portion or all of its shares for one or more candidates for seats on the board of directors. Without cumulative voting, a minority stockholder may not be able to gain as many seats on our board of directors as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to gain a seat on our board of directors to influence our board's decision regarding a takeover.

Amendment of Charter and Bylaws Provisions

The amendment of the above provisions of our amended and restated certificate of incorporation will require approval by holders of at least two thirds of our outstanding capital stock entitled to vote generally in the election of directors. The amendment of our bylaws will require approval by the holders of at least two thirds of our outstanding capital stock entitled to vote generally in the election of directors.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the DGCL regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging, under certain circumstances, in a business combination with an interested stockholder for a period of three years following the date the person became an interested stockholder unless:

- prior to the date of the transaction, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, calculated as provided under Section 203; or
- at or subsequent to the date of the transaction, the business combination is approved by our 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 two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions our board of directors does not approve in advance. We anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

The provisions of Delaware law and the provisions of our amended and restated certificate of incorporation and amended and restated bylaws, as amended upon the closing of this offering, could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests.

Authorized but Unissued Shares

Our authorized but unissued shares of common stock and preferred stock will be available for future issuances without stockholder approval, except as required by the listing standards of Nasdaq, and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of the company by means of a proxy contest, tender offer, merger or otherwise.

Choice of Forum

Our amended and restated certificate of incorporation will provide that, unless we consent to the selection of an alternative forum, to the fullest extent permitted by law, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for: (i) any derivative action or proceeding brought on behalf of us; (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees or agents to us or our stockholders; (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law or our amended and restated certificate of incorporation or

amended and restated bylaws; or (iv) any action asserting a claim against us governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees or agents and arising under the Securities Act. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with any action, a court could find the choice of forum provisions contained in our amended and restated certificate of incorporation to be inapplicable or unenforceable in such action.

Business Combinations with Interested Stockholders

Subject to certain exceptions, Section 203 of the DGCL prohibits a public Delaware corporation from engaging in a business combination (as defined in such section) with an "interested stockholder" (defined generally as any person who beneficially owns 15% or more of the outstanding voting stock of such corporation or any person affiliated with such person) for a period of three years following the time that such stockholder became an interested stockholder, unless (i) prior to such time the board of directors of such corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder; (ii) upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of such corporation at the time the transaction commenced (excluding for purposes of determining the voting stock of such corporation outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (A) by persons who are directors and also officers of such corporation and (B) by 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 (iii) at or subsequent to such time the business combination is approved by the board of directors of such corporation and authorized at a meeting of stockholders (and not by written consent) by the affirmative vote of at least 66 2/3% of the outstanding voting stock of such corporation not owned by the interested stockholder.

Limitation of Liability and Indemnification

Our amended and restated certificate of incorporation and amended and restated bylaws, each to be in effect upon the closing of this offering, will provide that we will indemnify our directors and officers, and may indemnify our employees and other agents, to the fullest extent permitted by Delaware law.

Delaware law prohibits our amended and restated certificate of incorporation from limiting the liability of our directors for the following:

- any breach of the director's duty of loyalty to us or to our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

If Delaware law is amended to authorize corporate action further eliminating or limiting the personal liability of a director, then the liability of our directors will be eliminated or limited to the fullest extent permitted

by Delaware law, as so amended. Our amended and restated certificate of incorporation, to be in effect after the closing of this offering, will not eliminate a director's duty of care and, in appropriate circumstances, equitable remedies, such as injunctive or other forms of non-monetary relief, remain available under Delaware law. This provision also does not affect a director's responsibilities under any other laws, such as the federal securities laws or other state or federal laws. Under our amended and restated bylaws, we will also be empowered to purchase insurance on behalf of any person whom we are required or permitted to indemnify.

In addition to the indemnification required in our amended and restated certificate of incorporation and amended and restated bylaws, we have entered into an indemnification agreement with each member of our board of directors and each of our officers. These agreements provide for the indemnification of our directors and officers for certain expenses and liabilities incurred in connection with any action, suit, proceeding or alternative dispute resolution mechanism, or hearing, inquiry or investigation that may lead to the foregoing, to which they are a party or other participant, or are threatened to be made a party or other participant, by reason of the fact that they are or were a director, officer, employee, agent or fiduciary of our company, by reason of any action or inaction by them while serving as an officer, director, agent or fiduciary, or by reason of the fact that they were serving at our request as a director, officer, employee, agent or fiduciary of another entity. In the case of an action or proceeding by or in the right of our company, no indemnification will be provided for any claim where a court determines that the indemnified party is prohibited from receiving indemnification. We believe that these charter and 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, to be in effect after the closing of this offering, 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. Moreover, 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. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have 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. There is no pending litigation or proceeding naming any of our directors or officers as to which indemnification is being sought, nor are we aware of any pending or threatened litigation that may result in claims for indemnification by any director or officer.

Transfer Agent and Registrar

Upon the closing of this offering, the transfer agent and registrar for our common stock will be American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, NY 11219, and its telephone number is (718) 921-8124.

Listing

We have applied to list our common stock on Nasdaq Global Select Market under the trading symbol "CRTX."

SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no 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 certain contractual and legal restrictions on resale, sales of substantial amounts of our common stock in the public market after the restrictions lapse could adversely affect the prevailing market price and our ability to raise equity capital in the future.

Upon the closing of the offering, we will have outstanding 26,013,334 shares of common stock (or 26,675,134 shares if the option to purchase additional shares is exercised in full). Of these shares, all of the shares sold in this offering will be freely transferable without restriction or further registration under the Securities Act, except that any shares purchased by one of our "affiliates," as that term is defined in Rule 144 under the Securities Act, may be sold only in compliance with the limitations described below, and any shares purchased by any of our affiliates pursuant to our directed share program will be subject to the lock-up agreements described below. The remaining shares of common stock held by our existing stockholders are "restricted securities" as defined in Rule 144. Restricted shares may be sold in the public market only if registered under the Securities Act or if they qualify for an exemption from registration, including, among others, the exemptions provided by Rules 144 and 701 promulgated by the SEC under the Securities Act. As a result of the contractual 180-day lock-up period described in "Underwriting—No Sales of Similar Securities" and the provisions of Rules 144 and 701, these shares will be available for sale in the public market as follows:

- beginning on the date of this prospectus, the shares of common stock sold in this offering including certain shares sold under our directed share program that are not subject to a 180-day lock-up will be immediately available for sale in the public market;
- beginning 181 days after the date of this prospectus, 21,601,334 additional shares of common stock plus shares sold under our directed share program that are subject to a 180-day lock-up, may become eligible for sale in the public market upon the satisfaction of certain conditions, of which 15,260,358 shares would be held by affiliates and subject to the volume and other restrictions of Rule 144, as described below; and
- the remainder of the shares of common stock will be eligible for sale in the public market from time to time thereafter, subject in some cases to the volume and other restrictions of Rule 144, as described below.

Lock-Up Agreements

We, our executive officers, directors and holders of substantially all of our common stock and securities convertible into or exchangeable for our common stock, have agreed or will agree that, subject to certain exceptions, for a period of 180 days from the date of this prospectus, we and they will not, without the prior written consent of Merrill Lynch, Pierce, Fenner & Smith Incorporated and Credit Suisse Securities (USA) LLC, dispose of or hedge any shares or any securities convertible into or exchangeable for shares of our capital stock. Merrill Lynch, Pierce, Fenner & Smith Incorporated and Credit Suisse Securities (USA) LLC may, in their sole discretion, release any of the securities subject to these lock-up agreements at any time. See "Underwriting—No Sales of Similar Securities."

Rule 144

In general, under Rule 144, as currently in effect, an affiliate who beneficially owns shares that were purchased from us, or any affiliate, at least six months previously, is entitled to sell, upon the expiration of the lock-up agreement described in "Underwriting," within any three-month period beginning 180 days after the date of this prospectus, a number of shares that does not exceed the greater of 1% of our then-outstanding shares of common stock, which will equal approximately 260,133 shares immediately after this offering, (or 266,751 shares if the option to purchase additional shares is exercised), or the average weekly trading volume of our

common stock on the Nasdaq Global Select Market during the four calendar weeks preceding the filing of a notice of the sale with the SEC. Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions, notice requirements and the availability of current public information about us. The sale of these shares, or the perception that sales will be made, may adversely affect the price of our common stock after this offering because a great supply of shares would be, or world be perceived to be, available for sale in the public market.

Following this offering, a person that is not an affiliate of ours at the time of, or at any time during the three months preceding, a sale and who has beneficially owned restricted securities within the meaning of Rule 144 for at least six months may sell shares subject only to the availability of current public information about us, and any such person who has beneficially owned restricted shares of our common stock for at least one year may sell shares without restriction.

We are unable to estimate the number of shares that will be sold under Rule 144 since this will depend on the market price for our common stock, the personal circumstances of the stockholder and other factors.

Rule 701

In general, under Rule 701, as currently in effect, any of our employees, directors, officers, consultants or advisors who purchased shares from us pursuant to Rule 701 in connection with a compensatory stock or option plan or other written agreement before the effective date of this offering is entitled to resell such shares 90 days after the effective date of this offering in reliance on Rule 144, without having to comply with the holding period requirements or other restrictions contained in Rule 144.

The Securities and Exchange Commission has indicated that Rule 701 will apply to typical stock options granted by an issuer pursuant to Rule 701 before it becomes subject to the reporting requirements of the Exchange Act, along with the shares acquired upon exercise of such options, including exercises after the date of this prospectus. Securities issued in reliance on Rule 701 are restricted securities and, subject to the contractual lock-up restrictions described above, beginning 90 days after the date of this prospectus, may be sold by persons other than “affiliates,” as defined in Rule 144, subject only to the manner of sale provisions of Rule 144 and by “affiliates” under Rule 144 without compliance with its one-year minimum holding period requirement.

Registration Statements on Form S-8

We intend to file a registration statement on Form S-8 under the Securities Act to register all of the shares of common stock subject to outstanding stock options under our 2014 Plan or reserved for future issuance under our 2019 Plan and 2019 ESPP, which will be effective upon the consummation of this offering. This registration statement would cover approximately 5,141,732 shares. Shares registered under the registration statement will generally be available for sale in the open market after the 180-day lock-up period immediately following the date of this prospectus (as such period may be extended in certain circumstances). See “Certain Relationships and Related-Party Transactions—Amended and Restated Investors’ Rights Agreement.”

Registration Rights

Beginning 180 days after the date of this prospectus, subject to certain exceptions and automatic extensions in certain circumstances, certain holders of shares of our common stock will be entitled to the rights described under “Description of Capital Stock—Registration Rights.” Registration of these shares under the Securities Act would result in these shares becoming freely tradeable without restriction under the Securities Act immediately upon effectiveness of the registration.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS

This section discusses the material U.S. federal income tax consequences of the ownership and sale, exchange or other taxable disposition of our common stock sold pursuant to this offering to a "non-U.S. holder" (as defined below). This discussion does not provide a complete analysis of all potential tax considerations. The information provided below is based upon provisions of the Internal Revenue Code of 1986, as amended, or Code, Treasury regulations promulgated thereunder, administrative rulings and judicial decisions currently in effect. These authorities may change at any time, possibly on a retroactive basis, or the Internal Revenue Service, or IRS, might interpret the existing authorities differently. In either case, the U.S. federal income tax considerations of owning or disposing of our common stock could differ from those described below. As a result, we cannot assure you that the U.S. federal income tax considerations described in this discussion will not be challenged by the IRS or will be sustained by a court if challenged by the IRS.

This discussion does not address the tax considerations arising under the alternative minimum tax, the net investment income tax, the laws of any state, local or non-U.S. jurisdiction, or under U.S. federal gift and estate tax laws. In addition, this discussion does not address tax considerations applicable to an investor's particular circumstances or to investors that may be subject to special tax rules, including, without limitation:

- banks, insurance companies or other financial institutions;
- partnerships or entities or arrangements treated as partnerships or other pass-through entities for U.S. federal income tax purposes (or investors in such entities);
- corporations that accumulate earnings to avoid U.S. federal income tax;
- tax-exempt or governmental organizations or tax-qualified retirement plans;
- real estate investment trusts or regulated investment companies;
- controlled foreign corporations or passive foreign investment companies;
- persons who acquired our common stock pursuant to the exercise of an employee stock option or otherwise as compensation for services;
- brokers or dealers in securities or currencies;
- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- persons that own, or are deemed to own, more than 5% of our capital stock (except to the extent specifically set forth below);
- certain former citizens or long-term residents of the United States;
- persons who hold our common stock as a position in a hedging transaction, "straddle," "conversion transaction" or other risk reduction transaction;
- persons who do not hold our common stock as a capital asset within the meaning of Section 1221 of the Code (generally, for investment purposes); or
- persons deemed to sell our common stock under the constructive sale provisions of the Code.

In addition, if a partnership or entity classified as a partnership for U.S. federal income tax purposes is a beneficial owner of our common stock, the tax treatment of a partner in the partnership or an owner of the entity will depend upon the status of the partner or owner and the activities of the partnership or entity. Accordingly, this discussion does not address U.S. federal income tax considerations applicable to partnerships that hold our common stock, and partners in such partnerships should consult their tax advisors.

Investors considering the purchase of our common stock should consult their own tax advisors regarding the application of the U.S. federal income, gift and estate tax laws to their particular situations and the consequences of non-U.S., state or local laws, and tax treaties.

Non-U.S. Holder Defined

For purposes of this section, a "non-U.S. holder" is any holder of our common stock, other than an entity taxable as a partnership for U.S. federal income tax purposes, that is not:

- an individual who is a citizen or resident of the United States for U.S. federal income tax purposes;
- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized under the laws of the United States, any state therein or the District of Columbia or otherwise treated as such for U.S. federal income tax purposes;
- a trust that (1) is subject to the primary supervision of a U.S. court and one or more U.S. persons have authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person; or
- an estate whose income is subject to U.S. federal income tax regardless of source.

Distributions

We do not anticipate making any distributions on shares of our common stock in the foreseeable future. If we do make any distributions on shares of our common stock, however, 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. Distributions in excess of our current and accumulated earnings and profits will constitute a return of capital that is applied against and reduces, but not below zero, a non-U.S. holder's adjusted tax basis in shares of our common stock. Any remaining excess will be treated as gain realized on the sale, exchange or other taxable disposition of our common stock. See "Material U.S. Federal Income Tax Considerations for Non-U.S. Holders—Sale of Common Stock."

Subject to the discussion below regarding the Foreign Account Tax Compliance Act, or FATCA, and backup withholding, any distribution made to a non-U.S. holder on our common stock that is not effectively connected with a non-U.S. holder's conduct of a trade or business in the United States will generally be subject to U.S. withholding tax at a 30% rate. The withholding tax might not apply, however, or might apply at a reduced rate, under the terms of an applicable income tax treaty between the United States and the non-U.S. holder's country of residence. You should consult your tax advisors regarding your entitlement to benefits under a relevant income tax treaty. Generally, in order for us or our paying agent to withhold tax at a lower treaty rate, a non-U.S. holder must certify its entitlement to treaty benefits. A non-U.S. holder generally can meet this certification requirement by providing an IRS Form W-8BEN, W-8BEN-E (or any successor form to the IRS Form W-8BEN or W-8BEN-E) to us or our paying agent. 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. The non-U.S. holder's agent will then be required to provide certification to us or our paying agent, either directly or through other intermediaries. If you are eligible for a reduced rate of U.S. federal withholding tax under an income tax treaty, you may obtain a refund or credit from the IRS of any excess amounts withheld by filing an appropriate claim for a refund with the IRS in a timely manner.

Distributions received by a non-U.S. holder that are effectively connected with a U.S. trade or business conducted by the non-U.S. holder, and, if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, are attributable to a permanent establishment maintained by the non-U.S. holder in the United States, are not subject to the 30% U.S. withholding tax. To obtain this exemption, a non-U.S. holder must provide us with an IRS Form W-8ECI properly certifying such exemption. Such effectively connected distributions, although not subject to U.S. withholding tax, are generally taxed at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. In addition to the graduated tax described above, distributions received by corporate non-U.S. holders that are effectively connected with a U.S. trade or business of the corporate non-U.S. holder may also be subject to a "branch profits tax" equal to 30% of its effectively connected earnings and profits for the taxable year, as adjusted for certain items, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

Sale of Common Stock

Subject to the discussion below regarding FATCA and backup withholding, non-U.S. holders will generally not be subject to U.S. federal income tax on any gains realized on the sale, exchange or other taxable disposition of our common stock unless:

- the gain (1) is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business and (2) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment (or, in the case of an individual, a fixed base) maintained by the non-U.S. holder in the United States (in which case the special rules described below apply);

- the non-U.S. holder is an individual who is present in the United States for 183 days or more in the taxable year of the sale, exchange or other taxable disposition of our common stock, and certain other requirements are met (in which case the gain would be subject to a flat 30% tax, or such reduced rate as may be specified by an applicable income tax treaty, which 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); or

- the rules of the Foreign Investment in Real Property Tax Act, or FIRPTA, treat the gain as effectively connected with a U.S. trade or business.

The FIRPTA rules may apply to a sale, exchange or other taxable disposition of our common stock if we are at the time of the sale, exchange, or other taxable disposition, or were within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period, a "United States real property holding corporation," or USRPHC. In general, we would be a USRPHC if the fair market value of our "U.S. real property interests" comprised at least half of the fair market value of our business assets and our U.S. and non-U.S. real property interests. If we are or become a USRPHC, as long as our common stock is regularly traded on an established securities market, such common stock will be treated as "U.S. real property interests" subject to the FIRPTA rules only if a non-U.S. holder actually owns or constructively holds more than 5% of our outstanding common stock at any time within the shorter of the five-year period preceding the disposition and the non-U.S. holder's holding period. Currently, we believe we are not, and do not anticipate becoming, a USRPHC.

If any gain from the sale, exchange or other taxable disposition of our common stock (1) is effectively connected with a U.S. trade or business conducted by a non-U.S. holder and, (2) if required by an applicable income tax treaty between the United States and the non-U.S. holder's country of residence, is attributable to a permanent establishment (or, in the case of an individual, a fixed base) maintained by such non-U.S. holder in the United States, then the gain generally will be subject to U.S. federal income tax at the same graduated rates

applicable to U.S. persons, net of certain deductions and credits. If the non-U.S. holder is a corporation, under certain circumstances, that portion of its earnings and profits that is effectively connected with its U.S. trade or business, subject to certain adjustments, generally would be subject to a "branch profits tax." The branch profits tax rate is equal to 30% of its effectively connected earnings and profits for the taxable year, as adjusted for certain items, although an applicable income tax treaty between the United States and the non-U.S. holder's country of residence might provide for a lower rate.

Backup Withholding and Information Reporting

Payments of dividends on our common stock will not be subject to backup withholding, provided the non-U.S. holder certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI (and we or our paying agent do not have actual knowledge or reason to know the holder is a U.S. person or that the conditions of any other exemption are not, in fact, satisfied), or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to the non-U.S. holder, regardless of whether any tax was actually withheld. Copies of these reports may be made available to tax authorities in the country where the non-U.S. holder resides. In addition, proceeds of the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above or the non-U.S. holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting. The backup withholding rate is currently 24%.

Backup withholding is not an additional tax. Any amounts withheld from a payment to a holder of our common stock under the backup withholding rules can be credited against any U.S. federal income tax liability of the holder and may entitle the holder to a refund from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Foreign Account Tax Compliance Act, or FATCA

FATCA imposes U.S. federal withholding tax of 30% on certain types of U.S. source "withholdable payments" (including dividends and the gross proceeds from the sale, exchange or other taxable disposition of U.S. stock) to "foreign financial institutions", which are broadly defined for this purpose, and other non-U.S. entities in connection with the failure to comply with certain certification and information reporting requirements regarding U.S. account holders or owners of such institutions or entities. The obligation to withhold under FATCA applies to any dividends on our common stock. While withholding under FATCA would have applied also to gross proceeds from the sale, exchange or other taxable disposition of our common stock paid after December 31, 2018 and to certain "passthru" payments received with respect to instruments held through foreign financial institutions after the date on which applicable final Treasury regulations are issued, recently proposed Treasury regulations eliminate FATCA withholding on payments of gross proceeds entirely and limit FATCA withholding on these "passthru" payments to those payments made two years after the date on which applicable final Treasury regulations are issued. Taxpayers generally may rely on these proposed Treasury regulations until final Treasury regulations are issued. An intergovernmental agreement between the United States and an applicable foreign country may modify the requirements described in this paragraph. Non-U.S. holders should consult their own tax advisors regarding the possible implications of FATCA on their investment in our common stock.

The preceding discussion of U.S. federal income tax considerations is for general information only. It is not tax advice. Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state, local and non-U.S. tax consequences of the sale, exchange or other taxable disposition of our common stock, including the consequences of any proposed change in applicable laws.

UNDERWRITING

Merrill Lynch, Pierce, Fenner & Smith Incorporated and Credit Suisse Securities (USA) LLC are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Credit Suisse Securities (USA) LLC	
Canaccord Genuity LLC	
JMP Securities LLC	
Total	4,412,000

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares sold under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the nondefaulting underwriters may be increased or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discount and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares.

	Per Share	Without Option	With Option
Public offering price	$	$	$
Underwriting discount	$	$	$
Proceeds, before expenses, to us	$	$	$

The expenses of the offering, not including the underwriting discount, payable by us are estimated to be approximately $2.1 million. We have also agreed to reimburse the underwriters for certain of their expenses incurred in connection with, among others, the review and clearance by the Financial Industry Regulatory Authority, Inc. in an amount of up to $40,000.00.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus, to purchase up to 661,800 additional shares at the public offering price, less the underwriting discount. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of Merrill Lynch, Pierce, Fenner & Smith Incorporated and Credit Suisse Securities (USA) LLC. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly

- offer, pledge, sell or contract to sell any common stock,
- sell any option or contract to purchase any common stock,
- purchase any option or contract to sell any common stock,
- grant any option, right or warrant for the sale of any common stock,
- lend or otherwise dispose of or transfer any common stock,
- request or demand that we file or make a confidential submission of a registration statement related to the common stock, or
- enter into any swap or other agreement that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such swap or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

This lock-up provision applies to common stock and to securities convertible into or exchangeable or exercisable for or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition.

Nasdaq Global Select Market Listing

We expect the shares to be approved for listing on the Nasdaq Global Select Market, subject to notice of issuance, under the symbol "CRTX."

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us,
- our financial information,
- the history of, and the prospects for, our company and the industry in which we compete,

- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues,
- the present state of our development,
- the likelihood of approval of our drug candidates, and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

An active trading market for the shares may not develop. It is also possible that after the offering the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. “Covered” short sales are sales made in an amount not greater than the underwriters’ option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. “Naked” short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the closing of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Select Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Directed Share Program

At our request, the underwriters have reserved up to 5% of the shares offered by this prospectus for sale, at the initial public offering price, to certain persons associated with us. If these persons purchase reserved shares, it will reduce the number of shares available for sale to the general public. Any reserved shares that are not so purchased will be offered by the underwriters to the general public on the same terms as the other shares offered by this prospectus.

Indications of Interest

Certain of our stockholders, including stockholders affiliated with certain of our directors, have indicated an interest in purchasing an aggregate of approximately $35 million of shares of our common stock in this offering at the initial public offering price and on the same terms as the other purchasers in this offering. However, because indications of interest are not binding agreements or commitments to purchase, the underwriters may determine to sell more, fewer or no shares in this offering to any of these stockholders, or any of these stockholders may determine to purchase more, fewer or no shares in this offering. The underwriters will receive the same underwriting discount on any shares purchased by these persons or entities as they will on any other shares sold to the public in this offering.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

European Economic Area

In relation to each member state of the European Economic Area, no offer of ordinary shares which are the subject of the offering has been, or will be made to the public in that Member State, other than under the following exemptions under the Prospectus Directive:

(a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(b) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the representatives for any such offer; or

(c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of ordinary shares referred to in (a) to (c) above shall result in a requirement for the Company or any representative to publish a prospectus pursuant to Article 3 of the Prospectus Directive, or supplement a prospectus pursuant to Article 16 of the Prospectus Directive.

Each person located in a Member State to whom any offer of ordinary shares is made or who receives any communication in respect of an offer of ordinary shares, or who initially acquires any ordinary shares will be deemed to have represented, warranted, acknowledged and agreed to and with each representative and the Company that (1) it is a "qualified investor" within the meaning of the law in that Member State implementing Article 2(1)(e) of the Prospectus Directive; and (2) in the case of any ordinary shares acquired by it as a financial intermediary as that term is used in Article 3(2) of the Prospectus Directive, the ordinary shares acquired by it in the offer have not been acquired on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Member State other than qualified investors, as that term is defined in the Prospectus Directive, or in circumstances in which the prior consent of the representatives has been given to the offer or resale; or where ordinary shares have been acquired by it on behalf of persons in any Member State other than qualified investors, the offer of those ordinary shares to it is not treated under the Prospectus Directive as having been made to such persons.

The Company, the representatives and their respective affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgments and agreements.

This prospectus has been prepared on the basis that any offer of shares in any Member State will be made pursuant to an exemption under the Prospectus Directive from the requirement to publish a prospectus for offers of shares. Accordingly, any person making or intending to make an offer in that Member State of shares which are the subject of the offering contemplated in this prospectus may only do so in circumstances in which no obligation arises for the Company or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Directive in relation to such offer. Neither the Company nor the Representatives have authorized, nor do they authorize, the making of any offer of shares in circumstances in which an obligation arises for the Company or the representatives to publish a prospectus for such offer.

For the purposes of this provision, the expression an "offer of ordinary shares to the public" in relation to any ordinary shares in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the ordinary shares to be offered so as to enable an investor to decide to purchase or subscribe the ordinary shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (as amended) and includes any relevant implementing measure in each Member State.

The above selling restriction is in addition to any other selling restrictions set out below.

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 Directive) (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"). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, 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, or SIX, or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or 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 the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority, or DFSA. This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules 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 nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission, or ASIC, in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the “Corporations Act”), and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons (the “Exempt Investors”) who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under Section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

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 Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. 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 Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) 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 (the "SFA")) pursuant to Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA, or (iii) 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:

(a) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b) where no consideration is or will be given for the transfer;

(c) where the transfer is by operation of law; or

(d) as specified in Section 276(7) of the SFA.

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 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

LEGAL MATTERS

The validity of the issuance of our common stock offered in this prospectus will be passed upon for us by Orrick, Herrington & Sutcliffe LLP, 1000 Marsh Road, Menlo Park, California 94025. Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California 94025, is acting as counsel for the underwriters in connection with this offering. Certain investment funds affiliated with Orrick, Herrington & Sutcliffe LLP own shares of our preferred stock which will be converted into an aggregate of 10,403 shares of common stock upon the closing of this offering.

EXPERTS

The financial statements as of December 31, 2018 and 2017 and for each of the two years in the period ended December 31, 2018 included in this prospectus have been so included in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, as stated in their report appearing elsewhere herein, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-1 under the Securities Act with respect to this offering of our common stock. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some items of which are contained in exhibits to the registration statement as permitted by the rules and regulations of the Securities and Exchange Commission. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits and the financial statements and notes filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The exhibits to the registration statement should be referenced for the complete contents of these contracts and documents.

Upon the closing of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. You can read our filings with the Securities and Exchange Commission, including the registration statement, at the Securities and Exchange Commission’s website at www.sec.gov. We also maintain a website at http://www.cortexyme.com. Upon the closing of the offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendment to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after such material is electronically filed with, or furnished to, the Securities and Exchange Commission. However, the information contained on or accessible through our website is not part of this prospectus or the registration statement of which this prospectus forms a part, and potential investors should not rely on such information in deciding to purchase our common stock in this offering.

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Cortexyme, Inc.
South San Francisco, California

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Cortexyme, Inc. (the "Company") as of December 31, 2017 and 2018, the related statements of operations and comprehensive loss, redeemable convertible preferred stock and stockholders' deficit, and cash flows for each of the two years in the period ended December 31, 2018, 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, 2017 and 2018, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018**,** in conformity with accounting principles generally accepted in the United States of America.

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. 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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. 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/ BDO USA, LLP

March 4, 2019, except for the "Reverse Stock Split" paragraph of Note 2, as to which the date is April 29, 2019

We have served as the Company's auditor since 2018.
San Jose, California

CORTEXYME, INC.
BALANCE SHEETS
(in thousands except share and per share data)

	December 31		Pro Forma December 31, 2018 (unaudited)
	2017	2018	
ASSETS			
Current assets:			
Cash and cash equivalents	$ 7,343	$ 24,872	$ 24,873
Short-term investments	—	46,844	46,844
Restricted cash	50	—	—
Prepaid expenses and other current assets	144	868	868
Total current assets	7,537	72,584	72,585
Property and equipment, net	122	283	283
Other assets	59	10	10
Total assets	$ 7,718	$ 72,877	$ 72,878
LIABILITIES, REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT			
Current liabilities:			
Accounts payable	$ 517	$ 495	$ 495
Other accrued liabilities	688	962	962
Accrued interest payable	558	—	—
Total current liabilities	1,763	1,457	1,457
Convertible promissory notes — related parties, net of discount	4,686	—	—
Convertible promissory notes, net of discount	2,485	—	—
Derivative liability	1,886	—	—
Total liabilities	10,820	1,457	1,457
Commitments and contingencies (Note 6)			
Series A redeemable convertible preferred stock, par value $0.001, 9,008,931 shares authorized, 9,008,919 shares issued and outstanding as of December 31, 2017 and 2018, respectively; liquidation preference of $17,178 at December 31, 2017 and 2018, respectively; no shares issued and outstanding, pro forma (unaudited)	17,178	17,178	—
Series B redeemable convertible preferred stock, par value $0.001, 9,430,145 shares authorized, Nil and 9,152,108 shares issued and outstanding as of December 31, 2017 and 2018, respectively; liquidation preference of Nil and $87,972 at December 31, 2017 and 2018, respectively; no shares issued and outstanding, pro forma (unaudited)	—	86,868	—
Stockholders' equity (deficit):			
Common stock, $0.001 par value, 14,705,880 and 24,794,114 shares authorized, 3,361,016 and 3,412,366 issued and outstanding as of December 31, 2017 and 2018, respectively, 21,601,334 shares issued and outstanding, pro forma (unaudited)	3	3	22
Additional paid in capital	66	245	104,273
Accumulated other comprehensive loss	—	(49)	(49)
Accumulated deficit	(20,349)	(32,825)	(32,825)
Total stockholders' equity (deficit)	(20,280)	(32,626)	71,421
Total liabilities, redeemable convertible preferred stock and stockholders' equity (deficit)	$ 7,718	$ 72,877	$ 72,878

See accompanying notes to the financial statements

CORTEXYME, INC.
STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands except for share and per share amounts)

	Year ended December 31,	
	2017	2018
Operating expenses:		
Research and development	$ 9,099	$ 10,085
General and administrative	1,271	2,034
Total operating expenses	10,370	12,119
Loss from operations	(10,370)	(12,119)
Interest income	—	806
Interest expense	(1,643)	(957)
Change in fair value of derivative liability	(222)	(206)
Net loss	$ (12,235)	$ (12,476)
Other comprehensive loss, net of tax:		
Unrealized loss on available for sale securities	—	(49)
Comprehensive loss	$ (12,235)	$ (12,525)
Net loss per share - basic and diluted	$ (3.70)	$ (3.71)
Weighted-average shares of common stock outstanding — basic and diluted	3,302,979	3,362,192
Proforma net loss per-share basic and diluted (unaudited)		$ (0.58)
Pro forma weighted-average shares of common stock outstanding — basic and diluted (unaudited)		21,551,160

See accompanying notes to the financial statements

CORTEXYME, INC.
STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT
(in thousands except share amounts)

	Series A Redeemable Convertible Preferred Stock		Series B Redeemable Convertible Preferred Stock		Common Stock		Additional Paid in Capital	Accumulated Deficit	Other Comprehensive Loss	Shareholders' Deficit
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at January 1, 2017	9,008,919	$17,178	—	$ —	3,361,016	$ 3	$ 27	$ (8,114)	$ —	$ (8,084)
Vesting of early exercise stock options	—	—	—	—	—	—	1	—	—	1
Stock based compensation	—	—	—	—	—	—	38	—	—	38
Net Loss	—	—	—	—	—	—	—	(12,235)	—	(12,235)
Balance at December 31, 2017	9,008,919	17,178	—	—	3,361,016	3	66	(20,349)	—	(20,280)
Issuance of Series B redeemable convertible preferred stock in exchange for cash, net of issuance costs of $157	—	—	7,890,466	75,688	—	—	—	—	—	—
Issuance of Series B redeemable convertible preferred stock in connection with the conversion of convertible promissory notes and accrued interest	—	—	1,147,205	11,027	—	—	—	—	—	—
Issuance of Series B redeemable convertible preferred stock in connection with the facility lease agreement	—	—	114,437	—	—	—	—	—	—	—
Vesting of Series B redeemable convertible preferred stock in lieu of rent	—	—	—	153	—	—	—	—	—	—
Exercise of stock options	—	—	—	—	51,350	—	24	—	—	24
Stock based compensation	—	—	—	—	—	—	155	—	—	155
Other Comprehensive Loss	—	—	—	—	—	—	—	—	(49)	(49)
Net Loss	—	—	—	—	—	—	—	(12,476)	—	(12,476)
Balance at December 31, 2018	9,008,919	$17,178	9,152,108	$86,868	3,412,366	$ 3	$ 245	$ (32,825)	$ (49)	$ (32,626)

See accompanying notes to the financial statements

CORTEXYME, INC.
STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31, 2017	2018
Cash flows from operating activities:		
Net loss	$ (12,235)	$ (12,476)
Adjustments to reconcile net loss to net cash used in operating activities:		
Non-cash interest expense related to convertible promissory notes	558	263
Non-cash rent expense	—	153
Stock based compensation	38	155
Depreciation and amortization	45	51
Accretion of discount on convertible promissory notes payable	1,085	694
Amortization of discount on available-for-sale investments	—	(351)
Change in the fair value of derivative liability	222	206
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	37	(690)
Other assets	(18)	50
Accounts payable	223	(23)
Other accrued liabilities	218	273
Net cash used in operating activities	(9,827)	(11,695)
Cash flows from investing activities:		
Purchase of short-term investments	—	(55,242)
Proceeds from maturities of short-term investments	—	8,700
Purchases of property and equipment	(77)	(212)
Net cash used in investing activities	(77)	(46,754)
Cash flows from financing activities:		
Proceeds from issuance of convertible promissory notes	7,750	250
Proceeds from issuance of preferred stock, net of issuance costs	—	75,688
Proceeds from issuance of common stock upon exercise of stock options	—	24
Deferred initial public offering costs	—	(34)
Net cash provided by financing activities	7,750	75,928
Net increase / (decrease) in cash, cash equivalents and restricted cash	(2,154)	17,479
Cash, cash equivalents and restricted cash at beginning of period	9,547	7,393
Cash, cash equivalents and restricted cash at end of period	$ 7,393	$ 24,872
Cash paid in period for		
Income Taxes	$ 1	$ 1
Non-cash investing and financing activities:		
Issuance of Series B redeemable convertible stock for facility lease	—	1,100
Issuance of Series B redeemable convertible preferred stock in connection with conversion of convertible promissory notes and accrued interest	—	11,027

See accompanying notes to the financial statements

CORTEXYME, INC.
NOTES TO FINANCIAL STATEMENTS

Note 1. Organization

Description of Business

Cortexyme, Inc. (the "Company") was incorporated in the State of Delaware in June 2012 and is headquartered in South San Francisco, California. The Company is a clinical stage biopharmaceutical company focused on developing therapeutics based on data supporting a new theory of the cause of Alzheimer's disease and other degenerative disorders. Cortexyme is targeting a specific, infectious pathogen tied to neurodegeneration and chronic inflammation in humans and animal models.

Liquidity and Capital Resources

The Company has incurred losses and negative cash flows from operations since inception and had an accumulated deficit of $32.8 million as of December 31, 2018. Since inception through December 31, 2018, the Company has funded operations primarily with the net proceeds of the convertible promissory notes and from the issuance of redeemable convertible preferred stock. The Company expects to incur substantial operating losses for the next several years and will need to obtain additional financing in order to launch and commercialize any drug candidates for which it receives regulatory approval. As of December 31, 2018, the Company had cash, cash equivalents, and short-term investments of $71.7 million, which it believes will be sufficient to fund its planned operations for a period of at least 12 months from the date of the issuance of these financial statements. If the Company is not able to secure adequate additional funding, the Company may be forced to make reductions in spending, extend payment terms with suppliers, liquidate assets where possible, or suspend or curtail planned programs. Any of these actions could materially harm the Company's business, results of operations and future prospects. There can be no assurance that such financing will be available at all or at terms acceptable to the Company.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation

The financial statements and accompanying notes have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP") and include all adjustments necessary for the fair presentation of the Company's financial position for the periods presented.

Use of Estimates

The preparation of the Company's financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and expenses, as well as related disclosure of contingent assets and liabilities. The most significant estimates used in the Company's financial statements relate to the determination of the fair value of common stock and stock-based awards and other issuances, valuation of derivative instruments, accruals for research and development costs, useful lives of long-lived assets, and uncertain tax positions. The Company bases its estimates on historical experience and on various other market specific and other relevant assumptions that it believes to be 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. Actual results could differ materially from the Company's estimates.

Reverse Stock Split

On April 25, 2019, the Company's Board of Directors approved a one-for-0.367647 reverse split of the Company's issued and outstanding common stock, redeemable convertible preferred stock, and stock options.

The par value of the common stock was not adjusted as a result of the reverse stock split. All share and per share amounts in the accompanying financial statements and notes to the financial statements have been retroactively adjusted for all periods presented to reflect the reverse stock split.

Unaudited Pro Forma Balance Sheet Information

The unaudited pro forma balance sheet information as of December 31, 2018 assumes the conversion of all outstanding shares of redeemable convertible preferred stock into 18,161,027 shares of the Company's common stock and the related reclassification of the carrying value of the redeemable convertible preferred stock to permanent equity and the exercise in full of an outstanding warrant to purchase 27,941 shares of common stock upon closing of the Company's planned initial public offering ("IPO"). Shares of common stock issued in the IPO and any related net proceeds are excluded from the pro forma information.

Risk and Uncertainties

The Company's future results of operations involve a number of risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, uncertainty of results of clinical trials and reaching milestones, uncertainty of regulatory approval of the Company's potential drug candidates, uncertainty of market acceptance of the Company's drug candidates, competition from substitute products and larger companies, securing and protecting proprietary technology, strategic relationships and dependence on key individuals and sole source suppliers. The Company's drug candidate will require approvals from the U.S. Food and Drug Administration (FDA) and comparable foreign regulatory agencies prior to commercial sales in their respective jurisdictions. There can be no assurance that any drug candidate will receive the necessary approvals. If the Company was denied approval, approval was delayed or the Company was unable to maintain approval for any drug candidate, it could have a materially adverse impact on the Company.

Segments

The Company operates and manages its business as one reportable and operating segment, which is the business of developing and commercializing therapeutics. The Company's chief executive officer, who is the chief operating decision makers, reviews financial information on an aggregate basis for purposes of allocating and evaluating financial performance. All long-lived assets are maintained in the United States of America.

Cash, Cash Equivalents and Short-Term Investments

The Company considers all highly liquid investments with maturities of three months or less when purchased to be cash equivalents. Cash equivalents include marketable securities. Short-term investments are investments in marketable securities with maturities of greater than three months at the time of purchase. Collectively, cash equivalents and short-term investments are considered available-for-sale and are recorded at fair value. Unrealized gains and losses are recorded in accumulated other comprehensive loss in the statements of redeemable convertible preferred stock and stockholders' deficit. Realized gains and losses are included in interest and other income, net in the statements of operations and comprehensive loss.

Premiums (discounts) are amortized (accreted) over the life of the related investment as an adjustment to yield using the straight-line interest method. Dividend and interest income are recognized when earned.

Restricted Cash

Restricted cash at December 31, 2017, comprises cash balances primarily held as collateral in connection with the Company's use of bank issued credit cards. This collateral balance was no longer required in 2018.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the statement of financial position that sum to the total of the same such amounts shown in the statement of cash flows (in thousands):

	December 31,	
	2017	2018
Cash and cash equivalents	$7,343	$24,872
Restricted cash	50	—
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$7,393	$24,872

Property and Equipment, Net

Property and equipment are stated at cost and reduced by accumulated depreciation. Depreciation expense is recognized using the straight-line method over the estimated useful lives of the assets, generally five years. Maintenance and repairs are charged to expense as incurred, and improvements are capitalized. When assets are retired or otherwise disposed of, the cost and accumulated depreciation are removed from the balance sheet and any resulting gain or loss is reflected in operations in the period realized.

Concentration of Credit Risk

Cash equivalents and short-term investments are financial instruments that potentially subject the Company to concentrations of credit risk. The Company invests in money market funds, treasury bills and notes, government bonds, commercial paper and corporate notes. The Company limits its credit risk associated with cash equivalents and short-term investments by placing them with banks and institutions it believes are highly credit worthy and in highly rated investments.

Impairment of Long-Lived Assets

The Company reviews 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. An impairment charge would be recorded when estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition are less than its carrying amount. Impairment, if any, is assessed using discounted cash flows or other appropriate measures of fair value. The Company did not recognize any impairment charges for the years ended December 31, 2017 and 2018.

Deferred Offering Costs

Deferred offering costs, consisting of direct legal, accounting, filing and other fees directly related to the Company's initial public offering of its common stock (IPO), are capitalized. The deferred offering costs will be reclassified to additional paid-in capital upon the closing of the IPO. No amounts were deferred as of December 31, 2017. The Company deferred $34,000 as of December 31, 2018, which is included in prepaid expense and other assets in the accompanying balance sheets. In the event the IPO is aborted, including postponement of 90 days or greater, all capitalized deferred offering costs will be expensed.

Research and Development Expenses

Research and development costs are expensed as incurred. Research and development expenses consist primarily of personnel costs for the Company's research and product development employees. Also included are non-personnel costs such as professional fees payable to third parties for preclinical and clinical studies and research services, laboratory supplies and equipment maintenance, product licenses, and other consulting costs. The Company estimates preclinical and clinical study and research expenses based on the services performed,

pursuant to contracts with contract research organizations ("CROs") that conduct and manage preclinical and clinical studies and research services on its behalf. Expenses related to clinical studies are based on estimates of the services received and efforts expended pursuant to contracts with many research institutions, clinical research organizations and other service providers that conduct and manage clinical studies on our behalf. The financial terms of these agreements are subject to negotiation and vary from contract to contract and may result in uneven payment flows. Generally, these agreements set forth the scope of work to be performed at a fixed fee or unit price. Payments under the contracts are mainly driven by time and materials incurred by these service providers. Expenses related to clinical studies are generally accrued based on time and materials incurred by the service providers and in accordance with the contracts. This process involves reviewing open contracts and purchase orders, communicating with applicable personnel to identify services that have been performed on the Company's behalf and estimating the level of service performed and the associated cost incurred for the service when the Company has not yet been invoiced or otherwise notified of actual cost. The majority of service providers' invoice at least monthly in arrears for services performed. The Company periodically confirms the accuracy of estimates with the service providers and makes adjustments if necessary. Examples of estimated accrued clinical expenses include:

- fees paid to Contract Research Organizations, or CROs, in connection with clinical studies;
- fees paid to investigative sites in connection with clinical studies;
- fees paid to contract manufacturers in connection with the production of clinical study materials; and
- fees paid to vendors in connection with preclinical development activities.

If the actual timing of the performance of services or the level of effort varies from the original estimates, the Company will adjust the accrual accordingly. Payments associated with licensing agreements to acquire exclusive licenses to develop, use, manufacture and commercialize products that have not reached technological feasibility and do not have alternate commercial use are expensed as incurred. Payments made to third parties under these arrangements in advance of the performance of the related services by the third parties are recorded as prepaid expenses until the services are rendered.

Patent Costs

The Company has no historical data to support a probable future economic benefit for the arising patent applications, filing and prosecution costs. Therefore, patent costs are expensed as incurred.

Stock-Based Compensation

The Company accounts for stock-based compensation arrangements with employees in accordance with ASC 718, Compensation—Stock Compensation ("ASC 718"). Stock-based awards granted include stock options with time-based vesting. ASC 718 requires the recognition of compensation expense, using a fair value-based method, for costs related to all stock-based payments. The Company's determination of the fair value of stock options with time-based vesting on the date of grant utilizes the Black-Scholes option-pricing model, and is impacted by its common stock price as well as other variables including: but not limited to, expected term that options will remain outstanding, expected common stock price volatility over the term of the option awards, risk-free interest rates and expected dividends. The fair value of a stock-based award is recognized over the period during which an optionee is required to provide services in exchange for the option award, known as the requisite service period (usually the vesting period) on a straight-line basis. Stock-based compensation expense is recognized based on the fair value determined on the date of grant and is reduced for forfeitures as they occur. In June 2018, the FASB issued ASU 2018-07, Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting, which aligns accounting for share-based payments issued to

nonemployees to that of employees under the existing guidance of Topic 718, with certain exceptions. This update supersedes previous guidance for equity-based payments to nonemployees under Subtopic 505-50, Equity—Equity-Based Payments to Non-employees. The Company early adopted this ASU effective January 1, 2017. Non-employee stock-based compensation expense was $2,000 and $30,000 for the years ended December 31, 2017 and 2018, respectively.

Redeemable Convertible Preferred Stock

The Company records all shares of convertible preferred stock at their respective fair values less issuance costs on the dates of issuance. The convertible preferred stock is recorded outside of stockholders' deficit because, in the event of certain deemed liquidation events considered not solely within the Company's control, such as a merger, acquisition and sale of all or substantially all of all the Company's assets, the convertible preferred stock will become redeemable at the option of the holders. Additionally, on or after May 23, 2025, 60% of the holders may demand redemption of the stock. In the event of a change of control of the Company, proceeds received from the sale of such shares will be distributed in accordance with the liquidation preferences set forth in the Company's Amended and Restated Certificate of Incorporation unless the holders of convertible preferred stock have converted their shares of convertible preferred stock into shares of common stock. The Company has determined not to adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because of the uncertainty of whether or when such an event would occur.

Fair Value of Warrants

Warrants were recorded either as equity instruments or derivative liabilities at their estimated fair value at the date of issuance. In the case of warrants recorded as liabilities, subsequent changes in estimated fair value were recorded in the Company's statement of operations in each subsequent period. The warrants were measured at estimated fair value using the Black Scholes valuation model, which was based, in part, upon inputs for which there was little or no observable market data, requiring the Company to develop its own assumptions. Inherent in this model were assumptions related to expected stock price volatility, expected life, risk-free interest rate and dividend yield. The Company estimated the volatility of its common stock at the date of issuance, and at each subsequent reporting period, based on historical volatility that matched the expected remaining life of the warrants. The risk-free interest rate was based on the U.S. Treasury zero-coupon yield curve on the measurement date for a maturity similar to the expected remaining life of the warrants. The expected life of the warrants was assumed to be equivalent to their remaining contractual term. The dividend rate was based on the Company's historical rate, which was at zero. The assumptions used in calculating the estimated fair value of the warrants represented the Company's best estimates. However, these estimates involved inherent uncertainties and the application of management judgment. As a result, if factors changed and different assumptions were used, the warrant liability and the change in estimated fair value could be materially different. As of December 31, 2018, warrants to purchase 27,941 shares of common stock were outstanding and are recorded as equity instruments.

Derivative Liability

ASC 815-15, Derivatives and Hedging: Embedded Derivatives, generally provides three criteria that, if met, require companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments. These three criteria include circumstances in which (a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, (b) the hybrid instrument that embodies both the embedded derivative instrument and the host contract is not re-measured at fair value under otherwise applicable generally accepted accounting principles with changes in fair value reported in earnings as they occur and (c) a separate instrument with the same terms as the embedded derivative instrument would be considered a derivative instrument subject to the requirement of ASC 815.

The Company issued certain convertible promissory notes in 2017 and 2018 to current and new investors which contained an embedded derivative instrument, a share redemption feature that settles upon the next qualified preferred stock financing. This embedded put option was not considered clearly and closely related to the debt host and resulted in an embedded derivative that must be bifurcated and accounted for separately from the debt host. Accordingly, the Company recorded the bifurcated redemption feature as a derivative liability.

Derivative financial liabilities are initially recorded at fair value, with gains and losses arising for changes in fair value recognized in the statement of operations at each period end while such instruments are outstanding. In May 2018, the convertible promissory notes including the redemption premium were converted into Series B redeemable convertible preferred stock. See Note 9 for further discussion of the convertible promissory notes and the bifurcated derivative liability.

Income Taxes

The Company accounts for income taxes under the asset and liability method. Current income tax expense or benefit represents the amount of income taxes expected to be payable or refundable for the current year. Deferred income tax assets and liabilities are determined based on differences between the financial statement reporting and tax bases of assets and liabilities and net operating loss and credit carryforwards and are measured using the enacted tax rates and laws that will be in effect when such items are expected to reverse. Deferred income tax assets are reduced, as necessary, by a valuation allowance when management determines it is more likely than not that some or all of the tax benefits will not be realized.

The Company accounts for uncertain tax positions in accordance with ASC 740-10, *Accounting for Uncertainty in Income Taxes*. The Company assesses all material positions taken in any income tax return, including all significant uncertain positions, in all tax years that are still subject to assessment or challenge by relevant taxing authorities. Assessing an uncertain tax position begins with the initial determination of the position's sustainability and is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. As of each balance sheet date, unresolved uncertain tax positions must be reassessed, and the Company will determine whether (i) the factors underlying the sustainability assertion have changed and (ii) the amount of the recognized tax benefit is still appropriate. The recognition and measurement of tax benefits requires significant judgment. Judgments concerning the recognition and measurement of a tax benefit might change as new information becomes available.

The Company includes any penalties and interest expense related to income taxes as a component of other expense and interest expense, net, as necessary.

Comprehensive Loss

The Company is required to report all components of comprehensive loss, including net loss, in the financial statements in the period in which they are recognized. Comprehensive loss is defined as a change in equity of a business enterprise during a period, resulting from transactions and other events and circumstances from non-owner sources. The Company had unrealized loss from its available-for-sale securities during the year ended December 31, 2018, which is considered other comprehensive loss.

Net Loss per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss by the weighted-average number of common shares and common share equivalents of potentially dilutive securities outstanding for the period. For purposes of the diluted net loss per share calculation, redeemable convertible preferred stock, warrants and common stock options are considered to be potentially dilutive securities. Because the Company reported a net loss for the years ended December 31, 2017 and 2018, and the inclusion of the potentially dilutive securities would be antidilutive, diluted net loss per share is the same as basic net loss per share for both periods.

Emerging Growth Company Status

The Company is an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012 (the "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 not use this extended transition period for complying with certain new or revised accounting standards that have different effective dates for public and private companies.

Recent Accounting Pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB), or other standard setting bodies and adopted by the Company as of the specified effective date. Unless otherwise discussed, the impact of recently issued standards that are not yet effective will not have a material impact on the Company's financial statements upon adoption.

In February 2016, the FASB issued Accounting Standards Update ("Update" or "ASU") No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"), which supersedes ASC Topic 840, *Leases (Topic 840)* and provides principles for the recognition, measurement, presentation and disclosure of leases for both lessees and lessors. The FASB has continued to clarify this guidance through the issuance of additional ASUs. ASU 2016-02 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, respectively. 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 twelve months regardless of classification. Entities may make an accounting policy election to not recognize lease assets and liabilities for leases with a term of 12 months or less. The standard is effective for the Company for annual reporting periods beginning after December 15, 2018 and for interim periods within those fiscal years. Early adoption is permitted for all entities. The Company is in the process of evaluating the impact of adoption of the ASU on its financial statements and currently believe the most significant change will be related to the recognition of lease liabilities and right-of-use assets on the balance sheet for real estate operating leases.

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) I. Accounting for Certain Financial Instruments with Down Round Features II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception* ("ASU 2017-11"). Part I applies to entities that issue financial instruments such as warrants, convertible debt or redeemable convertible preferred stock that contain down-round features. Part II replaces the indefinite deferral for certain mandatorily redeemable noncontrolling interests and mandatorily redeemable financial instruments of nonpublic entities contained within ASC Topic 480 with a scope exception and does not impact the accounting for these mandatorily redeemable instruments. For public entities, ASU 2017-11 is required to be adopted for annual periods beginning after December 15, 2018, including interim periods within those fiscal years. The Company is currently evaluating the impact that the adoption of ASU 2017-11 will have on its financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"). The new guidance modifies the disclosure requirements in Topic 820 as follows:

- Removals: the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy; the policy for timing of transfers between levels; and the valuation processes for Level 3 fair value measurements.

- Modifications: for investments in certain entities that calculate net asset value, an entity is required to disclose the timing of liquidation of an investee's assets and the date when restrictions from redemption might lapse only if the investee has communicated the timing to the entity or announced the timing publicly; and the amendments clarify that the measurement uncertainty disclosure is to communicate information about the uncertainty in measurement as of the reporting date.

- Additions: the changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period; and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements.

This guidance is effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements, and the narrative description of measurement uncertainty should all be applied prospectively for only the most recent interim or annual period presented in the initial year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted. An entity is permitted to early adopt any removed or modified disclosures upon issuance of ASU 2018-13 and delay adoption of the additional disclosures until their effective date. The Company is currently evaluating the impact of the new guidance on its financial statements.

Recently Adopted Accounting Pronouncements

In May 2014, FASB issued ASU 2014-09, Revenue from Contracts with Customers (Topic 606), which will replace numerous requirements in U.S. GAAP, including industry-specific requirements, and provide companies with a single revenue recognition model for recognizing revenue from contracts with customers. The core principle of the new standard is that a company should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. On January 1, 2017, the Company early adopted the new accounting standard and all the related amendments. However, as the Company did not have any contracts with customers during 2017 or 2018, the adoption had no impact on the financial statements.

In November 2015, the FASB issued ASU No. 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). The standard requires that deferred tax assets and liabilities be classified as noncurrent on the balance sheet rather than being separated into current and noncurrent. ASU 2015-17 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. Early adoption is permitted, and the standard may be applied either retrospectively or on a prospective basis to all deferred tax assets and liabilities. Adoption of ASU 2015-17 did not have a material impact on the Company's financial position, results of operations and cash flows.

In January 2016, the FASB issued ASU No. 2016-01, "Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). ASU 2016-01 requires equity investments (except those accounted for under the equity method or those that result in consolidation) to be measured at fair value with changes in fair value recognized in net income unless a policy election is made for investments without readily determinable fair values. Additionally, ASU 2016-01 requires public entities to use the exit price notion when measuring the fair value of financial instruments for measurement purposes and eliminates the requirement to disclose the method(s) and significant assumptions used to estimate the fair value of financial instruments measured at amortized cost on the balance sheet. Furthermore, it requires separate presentation of financial assets and financial liabilities by measurement category and form of financial asset on the balance sheet or the accompanying notes to the financial statements. ASU 2016-01 is effective for interim and annual periods beginning after December 15, 2017. Adoption of ASU 2016-01 did not have a material impact on the Company's financial position, results of operations and cash flows.

In March 2016, the FASB issued ASU No. 2016-09, *Compensation – Stock Compensation (Topic 718)*: Improvements to Employee Share-Based Payment Accounting ("ASU 2016-09"). ASU 2016-09 requires, among other things, that excess tax benefits and tax deficiencies be recognized as income tax expense or benefit in the statement of operations rather than as additional paid-in capital, changes the classification of excess tax benefits from a financing activity to an operating activity in the statement of cash flows, and allows forfeitures to be accounted for when they occur rather than estimated. ASU 2016-09 became effective for the Company on January 1, 2017. Adoption of ASU 2016-09 did not have a material impact on the Company's financial position, results of operations and cash flows.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), to address diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. For public entities, the standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of ASU 2016-15 did not have a material impact on the Company's financial position, results of operations and cash flows.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230)* ("ASU 2016-18"), which was intended to reduce diversity in practice in the classification and presentation of changes in restricted cash on the Statement of Cash Flows. ASU 2016-18 requires that the Statement of Cash Flows explain the change in total cash and equivalents and amounts generally described as restricted cash or restricted cash equivalents when reconciling the beginning-of-period and end-of-period total amounts. The standard also requires reconciliation between the total cash and cash equivalents and restricted cash presented on the Statement of Cash Flows and the cash and cash equivalents balance presented on the Balance Sheet. For public entities, ASU 2016-18 is effective for fiscal years beginning after December 15, 2017 and interim periods within those fiscal years and early adoption is permitted. The Company adopted the standard which resulted in 2017 restricted cash of $50 included in the reconciliation within the Statements of Cash Flows.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting* ("ASU 2017-09"), which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. The standard is effective for annual periods beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. The adoption of ASU 2017-09 did not have an impact on the Company's financial position, results of operations or cash flows.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), to align the accounting for share-based payment awards issued to employees and nonemployees, particularly with regard to the measurement date and the impact of performance conditions. The new guidance requires equity-classified share-based payment awards issued to nonemployees to be measured on the grant date, instead of being remeasured through the performance completion date under the current guidance. For public entities, ASU 2018-07 is effective for fiscal years beginning after December 15, 2018. This update supersedes previous guidance for equity-based payments to nonemployees under Subtopic 505-50, Equity—Equity-Based Payments to Non-Employees. The Company chose to early adopt ASU 2018-07 effective for its financial statements starting January 1, 2017 and the cumulative adjustment upon adoption was immaterial.

Note 3. Fair Value Measurements

The fair value of our financial instruments reflects the amounts that we estimate we would receive in connection with the sale of an asset or pay in connection with the transfer of a liability in an orderly transaction between market participants at the measurement date (exit price). We disclose and recognize the fair value of our

assets and liabilities using a hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to valuations based upon unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to valuations based upon unobservable inputs that are significant to the valuation (Level 3 measurements). The guidance establishes three levels of the fair value hierarchy as follows:

Level 1 - Inputs that reflect unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access at the measurement date;

Level 2 - Inputs other than quoted prices that are observable for the assets or liability either directly or indirectly, including inputs in markets that are not considered to be active;

Level 3 - Inputs that are unobservable. Assets and liabilities measured at fair value are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

The carrying amounts of the Company's financial instruments, which include cash, accounts payable and accrued liabilities and other current liabilities approximate their fair values due to their short maturities. The fair value of convertible promissory notes was approximately $9.7 million as of December 31, 2017 due to the redemption premium on debt conversion feature.

Our assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. During the years presented, the Company has not changed the manner in which it values assets and liabilities that are measured at fair value using Level 3 inputs. The Company recognizes transfers between levels of the fair value hierarchy as of the end of the reporting period. There were no transfers within the hierarchy during the years ended December 31, 2017 and 2018.

A summary of the assets and liabilities carried at fair value in accordance with the hierarchy defined above is as follows (in thousands):

	Fair Value Measurements at December 31, 2017			
	Total	Level 1	Level 2	Level 3
Liabilities:				
Derivative liability	$ 1,886	$ —	$ —	$ 1,886
Total Liabilities	$ 1,886	$ —	$ —	$ 1,886

	Fair Value Measurements at December 31, 2018			
	Total	Level 1	Level 2	Level 3
Assets:				
Money market funds	$ 11,815	$ 11,815	$ —	$ —
Commercial paper	14,360	—	14,360	
Corporate notes	16,111	—	16,111	—
Government notes	8,979	—	8,979	—
Asset backed securities	9,192	—	9,192	—
Total assets	$ 60,457	$ 11,815	$ 48,642	$ —

The change in the derivative liability is as follows (in thousands):

	December 31, 2017	2018
Fair value at beginning of period	$ —	$ 1,886
Bifurcated derivative liability	1,664	113
Change in fair value	222	206
Conversion of promissory notes to Series B redeemable convertible preferred stock	—	(2,205)
Fair value at end of period	$1,886	$ —

Note 4. Cash, cash equivalents and short-term investments

The following tables categorize the fair values of cash, cash equivalents, and short-term investments measured at fair value on a recurring basis on our balance sheet (in thousands):

	December 31, 2017	2018
Cash and cash equivalents		
Cash	$ 7,343	$ 11,259
Money market funds	—	11,815
Commercial Paper	—	1,798
Total cash and cash equivalents	**$ 7,343**	**$ 24,872**
Short-term investments		
Commercial paper	—	12,562
Corporate notes	—	16,111
Government notes	—	8,979
Asset backed securities	—	9,192
Total short-term investments	**$ —**	**$ 46,844**

The investments are classified as available-for-sale securities. At December 31, 2018 the balance in the Company's accumulated other comprehensive income was comprised solely of activity related to the Company's available-for-sale securities. There were no realized gains or losses recognized on the sale or maturity of available-for-sale securities for the year ended December 31, 2018 and as a result, the Company did not reclassify any amounts out of accumulated other comprehensive income for the year. The Company has a limited number of available-for-sale securities in insignificant loss positions as of December 31, 2018, which the Company does not intend to sell and has concluded it will not be required to sell before recovery of the amortized cost for the investment at maturity.

The following table summarizes the available-for-sale securities (in thousands):

	Fair Value Measurements at December 31, 2018			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Assets:				
Money market funds	$ 11,815	$ —	$ —	$ 11,815
Commercial paper	14,362	—	(2)	14,360
Corporate notes	16,129	—	(18)	16,111
Government notes	8,980	—	(1)	8,979
Asset backed securities	9,220	—	(28)	9,192
Total assets	$ 60,506	$ —	$ (49)	$ 60,457

	December 31, 2018
Classified as (with contractual maturities):	
Cash equivalents (due within 90 days)	$ 13,613
Short-term investments (due within one year)	46,844
	$ 60,457

Note 5: Balance Sheet Components

Prepaid expenses and other current assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	December 31,	
	2017	2018
Prepaid expenses	$ 51	$ 47
Prepaid research and development expenses	90	753
Other assets	3	68
	$144	$868

Property and equipment, net

Property and equipment, net consisted of the following (in thousands):

	December 31,	
	2017	2018
Lab Equipment	$166	$378
Less: accumulated depreciation	(44)	(95)
Property and equipment, net	$122	$283

Depreciation expense was $45,000 and $51,000 for the years ended December 31, 2017 and 2018, respectively.

Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	December 31,	
	2017	2018
Personnel expenses	$312	$483
Research and development expenses	314	380
Professional fees	56	75
Other	6	24
	$688	$962

Note 6. Commitments and Contingencies

Legal Matters

The Company's industry is characterized by frequent claims and litigation, including claims regarding intellectual property. As a result, the Company may be subject to various legal proceedings from time to time. The results of any future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources and other factors. Management is not aware of any pending or threatened litigation.

Leases

In June 2018, the Company entered into a three-year lease agreement with a related party, one of the investors in the Series B redeemable convertible preferred stock. The lease began on July 16, 2018 and provides 3,185 square feet of office space in South San Francisco, California. The Company issued 114,437 shares of its Series B redeemable convertible preferred stock with a fair value of $1.1 million in exchange for the leased facility. No other payments are due under the lease.

100% of the issued shares were initially subject to a repurchase option. Each month beginning on the one-month anniversary of the commencement date of the lease, 1/36th of the total shares are released from the repurchase option until all shares are released over the lease period of 3 years. The scheduled release of shares will cease immediately on the occurrence of a termination event.

In the event of a termination of the lease for any reason other than (i) a material, uncured default of the tenant or (ii) the voluntary or involuntary liquidation, dissolution or winding up of the tenant, the Company has an irrevocable exclusive option for a period of three months from the termination to repurchase any unvested shares. In the event of (i) or (ii) above or an acquisition or initial public offering of the tenant, any unvested shares will fully and immediately vest, and any repurchase option will lapse in respect to any unvested shares.

The Company recognizes rent expense on a straight line basis. As of December 31, 2018, 98,543 unvested shares were subject to the repurchase option representing $947,000 of future rent expense to be recognized over the remaining term of 31 months on a straight-line basis over the respective lease period. Rent expense incurred for the years ended December 31, 2017 and 2018 was $335,000 and $387,000, respectively.

Indemnification

As permitted under Delaware law and in accordance with the Company's bylaws, the Company is required to indemnify its officers and directors for certain events or occurrences while the officer or director is or was serving in such capacity. The Company is also party to indemnification agreements with its directors. The Company believes the fair value of the indemnification rights and agreements is minimal. Accordingly, the Company has not recorded any liabilities for these indemnification rights and agreements as of December 31, 2018

Contingencies

From time to time, we may have certain contingent liabilities that arise in the ordinary course of our business activities. We accrue a liability for such matters when it is probable that future expenditures will be made, and such expenditures can be reasonably estimated.

Note 7. Redeemable Convertible Preferred Stock and Stockholders' Deficit

The Company's Certificate of Incorporation, as amended and restated, authorizes the Company to issue 24,794,114 shares, of $0.001 par value common stock. Each share of common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when and if declared by the board of directors, subject to the prior rights of holders of all classes of redeemable preferred stock outstanding. The Company has never declared any dividends on common stock. As of December 31, 2017 and 2018, the Company had reserved common stock, on an if-converted basis, for issuance as follows:

	December 31,	
	2017	2018
Redeemable convertible preferred stock	9,008,919	18,161,027
Common stock options issued and outstanding	769,409	1,885,504
Common stock warrants	27,941	27,941
Shares available for issuance under 2014 Stock Plan	138,272	984,680
Total	9,944,541	21,059,152

As of December 31, 2017, the outstanding redeemable convertible preferred stock was as follows (in thousands except for share and per share amounts):

	Shares Authorized	Shares Issued and Outstanding	Issuance Price per share	Liquidation Preference	Carrying Value
Series A	9,008,931	9,008,919	$ 1.9067	$ 17,178	$ 17,178

As of December 31, 2018, the outstanding redeemable convertible preferred stock was as follows (in thousands except for share and per share amounts):

	Shares Authorized	Shares Issued and Outstanding	Issuance Price per share	Liquidation Preference	Carrying Value
Series A	9,008,931	9,008,919	$ 1.9067	$ 17,178	$ 17,178
Series B	9,430,145	9,152,108	$ 9.6122	$ 87,972	$ 86,868

Significant terms of the Series A and B redeemable convertible preferred stock as of December 31, 2018 (collectively, the "Preferred Stock") are as follows:

Dividends

The holders of Preferred Stock are entitled to receive non-cumulative dividends prior and in preference to any declaration or payment of dividends on common stock, when and if declared by the Board of Directors, at the rate of $0.15259 for Series A and $0.7692 per share for Series B, as adjusted for stock splits, dividends, reclassifications or the like, per annum. After payment of the above dividends to holders of Preferred Stock, any additional dividends will be distributed pro rata amongst the holders of the Preferred Stock and Common Stock on an as-if converted to common stock basis. No dividends have been declared or paid as of December 31, 2018.

Voting

The holders of the Preferred Stock are entitled to voting rights equal to the number of shares of common stock into which each share of the Preferred Stock could be converted. The holders of the Preferred Stock, voting as a separate class, are entitled to elect two members of the Board of Directors. The holders of Common Stock, voting as a separate class, are entitled to elect two members of the Board of Directors. The remaining member of the Board of Directors will be elected by the holders of the Preferred Stock and Common Stock, voting together as a single class and on an as-converted basis.

Liquidation

In the event of any liquidation, dissolution, or winding up of the Company, either voluntary or involuntary, the holders of the Preferred Stock shall be entitled to receive on a pari passu basis and in preference to any distribution to the common shareholders, the greater of their stated liquidation preference or the amount such holders would have received had they converted their preferred stock into common stock immediately prior to such dissolution. For each series of Preferred Stock, the stated liquidation preference per share is equal to $1.9067 and $9.6122 per share, respectively, plus any declared but unpaid dividends. Any remaining assets shall be distributed among the holders of common stock pro rata, based on the number of shares of common stock held by each.

Conversion

Each share of Preferred Stock is convertible, at the option of the holder, into the number of shares of common stock that result from dividing the applicable original share price per share by the applicable conversion price per share at the time of conversion, as adjusted for stock splits, stock dividends, reclassification and the like. At December 31, 2017 and 2018, the conversion price equaled the original share price. Each share of Preferred Stock shall automatically convert upon the earlier of (i) a vote of at least 60% of the then-outstanding shares of Preferred Stock or, (ii) a public offering of the Company's common stock which results in gross proceeds of at least $40.0 million.

At December 31, 2018, the conversion price for each share of Series A and Series B is $1.9067 and $9.6122, respectively.

Redemption

At any time after May 23, 2025, and within sixty days of receipt by the Company of a written request of from the holders of 60% of the then outstanding shares of Series A and Series B voting as a single class, the Company will redeem all shares of Series A and Series B in three annual installments. The redemption price for each share of Series A and Series B will be $1.9067 and $9.6122, respectively, plus all declared but unpaid dividends.

Protection Provisions

The holders of the Preferred Stock have certain protective provisions. As long as at least 2,000,000 shares of the Preferred Stock remain outstanding, the Company cannot, without the approval of at least 60% of the holders of shares of the Preferred Stock then outstanding, take any action that: (i) consummates a liquidation, dissolution or winding up of the Company; (ii) amends, alters or repeals any provision of the Certificate of Incorporation or Bylaws of the Company; (iii) creates or authorizes any capital stock having the rights, preferences or privileges senior or on a parity with the Preferred Stock; (iv) reclassifies, amends or alters any existing securities of the Company to have the rights, preferences or privileges senior or on a parity with the Preferred Stock; (v) results in redemption, repurchase, payment or declaration of dividends or other distributions with respect to shares of Preferred Stock or common stock other than permitted repurchases and dividends; (vi) results in the Company incurring indebtedness of more than $250,000; (vii) increases or decreases the authorized number of shares of Preferred Stock; (viii) amends or adopts any equity compensation plans, unless previously approved by the Board of Directors; (ix) increases or decreases the members of the Board of Directors; or (x) results in holding capital stock in a subsidiary that is not wholly-owned by the Company or otherwise results in the sale of capital stock of a subsidiary of the Company.

Common Stock

The Company is authorized to issue 24,794,114 shares of common stock with a par value of $0.001 per share. As of December 31, 2017, and 2018, the Company had 3,361,016 and 3,412,366 shares issued and outstanding respectively.

The Company has issued restricted common stock to founders and certain employees of the Company that is subject to vesting as determined by the Board of Directors. These common stock holders entered into stock purchase agreements with the Company, which allow the Company to repurchase the shares of common stock from those holders at the original issuance price, if the holders cease to provide services to the Company. The Company's right to repurchase the common stock generally lapses over a period of 48 months. Any shares subject to repurchase by the Company are not deemed, for accounting purposes, to be outstanding until those shares vest. At December 31, 2017, and 2018, 1,102 and 0 shares of common stock were subject to repurchase at $0.001 per share, respectively. The Company recognizes the measurement date fair value of the restricted stock over the vesting period as compensation expense.

Common Stock Warrant

In June 2014, in connection with a research grant and license agreement, the Company issued a warrant to purchase 27,941 shares of common stock at $0.03 per share. The grant date estimated fair value of such warrants was insignificant. The warrant was immediately exercisable and expires in June 2024. The warrant was classified as equity and remains outstanding at December 31, 2018.

Note 8. Stock Option Plan

In 2014, the Company adopted the 2014 Stock Plan (the 2014 Plan) under which 2,973,736 shares of the Company's common stock have been reserved for issuance to employees, directors and consultants.
Under the 2014 Plan, the Board of Directors may grant incentive stock options or non-statutory stock options. Incentive stock options may only be granted to Company employees. The exercise price of incentive stock options and non- statutory stock options will be no less than 100% of the fair value per share of the Company's common stock on the grant date. If an individual owns capital stock representing more than 10% of the outstanding shares, the price of each share will be at 110% of the fair value. Fair value is determined by the Board of Directors. Options expire after ten years (five years for stockholders owning greater than 10% of all classes of stock). For options that have been exercised prior to vesting, the Company has a repurchase option exercisable upon the voluntary or involuntary termination of the purchaser's employment with the Company for any reason.

In 2017 and 2018, the Company recognized $38,000 and $155,000 respectively, of stock-based compensation expense related to options granted to employees and non-employees. The compensation expense is allocated on a departmental basis, based on the classification of the option holder. No income tax benefits have been recognized in the statement of operations for stock-based compensation arrangements.

Future stock-based compensation for unvested employee and non-employee options granted and outstanding as of December 31, 2018 is $1.57 million to be recognized over a remaining weighted average requisite service period of 3.7 years.

Stock option activity under the 2014 Plan is as follows:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Balance at December 31, 2016	**594,445**	$ 0.37	—	1,107,581
Options granted	202,537	0.44	—	—
Options exercised	—	—	—	—
Options cancelled	(27,573)	0.40	—	—
Balance at December 31, 2017	**769,409**	0.39	8.89	1,418,954
Options granted	1,316,342	2.08	—	—
Options exercised	(51,350)	0.46	—	—
Options cancelled	(148,897)	0.41	—	—
Balance at December 31, 2018	**1,885,504**	$ 1.57	9.07	$1,252,496
Options vested and expected to vest to December 31, 2018	1,885,504	$ 1.57	9.07	$1,252,496
Options exercisable at December 31, 2018	439,004	$ 0.57	8.02	$ 730,331

Aggregate intrinsic value represents the difference between the Company's estimated fair value of its common stock and the exercise price of outstanding options. The total intrinsic value of options exercised was $91,000 for the year ended December 31, 2018. During the year ended December 31, 2018, the weighted-average grant-date fair value of the options vested was $0.54 per share. The weighted-average grant date fair value of options granted during the years ended December 31, 2017 and 2018 was $0.44 and $2.08 per share, respectively.

The following table summarizes employee and non-employee stock-based compensation expense for the years ended December 31, 2017 and 2018 and also the allocation within the statements of operations and comprehensive loss (in thousands):

	2017	2018
General and administrative expense	$ 6	$ 78
Research and development expense	32	77
	$38	$155

The Company estimates the fair value of stock-based compensation utilizing the Black-Scholes option pricing model, which is dependent upon several variables, such as expected term, volatility, risk-free interest rate, and expected dividends. Each of these inputs is subjective and generally requires significant judgment to determine. Stock-based compensation is measured at the grant date based on the fair value of the award and is recognized as expense, over the requisite service period, which is generally the vesting period of the respective award. The Company recognizes compensation on a straight-line basis over the requisite vesting period for each award. Forfeitures are recognized as they occur. The following weighted average assumptions were used to calculate the fair value of stock-based compensation as of December 31, 2017 and 2018.

	2017	2018
Fair value of common stock	0.163	0.766
Expected volatility	63.0%	69.6%
Expected Dividends	—	—
Expected Term (in years)	6.25	6.25
Risk Free Interest Rate	1.87%	2.91%

Expected Term — The Company has opted to use the "simplified method" for estimating the expected term of options, whereby the expected term equals the arithmetic average of the vesting term and the original contractual term of the option (generally 10 years).

Expected Volatility — Due to the Company's limited operating history and a lack of company specific historical and implied volatility data, the Company has based its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. The historical volatility data was computed using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards.

Risk-Free Interest Rate — The risk-free rate assumption is based on the U.S. Treasury instruments with maturities similar to the expected term of the Company's stock options.

Expected Dividend — The Company has not issued any dividends in its history and does not expect to issue dividends over the life of the options and therefore has estimated the dividend yield to be zero.

Fair value of Common Stock — The fair value of the shares of common stock underlying the stock-based awards has historically been determined by the board of directors, with input from management. Because there has been no public market for the Company's common stock, the board of directors has determined the fair value of the common stock on the grant-date of the stock-based award by considering a number of objective and subjective factors, including enterprise valuations of the Company's common stock performed by an unrelated third-party specialist, valuations of comparable companies, sales of the Company's redeemable convertible preferred stock to unrelated third parties, operating and financial performance, the lack of liquidity of the Company's capital stock, and general and industry-specific economic outlook. The board of directors intended all options granted to be exercisable at a price per share not less than the estimated per share fair value of common stock underlying those options on the date of grant.

As of December 31, 2017 and 2018, there was a total of $117,000 and $1.57 million, respectively, of unrecognized employee and non-employee compensation costs related to non-vested stock option awards. The fair value of shares vested during the respective years was $37,000 and $102,000.

Note 9. Convertible Promissory Notes

In February 2017, the Company received $7.6 million from the issuance of convertible promissory notes to the Company's current investors. In June 2017 the Company received an additional $150,000 from an issuance under the same note facility to a new investor. In January 2018, the Company received $250,000 from a new investor under the same note facility for a total of $8.0 million in principal value under the note facility. The notes accrue simple interest on the outstanding principal amount at the rate of 8% per annum and mature on February 1, 2019.

The convertible promissory notes have conversion and repayment options as follows: (a) in the event that the Company has an equity financing event of at least $10 million to new investors on or before the maturity date, then the outstanding principal amount of this convertible promissory note and any unpaid accrued interest will automatically convert in whole into equity securities sold in the qualified financing at a conversion price equal to 80% of the cash price paid per share for equity securities by the investors in the qualified financing, or (b) the Company consummates a merger of the Company where it does not maintain majority voting power or conducts a sale, lease, transfer, exclusive license or other disposition of all or substantially all of its assets while the convertible promissory notes remain outstanding, the Company shall repay the holders in cash in an amount equal to 200% of the outstanding principal and accrued interest amount of the convertible promissory notes.

The Company evaluated its convertible notes and determined that the redemption premium feature qualified as a derivative liability to be separately accounted for in accordance with ASC 815. The convertible promissory notes contained put options as follows:

1. On or before the maturity date, the principal and accrued interest of the notes will automatically convert into equity securities issued and sold in the initial closing of the Company's next qualified equity financing with gross proceeds of at least $10,000,000, exclusive of the conversion of the notes. The number of shares to be issued to the note holders will be equal to dividing the outstanding principal and any unpaid accrued interest by 80% of the price paid per share of the next equity security sold to investors. The discount in share price to note holders is not considered clearly and closely related to the debt host and results in an embedded derivative that must be bifurcated and accounted for separately from the debt host.

2. In the event of a merger or sale, lease, transfer, exclusive license or other disposition of all or substantially all of its assets prior to repayment, the outstanding principal and unpaid accrued interest will be repaid in cash, plus a repayment premium equal to 100% of the outstanding principal and accrued interest at the time of the merger or sale of assets. The premium to note holders is not considered clearly and closely related to the debt host and results in an embedded derivative that must be bifurcated and accounted for separately from the debt host.

Accordingly, upon the issuance of the February 2017 convertible promissory notes, the estimated fair value of the embedded derivative liability was determined using a bond plus option valuation model and assuming a probability of 80% that a qualified financing would occur and a zero probability that a merger or sale would occur. The Company recorded the estimated fair value of these put options (embedded derivatives) as a liability of $1.55 million with an offsetting amount recorded as debt discount, which offsets the carrying amount of the debt. The debt discount is amortized over the debt's expected term. The derivative liability is revalued at the end of each reporting period and any change in fair value is recognized in other income.

Upon the issuance of the June 2017 convertible promissory notes, the estimated fair value of the embedded derivatives were determined using a bond plus option valuation model and assuming a probability of 80% that a qualified financing would occur and a zero probability that a sale or merger would occur. The Company recorded the estimated fair value of these put options (embedded derivatives) as a liability of $30,000 with an offsetting amount recorded as debt discount, which offsets the carrying amount of the debt.

Upon issuance of the January 2018 convertible promissory notes, the estimated fair value of the embedded derivatives was determined using a bond plus option valuation model and assuming a probability of 90% that a qualified financing would occur and a zero probability that a merger or sale would occur. The Company recorded the estimated fair value of these put options (embedded derivatives) as a liability of $56,250 with an offsetting amount recorded as debt discount, which offsets the carrying amount of the debt.

The derivative liability is revalued at the end of each reporting period and any change in fair value is recognized in "Change in fair value of redemption premium liability" in the Statement of Operations.

As of December 31, 2017, the estimated fair value of the embedded derivatives was determined assuming a probability of 90% that a qualified financing would occur and a zero probability that a change in control would occur. As a result, the Company increased the fair value of the embedded derivative liability to $1.9 million and recorded a change in fair value of derivative liability of $222,000.

The following table summarizes convertible promissory notes as of December 31, 2017 and 2018 (in thousands):

	December 31, 2017	2018
Convertible notes payable, due on February 1, 2019 interest at 8.0% per annum	$7,750	$—
Less: unamortized debt discount	(579)	—
Derivative liability at fair value	1,886	—
Total convertible notes payable, net of discount	$9,057	$—

In May 2018, the notes converted into 1,147,205 shares of the Company's Series B redeemable convertible preferred stock in conjunction with the Company's Series B redeemable convertible preferred stock financing (the "Series B Financing"), which was considered a Qualified Financing under the terms of the notes. In conjunction with the closing, the holders of the notes also converted their accrued and unpaid interest of $0.8 million.

Note 10. Related Party Transactions

In June 2014, the Company entered into a research grant and license agreement (the Agreement) with a stockholder of the Company. The Agreement requires the Company to pay royalties to the stockholder in the amount of 3% of gross revenues not to exceed $1.05 million. There are no amounts payable to the stockholder as at December 31, 2018.

As described more fully in Note 6, the Company entered into a three-year lease agreement with a Series B redeemable preferred stock investor. The lease began on July 16, 2018 and provides 3,185 square feet of office space in South San Francisco, California. The Company issued 114,437 restricted shares of its Series B redeemable Convertible Preferred Stock in exchange for the leased facility. During 2018, 15,893 shares vested under the agreement.

Under the terms of the convertible promissory notes described in Note 9, certain board members provided $5.05 million in principal value in the note offering which accrued interest at 8% per annum. These board members received a total of $534,000 interest which converted per the terms of the promissory note into 69,465 shares of Series B redeemable convertible preferred stock on May 23, 2018.

Note 11. Income taxes

From inception through 2018, the Company has only generated pretax losses in the United States and has not generated any pretax income or loss outside of the United States. The Company did not record a provision (benefit) for income taxes for the years ended December 31, 2018 and 2017.

The provision for income taxes differs from the amount expected by applying the federal statutory rate to the loss before taxes as follows:

	Year ended December 31, 2017	2018
Federal statutory income tax rate	35.00%	21.00%
State income taxes	4.85%	6.24%
Non-deductible expenses and others	(0.47)%	(1.02)%
Non-deductible expenses related to the convertible promissory notes	(5.33)%	(1.96)%
Change in valuation allowance	(16.05)%	(24.26)%
Remeasurement of federal tax-rate change	(18.00)%	—
	— %	— %

As of December 31, 2017 and 2018, the components of the Company's deferred tax assets are as follows (in thousands):

	Year ended December 31, 2017	2018
Deferred tax asset:		
Federal and State net operating loss carryforwards	$ 4,845	$ 8,010
Total deferred tax asset	4,845	8,010
Deferred tax liabilities:		
Property and equipment	(14)	(70)
Less valuation allowance	(4,831)	(7,940)
Net deferred tax assets	$ —	$ —

Deferred income taxes reflect the net tax effects of (a) temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes, and (b) operating losses and tax credit carryforwards.

The Company's accounting for deferred taxes involves the evaluation of a number of factors concerning the realizability of its net deferred tax assets. The Company primarily considered such factors as its history of operating losses, the nature of the Company's deferred tax assets, and the timing, likelihood and amount, if any, of future taxable income during the periods in which those temporary differences and carryforwards become deductible. At present, the Company does not believe that it is more likely than not that the deferred tax assets will be realized; accordingly, a full valuation allowance has been established and no deferred tax asset is shown in the accompanying consolidated balance sheets. The valuation allowance increased by approximately $1.9 million and $3.1 million respectively for the years ended December 31, 2017 and 2018.

At December 31, 2018, the Company has net operating loss carryforwards for federal income tax purposes of approximately $28.2 million that begin to expire in 2034, and federal research tax credits of approximately $0.4 million that begin to expire in 2036. The Company also has state net operating loss carryforwards of approximately $29.8 million that begin to expire in 2034. Use of the net operating loss and credit carryforwards may be subject to a substantial annual limitation due to the ownership change provisions of U.S. tax law and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before use.

On December 22, 2017, the U.S. government enacted a comprehensive tax reform legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Reform Act"). The Tax Reform Act makes broad and complex changes to the US tax code including but not limited to, (1) reducing the U.S. federal corporate tax rate from 35% to 21%; (2) requiring companies to pay a one-time transition tax on certain repatriated earnings of foreign subsidiaries, which has no impact to the Company; (3) generally eliminating US federal income taxes on dividends from foreign subsidiaries; (4) requiring a current inclusion in US federal income of certain earnings of controlled foreign corporations; (5) creating a new limitation on deductible interest expense; and (6) changing rules related to the uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

Reduction of U.S. federal corporate tax rate - The Tax Reform Act reduces the corporate tax rate to 21 percent, effective January 1, 2018. Consequently, the Company accounted for the reduction of $2.2 million of deferred tax assets with an offsetting adjustment to the valuation allowance for the year ended December 31, 2017.

Uncertain Tax Positions

The Company follows the provisions of the FASB Accounting Standards Codification (ASC 740-10), Accounting for Uncertainty in Income Taxes. ASC 740-10 prescribes a comprehensive model for the recognition, measurement, presentation and disclosure in financial statements of uncertain tax positions that have been taken or expected to be taken on a tax return. No liability related to uncertain tax positions is recorded in the consolidated financial statements.

The Company is subject to taxation in the United States. Because of the net operating loss and research credit carryforwards, all of the Company's tax years, from 2013 to 2018, remain open to U.S. federal and California state tax examinations. There were no interest or penalties accrued at December 31, 2017 and December 31, 2018.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	Year ended December 31,	
	2017	2018
Beginning balance	$ —	$ 171
Additions for tax positions taken in a prior year	62	—
Additions for tax positions taken in a current year	109	185
Ending balance	$ 171	$ 356

Note 12. Net Loss per Share

The following table sets forth the computation of basic and diluted net loss per share (in thousands except for share and per share amounts):

	December 31,	
	2017	2018
Numerator:		
Net loss	$ (12,235)	$ (12,476)
Denominator		
Weighted average common shares outstanding	3,302,979	3,362,192
Net loss per share, basic and diluted	$ (3.70)	$ (3.71)

The following outstanding potentially dilutive securities were excluded from the computation of diluted net loss per share for the periods presented because including them would have been antidilutive:

	December 31,	
	2017	2018
Series A convertible preferred stock	9,008,919	9,008,919
Series B convertible preferred stock	—	9,152,108
Options issued and outstanding	769,409	1,885,504
Warrants	27,941	27,941
	9,806,269	20,074,472

Unaudited Pro Forma Basic and Diluted Net Loss Per Share

The unaudited pro forma basic and diluted loss per share for the year ended December 31, 2018 gives effect to the conversion of all shares of convertible preferred stock upon the closing of the planned IPO by treating all shares of convertible preferred stock as if they had been converted to common stock at the beginning of the earliest period presented, or the date of the original issuance, if later. Shares to be sold in the planned IPO are excluded from the unaudited pro forma basic and diluted net loss per share calculation (in thousands except for share and per share amounts):

	December 31, 2018
Numerator:	
Net loss and proforma net loss	$ (12,476)
Denominator	
Shares used to compute net loss per share, basic and diluted	3,362,192
Pro forma adjustments to reflect assumed effect of conversion of convertible preferred stock	18,188,968
Shares used to compute pro forma net loss per share, basic and diluted	21,551,160
Pro forma net loss per share, basic and diluted	$ (0.58)

Note 13. Employee Benefit Plan

The Company sponsors a 401(k) defined contribution plan for its employees. This plan provides for pre-tax and post-tax contributions for all employees. Employee contributions are voluntary. Employees may contribute up to 100% of their annual compensation to this plan, as limited by an annual maximum amount as determined by the Internal Revenue Service. The Company may match employee contributions, and may make profit sharing contributions, in amounts to be determined at the Company's sole discretion. The Company made no contributions to the plan for the years ended December 31, 2017 and 2018.

Note 14. Subsequent Events

The Company has completed an evaluation of all subsequent events through March 4, 2019 to ensure that these financial statements include appropriate disclosure of events both recognized in the financial statements and events which occurred but were not recognized in the financial statements. The Company has concluded that no subsequent event has occurred that requires disclosure.

4,412,000 Shares

Common Stock

PROSPECTUS

BofA Merrill Lynch

Credit Suisse

Canaccord Genuity

JMP Securities

, 2019

Through and including , 2019 (the 25th day after the date of this prospectus), all dealers effecting transactions in the common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to any unsold allotment or subscription.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of common stock being registered. All amounts are estimates except the Securities and Exchange Commission registration fee and the FINRA filing fee and the Nasdaq Global Select Market listing fee.

	Amount to be Paid
Securities and Exchange Commission registration fee	$ 11,069
FINRA filing fee	13,438
Initial Nasdaq Global Select Market listing fee	25,000
Printing and engraving expenses	300,000
Legal fees and expenses	1,250,000
Accounting fees and expenses	500,000
Transfer Agent and Registrar fees	4,000
Miscellaneous fees and expenses	10,000
Total	$2,113,507

Item 14. Indemnification of Directors and Officers

Prior to the consummation of this offering, we intend to enter into indemnification agreements with each of our current directors and executive officers. These agreements require us to indemnify these individuals to the fullest extent permitted under Delaware law against liabilities that may arise by reason of their service to us, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified. We also intend to enter into indemnification agreements with our future directors and executive officers.

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent to the registrant. The Delaware General Corporation Law provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Our amended and restated bylaws that will be effective upon the closing of this offering provide for indemnification by the registrant of its directors, officers and employees to the fullest extent permitted by 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 duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, or (iv) for any transaction from which the director derived an improper personal benefit. Our amended and restated certificate of incorporation that will be effective upon the closing of this offering provides for such limitation of liability.

We maintain standard policies of insurance under which coverage is provided (a) to our directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act, and (b) to us with respect to payments we may make to our officers and directors pursuant to the above indemnification provision or otherwise as a matter of law.

In any underwriting agreement we enter into in connection with the sale of common stock being registered hereby, the underwriters will agree to indemnify, under certain conditions, us, our directors, our officers and persons who control us within the meaning of the Securities Act against certain liabilities.

Item 15. Recent Sales of Unregistered Securities

In the three years preceding the filing of this Registration Statement, we have issued and sold the following unregistered securities:

(1) From December 2015 through December 2018, we granted 2,113,353 stock options to purchase shares of our common stock to our employees, directors and consultants at a weighted average exercise price of $1.44 per share under our 2014 Plan. We also issued and sold an aggregate of 51,350 shares of our common stock to our employees, directors and consultants at a weighted average exercise price of $0.46 per share pursuant to restricted stock issuances and exercises of options granted under our 2014 Plan.

(2) From December 2015 through September 2016, we issued and sold an aggregate of 9,008,919 shares of our Series A convertible preferred stock at a purchase price of $1.9067 per share, for aggregate consideration of approximately $15.9 million. Such issuances were deemed to be exempt from registration under the Securities Act in reliance on Rule 506(b) of Regulation D promulgated under Section 4(a)(2) of the Securities Act.

(3) From February 2017 through January 2018, we issued and sold subordinated convertible promissory notes in an aggregate principal amount of $8.0 million at face value. Such issuances were deemed to be exempt from registration under the Securities Act in reliance on Rule 506(b) of Regulation D promulgated under Section 4(a)(2) of the Securities Act.

(4) From May 2018 through July 2018, we issued and sold an aggregate of 9,152,108 shares of our Series B convertible preferred stock at a purchase price of $9.6122 per share, for aggregate consideration of approximately $85.8 million. Such issuances were deemed to be exempt from registration under the Securities Act in reliance on Rule 506(b) of Regulation D promulgated under Section 4(a)(2) of the Securities Act.

The stock options and the common stock issuable upon the exercise of such options described in paragraph (1) of this Item 15 were issued under the 2014 Plan in reliance on the exemption provided by Rule 701 promulgated under the Securities Act. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about us.

The offer, sale, and issuance of the securities described in paragraphs (2), (3) and (4) and of this Item 15 were deemed to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act as transactions by an issuer not involving a public offering. The recipients of the securities in these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were affixed to the securities issued in these transactions. The recipients of the securities in these transactions were accredited investors as defined in Rule 501 of Regulation D promulgated under the Securities Act.

All certificates representing the securities issued in the transactions described in this Item 15 included appropriate legends setting forth that the securities had not been offered or sold pursuant to a registration statement and describing the applicable restrictions on transfer of the securities. There were no underwriters employed in connection with any of the transactions set forth in this Item 15.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

Number	Description
1.1*	Form of Underwriting Agreement.
3.1*	Amended and Restated Certificate of Incorporation of Cortexyme, Inc., as currently in effect.
3.2*	Form of Amended and Restated Certificate of Incorporation of Cortexyme, Inc. to be in effect upon the closing of this offering.
3.3#	Bylaws of Cortexyme, Inc., as currently in effect.
3.4*	Form of Amended and Restated Bylaws of Cortexyme, Inc. to be in effect upon the closing of this offering.
4.1*	Specimen Stock Certificate.
4.2#	Amended and Restated Investors' Rights Agreement by and among Cortexyme, Inc. and certain holders of its capital stock, dated May 23, 2018.
5.1*	Opinion of Orrick, Herrington & Sutcliffe LLP regarding the legality of the common stock being registered.
10.1#	Sub-Sublease Agreement by and between Cortexyme, Inc. and Verily Life Sciences LLC, dated June 18, 2018.
10.2*	Form of Indemnification Agreement between Cortexyme, Inc. and each of its officers and directors.
10.3†#	2014 Stock Plan, as amended as of November 28, 2018, and related forms of stock award agreements.
10.4*†	2019 Equity Incentive Plan and forms of stock award agreements thereunder.
10.5*†	2019 Employee Stock Purchase Plan.
10.6†#	Executive Incentive Bonus Plan.
23.1*	Consent of BDO USA, LLP.
23.2*	Consent of Orrick, Herrington & Sutcliffe LLP (included in Exhibit 5.1).
24.1#	Power of Attorney.

* Filed herewith.
† Indicates management contract or compensatory plan.
# Previously filed.

(b) Financial Statement Schedules

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes thereto.

Item 17. Undertakings

The undersigned registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreements 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 of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, 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.

(2) For the purpose of determining any liability under the Securities Act of 1933, 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, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of San Francisco, State of California on April 29, 2019.

CORTEXYME, INC.

By: /s/ Casey C. Lynch
Casey C. Lynch
President, Chief Executive Officer and Chairman

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Casey C. Lynch Casey C. Lynch	President, Chief Executive Officer and Chairman (*principal executive officer*)	April 29, 2019
/s/ Christopher Lowe Christopher Lowe	Chief Financial Officer (*principal financial and accounting officer*)	April 29, 2019
* Stephen S. Dominy, M.D.	Director	April 29, 2019
* David A. Lamond	Director	April 29, 2019
* Margi McLoughlin, Ph.D.	Director	April 29, 2019
* Una Ryan, OBE, Ph.D.	Director	April 29, 2019
* Christopher J. Senner	Director	April 29, 2019
* Kevin Young, CBE	Director	April 29, 2019
*By /s/ Casey C. Lynch Casey C. Lynch As Attorney-in-Fact		

CORTEXYME, INC.

(a Delaware corporation)

[•] Shares of Common Stock

UNDERWRITING AGREEMENT

Dated: May [•], 2019

CORTEXYME, INC.

(a Delaware corporation)

[•] Shares of Common Stock

UNDERWRITING AGREEMENT

May [•], 2019

Merrill Lynch, Pierce, Fenner & Smith
Incorporated
Credit Suisse Securities (USA) LLC
as Representatives of the several Underwriters

c/o Merrill Lynch, Pierce, Fenner & Smith
Incorporated

One Bryant Park
New York, New York 10036

c/o Credit Suisse Securities (USA) LLC
Eleven Madison Avenue
New York, N.Y. 10010-3629

Ladies and Gentlemen:

Cortexyme, Inc., a Delaware corporation (the "Company"), confirms its agreement with Merrill Lynch, Pierce, Fenner & Smith Incorporated ("Merrill Lynch"), Credit Suisse Securities (USA) LLC ("Credit Suisse") and each of the other Underwriters named in Schedule A hereto (collectively, the "Underwriters," which term shall also include any underwriter substituted as hereinafter provided in Section 10 hereof), for whom Merrill Lynch and Credit Suisse are acting as representatives (in such capacity, the "Representatives"), with respect to (i) the sale by the Company and the purchase by the Underwriters, acting severally and not jointly, of the respective numbers of shares of Common Stock, par value $0.001 per share, of the Company ("Common Stock") set forth in Schedule A hereto and (ii) the grant by the Company to the Underwriters, acting severally and not jointly, of the option described in Section 2(b) hereof to purchase all or any part of [•] additional shares of Common Stock. The aforesaid [•] shares of Common Stock (the "Initial Securities") to be purchased by the Underwriters and all or any part of the [•] shares of Common Stock subject to the option described in Section 2(b) hereof (the "Option Securities") are herein called, collectively, the "Securities."

The Company understands that the Underwriters propose to make a public offering of the Securities as soon as the Representatives deem advisable after this Agreement has been executed and delivered.

The Company and the Underwriters agree that up to 5% of the Initial Securities to be purchased by the Underwriters (the "Reserved Securities") shall be reserved for sale by the Underwriters to certain persons designated by the Company (the "Invitees"), as part of the distribution of the Securities by the Underwriters, subject to the terms of this Agreement, the applicable rules, regulations and interpretations of the Financial Industry Regulatory Authority, Inc. ("FINRA") and all other applicable laws, rules and regulations. The Company has solely determined, without any direct or indirect participation by the

Underwriters, the Invitees who will purchase Reserved Securities (including the amount to be purchased by such persons) sold by the Underwriters. To the extent that such Reserved Securities are not orally confirmed for purchase by Invitees by [11:59] P.M. (New York City time) on the date of this Agreement, such Reserved Securities may be offered to the public as part of the public offering contemplated hereby.

The Company has filed with the Securities and Exchange Commission (the "Commission") a registration statement on Form S-1 (No. 333-230853), including the related preliminary prospectus or prospectuses, covering the registration of the sale of the Securities under the Securities Act of 1933, as amended (the "1933 Act"). Promptly after execution and delivery of this Agreement, the Company will prepare and file a prospectus in accordance with the provisions of Rule 430A ("Rule 430A") of the rules and regulations of the Commission under the 1933 Act (the "1933 Act Regulations") and Rule 424(b) ("Rule 424(b)") of the 1933 Act Regulations. The information included in such prospectus that was omitted from such registration statement at the time it became effective but that is deemed to be part of such registration statement at the time it became effective pursuant to Rule 430A(b) is herein called the "Rule 430A Information." Such registration statement, including the amendments thereto, the exhibits thereto and any schedules thereto, at the time it became effective, and including the Rule 430A Information, is herein called the "Registration Statement." Any registration statement filed pursuant to Rule 462(b) of the 1933 Act Regulations is herein called the "Rule 462(b) Registration Statement" and, after such filing, the term "Registration Statement" shall include the Rule 462(b) Registration Statement. Each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted the Rule 430A Information that was used after such effectiveness and prior to the execution and delivery of this Agreement, is herein called a "preliminary prospectus." The final prospectus, in the form first furnished to the Underwriters for use in connection with the offering of the Securities, is herein called the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system or any successor system ("EDGAR").

As used in this Agreement:

"Applicable Time" means [•]:00 P.M., New York City time, on May [•], 2019 or such other time as agreed by the Company and the Representatives.

"General Disclosure Package" means any Issuer General Use Free Writing Prospectuses issued at or prior to the Applicable Time, the most recent preliminary prospectus that is distributed to investors prior to the Applicable Time and the information included on Schedule B-1 hereto, all considered together.

"Issuer Free Writing Prospectus" means any "issuer free writing prospectus," as defined in Rule 433 of the 1933 Act Regulations ("Rule 433"), including without limitation any "free writing prospectus" (as defined in Rule 405 of the 1933 Act Regulations ("Rule 405")) relating to the Securities that is (i) required to be filed with the Commission by the Company, (ii) a "road show that is a written communication" within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Securities or of the offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g).

"Issuer General Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a "*bona fide* electronic road show," as defined in Rule 433 (the "Bona Fide Electronic Road Show")), as evidenced by its being specified in Schedule B-2 hereto.

"Issuer Limited Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

"Testing-the-Waters Communication" means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the 1933 Act.

"Written Testing-the-Waters Communication" means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the 1933 Act.

SECTION 1. Representations and Warranties.

(a) *Representations and Warranties by the Company*. The Company represents and warrants to each Underwriter as of the date hereof, the Applicable Time, the Closing Time (as defined below) and any Date of Delivery (as defined below), and agrees with each Underwriter, as follows:

(i) Registration Statement and Prospectuses. Each of the Registration Statement and any amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the applicable requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus, the Prospectus and any amendment or supplement thereto, at the time each was filed with the Commission, and, in each case, at the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus delivered to the Underwriters for use in connection with this offering and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(ii) Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time, on the date hereof, at the Closing Time or at any Date of Delivery, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. At the Applicable Time and any Date of Delivery, none of (A) the General Disclosure Package, (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package and (C) any individual Written Testing-the-Waters Communication, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto, as of its issue date, at the time of any filing with the

Commission pursuant to Rule 424(b), at the Closing Time or at any Date of Delivery, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

The representations and warranties in this subsection shall not apply to statements in or omissions from the Registration Statement (or any amendment thereto), the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) made in reliance upon and in conformity with written information furnished to the Company by any Underwriter through the Representatives expressly for use therein. For purposes of this Agreement, the only information so furnished shall be the information in the first paragraph under the heading "Underwriting–Commissions and Discounts," the information in the [second, third and fourth] paragraphs under the heading "Underwriting–Price Stabilization, Short Positions and Penalty Bids" and the information under the heading "Underwriting–Electronic Distribution" in each case contained in the Prospectus (collectively, the "Underwriter Information").

(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, and any preliminary or other prospectus deemed to be a part thereof that has not been superseded or modified. The Company has made available a Bona Fide Electronic Road Show in compliance with Rule 433(d)(8)(ii) such that no filing of any "road show" (as defined in Rule 433(h)) is required in connection with the offering of the Securities.

(iv) Testing-the-Waters Materials. The Company (A) has not engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the 1933 Act or institutions that are accredited investors within the meaning of Rule 501 under the 1933 Act and (B) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule [•] hereto.

(v) Company Not Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Securities and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

(vi) Emerging Growth Company Status. From the time of the initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any Person authorized to act on its behalf in any Testing-the-Waters Communication) (as defined above) through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the 1933 Act (an "Emerging Growth Company").

(vii) Independent Accountants. The accountants who certified the financial statements and supporting schedules included in the Registration Statement, the General Disclosure Package and the Prospectus are independent public accountants as required by the 1933 Act, the 1933 Act Regulations and the Public Company Accounting Oversight Board.

(viii) Financial Statements. The financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company at the dates indicated and the statement of operations, stockholders' equity and cash flows of the Company for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the periods involved. The supporting schedules, if any, present fairly in all material respects in accordance with GAAP the information required to be stated therein. The selected financial data and the summary financial information included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly, in all material respects, the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus under the 1933 Act or the 1933 Act Regulations.

(ix) No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company, whether or not arising in the ordinary course of business (a "Material Adverse Effect"), (B) there have been no transactions entered into by the Company, other than those in the ordinary course of business, which are material with respect to the Company, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(x) Good Standing of the Company. The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect.

(xi) No Subsidiaries. The Company has no subsidiaries.

(xii) Capitalization. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement, the General Disclosure Package and the Prospectus in the column entitled "Actual" under the caption "Capitalization" (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or employee benefit plans referred to in the Registration Statement, the General Disclosure Package and the Prospectus or pursuant to the exercise of convertible securities or options referred to in the Registration Statement, the General Disclosure Package and the Prospectus). The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company.

(xiii) Stock Options. With respect to the stock options (the "Stock Options") granted pursuant to the stock-based compensation plans of the Company (the "Company Stock Plans"), (A) each Stock Option intended to qualify as an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code") so qualifies, (B) each grant of a Stock Option was duly authorized no later than the date on which the grant of such Stock Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto, (C) each such grant was made in accordance with the terms of the Company Stock Plans and all other applicable laws and regulatory rules or requirements, and (D) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company.

(xiv) Authorization of Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xv) Authorization and Description of Securities. The Securities to be purchased by the Underwriters from the Company have been duly authorized by the Company for issuance and sale to the Underwriters pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration set forth herein, will be validly issued and fully paid and non-assessable; and the issuance of the Securities is not subject to the preemptive or other similar rights of any securityholder of the Company. The Common Stock conforms in all material respects to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus and such description conforms in all material respects to the rights set forth in the instruments defining the same. No holder of Securities will be subject to personal liability by reason of being such a holder.

(xvi) Registration Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and have been waived.

(xvii) Absence of Violations, Defaults and Conflicts. The Company is not (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company is a party or by which it may be bound or to which any of the properties or assets of the Company is subject (collectively, "Agreements and Instruments"), except for such defaults that would not, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its properties, assets or operations (each, a "Governmental Entity"), except for such violations that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement, the General Disclosure Package and the Prospectus (including the issuance and sale of the Securities and the use of the proceeds from the sale of the Securities as described therein under the caption "Use of Proceeds") and compliance by the Company with its obligations hereunder have been duly authorized by all necessary

corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of the provisions of the charter, by-laws or similar organizational document of the Company or any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity. As used herein, a "Repayment Event" means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company.

(xviii) Absence of Labor Disputes. No labor disturbance by or dispute with the employees of the Company exists or, to the knowledge of the Company, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its principal suppliers, manufacturers, customers or contractors, which, in either case, would, individually or in the aggregate, result in a Material Adverse Effect.

(xix) ERISA Compliance. (A) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b),(c),(m) or (o) of the Code) would have any liability (each, a "Plan") has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (B) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (C) none of the Plans are subject to the funding rules of Section 412 of the Code or Section 302 of ERISA; (D) none of the Plans are "multiemployer plans" within the meaning of Section 4001(a)(3) of ERISA, (E) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification; (F) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA in respect of a Plan; and (G) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company's and its Controlled Group affiliates' most recently completed fiscal year has not occurred and is not reasonably likely to occur.

(xx) Absence of Proceedings. There is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company, which would reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect its properties or assets or the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder.

(xxi) Accuracy of Exhibits. There are no contracts or documents which are required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described in all material respects and filed as required.

(xxii) Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Securities hereunder or the consummation of the transactions contemplated by this Agreement, except (A) such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of the Nasdaq Stock Market LLC, state securities laws or the rules of FINRA and (B) such as have been obtained under the laws and regulations of jurisdictions outside the United States in which the Reserved Securities were offered.

(xxiii) Possession of Licenses and Permits. The Company possesses such permits, licenses, approvals, consents, exemptions, registrations, and other authorizations (collectively, "Governmental Licenses") issued by the appropriate Governmental Entities necessary to conduct the business as described in the Registration Statement, the General Disclosure Package and the Prospectus, except where the failure so to possess would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company is in compliance with the terms and conditions of all Governmental Licenses, except where the failure to so comply would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except where the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect. The Company has not received any written notice of proceedings relating to the revocation or modification of, or non-compliance with, any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would result in a Material Adverse Effect, and to the Company's knowledge, no such proceedings are threatened.

(xxiv) Title to Property. The Company does not own any real property; the Company has good and marketable title to all other properties owned by it, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the Registration Statement, the General Disclosure Package and the Prospectus or (B) do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and all of the leases and subleases material to the business of the Company, and under which the Company holds properties described in the Registration Statement, the General Disclosure Package or the Prospectus, are in full force and effect, and the Company does not have any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxv) Possession of Intellectual Property. The Company owns or possesses adequate patents, patent rights, licenses, inventions, copyrights, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks, trade names or other intellectual property (collectively, "Company Intellectual Property") necessary to carry on the business of the Company as currently conducted or as proposed to be conducted as disclosed in the Registration Statement, the General

Disclosure Package and the Prospectus, and (A) the Company has not received any notice or is otherwise aware of (i) claims by others or any infringement of or conflict with rights of others with respect to any Company Intellectual Property or of any facts or circumstances which would render any Company Intellectual Property invalid, unenforceable or inadequate to protect the interest of the Company therein, or (ii) any infringement by third parties of any Company Intellectual Property or challenge to the Company's rights thereto, and (B) (i) there are no third parties who have rights to any Company Intellectual Property, (ii) the Company has taken all reasonable steps necessary to secure its interests in the Company Intellectual Property from its employees and contractors, (iii) the Company is the sole owner of the Company Intellectual Property owned by it, and (iv) the Company is not aware of any non-Company intellectual property rights which would prevent the Company from using the Company Intellectual Property. The Company has not entered into any agreement pursuant to which Company Intellectual Property has been licensed to the Company or any third party. The product candidate described in the Registration Statement, General Disclosure Package and the Prospectus as under development by the Company falls within the scope of the claims of one or more patents or patent applications owned by the Company. To the knowledge of the Company, all patents and patent applications owned by the Company have been properly filed and each issued patent is being diligently maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of disclosure to the U.S. Patent and Trademark Office in connection with such applications.

(xxvi) Environmental Laws. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus or would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, (A) the Company is not in violation of any applicable federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, "Hazardous Materials") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "Environmental Laws"), (B) the Company has all permits, authorizations and approvals required under any applicable Environmental Laws and is in compliance with its requirements, (C) there are no pending or, to the knowledge of the Company, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law against the Company and (D) to the knowledge of the Company, there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company relating to Hazardous Materials or any Environmental Laws.

(xxvii) Health Care Laws. Except where instances of failure to comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company is and has been in compliance with all applicable foreign, federal, state and local healthcare laws, rules and regulations, including, without limitation, (i) the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 301 et seq.); (ii) all healthcare related fraud and abuse laws, including, without limitation, the federal Anti-kickback Statute (42 U.S.C. § 1320a-7b(b)), the civil False Claims Act (31 U.S.C. §§ 3729 et seq.), the criminal False Claims Law (42 U.S.C. §

1320a-7b(a)), the civil monetary penalties law (42 U.S.C. § 1320a-7a), the exclusion law (42 U.S.C. § 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), all criminal laws relating to healthcare fraud and abuse, including but not limited to 18 U.S.C. Sections 286, 287, 1035, 1347 and 1349, the healthcare fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 ("HIPAA") (42 U.S.C. §§1320d et seq.), the Medicare statute (Title XVIII of the Social Security Act), and the Medicaid statute (Title XIX of the Social Security Act); and (iii) the patient privacy, data security and breach notification provisions under HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (42 U.S.C. §§17921 et seq.); each as amended and the regulations promulgated pursuant to such laws (collectively, "Healthcare Laws"). The Company has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in material violation of any Healthcare Laws, and, to the Company's Knowledge, no such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action is threatened. The Company is not party to and does not have any ongoing reporting obligations pursuant to any corporate integrity agreement, deferred prosecution agreement, monitoring agreement, consent decree, settlement order, plan of correction or similar agreement with or imposed by any governmental or regulatory authority. Additionally, neither the Company, nor any of its employees, officers or directors, or to the Company's knowledge, agents, is or has been excluded, suspended, debarred or is otherwise ineligible from participation in any U.S. state or federal healthcare program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, the Company: has not received any Form 483, notice of adverse finding, warning letter, untitled letter or other written correspondence, or to the Company's knowledge any oral or other notice from any governmental authority alleging or asserting noncompliance with any Healthcare Laws (as defined above) or the terms of any Governmental Licenses, except in each case as would not, individually or in the aggregate, have a Material Adverse Effect; (ii) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority or third party alleging that any product operation or activity is in violation of any Healthcare Laws or Governmental Licenses and have no knowledge that any such governmental authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, except in each case as would not, individually or in the aggregate, have a Material Adverse Effect; (iii) (a) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Healthcare Laws or Governmental Licenses, (b) except as would not, individually or in the aggregate, have a Material Adverse Effect, all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct and not misleading on the date filed (or were corrected or supplemented by a subsequent submission), and (c) the Company is not aware of any reasonable basis for any material liability with respect to such filings; and (iv) has not, and to the knowledge of the Company, the Company's officers, employees and agents have not, made any untrue statement of a material fact or fraudulent statement to any governmental authority or failed to disclose a material fact required to be disclosed to any governmental authority.

(xxviii) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials that are described in, or the results of which are referred to in, the Registration Statement, the General Disclosure Package and the Prospectus were and, if still pending, are being conducted in all material respects in accordance with all applicable laws, rules, and regulations of any

regulatory authority, including without limitation the Federal Food, Drug, and Cosmetic Act and the regulations set forth at 21 C.F.R. Parts 50, 54, 56, 58 and 312; the Company has no knowledge of any studies or tests the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the Disclosure Package and the Prospectus; and the Company has not received any written notices or other correspondence from any regulatory authority requiring the termination, suspension or material modification of any preclinical tests or clinical trials.

(xxix) Accounting Controls. The Company maintains effective internal control over financial reporting (as defined under Rule 13-a15 and 15d-15 under the 1934 Act Regulations (as defined below)) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, since the end of the Company's most recent audited fiscal year, there has been (1) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (2) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(xxx) Compliance with the Sarbanes-Oxley Act. The Company has taken all necessary actions to ensure that, upon the effectiveness of the Registration Statement, it will be in compliance with all provisions of the Sarbanes-Oxley Act of 2002 and all rules and regulations promulgated thereunder or implementing the provisions thereof (the "Sarbanes-Oxley Act") that are then in effect and with which the Company is required to comply as of the effectiveness of the Registration Statement, and is, or will be, actively taking steps to ensure that it will be in compliance with other provisions of the Sarbanes-Oxley Act not currently in effect, upon the effectiveness of such provisions, or which will become applicable to the Company at all times after the effectiveness of the Registration Statement.

(xxxi) Payment of Taxes. All United States federal income tax returns of the Company required by law to be filed have been filed and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided. The United States federal income tax returns of the Company through the fiscal year ended December 31, 2018 have been settled and no assessment in connection therewith has been made against the Company. The Company has filed all other tax returns that are required to have been filed by it pursuant to applicable foreign, state, local or other law except insofar as the failure to file such returns would not result, individually or in the aggregate, in a Material Adverse Effect, and has paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not result, individually or in the aggregate, in a Material Adverse Effect.

(xxxii) Insurance. The Company carries or is entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as is generally maintained by companies of established repute engaged in the same or similar business and at the same or a similar stage of development, and all such insurance is in full force and effect, except as would not result, individually or in the aggregate, in a Material Adverse Effect. The Company has no reason to believe that it will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect. The Company has not been denied any insurance coverage which it has sought or for which it has applied.

(xxxiii) Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities as herein contemplated and the application of the net proceeds therefrom as described in the Registration Statement, the General Disclosure Package and the Prospectus will not be required, to register as an "investment company" under the Investment Company Act of 1940, as amended (the "1940 Act").

(xxxiv) Absence of Manipulation. Neither the Company nor any affiliate of the Company has taken, nor will the Company or any affiliate take, directly or indirectly, any action which is designed, or would be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities or to result in a violation of Regulation M under the Securities Exchange Act of 1934, as amended (the "1934 Act").

(xxxv) Foreign Corrupt Practices Act. Neither the Company, nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the "FCPA"), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any "foreign official" (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(xxxvi) Money Laundering Laws. The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the "Money Laundering Laws"); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

(xxxvii) OFAC. Neither the Company, nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company is an individual or entity ("Person") currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury's

Office of Foreign Assets Control ("OFAC"), the United Nations Security Council ("UNSC"), the European Union, Her Majesty's Treasury ("HMT"), or other relevant sanctions authority (collectively, "Sanctions"), nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any subsidiaries, joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(xxxviii) Sales of Reserved Securities. In connection with any offer and sale of Reserved Securities outside the United States, each preliminary prospectus, the Prospectus, any prospectus wrapper and any amendment or supplement thereto, complied and will comply in all material respects with any applicable laws or regulations of foreign jurisdictions in which the same is distributed. The Company has not offered, or caused the Representatives to offer, Reserved Securities to any person with the specific intent to unlawfully influence (i) a customer or supplier of the Company or any of its affiliates to alter the customer's or supplier's level or type of business with any such entity or (ii) a trade journalist or publication to write or publish favorable information about the Company or any of its affiliates, or their respective businesses or products.

(xxxix) Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any bank or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the sale of the Securities to repay any outstanding debt owed to any affiliate of any Underwriter.

(xl) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement, the General Disclosure Package or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xli) Cybersecurity. (A) There has been no security breach or incident, unauthorized access or disclosure, or other compromise of or relating to the Company's information technology and computer systems, networks, hardware, software, data and databases (including the data and information of their respective customers, employees, suppliers, vendors and any third party data maintained, processed or stored by the Company, and any such data processed or stored by third parties on behalf of the Company), equipment or technology (collectively, "IT Systems and Data"): (B) the Company has not been notified of, and it has no knowledge of any event or condition that could result in, any security breach or incident, unauthorized access or disclosure or other compromise to its IT Systems and Data and (C) the Company has implemented appropriate controls, policies, procedures, and technological safeguards to maintain and protect the integrity, continuous operation, redundancy and security of its IT Systems and Data reasonably consistent with industry standards and practices, or as required by applicable regulatory standards. The Company is presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification.

(b) *Officer's Certificates*. Any certificate signed by any officer of the Company delivered to the Representatives or to counsel for the Underwriters shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

SECTION 2. Sale and Delivery to Underwriters; Closing.

(a) *Initial Securities*. On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company agrees to sell to each Underwriter, severally and not jointly, and each Underwriter, severally and not jointly, agrees to purchase from the Company, at the price per share set forth in Schedule A, that number of Initial Securities set forth in Schedule A opposite the name of such Underwriter, plus any additional number of Initial Securities which such Underwriter may become obligated to purchase pursuant to the provisions of Section 10 hereof, subject, in each case, to such adjustments among the Underwriters as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(b) *Option Securities*. In addition, on the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company hereby grants an option to the Underwriters, severally and not jointly, to purchase up to an additional [•] shares of Common Stock, at the price per share set forth in Schedule A, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised for 30 days after the date hereof and may be exercised in whole or in part at any time from time to time upon notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are then exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a "Date of Delivery") shall be determined by the Representatives, but shall not be later than seven full business days after the exercise of said option, nor in any event prior to the Closing Time. If the option is exercised as to all or any portion of the Option Securities, each of the Underwriters, acting severally and not jointly, will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as the Representatives in their discretion shall make to eliminate any sales or purchases of fractional shares.

(c) *Payment*. Payment of the purchase price for, and delivery of certificates or security entitlements for, the Initial Securities shall be made at the offices of Latham & Watkins LLP, 140 Scott Drive, Menlo Park, California 94025, or at such other place as shall be agreed upon by the Representatives and the Company, at 9:00 A.M. (New York City time) on the second (third, if the pricing occurs after 4:30 P.M. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 10), or such other time not later than ten business days after such date as shall be agreed upon by the Representatives and the Company (such time and date of payment and delivery being herein called "Closing Time").

In addition, in the event that any or all of the Option Securities are purchased by the Underwriters, payment of the purchase price for, and delivery of certificates or security entitlements for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Representatives and the Company, on each Date of Delivery as specified in the notice from the Representatives to the Company.

Payment shall be made to the Company by wire transfer of immediately available funds to a bank account designated by the Company against delivery to the Representatives for the respective accounts of the Underwriters of certificates or security entitlements for the Securities to be purchased by them. It is

understood that each Underwriter has authorized the Representatives, for its account, to accept delivery of, receipt for, and make payment of the purchase price for, the Initial Securities and the Option Securities, if any, which it has agreed to purchase. Each of the Representatives, individually and not as representative of the Underwriters, may (but shall not be obligated to) make payment of the purchase price for the Initial Securities or the Option Securities, if any, to be purchased by any Underwriter whose funds have not been received by the Closing Time or the relevant Date of Delivery, as the case may be, but such payment shall not relieve such Underwriter from its obligations hereunder.

SECTION 3. Covenants of the Company. The Company covenants with each Underwriter as follows:

(a) *Compliance with Securities Regulations and Commission Requests*. The Company, subject to Section 3(b), will comply with the requirements of Rule 430A, and will notify the Representatives immediately, and confirm the notice in writing (which may be by email), (i) when any post-effective amendment to the Registration Statement shall become effective or any amendment or supplement to the Prospectus shall have been filed, (ii) of the receipt of any comments from the Commission, (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any preliminary prospectus or the Prospectus, or of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (v) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with the offering of the Securities. The Company will effect all filings required under Rule 424(b), in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof as soon as practicable.

(b) *Continued Compliance with Securities Laws*. The Company will comply with the 1933 Act and the 1933 Act Regulations so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations ("Rule 172"), would be) required by the 1933 Act to be delivered in connection with sales of the Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the 1933 Act or the 1933 Act Regulations, the Company will promptly (A) give the Representatives notice of such event, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the General Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use,

furnish the Representatives with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; provided that the Company shall not file or use any such amendment or supplement to which the Representatives or counsel for the Underwriters shall object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request. The Company has given the Representatives notice of any filings made pursuant to the 1934 Act or the rule and regulations of the Commission under the 1934 Act (the "1934 Act Regulations") within 48 hours prior to the Applicable Time; the Company will give the Representatives notice of its intention to make any such filing from the Applicable Time to the Closing Time and will furnish the Representatives with copies of any such documents a reasonable amount of time prior to such proposed filing, as the case may be, and will not file or use any such document to which the Representatives or counsel for the Underwriters shall reasonably object.

(c) *Delivery of Registration Statements*. The Company has furnished or will deliver to the Representatives and counsel for the Underwriters, if requested, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith) and signed copies of all consents and certificates of experts, and will also deliver to the Representatives, if requested, without charge, a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) for each of the Underwriters. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(d) *Delivery of Prospectuses*. The Company has delivered to each Underwriter, without charge, as many copies of each preliminary prospectus as such Underwriter reasonably requested, and the Company hereby consents to the use of such copies for purposes permitted by the 1933 Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(e) *Blue Sky Qualifications*. The Company will use its reasonable best efforts, in cooperation with the Underwriters, to qualify the Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representatives may designate and to maintain such qualifications in effect so long as required to complete the distribution of the Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(f) *Rule 158*. The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Underwriters the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(g) *Use of Proceeds*. The Company will use the net proceeds received by it from the sale of the Securities in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under "Use of Proceeds."

(h) *Listing*. The Company will use its reasonable best efforts to effect and maintain the listing of the Common Stock (including the Securities) on the Nasdaq Global Select Market.

(i) *Restriction on Sale of Securities*. During a period of 180 days from the date of the Prospectus, the Company will not, without the prior written consent of the Representatives, (i) directly or indirectly, 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 or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or file or confidentially submit any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Securities to be sold hereunder, (B) any shares of Common Stock issued by the Company upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued or options to purchase Common Stock granted pursuant to existing employee benefit plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (D) any shares of Common Stock issued pursuant to any non-employee director stock plan or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (E) the issuance of securities in connection with the acquisition by the Company of the securities, businesses, property or other assets of another person or entity or pursuant to any employee benefit plan assumed by the Company in connection with any such acquisition, or (F) the issuance of securities in connection with joint ventures, commercial relationships, or other strategic transactions; provided that, (x) in the case of clauses (E) and (F), the aggregate number of shares issued in all such acquisitions and transactions taken together does not exceed 5% of the Company's outstanding common stock following the offering of Common Stock contemplated by this Agreement and (y) each person to whom such shares or securities are issued or granted pursuant to clauses (B), (C), (D), (E) and (F) during the 180-day restriction period described above executes or has executed a "lock-up" agreement in the form of Exhibit A hereto.

(j) If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up agreement described in Section 5(i) hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit B hereto through a major news service at least two business days before the effective date of the release or waiver.

(k) *Reporting Requirements*. The Company, during the period when a Prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods required by the 1934 Act and 1934 Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Securities as may be required under Rule 463 under the 1933 Act.

(l) *Issuer Free Writing Prospectuses*. The Company agrees that, unless it obtains the prior written consent of the Representatives, it will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a "free writing prospectus," or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Representatives will be deemed to have consented to the Issuer Free Writing Prospectuses listed on Schedule B-2 hereto and any "road show that is a written

communication" within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representatives. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Representatives as an "issuer free writing prospectus," as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(m) *Certification Regarding Beneficial Owners*. The Company will deliver to the Representatives, on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as the Representatives may reasonably request in connection with the verification of the foregoing certification.

(n) Testing-the-Waters Materials. If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(o) Emerging Growth Company Status. The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Securities within the meaning of the 1933 Act and (ii) completion of the 180-day restricted period referred to in Section 3(i).

(p) Compliance with FINRA Rules. The Company hereby agrees that it will ensure that the Reserved Securities will be restricted as required by FINRA or the FINRA rules from sale, transfer, assignment, pledge or hypothecation for a period of three months following the date of this Agreement. The Underwriters will notify the Company as to which persons will need to be so restricted. At the request of the Underwriters, the Company will direct the transfer agent to place a stop transfer restriction upon such securities for such period of time. Should the Company release, or seek to release, from such restrictions any of the Reserved Securities, the Company agrees to reimburse the Underwriters for any reasonable expenses (including, without limitation, legal expenses) they incur in connection with such release.

SECTION 4. Payment of Expenses.

(a) *Expenses*. The Company will pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Underwriters of copies of each preliminary prospectus, each Issuer Free Writing Prospectus and the Prospectus and any amendments or

supplements thereto and any reasonable costs associated with electronic delivery of any of the foregoing by the Underwriters to investors, (iii) the preparation, issuance and delivery of the certificates or security entitlements for the Securities to the Underwriters, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Securities to the Underwriters, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors, (v) the qualification of the Securities under securities laws in accordance with the provisions of Section 3(e) hereof, including filing fees and the reasonable fees and disbursements of counsel for the Underwriters in connection therewith and in connection with the preparation of the Blue Sky Survey and any supplement thereto, (vi) the fees and expenses of any transfer agent or registrar for the Securities, (vii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the Securities, including without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations, travel and lodging expenses of the representatives and officers of the Company and any such consultants, and the cost of aircraft and other transportation chartered in connection with the road show (provided, however, that the cost of any chartered plane in connection with any "road show" presentation to potential investors shall be paid 50% by the Company and 50% by the Underwriters), (viii) the filing fees incident to, and the reasonable fees and disbursements of counsel to the Underwriters in connection with, the review by FINRA of the terms of the sale of the Securities up to a maximum of $40,000, (ix) the fees and expenses incurred in connection with the listing of the Securities on the Nasdaq Global Select Market, (x) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation contained in the third sentence of Section 1(a)(ii) and (xi) all costs and expenses of the Underwriters, including the fees and disbursements of counsel for the Underwriters, in connection with matters related to the Reserved Securities which are designated by the Company for sale to Invitees. It is understood, however, that except as provided in this Section 4 or Section 6 hereof, the Underwriters will pay their own costs and expenses, including the fees and disbursements of their counsel, stock transfer taxes payable on the resale of any of the Securities owned by them, any advertising expenses connected with any offers they may make and all travel (except as set forth in clause (vii) above), lodging and other expenses of the Underwriters or any of their employees, incurred by them in connection with any "road show" presentation to potential investors.

(b) *Termination of Agreement*. If this Agreement is terminated by the Representatives in accordance with the provisions of Section 5, Section 9(a)(i) or (iii) or Section 10 hereof, the Company shall reimburse the non-defaulting Underwriters for all of their reasonable out-of-pocket expenses that were actually incurred, including the reasonable fees and disbursements of counsel for the Underwriters.

SECTION 5. Conditions of Underwriters' Obligations. The obligations of the several Underwriters hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company delivered pursuant to the provisions hereof, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a) *Effectiveness of Registration Statement; Rule 430A Information*. The Registration Statement, including any Rule 462(b) Registration Statement, has become effective and, at the Closing Time, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated; and the Company has complied with each request (if any) from the Commission for additional information. A prospectus containing the Rule 430A Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) without reliance on Rule 424(b)(8) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430A.

(b) *Opinion and Negative Assurance Letter of Counsel for Company*. At the Closing Time, the Representatives shall have received the favorable opinion and negative assurance letter, dated the Closing Time, of Orrick, Herrington & Sutcliffe, LLP, counsel for the Company, in the form and substance satisfactory to counsel for the Underwriters previously agreed upon by the Representatives and such counsel, together with signed or reproduced copies of such letter for each of the other Underwriters.

(c) *Opinion of Intellectual Property Counsel for Company*. At the Closing Time, the Representatives shall have received the favorable opinion, dated the Closing Time, of Kilpatrick, Townsend & Stockton LLP, counsel for the Company with respect to intellectual property matters, in the form and substance satisfactory to counsel for the Underwriters previously agreed upon by the Representatives and such counsel, together with signed or reproduced copies of such letter for each of the other Underwriters.

(d) *Opinion of Counsel for Underwriters*. At the Closing Time, the Representatives shall have received the opinion, dated the Closing Time, of Latham & Watkins LLP, counsel for the Underwriters, in the form and substance reasonably satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters.

(e) *Officers' Certificate*. At the Closing Time, there shall not have been, since the date hereof or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company, whether or not arising in the ordinary course of business, and the Representatives shall have received a certificate of the Chief Executive Officer or the President of the Company and of the chief financial or chief accounting officer of the Company, dated the Closing Time, to the effect that (i) there has been no such material adverse change, (ii) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made at and as of the Closing Time, (iii) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied at or prior to the Closing Time, and (iv) no stop order suspending the effectiveness of the Registration Statement under the 1933 Act has been issued, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or contemplated.

(f) *Accountant's Comfort Letter*. At the time of the execution of this Agreement, the Representatives shall have received from BDO USA, LLP a letter, dated such date, in form and substance satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(g) *Bring-down Comfort Letter*. At the Closing Time, the Representatives shall have received from BDO USA, LLP a letter, dated as of the Closing Time, to the effect that they reaffirm the statements made in the letter furnished pursuant to subsection (g) of this Section, except that the specified date referred to shall be a date not more than three business days prior to the Closing Time.

(h) *Approval of Listing*. At the Closing Time, the Securities shall have been approved for listing on the Nasdaq Global Select Market, subject only to official notice of issuance.

(i) *No Objection*. FINRA has confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Securities.

(j) *Lock-up Agreements*. At the date of this Agreement, the Representatives shall have received an agreement substantially in the form of Exhibit A hereto signed by (i) each of the Company's directors and officers and (ii) each holder of shares of Common Stock or any security convertible or exercisable for shares of Common Stock, except for any such holder listed on Schedule C hereto.

(k) *Maintenance of Rating*. The Company does not have any debt securities or preferred stock that are rated by any "nationally recognized statistical rating agency" (as defined in Section 3(a)(62) of the 1934 Act).

(l) *Conditions to Purchase of Option Securities*. In the event that the Underwriters exercise their option provided in Section 2(b) hereof to purchase all or any portion of the Option Securities, the representations and warranties of the Company contained herein and the statements in any certificates furnished by the Company hereunder shall be true and correct as of each Date of Delivery and, at the relevant Date of Delivery, the Representatives shall have received:

(i) Officers' Certificate. A certificate, dated such Date of Delivery, of the President or a Vice President of the Company and of the chief financial or chief accounting officer of the Company confirming that the certificate delivered at the Closing Time pursuant to Section 5(f) hereof remains true and correct as of such Date of Delivery.

(ii) Opinion and Negative Assurance Letter of Counsel for Company. If requested by the Representatives, the favorable opinion and negative assurance letter of Orrick, Herrington & Sutcliffe, LLP, counsel for the Company, in form and substance satisfactory to counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(b) hereof.

(iii) Opinion of Intellectual Property Counsel for Company. If requested by the Representatives, the favorable opinion of Kilpatrick, Townsend & Stockton LLP, counsel for the Company with respect to intellectual property matters, in form and substance satisfactory to counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(d) hereof.

(iv) Opinion of Counsel for Underwriters. If requested by the Representatives, the opinion of Latham & Watkins LLP, counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(e) hereof.

(v) Bring-down Comfort Letter. If requested by the Representatives, a letter from BDO USA, LLP, in form and substance satisfactory to the Representatives and dated such Date of Delivery, substantially in the same form and substance as the letter furnished to the Representatives pursuant to Section 5(g) hereof, except that the "specified date" in the letter furnished pursuant to this paragraph shall be a date not more than three business days prior to such Date of Delivery.

(m) *Additional Documents*. At the Closing Time and at each Date of Delivery (if any) counsel for the Underwriters shall have been furnished with such documents and opinions as they may reasonably require for the purpose of enabling them to pass upon the issuance and sale of the Securities as herein contemplated, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Securities as herein contemplated shall be reasonably satisfactory in form and substance to the Representatives and counsel for the Underwriters.

(n) *Termination of Agreement*. If any condition specified in this Section shall not have been fulfilled when and as required to be fulfilled, this Agreement, or, in the case of any condition to the purchase of Option Securities on a Date of Delivery which is after the Closing Time, the obligations of the several Underwriters to purchase the relevant Option Securities, may be terminated by the Representatives by notice to the Company at any time at or prior to Closing Time or such Date of Delivery, as the case may be, and such termination shall be without liability of any party to any other party except as provided in Section 4 and except that Sections 1, 6, 7, 8, 14, 15, 16 and 17 shall survive any such termination and remain in full force and effect.

SECTION 6. Indemnification.

(a) *Indemnification of Underwriters*. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates (as such term is defined in Rule 501(b) under the 1933 Act (each, an "Affiliate")), its selling agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including the Rule 430A Information, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto), or (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Securities ("Marketing Materials"), including any roadshow or investor presentations made to investors by the Company (whether in person or electronically), or the omission or alleged omission in any preliminary prospectus, Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, Prospectus or in any Marketing Materials of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by the Representatives), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

(b) *Indemnification of Company, Directors and Officers*. Each Underwriter severally agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act, against any and all loss, liability, claim, damage and expense described in the indemnity contained in subsection (a) of this Section, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

(c) *Actions against Parties; Notification*. Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) above, counsel to the indemnified parties shall be selected by the Representatives, and, in the case of parties indemnified pursuant to Section 6(b) above, counsel to the indemnified parties shall be selected by the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for fees and expenses of more than one counsel (in addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse*. If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a)(ii) or settlement of any claim in connection with any violation referred to in Section 6(e) effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(e) *Indemnification for Reserved Securities*. In connection with the offer and sale of the Reserved Securities, the Company agrees to indemnify and hold harmless Merrill Lynch, its Affiliates and selling agents and each person, if any, who controls any of the foregoing (collectively, the "Merrill Lynch Parties") within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any and all loss, liability, claim, damage and expense (including, without limitation, any legal or other expenses reasonably incurred in connection with defending, investigating or settling any such action or claim), as incurred, (i) arising out of the violation of any applicable laws or regulations of foreign jurisdictions where Reserved Securities have been offered, (ii) arising out of any untrue statement or alleged untrue statement of a material fact contained in any prospectus wrapper or other material prepared by or with the consent of the Company for distribution to Invitees in connection with the offering of the Reserved Securities or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, (iii) caused by the failure of any Invitee to pay for and accept delivery of Reserved Securities which have been orally confirmed for purchase by any Invitee by 11:59 P.M. (New York City time) on the date of this Agreement or (iv) related to, or arising out of or in connection with, the offering of the Reserved Securities; provided that no indemnification shall be available under this section (e) for any loss, liability, claim, damage or expense which shall have been finally judicially determined by a court of competent jurisdiction to have been caused primarily by the gross negligence or willful misconduct of the Merrill Lynch Parties. The Company shall reimburse the Underwriters promptly upon demand for any legal or other expenses reasonably incurred by them in connection with investigating or defending or preparing to defend against any such loss, liability, claim, damage or expense as such expenses are incurred.

SECTION 7. Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and of the Underwriters, on the other hand, in connection with the statements or omissions, or in connection with any violation of the nature referred to in Section 6(e) hereof, which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total net proceeds from the offering of the Securities pursuant to this Agreement (before deducting expenses) received by the Company, on the one hand, and the total underwriting discount received by the Underwriters, on the other hand, in each case as set forth on the cover of the Prospectus, bear to the aggregate initial public offering price of the Securities as set forth on the cover of the Prospectus.

The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission or any violation of the nature referred to in Section 6(e) hereof.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, no Underwriter shall be required to contribute any amount in excess of the underwriting commissions received by such Underwriter in connection with the Securities underwritten by it and distributed to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls an Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and each Underwriter's Affiliates and selling agents shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company. The Underwriters' respective obligations to contribute pursuant to this Section 7 are several in proportion to the number of Initial Securities set forth opposite their respective names in Schedule A hereto and not joint.

SECTION 8. Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company and (ii) delivery of and payment for the Securities.

SECTION 9. Termination of Agreement.

(a) *Termination*. The Representatives may terminate this Agreement, by notice to the Company, at any time at or prior to the Closing Time (i) if there has been, in the judgment of the Representatives, since the time of execution of this Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company, whether or not arising in the ordinary course of business, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Representatives, impracticable or inadvisable to proceed with the completion of the offering or to enforce contracts for the sale of the Securities, or (iii) if trading in any securities of the Company has been

suspended or materially limited by the Commission or the Nasdaq Global Select Market, or (iv) if trading generally on the NYSE MKT or the New York Stock Exchange or in the Nasdaq Global Select Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other governmental authority, or (v) a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to Clearstream or Euroclear systems in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(b) *Liabilities*. If this Agreement is terminated pursuant to this Section, such termination shall be without liability of any party to any other party except as provided in Section 4 hereof, and provided further that Sections 1, 6, 7, 8, 14, 15, 16 and 17 shall survive such termination and remain in full force and effect.

SECTION 10. Default by One or More of the Underwriters. If one or more of the Underwriters shall fail at the Closing Time or a Date of Delivery to purchase the Securities which it or they are obligated to purchase under this Agreement (the "Defaulted Securities"), the Representatives shall have the right, within 24 hours thereafter, to make arrangements for one or more of the non-defaulting Underwriters, or any other underwriters, to purchase all, but not less than all, of the Defaulted Securities in such amounts as may be agreed upon and upon the terms herein set forth; if, however, the Representatives shall not have completed such arrangements within such 24-hour period, then:

(i) if the number of Defaulted Securities does not exceed 10% of the number of Securities to be purchased on such date, each of the non-defaulting Underwriters shall be obligated, severally and not jointly, to purchase the full amount thereof in the proportions that their respective underwriting obligations hereunder bear to the underwriting obligations of all non-defaulting Underwriters, or

(ii) if the number of Defaulted Securities exceeds 10% of the number of Securities to be purchased on such date, this Agreement or, with respect to any Date of Delivery which occurs after the Closing Time, the obligation of the Underwriters to purchase, and the Company to sell, the Option Securities to be purchased and sold on such Date of Delivery shall terminate without liability on the part of any non-defaulting Underwriter.

No action taken pursuant to this Section shall relieve any defaulting Underwriter from liability in respect of its default.

In the event of any such default which does not result in a termination of this Agreement or, in the case of a Date of Delivery which is after the Closing Time, which does not result in a termination of the obligation of the Underwriters to purchase and the Company to sell the relevant Option Securities, as the case may be, either the (i) Representatives or (ii) the Company shall have the right to postpone Closing Time or the relevant Date of Delivery, as the case may be, for a period not exceeding seven days in order to effect any required changes in the Registration Statement, the General Disclosure Package or the Prospectus or in any other documents or arrangements. As used herein, the term "Underwriter" includes any person substituted for an Underwriter under this Section 10.

SECTION 11. Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Underwriters shall be directed to the Representatives at Merrill Lynch, Pierce, Fenner & Smith Incorporated, One Bryant Park, New York, New York 10036, attention of Syndicate Department (facsimile: (646) 855-3073), with a copy to ECM Legal (facsimile: (212) 230-8730);

and Credit Suisse Securities (USA) LLC, Eleven Madison Avenue, New York, N.Y. 10010-3629, facsimile: (212) 325-4296, Attention: IBCM-Legal; and notices to the Company shall be directed to it at 269 East Grand Avenue, South San Francisco, CA 94080, Attention: Casey C. Lynch, with a copy to Orrick, Herrington & Sutcliffe LLP, 405 Howard Street, San Francisco, CA 94105, Attention: Andrew D. Thorpe, Esq.

SECTION 12. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the initial public offering price of the Securities and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering of the Securities and the process leading thereto, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and no Underwriter has any obligation to the Company with respect to the offering of the Securities except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering of the Securities and the Company has consulted its own respective legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

SECTION 13. Recognition of the U.S. Special Resolution Regimes.

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

For purposes of this Section 13, a "BHC Act Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). "Covered Entity" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). **"**Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. "U.S. Special Resolution Regime" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

SECTION 14. Parties. This Agreement shall each inure to the benefit of and be binding upon the Underwriters and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Underwriters and the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 and their heirs and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Underwriters and the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Securities from any Underwriter shall be deemed to be a successor by reason merely of such purchase.

SECTION 15. Trial by Jury. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

SECTION 16. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK WITHOUT REGARD TO ITS CHOICE OF LAW PROVISIONS.

SECTION 17. Consent to Jurisdiction; Waiver of Immunity. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby ("Related Proceedings") shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the "Specified Courts"), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court (a "Related Judgment"), as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

SECTION 18. TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

SECTION 19. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement.

SECTION 20. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction hereof.

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement among the Underwriters and the Company in accordance with its terms.

Very truly yours,

CORTEXYME, INC.

By: _____
Name: Casey C. Lynch
Title: President and Chief Executive Officer

CONFIRMED AND ACCEPTED,
as of the date first above written:

MERRILL LYNCH, PIERCE, FENNER & SMITH
INCORPORATED
CREDIT SUISSE SECURITIES (USA) LLC

By: MERRILL LYNCH, PIERCE, FENNER & SMITH
INCORPORATED

By: _____
Authorized Signatory

CREDIT SUISSE SECURITIES (USA) LLC

By: _____
Name:
Title

For themselves and as Representatives of the other Underwriters named in Schedule A hereto.

SCHEDULE A

The initial public offering price per share for the Securities shall be $[•].

The purchase price per share for the Securities to be paid by the several Underwriters shall be $[•], being an amount equal to the initial public offering price set forth above less $[•] per share, subject to adjustment in accordance with Section 2(b) for dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities.

Name of Underwriter	Number of Initial Securities
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Credit Suisse Securities (USA) LLC	
Canaccord Genuity LLC	
JMP Securities LLC	
Total	[•]

SCHEDULE B-1

Pricing Terms

1. The Company is selling [•] shares of Common Stock.

2. The Company has granted an option to the Underwriters, severally and not jointly, to purchase up to an additional [•] shares of Common Stock.

3. The initial public offering price per share for the Securities shall be $[•].

SCHEDULE B-2

Free Writing Prospectuses

[SPECIFY EACH ISSUER GENERAL USE FREE WRITING PROSPECTUS]

SCHEDULE C

List of Persons and Entities Not Subject to Lock-up

SCHEDULE D

Written Testing-the-Waters Communications

- Company TTW Presentations, each dated [•], 2019 or [•], 2019.

_____, 20__

Merrill Lynch, Pierce, Fenner & Smith
Incorporated,
Credit Suisse Securities (USA) LLC

as Representative(s) of the several
Underwriters to be named in the
within-mentioned Underwriting Agreement

c/o Merrill Lynch, Pierce, Fenner & Smith
Incorporated
One Bryant Park
New York, New York 10036

and

c/o Credit Suisse Securities (USA) LLC
Eleven Madison Avenue
New York, N.Y. 10010-3629

Re: Proposed Public Offering by Cortexyme, Inc.

Ladies and Gentlemen:

The undersigned, a stockholder of Cortexyme, Inc., a Delaware corporation (the "Company"), understands that Merrill Lynch, Pierce, Fenner & Smith Incorporated ("Merrill Lynch") and Credit Suisse Securities (USA) LLC (together, the "Representatives") propose to enter into an Underwriting Agreement (the "Underwriting Agreement") with the Company providing for the public offering (the "Public Offering") of shares of the Company's common stock, par value $0.001 per share (the "Common Stock"). In recognition of the benefit that such an offering will confer upon the undersigned as a stockholder of the Company, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each underwriter to be named in the Underwriting Agreement that, during the period beginning on the date hereof and continuing through, and including, the 180th day from the date of the Underwriting Agreement (the "Lock-Up Period"), the undersigned will not, without the prior written consent of the Representatives, (i) directly or indirectly, 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 or otherwise transfer or dispose of any shares of the Company's Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (collectively, the "Lock-Up Securities"), or exercise any right with respect to the registration of any of the Lock-Up Securities, or file, cause to be filed or cause to be confidentially submitted any registration statement in connection therewith, under the Securities Act of 1933, as amended, or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Lock-Up Securities, whether any such swap or transaction is to be settled by delivery of Common Stock or other securities, in cash or otherwise.

If the undersigned is an officer or director of the Company, (1) the Representatives agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of the Common Stock, the Representatives will notify the Company of the impending release or waiver, and (2) the Company will agree in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the Representatives hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (i) the release or waiver is effected solely to permit a transfer not for consideration and (ii) the transferee has agreed in writing to be bound by the same terms described in this letter to the extent and for the duration that such terms remain in effect at the time of the transfer.

Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Lock-Up Securities without the prior written consent of the Representatives,

(a) provided that (1) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each donee, trustee, distributee, or transferee, as the case may be, (2) any such transfer shall not involve a disposition for value, (3) such transfers are not required to be reported with the Securities and Exchange Commission on Form 4 in accordance with Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and (4) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers:

(i) as a *bona fide* gift or gifts; or

(ii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this lock-up agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin); or

(iii) if the undersigned is a trust, to the trustor or beneficiary of such trust or to the estate of a beneficiary of such trust; or

(iv) as a distribution to partners, members or stockholders of the undersigned; or

(v) to the undersigned's affiliates or to any investment fund or other entity controlled or managed by, controlling or managing, or under common control with, the undersigned.

(b) provided that (1) the Representatives receive a signed lock-up agreement for the balance of the Lock-Up Period from each donee, trustee, distributee, or transferee (excluding the Company), as the case may be, (2) any such transfer shall not involve a disposition for value, (3) any filing under the Exchange Act required to be made during the Lock-Up Period shall clearly indicate in the footnotes thereto that the filing relates to circumstances described below, as applicable:

(i) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or any immediate family of the undersigned; or

(ii) pursuant to a court or regulatory agency order, a qualified domestic order or in connection with a divorce settlement; or

(iii) to the Company (or surrender such Lock-Up Securities to the Company) pursuant to any contractual arrangement that provides the Company with an option to repurchase such Lock-Up Securities in connection with the termination of the undersigned's employment or other service relationship with the Company, or pursuant to a right of first refusal with respect to transfers of such Lock-Up Securities, or on a cashless or "net exercise" basis or to cover tax withholding obligations of the undersigned in connection with the vesting or exercise of such Lock-Up Securities.

Notwithstanding anything herein to the contrary, nothing herein shall prevent the undersigned from (i) exercising any outstanding warrant, or any option to purchase shares granted under any stock incentive plan or stock purchase plan of the Company, provided that the underlying shares shall continue to be subject to the restrictions on transfer set forth in this lock-up agreement, (ii) establishing a 10b5-1 trading plan that complies with Rule 10b5-1 under the Exchange Act (a "10b5-1 Trading Plan"), or from amending an existing 10b5-1 Trading Plan, so long as there are no sales of Lock-Up Securities under such plan during the Lock-Up Period; and provided that the establishment of a 10b5-1 Trading Plan or the amendment of a 10b5-1 Trading Plan, in either case, providing for sales of Lock-Up Securities shall only be permitted if (1) the establishment or amendment of such plan is not required to be reported in any public report or filing with the Securities and Exchange Commission, or otherwise, and (2) the undersigned does not otherwise voluntarily effect any public filing or report regarding the establishment or amendment of such plan or (iii) transferring Lock-Up Securities pursuant to a *bona fide* third party tender offer, merger, consolidation or other similar transaction made to all holders of Common Stock and involving a Change of Control of the Company, provided that in the event that the tender offer, merger, consolidation or other such transaction is not complete, the Lock-Up Securities owned by the undersigned shall remain subject to the restrictions contained in this lock-op agreement (for purposes of this lock-up agreement, "Change of Control" shall mean the consummation of any *bona fide* third party tender offer, merger consolidation or other similar transaction the result of which is that any "person" (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of more than 50% of the total voting power of the voting stock of the Company.

Furthermore, the undersigned may sell shares of Common Stock of the Company: (i) pursuant to the Underwriting Agreement; or (ii) purchased by the undersigned in the Public Offering or on the open market following the Public Offering if and only if (1) such sales are not required to be reported in any public report or filing with the Securities and Exchange Commission, or otherwise and (2) the undersigned does not otherwise voluntarily effect any public filing or report regarding such sales

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the Lock-Up Securities except in compliance with the foregoing restrictions.

The undersigned understands that, if either the Representatives, on the one hand, or the Company, on the other hand, informs the other, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Public Offering, or if the Underwriting Agreement is not duly executed by October 31, 2019, or if the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder, the undersigned shall be released from all obligations under this lock-up agreement.

[*Signature Page Follows*]

Very truly yours,

Signature: _____

Print Name: _____

[*Signature Page to Lock-Up Agreement*]

FORM OF PRESS RELEASE
TO BE ISSUED PURSUANT TO SECTION 3(j)

CORTEXYME, INC.
[Date]

CORTEXYME, INC. (the "Company") announced today that BofA Merrill Lynch and Credit Suisse, the representatives of the several underwriters in the Company's recent public sale of [•] shares of common stock, is [waiving] [releasing] a lock-up restriction with respect to shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on , 20 , and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF CORTEXYME, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Cortexyme, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

1. That the name of this corporation is Cortexyme, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on June 20, 2012 under the name Cortexyme, Inc.

2. That the Board of Directors duly adopted resolutions proposing to amend and restate the Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Cortexyme, Inc. (the "**Corporation**").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: Immediately upon the effective time of this Amended and Restated Certificate of Incorporation (the "**Effective Time**"), (i) each one (1) share of the Corporation's Common Stock then outstanding, par value $0.001 per share, shall be and hereby is automatically converted and reconstituted into 0.367647 of a share of Common Stock, par value $0.001 per share, which shall be fully paid and nonassessable; (ii) each one (1) share of the Corporation's Series A Preferred Stock then outstanding, par value $0.001 per share, shall be and hereby is automatically converted and reconstituted into 0.367647 of a share of Series A Preferred Stock, par value $0.001 per share, which shall be fully paid and nonassessable; and (iii) each one (1) share of the Corporation's Series B Preferred Stock then outstanding, par value $0.001 per share, shall be and hereby is automatically converted and reconstituted into 0.367647 of a share of Series B Preferred Stock, par value $0.001 per share, which shall be fully paid and nonassessable, in each case without any action on the part of the holders of such shares (the

"**Reverse Stock Split**"). No fractional shares shall be issued upon the Reverse Stock Split of any share or shares of the Common Stock, Series A Preferred Stock or Series B Preferred Stock and, in lieu of issuing fractional shares upon the Reverse Stock Split, the Corporation shall pay each holder the fair value, as of the Effective Time, of the fractional shares that would otherwise be issued upon the Reverse Stock Split. Whether or not fractional shares would have been issuable (but for the preceding sentence) upon the Reverse Stock Split shall be determined on the basis of the total number of shares represented by each stock certificate. Each outstanding stock certificate of the Corporation, which, immediately prior to the Effective Time, represents one or more shares of the Corporation's capital stock shall thereafter be deemed to represent the appropriate number of shares of the Corporation's capital stock, taking into account the Reverse Stock Split, until such stock certificate is exchanged for a new stock certificate, if such shares are certificated, or if the shares are uncertificated, the stock records maintained by the Company shall be appropriately adjusted to reflect the number of shares resulting from the Reverse Stock Split. All share amounts, amounts per share and per share numbers hereinafter set forth in this Amended and Restated Certificate of Incorporation have been appropriately adjusted to reflect the Reverse Stock Split.

The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 24,794,114 shares of Common Stock, $0.001 par value per share ("**Common Stock**") and (ii) 18,439,076 shares of Preferred Stock, $0.001 par value per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings). The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one or more series of Preferred Stock that may be required by the terms of the Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

9,008,931 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series A Preferred Stock**" and 9,430,145 shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "**Series B Preferred Stock**", each with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. Unless otherwise indicated, references to "sections" or "subsections" in this Part B of this Article Fourth refer to sections and subsections of Part B of this Article Fourth.

1. Dividends. The holders of shares of Preferred Stock shall be entitled to receive dividends, out of any assets legally available therefor, prior and in preference to any declaration or payment of any dividend (payable other than in Common Stock or other securities and rights convertible into or entitling the holder thereof to receive, directly or indirectly, additional shares of Common Stock of the Corporation) on the Common Stock of the Corporation, at the rate of $0.1526 per share (as adjusted for stock splits, stock dividends, reclassification and the like) per annum on each outstanding share of Series A Preferred Stock, then held by them and $0.7692 per share (as adjusted for stock splits, stock dividends, reclassification and the like) per annum on each outstanding share of Series B Preferred Stock, then held by them; payable when, as and if declared by the Board of Directors of the Corporation, calculated on the record date for determination of holders entitled to such dividend. Such dividends shall not be cumulative. After payment of such dividends, any additional dividends shall be distributed among the holders of Preferred Stock and Common Stock pro rata based on the number of shares of Common Stock then held by each holder (assuming conversion of all such Preferred Stock into Common Stock), calculated on the record date for determination of holders entitled to such dividend.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to the Original Issue Price applicable to such share, plus any dividends declared but unpaid thereon. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Preferred Stock the full amount to which they shall be entitled under this Section 2.1, the holders of shares of Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. The "**Original Issue Price**" shall mean with respect to the Series A Preferred Stock $1.9067 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization, and with respect to the Series B Preferred Stock $9.6122 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization.

2.2 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Preferred Stock the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Preferred Stock and Common Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the

terms of the Certificate of Incorporation immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event; provided, however, that if the aggregate amount which each holder of Preferred Stock is entitled to receive under Sections 2.1 and 2.2 shall exceed an amount per share equal to two times the applicable Original Issue Price in respect of such share (the "**Maximum Participation Amount**"), each holder of Preferred Stock shall be entitled to receive upon such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event the greater of (i) the Maximum Participation Amount and (ii) the amount such holder would have received if all shares of the applicable series of Preferred Stock had been converted into Common Stock immediately prior to such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event. The aggregate amount which a holder of a share of Preferred Stock is entitled to receive under Sections 2.1 and 2.2 in respect of such share is hereinafter referred to as the "**Liquidation Amount**."

2.3 Deemed Liquidation Events.

2.3.1 Definition. Each of the following events shall be considered a "**Deemed Liquidation Event**" unless the holders of at least 60% of the outstanding shares of Preferred Stock, voting as a single class on an as-converted basis, elect otherwise by written notice sent to the Corporation:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise, and whether in a single transaction or a series of related transactions) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation;

provided, that none of the following shall be considered a Deemed Liquidation Event: (A) a merger effected exclusively for the purpose of changing the domicile of the Corporation or (B) a bona fide equity financing for capital raising purposes in which the Corporation is the surviving corporation.

2.3.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Section 2.3.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the "**Merger Agreement**") provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1 and 2.2.

(b) In the event of a Deemed Liquidation Event referred to in Section 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause; (ii) to require the redemption of such shares of Preferred Stock; and (iii) if the holders of at least 60% of the then outstanding shares of Preferred Stock, voting as a single class on an as-converted basis, so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation)**,** together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "**Available Proceeds**"), on the one hundred fiftieth (150th) day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the Liquidation Amount applicable to such share. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Preferred Stock, the Corporation shall ratably redeem each holder's shares of Preferred Stock, in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full, to the fullest extent of such Available Proceeds, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. The provisions of Section 6 shall apply, with such necessary changes in the details thereof as are necessitated by the context, to the redemption of the Preferred Stock pursuant to this Section 2.3.2(b). Prior to the distribution or redemption provided for in this Section 2.3.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event.

2.3.3 Amount Deemed Paid or Distributed. If the amount deemed paid or distributed under this Section 2 is made in property other than in cash, the value of such property shall be the fair market value of such property, determined as follows:

(a) For securities not subject to investment letters or other similar restrictions on free marketability,

(i) if traded on a securities exchange, the value shall be deemed to be the average of the closing prices of the securities on such exchange or market over the thirty (30) day period ending three (3) days prior to the closing of such transaction;

(ii) if actively traded over-the-counter, the value shall be deemed to be the average of the closing bid prices over the thirty (30) day period ending three (3) days prior to the closing of such transaction; or

(iii) if there is no active public market, the value shall be the fair market value thereof, as determined in good faith by the Board of Directors of the Corporation.

(b) The method of valuation of securities subject to investment letters or other similar restrictions on free marketability (other than restrictions arising solely by virtue of a stockholder's status as an affiliate or former affiliate) shall take into account an appropriate discount (as determined in good faith by the Board of Directors of the Corporation) from the market value as determined pursuant to clause (a) above so as to reflect the approximate fair market value thereof.

2.3.4 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Section 2.3.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional Consideration**"), the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial Consideration**") shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Section 2.3.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of

Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of the Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class on an as-converted basis.

3.2 Election of Directors.

3.2.1 The holders of record of the shares of Preferred Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation (the "**Preferred Directors**") and the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation (the "**Common Directors**"). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Preferred Stock or Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Section 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Preferred Stock or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Section 3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Section 3.2.

3.2.2 Notwithstanding the provisions of Section 223(a)(1) and 223(a)(2) of the Delaware General Corporation Law, any vacancy, including newly created directorships resulting from any increase in the authorized number of directors or amendment of this Certificate of Incorporation, and vacancies created by removal or resignation of a director, may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced; provided, however, that where such vacancy occurs among the directors elected by the holders of a class or series of stock, the holders of shares of such class or series may override the Board of Directors' action to fill such vacancy by (i) voting for their own designee to fill such vacancy at a meeting of the Corporation's stockholders or (ii) written consent, if the consenting stockholders hold a sufficient number of shares to elect their designee at a meeting of the stockholders. Any director

may be removed during his or her term of office, either with or without cause, by, and only by, the affirmative vote of the holders of the shares of the class or series of stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders, and any vacancy thereby created may be filled by the holders of that class or series of stock represented at the meeting or pursuant to written consent.

3.3 Protective Provisions. At any time when at least 735,294 shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or the Certificate of Incorporation) the written consent or affirmative vote of the holders of at least 60% of the then outstanding shares of Preferred Stock given in writing or by vote at a meeting, consenting or voting (as the case may be) exclusively and voting together as a single class on an as-converted basis, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.3.1 liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;

3.3.2 amend, alter or repeal any provision of the Certificate of Incorporation or Bylaws of the Corporation;

3.3.3 create, or authorize the creation of, or issue any additional class or series of capital stock unless the same ranks junior to each series of Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the payment of dividends and rights of redemption, or increase the authorized number of shares of Preferred Stock or increase the authorized number of shares of any additional class or series of capital stock unless the same ranks junior to each series of Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the payment of dividends and rights of redemption;

3.3.4 (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with any series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to any series of Preferred Stock in respect of any such right, preference, or privilege or (ii) reclassify, alter or amend any existing security of the Corporation that is junior to each series of Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with any series of Preferred Stock in respect of any such right, preference or privilege;

3.3.5 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital

stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, and (ii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof;

3.3.6 create, or authorize the creation of, or issue, or authorize the issuance of any debt security, or permit any subsidiary to take any such action with respect to any debt security, or otherwise incur any indebtedness, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed $250,000, unless such debt security has received the prior approval of the Board of Directors, including the approval of at least one Preferred Director;

3.3.7 increase or decrease the authorized number of shares of Preferred Stock;

3.3.8 amend or adopt any equity compensation plans or arrangements, unless such plan or arrangement has received the prior approval of the Board of Directors, including the approval of at least one Preferred Director;

3.3.9 increase or decrease the authorized number of directors constituting the Board of Directors; or

3.3.10 create, or hold capital stock in, any subsidiary that is not wholly owned (either directly or through one or more other subsidiaries) by the Corporation, or sell, transfer or otherwise dispose of any capital stock of any direct or indirect subsidiary of the Corporation, or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary.

4. Optional Conversion.

The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the Original Issue Price applicable to such share by the Conversion Price (as defined below) in respect of such share in effect at the time of conversion. The "**Conversion Price**" in respect of each share of Preferred Stock shall initially be equal to the Original Issue Price applicable to such share. Such initial Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a notice of redemption of any shares of Preferred Stock pursuant to Section 6, the Conversion Rights of the shares designated for redemption shall terminate at the close of business on the last full day preceding the date fixed for redemption, unless the redemption price is not fully paid on such redemption date, in which case the Conversion Rights for such shares shall continue until such price is paid in full. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Preferred Stock, the number and series of shares of Preferred Stock to be convered and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by each surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Section 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to the Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price applicable to any share of Preferred Stock below the then par value of the shares of Common Stock issuable upon conversion of the Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Section 4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price applicable to any shares of Preferred Stock so converted shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) "**Original Issue Date**" shall mean the date on which the first share of Series B Preferred Stock was issued.

(c) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Section 4.4.3 below, deemed to be issued) by the Corporation after the Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Section 4.5, 4.6, 4.7 or 4.8;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation, including the approval of at least one Preferred Director;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security;

(v) shares of Common Stock, Options or Convertible Securities issued to (A) actual or potential suppliers or customers, or

strategic partners as consideration for a commercial or strategic relationship with the Corporation, or (B) banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction, loans, credit lines, guaranties of indebtedness, cash price reductions or similar transactions, in each case as approved by the Board of Directors of the Corporation, including the approval of at least one Preferred Director;

(vi) shares of Common Stock issued pursuant to a public offering of securities by the Corporation in which all of the shares of Preferred Stock will be converted into Common Stock;

(vii) shares of Common Stock issued or issuable upon conversion of the Preferred Stock; or

(viii) shares of Common Stock, Options or Convertible Securities issued as consideration for sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors of the Corporation, including the approval of at least one Preferred Director.

4.4.2 No Adjustment of Conversion Price. No adjustment in the Conversion Price applicable to any share of Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least 60% of the then outstanding shares of Preferred Stock, voting as a single class on an as-converted basis, agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options

or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price applicable to any share of Preferred Stock pursuant to the terms of Section 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the applicable Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price in respect of such Preferred Stock as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Conversion Price applicable to any share of Preferred Stock to an amount which exceeds the lower of (i) the Conversion Price in respect of such share of Preferred Stock in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Conversion Price in respect of such share of Preferred Stock that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price applicable to any share of Preferred Stock pursuant to the terms of Section 4.4.4 (either because the consideration per share (determined pursuant to Section 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Conversion Price in respect of such Preferred Stock then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Section 4.4.3(a) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price applicable to any share of Preferred Stock pursuant to the terms of Section 4.4.4, the applicable Conversion Price shall be readjusted to such Conversion Price in respect of such Preferred Stock as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Conversion Price applicable to any share of Preferred Stock provided for in this Section 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Section 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Conversion Price applicable to any share of Preferred Stock that would result under the terms of this Section 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the applicable Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 4.4.3), without consideration or for a consideration per share less than the Conversion Price applicable to any share of Preferred Stock in effect immediately prior to such issuance or deemed issuance, then the applicable Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the Conversion Price in respect of such share of Preferred Stock in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP_1" shall mean the Conversion Price in respect of such share of Preferred Stock in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued or deemed issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Section 4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing:

(i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price applicable to any share of Preferred Stock pursuant to the terms of Section 4.4.4, then, upon the final such issuance, the applicable Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price applicable to any share of Preferred Stock in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Conversion Price applicable to any share of Preferred Stock in effect immediately before the combination shall be proportionately

increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this subsection shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price applicable to any share of preferred stock in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the applicable Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price applicable to any share of Preferred Stock shall be recomputed accordingly as of the close of business on such record date and thereafter the applicable Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Section 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property

(other than a transaction covered by Sections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of such share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price applicable to any share of Preferred Stock) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price applicable to any share of Preferred Stock pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than fifteen (15) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of such Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which such Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than fifteen (15) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price then in effect in respect of such Preferred Stock, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of such Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer,

dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to each series of Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $40 million of gross proceeds to the Corporation or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of at least 60% of the then outstanding shares of Preferred Stock, voting as a single class on an as-converted basis (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate in respect of such shares of Preferred Stock as calculated pursuant to Section 4.1.1. and (ii) such shares may not be reissued by the Corporation.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Section 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Section 5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay cash as

provided in Section 4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

6. Redemption.

6.1 General. Unless prohibited by Delaware or California law governing distributions to stockholders, shares of Preferred Stock shall be redeemed by the Corporation at a price equal to the Original Issue Price applicable to such share, plus all declared but unpaid dividends thereon (the "**Redemption Price**"), in three (3) annual installments commencing not more than sixty (60) days after receipt by the Corporation at any time on or after the seventh anniversary of the Original Issue Date, from the holders of at least 60% of the then outstanding shares of Preferred Stock, voting as a single class on an as-converted basis, of written notice requesting redemption of all shares of Preferred Stock (the "**Redemption Request**"). Upon receipt of a Redemption Request, the Corporation shall apply all of its assets to any such redemption, and to no other corporate purpose, except to the extent prohibited by Delaware or California law governing distributions to stockholders. The date of each such installment shall be referred to as a "**Redemption Date.**" On each Redemption Date, the Corporation shall redeem, on a pro rata basis in accordance with the number of shares of Preferred Stock owned by each holder, that number of outstanding shares of Preferred Stock determined by dividing (i) the total number of shares of Preferred Stock outstanding immediately prior to such Redemption Date by (ii) the number of remaining Redemption Dates (including the Redemption Date to which such calculation applies). If on any Redemption Date Delaware or California law governing distributions to stockholders prevents the Corporation from redeeming all shares of Preferred Stock to be redeemed, the Corporation shall ratably, in proportion to the respective number of shares of Preferred Stock that would be redeemed if all shares of Preferred Stock to be redeemed on such Redemption Date were so redeemed, redeem the maximum number of shares that it may redeem consistent with such law, and shall redeem the remaining shares as soon as it may lawfully do so under such law.

6.2 Redemption Notice. The Corporation shall send written notice of the mandatory redemption (the "**Redemption Notice**") to each holder of record of Preferred Stock not less than forty (40) days prior to each Redemption Date. Each Redemption Notice shall state:

(a) the number of shares and series of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice;

(b) the Redemption Date and the Redemption Price applicable to such shares;

(c) the date upon which the holder's right to convert such shares terminates (as determined in accordance with Section 4.1); and

(d) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, his, her or its certificate or certificates representing the shares of Preferred Stock to be redeemed.

6.3 Surrender of Certificates; Payment. On or before the applicable Redemption Date, each holder of shares of Preferred Stock to be redeemed on such Redemption Date, unless such holder has exercised his, her or its right to convert such shares as provided in Section 4, shall, if a holder of shares in certificated form, surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the Redemption Price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares of Preferred Stock represented by a certificate are redeemed, a new certificate, instrument, or book entry representing the unredeemed shares of Preferred Stock shall promptly be issued to such holder.

6.4 Rights Subsequent to Redemption. If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the Redemption Price payable upon redemption of the shares of Preferred Stock to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that any certificates evidencing any of the shares of Preferred Stock so called for redemption shall not have been surrendered, dividends with respect to such shares of Preferred Stock shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the Redemption Price without interest upon surrender of any such certificate or certificates therefor.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption.

8. Waiver. Any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the holders of at least 60% of the shares of Preferred Stock, voting as a single class on an as-converted basis, then outstanding.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by the Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by the Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

NINTH: To the fullest extent permitted by law, a director of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any repeal or modification of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time of, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to, such repeal or modification.

TENTH: The following indemnification provisions shall apply to the persons enumerated below.

1. Right to Indemnification of Directors and Officers. The Corporation shall indemnify and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "**Indemnified Person**") who was or is made or is threatened to be made a party to or a participant (as a witness or otherwise) any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**"), by reason of the fact that such person, or a person for whom such person is the legal representative, is or was a director or officer of the Corporation, or, while a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) actually and reasonably incurred by such Indemnified Person in such Proceeding. Notwithstanding the preceding sentence, except as otherwise provided in Section 3 of this Article Tenth, the Corporation shall be required to indemnify an Indemnified Person in connection with a Proceeding (or part thereof) commenced by such Indemnified Person only if the commencement of such Proceeding (or part thereof) by the Indemnified Person was authorized in advance by the Board of Directors.

2. Prepayment of Expenses of Directors and Officers. The Corporation shall pay the expenses (including attorneys' fees) actually and reasonably incurred by an Indemnified Person in defending any Proceeding in advance of its final disposition, provided, however, that, to the extent required by law, such payment of expenses in advance of the final disposition of the Proceeding shall be made only upon receipt of an undertaking by the Indemnified Person to repay all amounts advanced if it should be ultimately determined that the Indemnified Person is not entitled to be indemnified under this Article Tenth or otherwise.

3. Claims by Directors and Officers. If a claim for indemnification or advancement of expenses under this Article Tenth is not paid in full within thirty (30) days after a written claim therefor by the Indemnified Person has been received by the Corporation, the Indemnified Person may, but need not, bring an action against the Company in the Delaware Court of Chancery to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expense of prosecuting such claim. In any such action the Corporation shall have the burden of proving that the Indemnified Person is not entitled to the requested indemnification or advancement of expenses under applicable law.

4. Indemnification of Employees and Agents. The Corporation may indemnify and advance expenses to any person who was or is made or is threatened to be made or is otherwise involved in any Proceeding by reason of the fact that such person, or a person for whom such person is the legal representative, is or was an employee or agent of the Corporation or, while an employee or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation or of a partnership, joint venture, limited liability company, trust, enterprise or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with such Proceeding. The ultimate determination of entitlement to indemnification of persons who are non-director or officer employees or agents shall be made in such manner as is determined by the Board of Directors in its sole discretion. Notwithstanding the foregoing sentence, the Corporation shall not be required to indemnify a person in connection with a Proceeding initiated by such person if the Proceeding was not authorized in advance by the Board of Directors.

5. Advancement of Expenses of Employees and Agents. The Corporation may pay the expenses (including attorneys' fees) actually and reasonably incurred by an employee or agent in defending any Proceeding in advance of its final disposition on such terms and conditions as may be determined by the Board of Directors.

6. Non-Exclusivity of Rights. The rights conferred on any person by this Article Tenth shall not be exclusive of any other rights which such person may have or hereafter acquire under any statute, provision of the certificate of incorporation, these by-laws, agreement, vote of stockholders or disinterested directors or otherwise.

7. Other Indemnification. The Corporation shall be the indemnitor of first resort for any director who is entitled to indemnification and advancement pursuant to this Article Tenth (i.e., the Corporation's obligations to indemnify a director or officer shall be primary and any obligation of a current or former third party employer, partnership of which such director or officer is a partner, limited liability company of which such director or officer is a member or affiliate of such director or officer (any such person, an "Indemnitor"), to advance expenses or provide indemnification for the same expenses or liabilities incurred by such director or officer

are secondary) and it shall be required to advance the full amount of expenses incurred by such director or officer and shall be liable for the full amount of expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the Certificate of Incorporation (or any other agreement between the Corporation and such director or officer), without regard to any rights such director or officer may have against any Indemnitor.

8. Insurance. The Board of Directors may, to the full extent permitted by applicable law as it presently exists, or may hereafter be amended from time to time, authorize an appropriate officer or officers to purchase and maintain at the Corporation's expense insurance: (a) to indemnify the Corporation for any obligation which it incurs as a result of the indemnification of directors, officers and employees under the provisions of this Article Tenth; and (b) to indemnify or insure directors, officers and employees against liability in instances in which they may not otherwise be indemnified by the Corporation under the provisions of this Article Tenth.

9. Amendment or Repeal. Any repeal or modification of the foregoing provisions of this Article Tenth shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification. The rights provided hereunder shall inure to the benefit of any Indemnified Person and such person's heirs, executors and administrators.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation.

TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the Delaware General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or

unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

THIRTEENTH: For purposes of Section 500 of the California Corporations Code (to the extent applicable), in connection with any repurchase of shares of Common Stock permitted under this Certificate of Incorporation from employees, officers, directors or consultants of the Company in connection with a termination of employment or services pursuant to agreements or arrangements approved by the Board of Directors (in addition to any other consent required under this Certificate of Incorporation), such repurchase may be made without regard to any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined in Section 500 of the California Corporations Code). Accordingly, for purposes of making any calculation under California Corporations Code Section 500 in connection with such repurchase, the amount of any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined therein) shall be deemed to be zero (0).

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Amended and Restated Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 25th day of April, 2019.

By: /s/ Casey Lynch
Casey Lynch, President

Exhibit 3.2

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

OF

CORTEXYME, INC.

Cortexyme, Inc., a corporation organized and existing under the laws of the State of Delaware (the "***Corporation***"), does hereby certify as follows:

A. The Corporation was originally incorporated, and the original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on June 20, 2012, under the name "Cortexyme, Inc."

B. The Certificate of Incorporation was most recently amended and restated pursuant to an Amended and Restated Certificate of Incorporation filed with the Secretary of State of the State of Delaware on April 25, 2019.

C. This Amended and Restated Certificate of Incorporation (this "***Restated Certificate of Incorporation***") was duly adopted in accordance with Sections 242 and 245 of the General Corporation Law of the State of Delaware, and restates, integrates and further amends the provisions of the Corporation's Certificate of Incorporation, and has been duly approved by the written consent of the stockholders of the Corporation in accordance with Section 228 of the General Corporation Law of the State of Delaware.

D. This Restated Certificate of Incorporation is hereby amended and restated to read in its entirety as follows:

ARTICLE I

The name of the Corporation is Cortexyme, Inc.

ARTICLE II

The address of the registered office of the Corporation in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle, Delaware 19801. The name of its registered agent at such address is The Corporation Trust Company.

ARTICLE III

The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "***General Corporation Law***"). The Corporation is to have a perpetual existence.

ARTICLE IV

Section 1. The total number of shares of all classes of stock that the Corporation has authority to issue is 110,000,000 shares, consisting of two classes: 100,000,000 shares of Common Stock, $0.001 par value per share ("***Common Stock***"), and 10,000,000 shares of Preferred Stock, $0.001 par value per share ("***Preferred Stock***").

Section 2. The Corporation's Board of Directors (the "***Board***") is authorized, subject to any limitations prescribed by the law of the State of Delaware, by resolution or resolutions adopted from time to time, to provide for the issuance of shares of Preferred Stock in one or more series, and, by filing a certificate of designation pursuant to the applicable law of the State of Delaware (the "***Certificate of Designation***"), to establish from time to time the number of shares to be included in each such series, to fix the designation, vesting, powers (including voting powers), preferences and relative, participating, optional or other rights (and the qualifications, limitations or restrictions thereof) of the shares of each such series and to increase (but not above the total number of authorized shares of the class) or decrease (but not below the number of shares of such series then outstanding) the number of shares of any such series. The number of authorized shares of Preferred Stock may also be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the voting power of all the then-outstanding shares of capital stock of the Corporation entitled to vote thereon, without a separate vote of the holders of the Preferred Stock or any series thereof, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law, unless a vote of any such holders is required pursuant to the terms of any Certificate of Designation designating a series of Preferred Stock.

Section 3. Except as otherwise expressly provided in any Certificate of Designation designating any series of Preferred Stock pursuant to the foregoing provisions of this Article IV, (i) any new series of Preferred Stock may be designated, fixed and determined as provided herein by the Board without approval of the holders of Common Stock or the holders of Preferred Stock, or any series thereof, and (ii) any such new series may have powers, preferences and rights, including, without limitation, voting rights, dividend rights, liquidation rights, redemption rights and conversion rights, senior to, junior to or *pari passu* with the rights of the Common Stock, the Preferred Stock or any future class or series of Preferred Stock or Common Stock.

Section 4. Each outstanding share of Common Stock shall entitle the holder thereof to one vote on each matter properly submitted to the stockholders of the Corporation for their vote; *provided, however*, that, except as otherwise required by law, holders of Common Stock shall not be entitled to vote on any amendment to this Restated Certificate of Incorporation (including any Certificate of Designation relating to any series of Preferred Stock) that relates solely to the terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together as a class with the holders of one or more other such series, to vote thereon pursuant to this Restated Certificate of Incorporation (including any Certificate of Designation relating to any series of Preferred Stock).

ARTICLE V

Section 1. The business and affairs of the Corporation shall be managed by or under the direction of the Board, except as otherwise provided by law. In addition to the powers and authority expressly conferred upon them by statute or by this Restated Certificate of Incorporation or the Bylaws of the Corporation (the "***Bylaws***"), the directors are hereby empowered to exercise all such powers and do all such acts and things as may be exercised or done by the Corporation.

Section 2. Subject to the rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances, the total number of directors constituting the Whole Board (as defined below) shall be fixed from time to time exclusively by resolution adopted by a majority of the Whole Board (as defined below). For purposes of this Restated Certificate of Incorporation, the term "***Whole Board***" shall mean the total number of authorized directors whether or not there exist any vacancies in previously authorized directorships.

Section 3. Subject to the special rights of the holders of any series of Preferred Stock to elect directors, the directors shall be divided, with respect to the time for which they severally hold office, into three classes designated as Class I, Class II and Class III, respectively (the "***Classified Board***"). The Board is authorized to assign members of the Board already in office to such classes of the Classified Board, which assignments shall become effective at the same time the Classified Board becomes effective. Directors shall be assigned to each class in accordance with a resolution or resolutions adopted by the Board, with the number of directors in each class to be divided as nearly equal as reasonably possible. The initial term of office of the Class I directors shall expire at the Corporation's first annual meeting of stockholders following the closing of the Corporation's initial public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "***Securities Act***"), relating to the offer and sale of Common Stock to the public (the "***Initial Public Offering Closing***"), the initial term of office of the Class II directors shall expire at the Corporation's second annual meeting of stockholders following the Initial Public Offering Closing and the initial term of office of the Class III directors shall expire at the Corporation's third annual meeting of stockholders following the Initial Public Offering Closing. At each annual meeting of stockholders following the Initial Public Offering Closing, directors elected to succeed those directors of the class whose terms then expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election. In the event of any increase or decrease in the authorized number of directors (a) each director then serving as such shall nevertheless continue as a director of the class of which the director is a member and (b) the newly created or eliminated directorships resulting from such increase or decrease shall be apportioned by the Board among the three classes of directors so as to ensure that no one class has more than one director more than any other class.

Section 4. Each director shall hold office until the annual meeting at which such director's term expires and until such director's successor is elected and qualified, or until such director's earlier death, resignation, disqualification or removal. Any director may resign at any time upon notice to the Corporation given in writing or by any electronic transmission permitted by the Bylaws. Subject to the special rights of the holders of any series of Preferred Stock, no director may be removed from the Board except for cause and only by the affirmative vote of the holders of at least two-thirds (2/3) of the voting power of the then-outstanding shares of capital stock of the Corporation entitled to vote generally in the election of directors voting together as a single class. In the event of any increase or decrease in the authorized number of directors, (a) each director then serving as such shall nevertheless continue as a director of the class of which the director is a member and (b) the newly created or eliminated directorships resulting from such increase or decrease shall be apportioned by the Board among the classes of directors so as to ensure that no one class has more than one director more than any other class. To the extent possible, consistent with the foregoing rule, any newly created directorships shall be added to those classes whose terms of office are to expire at the latest dates following such allocation, and any newly eliminated directorships shall be subtracted from those classes whose terms of office are to expire at the earliest dates following such allocation, unless otherwise provided from time to time by resolution adopted by the Board. No decrease in the authorized number of directors constituting the Board shall shorten the term of any incumbent director.

Section 5. Subject to the special rights of the holders of any series of Preferred Stock to elect directors, any vacancy occurring in the Board for any cause, and any newly created directorship resulting from any increase in the authorized number of directors, shall, unless (a) the Board determines by resolution that any such vacancies or newly created directorships shall be filled by the stockholders or (b) as otherwise provided by law, be filled only by the affirmative vote of a majority of the directors then in office, even if less than a quorum, or by a sole remaining director, and not by the stockholders. Any director elected in accordance with the preceding sentence shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which the director has been assigned expires or until such director's successor shall have been duly elected and qualified, or until such director's earlier death, resignation, disqualification or removal. No decrease in the authorized number of directors shall shorten the term of any incumbent director.

Section 6. Election of directors need not be by written ballot unless the Bylaws shall so provide.

ARTICLE VI

Section 1. To the fullest extent permitted by law, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director. Without limiting the effect of the preceding sentence, if the General Corporation Law is hereafter amended to authorize the further elimination or limitation of the liability of a director, then the liability of a director of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law, as so amended.

Section 2. Neither any amendment nor repeal of this Article VI, nor the adoption of any provision of this Restated Certificate of Incorporation inconsistent with this Article VI, shall eliminate, reduce or otherwise adversely affect any limitation on the personal liability of a director of the Corporation existing at the time of such amendment, repeal or adoption of such an inconsistent provision.

ARTICLE VII

The Board shall have the power to adopt, amend or repeal the Bylaws. Any adoption, amendment or repeal of the Bylaws by the Board shall require the approval of a majority of the Whole Board. The stockholders shall also have power to adopt, amend or repeal the Bylaws; provided, however, that, notwithstanding any other provision of this Restated Certificate of Incorporation (including any Certificate of Designation) or any provision of law that might otherwise permit a lesser or no vote, but in addition to any vote of the holders of any class or series of stock of the Corporation required by applicable law or by this Restated Certificate of Incorporation (including any Preferred Stock issued pursuant to any Certificate of Designation), the affirmative vote of the holders of at least two-thirds (2/3) of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws; provided, further, that if two-thirds (2/3) of the Whole Board has approved such adoption, amendment or repeal of any provisions of the Bylaws, then only the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to adopt, amend or repeal any provision of the Bylaws.

ARTICLE VIII

Section 1. Subject to the rights of any series of Preferred Stock then outstanding, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

Section 2. Special meetings of stockholders of the Corporation may be called only by the Chairperson of the Board of Directors, the Chief Executive Officer, the Lead Independent Director (as defined in the Bylaws) or the Board of Directors acting pursuant to a resolution adopted by a majority of the Whole Board, and may not be called by any other person or persons. Only such business shall be considered at a special meeting of stockholders as shall have been stated in the notice for such meeting.

Section 3. Advance notice of stockholder nominations for the election of directors and of business to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner and to the extent provided in the Bylaws.

ARTICLE IX

Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware, to the fullest extent permitted by law, shall (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), be the sole and exclusive forum for: (a) any derivative action or proceeding brought on behalf of the Corporation; (b) any action asserting a claim of breach of a fiduciary duty owed by, or other wrongdoing by, any director, officer, employee or agent of the Corporation to the Corporation or the Corporation's stockholders; (c) any action asserting a claim against the Corporation arising pursuant to any provision of the General Corporation Law, this Restated Certificate of Incorporation or the Bylaws (as either may be amended from time to time); (d) any action to interpret, apply, enforce or determine the validity of this Restated Certificate of Incorporation or the Bylaws (as either may be amended from time to time); or (e) any action asserting a claim against the Corporation governed by the internal affairs doctrine. This provision would not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended, or any other claim for which the federal courts have exclusive jurisdiction.

Unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action against the Corporation or any director, officer, employee or agent of the Corporation arising under the Securities Act.

Any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and to have consented to the provisions of this Article IX.

ARTICLE X

If any provision of this Restated Certificate of Incorporation shall be held to be invalid, illegal or unenforceable, then such provision shall nonetheless be enforced to the maximum extent possible consistent with such holding and the remaining provisions of this Restated Certificate of Incorporation (including without limitation, all portions of any section of this Restated Certificate of Incorporation containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall remain in full force and effect.

ARTICLE XI

The Corporation reserves the right to amend or repeal any provision contained in this Restated Certificate of Incorporation in the manner prescribed by the laws of the State of Delaware and all rights conferred upon stockholders are granted subject to this reservation; *provided*, *however*, that, notwithstanding any other provision of this Restated Certificate of Incorporation (including any Certificate of Designation) or any provision of law that might otherwise permit a lesser vote or no vote, but in addition to any vote of the holders of any class or series of the stock of the Corporation required by law or by this Restated Certificate of Incorporation (including any Certificate of Designation), and subject to Section 1 and 2 of Article IV, the affirmative vote of the holders of at least two-thirds (2/3) of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend or repeal or adopt any provision inconsistent with this Article XI, Section 2, 3 and 4 of Article IV, or Article V, Article VI, Article VII, Article VIII, Article IX or Article X (the "***Specified Provisions***"); provided, further, that if two-thirds (2/3) of the Whole Board has approved such amendment or repeal of, or any provision inconsistent with, the Specified Provisions, then only the affirmative vote of the holders of at least a majority of the voting power of all of the then-outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend or repeal, or adopt any provision inconsistent with, the Specified Provisions.

IN WITNESS WHEREOF, Cortexyme, Inc. has caused this Restated Certificate of Incorporation to be signed by Casey C. Lynch, a duly authorized officer of the Corporation, on this _____ day of _____, 2019.

Casey C. Lynch
President and Chief Executive Officer

Exhibit 3.4

CORTEXYME, INC.

a Delaware Corporation

AMENDED AND RESTATED BYLAWS

As adopted on _____, 2019
(Effective as of _____, 2019)

CORTEXYME, INC.

a Delaware Corporation

AMENDED AND RESTATED BYLAWS

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CORTEXYME, INC.

a Delaware Corporation

AMENDED AND RESTATED BYLAWS

As adopted on _____, 2019
(Effective as of _____, 2019)

ARTICLE I: STOCKHOLDERS

Section 1.1: Annual Meetings. An annual meeting of stockholders shall be held for the election of directors at such date and time as the Board of Directors of the Corporation (the "***Board***") shall each year fix. The meeting may be held either at a place, within or without the State of Delaware as permitted by the Delaware General Corporation Law (the "***DGCL***"), or by means of remote communication as the Board in its sole discretion may determine. Any proper business may be transacted at the annual meeting.

Section 1.2: Special Meetings. Special meetings of stockholders for any purpose or purposes shall be called in the manner set forth in the Restated Certificate of Incorporation of the Corporation (as the same may be amended and/or restated from time to time, the "***Certificate of Incorporation***"). The special meeting may be held either at a place, within or without the State of Delaware, or by means of remote communication as the Board in its sole discretion may determine. Business transacted at any special meeting of stockholders shall be limited to matters relating to the purpose or purposes stated in the notice of the meeting.

Section 1.3: Notice of Meetings. Notice of all meetings of stockholders shall be given in writing or by electronic transmission in the manner provided by applicable law (including, without limitation, as set forth in Section 7.1.1 of these Bylaws) stating the date, time and place, if any, of the meeting, the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and the record date for determining the stockholders entitled to vote at the meeting. In the case of a special meeting, such notice shall also set forth the purpose or purposes for which the meeting is called. Unless otherwise required by applicable law or the Certificate of Incorporation, notice of any meeting of stockholders shall be given not less than ten (10), nor more than sixty (60), days before the date of the meeting to each stockholder of record entitled to vote at such meeting.

Section 1.4: Adjournments. The chairperson of the meeting shall have the power to adjourn the meeting to another time, date and place (if any). Any meeting of stockholders, annual or special, may be adjourned from time to time, and notice need not be given of any such adjourned meeting if the time, date and place (if any) thereof and the means of remote communication (if any) by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; provided, however, that if the adjournment is for more than thirty (30) days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. At the adjourned meeting the Corporation may transact any business that might have been transacted at the original meeting. To the fullest extent permitted by law, the Board may postpone, reschedule or cancel any previously scheduled special or annual meeting of the stockholders before it is to be held,

regardless of whether any notice or public disclosure with respect to any such meeting has been sent or made pursuant to Section 1.3 hereof or otherwise, in which case notice shall be provided to the stockholders of the new date, time and place, if any, of the meeting as provided in Section 1.3 above.

Section 1.5: Quorum. Except as otherwise provided by applicable law, the Certificate of Incorporation or these Bylaws, at each meeting of stockholders the holders of a majority of the voting power of the shares of stock issued and outstanding and entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or classes or series of stock is required by applicable law or the Certificate of Incorporation, the holders of a majority of the voting power of the shares of such class or classes or series of the stock issued and outstanding and entitled to vote on such matter, present in person or represented by proxy at the meeting, shall constitute a quorum entitled to take action with respect to the vote on such matter. If a quorum shall fail to attend any meeting, the chairperson of the meeting or, if directed to be voted on by the chairperson of the meeting, the holders of a majority of the voting power of the shares entitled to vote who are present in person or represented by proxy at the meeting may adjourn the meeting. Shares of the Corporation's stock belonging to the Corporation (or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation are held, directly or indirectly, by the Corporation), shall neither be entitled to vote nor be counted for quorum purposes; provided, however, that the foregoing shall not limit the right of the Corporation or any other corporation to vote any shares of the Corporation's stock held by it in a fiduciary capacity and to count such shares for purposes of determining a quorum. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum.

Section 1.6: Organization. Meetings of stockholders shall be presided over by (a) such person as the Board may designate, or (b) in such person's absence, the Chairperson of the Board, or (c) in the absence of such person, the Lead Independent Director, or (d) in such person's absence, the Chief Executive Officer of the Corporation or (e) in such person's absence, the President of the Corporation, or (f) in the absence of such person, by a Vice President. Such person shall be chairperson of the meeting and, subject to Section 1.10 of these Bylaws, shall determine the order of business and the procedure at the meeting, including such regulation of the manner of voting and the conduct of discussion as seems to such person to be in order. The Secretary of the Corporation shall act as secretary of the meeting, but in such person's absence the chairperson of the meeting may appoint any person to act as secretary of the meeting.

Section 1.7: Voting; Proxies. Each stockholder of record entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy. Such a proxy may be prepared, transmitted and delivered in any manner permitted by applicable law. Except as may be required in the Certificate of Incorporation, directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. Unless otherwise provided by applicable law, rule or regulation applicable to the Corporation or its securities, the rules or regulations of any stock exchange applicable to the Corporation, the Certificate of Incorporation or these Bylaws, every matter other than the election of directors shall be decided by the affirmative vote of the holders of a majority of the voting power of the shares of stock entitled to vote on such matter that are present in person or represented by proxy at the meeting and are voted for or against the matter (or if there are

two or more classes or series of stock entitled to vote as separate classes, then in the case of each class or series, the holders of a majority of the voting power of the shares of stock of that class or series present in person or represented by proxy at the meeting voting for or against such matter).

Section 1.8: Fixing Date for Determination of Stockholders of Record. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board, and which record date shall, unless otherwise required by law, not be more than sixty (60), nor less than ten (10), days before the date of such meeting. If no record date is fixed by the Board, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board may fix a new record date for determination of stockholders entitled to notice of or to vote at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix, in advance, a record date, which shall not precede the date upon which the resolution fixing the record date is adopted by the Board and which shall not be more than sixty (60) days prior to such action. If no such record date is fixed by the Board, then the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

Section 1.9: List of Stockholders Entitled to Vote. The Secretary shall prepare, at least ten (10) days before every meeting of stockholders, a complete list of stockholders entitled to vote at the meeting (provided, however, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth (10th) day before the meeting date), arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, for a period of at least ten (10) days prior to the meeting, (a) on a reasonably accessible electronic network as permitted by applicable law (provided, that the information required to gain access to the list is provided with the notice of the meeting), or (b) during ordinary business hours, at the principal place of business of the Corporation. If the meeting is held at a location where stockholders may attend in person, the list shall also be produced and kept at the time and place of the meeting during the whole time thereof and may be inspected by any stockholder who is present at the meeting. If the meeting is held solely by means of remote communication, then the list shall be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access the list shall be provided with the notice of the meeting. Except as otherwise provided by law, the list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

Section 1.10: Inspectors of Elections.

1.10.1 Applicability. Unless otherwise required by the Certificate of Incorporation or by the DGCL, the following provisions of this Section 1.10 shall apply only if and when the Corporation has a class of voting stock that is: (a) listed on a national securities exchange; (b) authorized for quotation on an interdealer quotation system of a registered national securities association; or (c) held of record by more than two thousand (2,000) stockholders. In all other cases, observance of the provisions of this Section 1.10 shall be optional, and at the discretion of the Board.

1.10.2 Appointment. The Corporation shall, in advance of any meeting of stockholders, appoint one or more inspectors of election to act at the meeting and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the person presiding at the meeting shall appoint one or more inspectors to act at the meeting.

1.10.3 Inspector's Oath. Each inspector of election, before entering upon the discharge of such inspector's duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of such inspector's ability.

1.10.4 Duties of Inspectors. At a meeting of stockholders, the inspectors of election shall (a) ascertain the number of shares outstanding and the voting power of each share, (b) determine the shares represented at a meeting and the validity of proxies and ballots, (c) count all votes and ballots, (d) determine and retain for a reasonable period of time a record of the disposition of any challenges made to any determination by the inspectors, and (e) certify their determination of the number of shares represented at the meeting, and their count of all votes and ballots. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of the inspectors.

1.10.5 Opening and Closing of Polls. The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be announced by the chairperson of the meeting at the meeting. No ballot, proxies or votes, nor any revocations thereof or changes thereto, shall be accepted by the inspectors after the closing of the polls unless the Court of Chancery of the State of Delaware, upon application by a stockholder, shall determine otherwise.

1.10.6 Determinations. In determining the validity and counting of proxies and ballots, the inspectors shall be limited to an examination of the proxies, any envelopes submitted with those proxies, any information provided in connection with proxies pursuant to Section 211(a)(2)b.(i) of the DGCL, or in accordance with Sections 211(e) or 212(c)(2) of the DGCL, ballots and the regular books and records of the Corporation, except that the inspectors may consider other reliable information for the limited purpose of reconciling proxies and ballots submitted by or on behalf of banks, brokers, their nominees or similar persons which represent more votes than the holder of a proxy is authorized by the record owner to cast or more votes than the stockholder holds of record. If the inspectors consider other reliable information for the limited purpose permitted herein, the inspectors at the time they make their certification of their determinations pursuant to this Section 1.10 shall specify the precise information considered by them, including the person or persons from whom they obtained the information, when the information was obtained, the means by which the information was obtained and the basis for the inspectors' belief that such information is accurate and reliable.

Section 1.11: Notice of Stockholder Business; Nominations.

1.11.1 Annual Meeting of Stockholders.

(a) Nominations of persons for election to the Board and the proposal of other business to be considered by the stockholders may be made at an annual meeting of stockholders only: (i) pursuant to the Corporation's notice of such meeting (or any supplement thereto), (ii) by or at the direction of the Board or any committee thereof or (iii) by any stockholder of the Corporation who was a stockholder of record at the time of giving of the notice provided for in this Section 1.11 (the "***Record Stockholder***"), who is entitled to vote at such meeting and who complies with the notice and other procedures set forth in this Section 1.11 in all applicable respects. For the avoidance of doubt, the foregoing clause (iii) shall be the exclusive means for a stockholder to make nominations or propose business (other than business included in the Corporation's proxy materials pursuant to Rule 14a-8 under the Securities Exchange Act of 1934, as amended (such act, and the rules and regulations promulgated thereunder, the "***Exchange Act***"), at an annual meeting of stockholders, and such stockholder must fully comply with the notice and other procedures set forth in this Section 1.11 to make such nominations or propose business before an annual meeting.

(b) For nominations or other business to be properly brought before an annual meeting by a Record Stockholder pursuant to Section 1.11.1(a) of these Bylaws:

(i) the Record Stockholder must have given timely notice thereof in writing to the Secretary of the Corporation and provide any updates or supplements to such notice at the times and in the forms required by this Section 1.11;

(ii) such other business (other than the nomination of persons for election to the Board) must otherwise be a proper matter for stockholder action;

(iii) if the Proposing Person (as defined below) has provided the Corporation with a Solicitation Notice (as defined below), such Proposing Person must, in the case of a proposal other than the nomination of persons for election to the Board, have delivered a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry any such proposal, or, in the case of a nomination or nominations, have delivered a proxy statement and form of proxy to holders of a percentage of the Corporation's voting shares reasonably believed by such Proposing Person to be sufficient to elect the nominee or nominees proposed to be nominated by such Record Stockholder, and must, in either case, have included in such materials the Solicitation Notice; and

(iv) if no Solicitation Notice relating thereto has been timely provided pursuant to this Section 1.11, the Proposing Person proposing such business or nomination must not have solicited a number of proxies sufficient to have required the delivery of such a Solicitation Notice under this Section 1.11.

To be timely, a Record Stockholder's notice must be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the ninetieth (90th) day nor earlier than the close of business on the one hundred and twentieth (120th) day prior to the first anniversary of the preceding year's annual meeting (except in the case of the

Corporation's first annual meeting following its initial public offering, for which such notice shall be timely if delivered in the same time period as if such meeting were a special meeting governed by Section 1.11.2 of these Bylaws); provided, however, that in the event that the date of the annual meeting is more than thirty (30) days before, or more than sixty (60) days after, such anniversary date, notice by the Record Stockholder to be timely must be so delivered (A) no earlier than the close of business on the one hundred and twentieth (120th) day prior to such annual meeting and (B) no later than the close of business on the later of the ninetieth (90th) day prior to such annual meeting or the close of business on the tenth (10th) day following the day on which Public Announcement (as defined below) of the date of such meeting is first made by the Corporation. In no event shall an adjournment or postponement of an annual meeting for which notice has been given commence a new time period (or extend any time period) for providing the Record Stockholder's notice. Such Record Stockholder's notice shall set forth:

(X) as to each person whom the Record Stockholder proposes to nominate for election or reelection as a director:

(i) the name, age, business address and residence address of such person;

(ii) the principal occupation or employment of such nominee;

(iii) the class, series and number of any shares of stock of the Corporation that are beneficially owned or owned of record by such person or any Associated Person (as defined in Section 1.11.3(c));

(iv) the date or dates such shares were acquired and the investment intent of such acquisition;

(v) all other information relating to such person that would be required to be disclosed in solicitations of proxies for election of directors in an election contest (even if an election contest is not involved), or would be otherwise required, in each case pursuant to and in accordance with Section 14(a) (or any successor provision) under the Exchange Act and the rules and regulations thereunder (including such person's written consent to being named in the proxy statement as a nominee, to the public disclosure of information regarding or related to such person provided to the Corporation by such person or otherwise pursuant to this Section 1.11 and to serving as a director if elected); and

(vi) whether such person meets the independence requirements of the stock exchange upon which the Corporation's Common Stock is primarily traded.

(Y) as to any other business that the Record Stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws, the text of the proposed amendment), the reasons for conducting such business at the meeting and any material interest in such business of such Proposing Person, including any anticipated benefit to any Proposing Person therefrom; and

(Z) as to the Proposing Person giving the notice:

(i) the current name and address of such Proposing Person, including, if applicable, their name and address as they appear on the Corporation's stock ledger, if different;

(ii) the class or series and number of shares of stock of the Corporation that are directly or indirectly owned of record or beneficially owned by such Proposing Person, including any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future;

(iii) whether and the extent to which any derivative interest in the Corporation's equity securities (including without limitation any option, warrant, convertible security, stock appreciation right, or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of the Corporation or with a value derived in whole or in part from the value of any class or series of shares of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of shares of the Corporation or otherwise, and any cash-settled equity swap, total return swap, synthetic equity position or similar derivative arrangement, as well as any rights to dividends on the shares of any class or series of shares of the Corporation that are separated or separable from the underlying shares of the Corporation) or any short interest in any security of the Corporation (for purposes of this Bylaw a person shall be deemed to have a short interest in a security if such person directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has the opportunity to profit or share in any profit derived from any increase or decrease in the value of the subject security, including through performance-related fees) is held directly or indirectly by or for the benefit of such Proposing Person, including without limitation whether and the extent to which any ongoing hedging or other transaction or series of transactions has been entered into by or on behalf of, or any other agreement, arrangement or understanding (including without limitation any short position or any borrowing or lending of shares) has been made, the effect or intent of which is to mitigate loss to or manage risk or benefit of share price changes for, or to increase or decrease the voting power of, such Proposing Person with respect to any share of stock of the Corporation;

(iv) any other material relationship between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand;

(v) any direct or indirect material interest in any material contract or agreement with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, in any such case, any employment agreement, collective bargaining agreement or consulting agreement);

(vi) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) (or any successor provision) under the Exchange Act and the rules and regulations thereunder (the disclosures to be made pursuant to the foregoing clauses (iv) through (vi) are referred to as "***Disclosable Interests***"). For purposes hereof Disclosable Interests shall not include any information with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner;

(vii) such Proposing Person's written consent to the public disclosure of information provided to the Corporation pursuant to this Section 1.11;

(viii) a complete written description of any agreement, arrangement or understanding (whether oral or in writing) (including any knowledge that another person or entity is Acting in Concert (as defined in Section 1.11.3(c)) with such Proposing Person) between or among such Proposing Person, any of its respective affiliates or associates and any other person Acting in Concert with any of the foregoing persons;

(ix) as to each person whom such Proposing Person proposes to nominate for election or re-election as a director, any agreement, arrangement or understanding of such person with any other person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director known to such Proposing Person after reasonable inquiry;

(x) a representation that the Record Stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business or nomination;

(xi) a representation whether such Proposing Person intends (or is part of a group that intends) to deliver a proxy statement or form of proxy to holders of, in the case of a proposal, at least the percentage of the Corporation's voting shares required under applicable law to

carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the Corporation's voting shares to elect such nominee or nominees (an affirmative statement of such intent being a "***Solicitation Notice***"); and

(xii) any proxy, contract, arrangement, or relationship pursuant to which the Proposing Person has a right to vote, directly or indirectly, any shares of any security of the Corporation;

A stockholder providing written notice required by this Section 1.11 will update and supplement such notice in writing, if necessary, so that the information provided or required to be provided in such notice is true and correct in all material respects as of (i) the record date for the meeting and (ii) the close of business on the fifth (5th) business day prior to the meeting and, in the event of any adjournment or postponement thereof, the close of business on the fifth (5th) business day prior to such adjourned or postponed meeting. In the case of an update and supplement pursuant to clause (i) of the foregoing sentence, such update and supplement will be received by the Secretary of the Corporation at the principal executive office of the Corporation not later than five (5) business days after the record date for the meeting, and in the case of an update and supplement pursuant to clause (ii) of the foregoing sentence, such update and supplement will be received by the Secretary of the Corporation at the principal executive office of the Corporation not later than two (2) business days prior to the date for the meeting, and, in the event of any adjournment or postponement thereof, two (2) business days prior to such adjourned or postponed meeting.

(c) Notwithstanding anything in the second sentence of Section 1.11.1(b) of these Bylaws to the contrary, in the event that the number of directors to be elected to the Board is increased and there is no Public Announcement by the Corporation naming all of the nominees for director or specifying the size of the increased Board at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting (or, if the annual meeting is held more than thirty (30) days before or sixty (60) days after such anniversary date, at least one hundred (100) days prior to such annual meeting), a stockholder's notice required by this Section 1.11 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary of the Corporation at the principal executive office of the Corporation no later than the close of business on the tenth (10th) day following the day on which such Public Announcement is first made by the Corporation.

(d) Notwithstanding anything in Section 1.11 or any other provision of the Bylaws to the contrary, any person who has been determined by a majority of the Whole Board to have violated Section 2.11 of these Bylaws or a Board Confidentiality Policy (as defined below) while serving as a director of the Corporation in the preceding five (5) years shall be ineligible to be nominated or serve as a member of the Board, absent a prior waiver for such nomination or service approved by two-thirds of the Whole Board.

1.11.2 Special Meetings of Stockholders. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of such meeting. Nominations of persons for election to the Board may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of such meeting (a) by or at the direction of the Board or any committee thereof or (b) provided that the Board has determined that directors shall be elected at such meeting, by any stockholder of the Corporation who is a stockholder of record at the time of giving of notice of the special meeting, who shall be entitled to vote at the meeting and who

complies with the notice and other procedures set forth in this Section 1.11 in all applicable respects. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board, any such stockholder may nominate a person or persons (as the case may be), for election to such position(s) as specified in the Corporation's notice of meeting, if the stockholder's notice required by Section 1.11.1(b) of these Bylaws shall be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation (i) no earlier than the one hundred twentieth (120th) day prior to such special meeting and (ii) no later than the close of business on the later of the ninetieth (90th) day prior to such special meeting or the tenth (10th) day following the day on which Public Announcement is first made of the date of the special meeting and of the nominees proposed by the Board to be elected at such meeting

1.11.3 General.

(a) Only such persons who are nominated in accordance with the procedures set forth in this Section 1.11 shall be eligible to be elected at a meeting of stockholders and serve as directors and only such business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 1.11. Except as otherwise provided by law or these Bylaws, the chairperson of the meeting shall have the power and duty to determine whether a nomination or any other business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in this Section 1.11 and, if any proposed nomination or business is not in compliance herewith, to declare that such defective proposal or nomination shall be disregarded. Notwithstanding the foregoing provisions of this Section 1.11, unless otherwise required by law, if the stockholder (or a Qualified Representative of the stockholder (as defined below)) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or proposed business, such nomination shall be disregarded and such proposed business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation.

(b) Notwithstanding the foregoing provisions of this Section 1.11, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth herein. Nothing in this Section 1.11 shall be deemed to affect any rights of (a) stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act or (b) the holders of any series of Preferred Stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation.

(c) For purposes of this Section 1.11 the following definitions shall apply:

(i) a person shall be deemed to be "***Acting in Concert***" with another person if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or toward a common goal relating to the management, governance or control of the Corporation in substantial parallel with, such other person where (1) each person is conscious of the other person's conduct or intent and this awareness is an element in their decision-making processes and (2) at least one additional factor suggests that such persons intend to act in concert or in substantial parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions or making or soliciting invitations to act in concert or in substantial parallel; provided, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response

to a solicitation made pursuant to, and in accordance with, Section 14(a) (or any successor provision) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person;

(ii) "***Associated Person***" shall mean with respect to any subject stockholder or other person (including any proposed nominee) (1) any person directly or indirectly controlling, controlled by or under common control with such stockholder or other person, (2) any beneficial owner of shares of stock of the Corporation owned of record or beneficially by such stockholder or other person, (3) any associate (as defined in Rule 405 under the Securities Act of 1933, as amended), of such stockholder or other person, and (4) any person directly or indirectly controlling, controlled by or under common control or Acting in Concert with any such Associated Person;

(iii) "***Proposing Person***" shall mean (1) the stockholder providing the notice of business proposed to be brought before an annual meeting or nomination of persons for election to the Board at a stockholder meeting, (2) the beneficial owner or beneficial owners, if different, on whose behalf the notice of business proposed to be brought before the annual meeting or nomination of persons for election to the Board at a stockholder meeting is made, and (3) any Associated Person on whose behalf the notice of business proposed to be brought before the annual meeting or nomination of persons for election to the Board at a stockholder meeting is made;

(iv) "***Public Announcement***" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act; and

(v) to be considered a "***Qualified Representative***" of a stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as a proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction thereof, at the annual meeting; provided, however, that if the stockholder is (1) a general or limited partnership, any general partner or person who functions as a general partner of the general or limited partnership or who controls the general or limited partnership shall be deemed a Qualified Representative, (2) a corporation or a limited liability company, any officer or person who functions as the substantial equivalent of an officer of the corporation or limited liability company or any officer, director, general partner or person who functions as an officer, director or general partner of any entity ultimately in control of the corporation or limited liability company shall be deemed a Qualified Representative or (z) a trust, any trustee of such trust shall be deemed a Qualified Representative. The Secretary of the Corporation, or any other person who shall be appointed to serve as secretary of the meeting, may require, on behalf of the Corporation, reasonable and appropriate documentation to verify the status of a person purporting to be a "Qualified Representative" for purposes hereof.

ARTICLE II: BOARD OF DIRECTORS

Section 2.1: Number; Qualifications. The total number of directors constituting the Board (the "***Whole Board***") shall be fixed from time to time in the manner set forth in the Certificate of Incorporation. No decrease in the authorized number of directors constituting the Whole Board shall shorten the term of any incumbent director. Directors need not be stockholders of the Corporation.

Section 2.2: Election; Resignation; Removal; Vacancies. Election of directors need not be by written ballot. Unless otherwise provided by the Certificate of Incorporation and subject to the special rights of holders of any series of Preferred Stock to elect directors, the Board shall be divided into three classes, designated as Class I, Class II and Class III. Each class shall consist, as nearly as may be possible, of one-third of the Whole Board. Each director shall hold office until the annual meeting at which such director's term expires and until such director's successor is elected and qualified or until such director's earlier death, resignation, disqualification or removal. Any director may resign by delivering a resignation in writing or by electronic transmission to the Corporation at its principal office or to the Chairperson of the Board, the Chief Executive Officer, or the Secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at a later time or upon the happening of an event. Subject to the special rights of holders of any series of Preferred Stock to elect directors, directors may be removed only as provided by the Certificate of Incorporation and applicable law. All vacancies occurring on the Board and any newly created directorships resulting from any increase in the authorized number of directors shall be filled in the manner set forth in the Certificate of Incorporation.

Section 2.3: Regular Meetings. Regular meetings of the Board may be held at such places, within or without the State of Delaware, and at such times as the Board may from time to time determine. Notice of regular meetings need not be given if the date, times and places thereof are fixed by resolution of the Board.

Section 2.4: Special Meetings. Special meetings of the Board may be called by the Chairperson of the Board, the Chief Executive Officer, the Lead Independent Director or a majority of the members of the Board then in office and may be held at any time, date or place, within or without the State of Delaware, as the person or persons calling the meeting shall fix. Notice of the time, date and place of such meeting shall be given, orally, in writing or by electronic transmission (including electronic mail), by the person or persons calling the meeting to all directors at least four (4) days before the meeting if the notice is mailed, or at least twenty-four (24) hours before the meeting if such notice is given by telephone, hand delivery, telegram, telex, mailgram, facsimile, electronic mail or other means of electronic transmission. Unless otherwise indicated in the notice, any and all business may be transacted at a special meeting.

Section 2.5: Remote Meetings Permitted. Members of the Board, or any committee of the Board, may participate in a meeting of the Board or such committee by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to conference telephone or other communications equipment shall constitute presence in person at such meeting.

Section 2.6: Quorum; Vote Required for Action. At all meetings of the Board, a majority of the Whole Board shall constitute a quorum for the transaction of business. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, date or time without further notice thereof. Except as otherwise provided herein or in the Certificate of Incorporation, or required by law, the vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board.

Section 2.7: Organization. Meetings of the Board shall be presided over by (a) the Chairperson of the Board, or (b) in the absence of such person, the Lead Independent Director, or (c) in such person's absence, the Chief Executive Officer, or (d) in such person's absence, by a chairperson chosen by the Board at the meeting. The Secretary shall act as secretary of the meeting, but in such person's absence the chairperson of the meeting may appoint any person to act as secretary of the meeting.

Section 2.8: Unanimous Action by Directors in Lieu of a Meeting. Any action required or permitted to be taken at any meeting of the Board, or of any committee thereof, may be taken without a meeting if all members of the Board or such committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee, as applicable. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 2.9: Powers. Except as otherwise provided by the Certificate of Incorporation or the DGCL, the business and affairs of the Corporation shall be managed by or under the direction of the Board.

Section 2.10: Compensation of Directors. Members of the Board, as such, may receive, pursuant to a resolution of the Board, fees and other compensation for their services as directors, including without limitation their services as members of committees of the Board.

Section 2.11: Confidentiality. Each director shall maintain the confidentiality of, and shall not share with any third party person or entity (including third parties that originally sponsored, nominated or designated such director (the "***Sponsoring Party***")), any non-public information learned in their capacities as directors, including communications among Board members in their capacities as directors. The Board may adopt a board confidentiality policy further implementing and interpreting this bylaw (a "***Board Confidentiality Policy***"). All directors are required to comply with this bylaw and any such Board Confidentiality Policy unless such director or Sponsoring Party for such director has entered into a specific written agreement with the Corporation, in either case as approved by the Board, providing otherwise with respect to such confidential information.

ARTICLE III: COMMITTEES

Section 3.1: Committees. The Board may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of the committee, the member or members thereof present at any meeting of such committee who are not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in place of any such absent or disqualified member. Any such committee, to the extent provided in a resolution of the Board, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation and may authorize the seal of the Corporation to be affixed to all papers that may require it.; but no such committee shall have the power or authority in reference to the following matters: (a) approving, adopting or recommending to the stockholders any action or matter (other than the election or removal of members of the Board) expressly required by the DGCL to be submitted to stockholders for approval or (b) adopting, amending or repealing any bylaw of the Corporation.

Section 3.2: Committee Rules. Each committee shall keep records of its proceedings and make such reports as the Board may from time to time request. Unless the Board otherwise provides, each committee designated by the Board may make, alter and repeal rules for the conduct of its business. In the absence of such rules each committee shall conduct its business in the same manner as the Board conducts its business pursuant to Article II of these Bylaws. Except as otherwise provided in the Certificate of Incorporation, these Bylaws or the resolution of the Board designating the committee, any committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and may delegate to any such subcommittee any or all of the powers and authority of the committee.

ARTICLE IV: OFFICERS; CHAIRPERSON; LEAD INDEPENDENT DIRECTOR

Section 4.1: Generally. The officers of the Corporation shall consist of a Chief Executive Officer (who may be the Chairperson of the Board or the President), a President, a Secretary and a Treasurer and may consist of such other officers, including, without limitation, a Chief Financial Officer and one or more Vice Presidents, as may from time to time be appointed by the Board. All officers shall be elected by the Board; provided, however, that the Board may empower the Chief Executive Officer of the Corporation to appoint any officer other than the Chief Executive Officer, the President, the Chief Financial Officer or the Treasurer. Except as otherwise provided by law, by the Certificate of Incorporation or these Bylaws, each officer shall hold office until such officer's successor is duly elected and qualified or until such officer's earlier resignation, death, disqualification or removal. Any number of offices may be held by the same person. Any officer may resign by delivering a resignation in writing or by electronic transmission to the Corporation at its principal office or to the Chairperson of the Board, the Chief Executive Officer or the Secretary. Such resignation shall be effective upon delivery unless it is specified to be effective at some later time or upon the happening of some later event. Any vacancy occurring in any office of the Corporation by death, resignation, removal or otherwise may be filled by the Board and the Board may, in its discretion, leave unfilled, for such period as it may determine, any offices. Each such successor shall hold office for the unexpired term of such officer's predecessor and until a successor is duly elected and qualified or until such officer's earlier resignation, death, disqualification or removal.

Section 4.2: Chief Executive Officer. Subject to the control of the Board and such supervisory powers, if any, as may be given by the Board, the powers and duties of the Chief Executive Officer of the Corporation are:

(a) to act as the general manager and, subject to the control of the Board, to have general supervision, direction and control of the business and affairs of the Corporation;

(b) subject to Article I, Section 1.6 of these Bylaws, to preside at all meetings of the stockholders;

(c) subject to Article I, Section 1.2 of these Bylaws, to call special meetings of the stockholders to be held at such times and, subject to the limitations prescribed by law or by these Bylaws, at such places as the Chief Executive Officer shall deem proper;

(d) to affix the signature of the Corporation to all deeds, conveyances, mortgages, guarantees, leases, obligations, bonds, certificates and other papers and instruments in writing which have been authorized by the Board or which, in the judgment of the Chief Executive Officer, should be executed on behalf of the Corporation;

(e) to sign certificates for shares of stock of the Corporation (if any); and

(f) subject to the direction of the Board, to have general charge of the property of the Corporation and to supervise and control all officers, agents and employees of the Corporation.

The person holding the office of President shall be the Chief Executive Officer of the Corporation unless the Board shall designate another officer to be the Chief Executive Officer.

Section 4.3: Chairperson of the Board. Subject to the provisions of Section 2.7 of these Bylaws, the Chairperson of the Board shall have the power to preside at all meetings of the Board and shall have such other powers and duties as provided in these Bylaws and as the Board may from time to time prescribe.

Section 4.4: Lead Independent Director. The Board may, in its discretion, elect a lead independent director from among its members that are Independent Directors (as defined below) (such director, the "***Lead Independent Director***"). He or she shall preside at all meetings at which the Chairperson of the Board is not present and shall exercise such other powers and duties as may from time to time be assigned to him or her by the Board or as prescribed by these Bylaws. For purposes of these Bylaws, "***Independent Director***" has the meaning ascribed to such term under the rules of the exchange upon which the Corporation's Class A Common Stock is primarily traded.

Section 4.5: President. The person holding the office of Chief Executive Officer shall be the President of the Corporation unless the Board shall have designated one individual as the President and a different individual as the Chief Executive Officer of the Corporation. Subject to the provisions of these Bylaws and to the direction of the Board, and subject to the supervisory powers of the Chief Executive Officer (if the Chief Executive Officer is an officer other than the President), and subject to such supervisory powers and authority as may be given by the Board to the Chairperson of the Board, and/or to any other officer, the President shall have the responsibility for the general management and control of the business and affairs of the Corporation and the general supervision and direction of all of the officers, employees and agents of the Corporation (other than the Chief Executive Officer, if the Chief Executive Officer is an officer other than the President) and shall perform all duties and have all powers that are commonly incident to the office of President or that are delegated to the President by the Board.

Section 4.6: Vice President. Each Vice President shall have all such powers and duties as are commonly incident to the office of Vice President or that are delegated to him or her by the Board or the Chief Executive Officer. A Vice President may be designated by the Board to perform the duties and exercise the powers of the Chief Executive Officer or President in the event of the Chief Executive Officer's or President's absence or disability.

Section 4.7: Chief Financial Officer. The person holding the office of Chief Financial Officer shall be the Treasurer of the Corporation unless the Board shall have designated another officer as the Treasurer of the Corporation. Subject to the direction of the Board and the Chief Executive Officer, the Chief Financial Officer shall perform all duties and have all powers that are commonly incident to the office of Chief Financial Officer, or as the Board may from time to time prescribe.

Section 4.8: Treasurer. The person holding the office of Treasurer shall have custody of all monies and securities of the Corporation. The Treasurer shall make such disbursements of the funds of the Corporation as are authorized and shall render from time to time an account of all such transactions. The Treasurer shall also perform such other duties and have such other powers as are commonly incident to the office of Treasurer, or as the Board or the Chief Executive Officer may from time to time prescribe.

Section 4.9: Secretary. The Secretary shall issue or cause to be issued all authorized notices for, and shall keep, or cause to be kept, minutes of all meetings of the stockholders and the Board. The Secretary shall have charge of the corporate minute books and similar records and shall perform such other duties and have such other powers as are commonly incident to the office of Secretary, or as the Board or the Chief Executive Officer may from time to time prescribe.

Section 4.10: Delegation of Authority. The Board may from time to time delegate the powers or duties of any officer of the Corporation to any other officers or agents of the Corporation, notwithstanding any provision hereof.

Section 4.11: Removal. Any officer of the Corporation shall serve at the pleasure of the Board and may be removed at any time, with or without cause, by the Board; provided that if the Board has empowered the Chief Executive Officer to appoint any officer of the Corporation, then such officer may also be removed by the Chief Executive Officer. Such removal shall be without prejudice to the contractual rights of such officer, if any, with the Corporation.

ARTICLE V: STOCK

Section 5.1: Certificates; Uncertificated Shares. The shares of capital stock of the Corporation shall be uncertificated shares; provided, however, that the resolution of the Board that the shares of capital stock of the Corporation shall be uncertificated shares shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation (or the transfer agent or registrar, as the case may be). Notwithstanding the foregoing, the Board may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be certificated shares. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the Corporation, by the Chairperson or Vice-Chairperson of the Board, the Chief Executive Officer or the President or a Vice President, and by the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary, of the Corporation, representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were an officer, transfer agent or registrar at the date of issue.

Section 5.2: Lost, Stolen or Destroyed Stock Certificates; Issuance of New Certificates or Uncertificated Shares. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate previously issued by it, alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to agree to indemnify the Corporation and/or to give the Corporation a bond sufficient to indemnify it, against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

Section 5.3: Other Regulations. Subject to applicable law, the Certificate of Incorporation and these Bylaws, the issue, transfer, conversion and registration of shares represented by certificates and of uncertificated shares shall be governed by such other regulations as the Board may establish.

ARTICLE VI: INDEMNIFICATION

Section 6.1: Indemnification of Officers and Directors. Each person who was or is made a party to, or is threatened to be made a party to, or is involved in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, legislative or any other type whatsoever (a "***Proceeding***"), by reason of the fact that such person (or a person of whom such person is the legal representative), is or was a director or officer of the Corporation or, while serving as a director or officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, agent or trustee of another corporation, or of a partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans (for purposes of this Article VI, an "***Indemnitee***"), shall be indemnified and held harmless by the Corporation to the fullest extent permitted by the DGCL as the same exists or may hereafter be amended (but, in the case of any such amendment, only to the extent that such amendment permits the Corporation to provide broader indemnification rights than such law permitted the Corporation to provide prior to such amendment), against all expenses, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes and penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such Indemnitee in connection therewith, provided such Indemnitee acted in good faith and in a manner that the Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or Proceeding, had no reasonable cause to believe the Indemnitee's conduct was unlawful. Such indemnification shall continue as to an Indemnitee who has ceased to be a director or officer of the Corporation and shall inure to the benefit of such Indemnitees' heirs, executors and administrators. Notwithstanding the foregoing, subject to Section 6.5 of these Bylaws, the Corporation shall indemnify any such Indemnitee seeking indemnity in connection with a Proceeding (or part thereof) initiated by such Indemnitee only if such Proceeding (or part thereof) was authorized by the Board or such indemnification is authorized by an agreement approved by the Board.

Section 6.2: Advance of Expenses. Except as otherwise provided in a written indemnification contract between the Corporation and an Indemnitee, the Corporation shall pay all expenses (including attorneys' fees) incurred by an Indemnitee in defending any Proceeding in advance of its final disposition; provided, however, that if the DGCL then so requires, the advancement of such expenses shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such Indemnitee, to repay such amounts if it shall ultimately be determined that such Indemnitee is not entitled to be indemnified under this Article VI or otherwise.

Section 6.3: Non-Exclusivity of Rights. The rights conferred on any person in this Article VI shall not be exclusive of any other right that such person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, Bylaws, agreement, vote or consent of stockholders or disinterested directors, or otherwise. Additionally, nothing in this Article VI shall limit the ability of the Corporation, in its discretion, to indemnify or advance expenses to persons whom the Corporation is not obligated to indemnify or advance expenses pursuant to this Article VI.

Section 6.4: Indemnification Contracts. The Board is authorized to cause the Corporation to enter into indemnification contracts with any director, officer, employee or agent of the Corporation, or any person serving at the request of the Corporation as a director, officer, employee, agent or trustee of another corporation, partnership, joint venture, trust or other enterprise, including employee benefit plans, providing indemnification or advancement rights to such person. Such rights may be greater than those provided in this Article VI.

Section 6.5: Right of Indemnitee to Bring Suit. The following shall apply to the extent not in conflict with any indemnification contract provided for in Section 6.4 of these Bylaws.

6.5.1 Right to Bring Suit. If a claim under Section 6.1 or 6.2 of these Bylaws is not paid in full by the Corporation within sixty (60) days after a written claim has been received by the Corporation, except in the case of a claim for an advancement of expenses, in which case the applicable period shall be twenty (20) days, the Indemnitee may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Indemnitee shall be entitled to be paid, to the fullest extent permitted by law, the expense of prosecuting or defending such suit. In any suit brought by the Indemnitee to enforce a right to indemnification hereunder (but not in a suit brought by the Indemnitee to enforce a right to an advancement of expenses) it shall be a defense that the Indemnitee has not met any applicable standard of conduct which makes it permissible under the DGCL (or other applicable law) for the Corporation to indemnify the Indemnitee for the amount claimed.

6.5.2 Effect of Determination. Neither the absence of a determination prior to the commencement of such suit that indemnification of the Indemnitee is proper in the circumstances because the Indemnitee has met the applicable standard of conduct set forth in applicable law, nor an actual determination that the Indemnitee has not met such applicable standard of conduct, shall create a presumption that the Indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the Indemnitee, be a defense to such suit.

6.5.3 Burden of Proof. In any suit brought by the Indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the Indemnitee is not entitled to be indemnified, or to such advancement of expenses, under this Article VI, or otherwise, shall be on the Corporation.

Section 6.6: Nature of Rights. The rights conferred upon Indemnitees in this Article VI shall be contract rights and such rights shall continue as to an Indemnitee who has ceased to be a director, officer or trustee and shall inure to the benefit of the Indemnitee's heirs, executors and administrators. Any amendment, repeal or modification of any provision of this Article VI that adversely affects any right of an Indemnitee or an Indemnitee's successors shall be prospective only, and shall not adversely affect any right or protection conferred on a person pursuant to this Article VI with respect to any Proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, repeal or modification.

Section 6.7: Insurance. The Corporation may purchase and maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

ARTICLE VII: NOTICES

Section 7.1: Notice.

7.1.1 Form and Delivery. Except as otherwise specifically required in these Bylaws (including, without limitation, Section 7.1.2 of these Bylaws) or by applicable law, all notices required to be given pursuant to these Bylaws shall be in writing and may (a) in every instance in connection with any delivery to a member of the Board, be effectively given by hand delivery (including use of a delivery service), by depositing such notice in the mail, postage prepaid, or by sending such notice by overnight express courier, facsimile, electronic mail or other form of electronic transmission and (b) be effectively delivered to a stockholder when given by hand delivery, by depositing such notice in the mail, postage prepaid or, if specifically consented to by the stockholder as described in Section 7.1.2 of these Bylaws by sending such notice by facsimile, electronic mail or other form of electronic transmission. Any such notice shall be addressed to the person to whom notice is to be given at such person's address as it appears on the records of the Corporation. The notice shall be deemed given: (a) in the case of hand delivery, when received by the person to whom notice is to be given or by any person accepting such notice on behalf of such person; (b) in the case of delivery by mail, upon deposit in the mail; (c) in the case of delivery by overnight express courier, when dispatched; and (d) in the case of delivery via facsimile, electronic mail or other form of electronic transmission, at the time provided in Section 7.1.2 of these Bylaws.

7.1.2 Electronic Transmission. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders given by the Corporation under any provision of the DGCL, the Certificate of Incorporation, or these Bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given in accordance with Section 232 of the DGCL. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if (a) the Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with such consent and (b) such inability becomes known to the Secretary or an Assistant Secretary of the Corporation or to the transfer agent, or other person responsible for the giving of notice; provided, however, that the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action. Notice given pursuant to this Section 7.1.2 shall be deemed given: (i) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice; (ii) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice; (iii) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of such posting and the giving of such separate notice; and (iv) if by any other form of electronic transmission, when directed to the stockholder.

7.1.3 Affidavit of Giving Notice. An affidavit of the Secretary or an Assistant Secretary or of the transfer agent or other agent of the Corporation that the notice has been given in writing or by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

Section 7.2: Waiver of Notice. Whenever notice is required to be given under any provision of the DGCL, the Certificate of Incorporation or these Bylaws, a written waiver of notice, signed by the person entitled to notice, or waiver by electronic transmission by such person, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the

person attends a meeting for the express purpose of objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, directors or members of a committee of directors need be specified in any waiver of notice.

ARTICLE VIII: INTERESTED DIRECTORS

Section 8.1: Interested Directors. No contract or transaction between the Corporation and one or more of its members of the Board or officers, or between the Corporation and any other corporation, partnership, association or other organization in which one or more of its directors or officers are members of the board of directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the Board or committee thereof that authorizes the contract or transaction, or solely because such director's or officer's votes are counted for such purpose, if: (a) the material facts as to such director's or officer's relationship or interest and as to the contract or transaction are disclosed or are known to the Board or the committee, and the Board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; (b) the material facts as to such director's or officer's relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or (c) the contract or transaction is fair as to the Corporation as of the time it is authorized, approved or ratified by the Board, a committee thereof, or the stockholders.

Section 8.2: Quorum. Interested directors may be counted in determining the presence of a quorum at a meeting of the Board or of a committee which authorizes the contract or transaction.

ARTICLE IX: MISCELLANEOUS

Section 9.1: Fiscal Year. The fiscal year of the Corporation shall be determined by resolution of the Board.

Section 9.2: Seal. The Board may provide for a corporate seal, which may have the name of the Corporation inscribed thereon and shall otherwise be in such form as may be approved from time to time by the Board.

Section 9.3: Form of Records. Any records maintained by the Corporation in the regular course of its business, including its stock ledger, books of account and minute books, may be kept on or by means of, or be in the form of any other information storage device or method, electronic or otherwise, provided, that the records so kept can be converted into clearly legible paper form within a reasonable time. The Corporation shall so convert any records so kept upon the request of any person entitled to inspect such records pursuant to any provision of the DGCL.

Section 9.4: Reliance Upon Books and Records. A member of the Board, or a member of any committee designated by the Board shall, in the performance of such person's duties, be fully protected in relying in good faith upon the books and records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of the Corporation's officers or employees, or committees of the Board, or by any other person as to matters the member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 9.5: Certificate of Incorporation Governs. In the event of any conflict between the provisions of the Certificate of Incorporation and Bylaws, the provisions of the Certificate of Incorporation shall govern.

Section 9.6: Severability. If any provision of these Bylaws shall be held to be invalid, illegal, unenforceable or in conflict with the provisions of the Certificate of Incorporation, then such provision shall nonetheless be enforced to the maximum extent possible consistent with such holding and the remaining provisions of these Bylaws (including without limitation, all portions of any section of these Bylaws containing any such provision held to be invalid, illegal, unenforceable or in conflict with the Certificate of Incorporation, that are not themselves invalid, illegal, unenforceable or in conflict with the Certificate of Incorporation) shall remain in full force and effect.

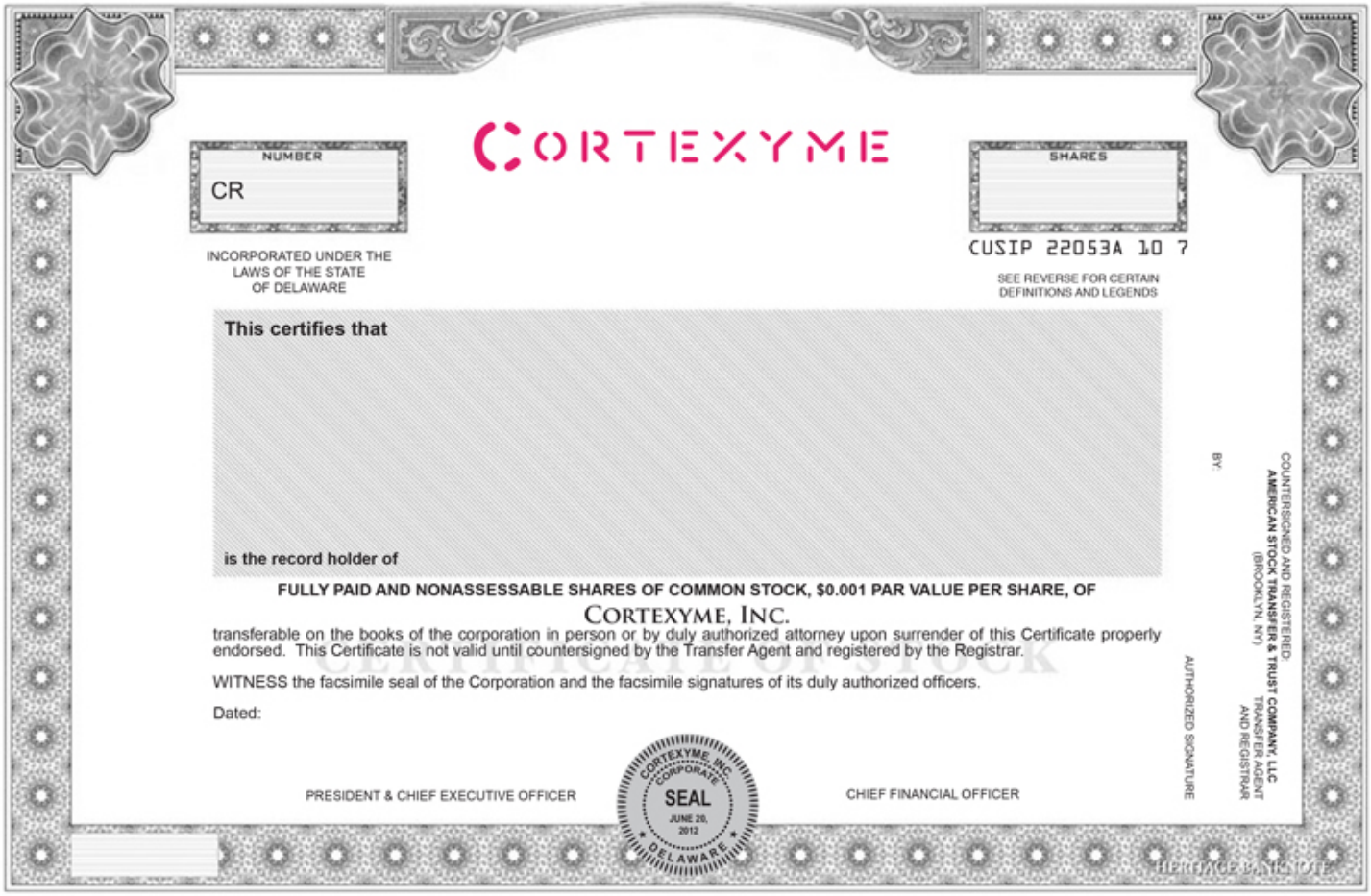
Section 9.7: Time Periods. In applying any provision of these Bylaws which requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

ARTICLE X: AMENDMENT

Notwithstanding any other provision of these Bylaws, any alteration, amendment or repeal of these Bylaws, and any adoption of new Bylaws, shall require the approval of the Board or the stockholders of the Corporation as expressly provided in the Certificate of Incorporation.

* * * * *

Exhibit 4.1


CORTEXYME
NUMBER
CR
SHARES
INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE
CUSIP 22053A 10 7
SEE REVERSE FOR CERTAIN DEFINITIONS AND LEGENDS
This certifies that
is the record holder of
FULLY PAID AND NONASSESSABLE SHARES OF COMMON STOCK, $0.001 PAR VALUE PER SHARE, OF
CORTEXYME, INC.
transferable on the books of the corporation in person or by duly authorized attorney upon surrender of this Certificate properly endorsed. This Certificate is not valid until countersigned by the Transfer Agent and registered by the Registrar.
WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.
Dated:
PRESIDENT & CHIEF EXECUTIVE OFFICER
CORTEXYME, INC. CORPORATE SEAL JUNE 20, 2012 DELAWARE
CHIEF FINANCIAL OFFICER
BY:
AUTHORIZED SIGNATURE
COUNTERSIGNED AND REGISTERED:
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
(BROOKLYN, NY)
TRANSFER AGENT AND REGISTRAR
CERTIFICATE OF STOCK

The Corporation shall furnish without charge to each stockholder who so requests a statement of the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock of the Corporation or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Such requests shall be made to the Corporation's Secretary at the principal office of the Corporation.

KEEP THIS CERTIFICATE IN A SAFE PLACE. IF IT IS LOST, STOLEN,OR DESTROYED THE CORPORATION WILL REQUIRE A BOND INDEMNITY AS A CONDITION TO THE ISSUANCE OF A REPLACEMENT CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM	–	as tenants in common
TEN ENT	–	as tenants by the entireties
JT TEN	–	as joint tenants with right of survivorship and not as tenants in common
COM PROP	–	as community property

UNIF GIFT MIN ACT – ..... Custodian .....
(Cust) (Minor)
under Uniform Gifts to Minors Act.....
(State)

UNIF TRF MIN ACT – ..... Custodian (until age .....)
(Cust)
..... under Uniform Transfers
(Minor)
to Minors Act.....
(State)

Additional abbreviations may also be used though not in the above list.

FOR VALUE RECEIVED, _____ hereby sell(s), assign(s) and transfer(s) unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

_____
(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE)

_____

_____

_____ shares of the capital stock represented by within Certificate, and do hereby irrevocably constitute and appoint

_____ attorney-in-fact to transfer the said stock on the books of the within named Corporation with full power of the substitution in the premises.

Dated _____

X _____

X _____

Signature(s) Guaranteed:

NOTICE: THE SIGNATURE TO THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT OR ANY CHANGE WHATSOEVER.

By _____

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION, (BANKS, STOCKBROKERS, SAVINGS AND LOAN ASSOCIATIONS AND CREDIT UNIONS WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM), PURSUANT TO S.E.C. RULE 17Ad-15. GUARANTEES BY A NOTARY PUBLIC ARE NOT ACCEPTABLE. SIGNATURE GUARANTEES MUST NOT BE DATED.

Exhibit 5.1

ORRICK, HERRINGTON & SUTCLIFFE LLP
1000 MARSH ROAD
MENLO PARK, CA 94025-1015
UNITED STATES

tel +1 650-614-7400
fax +1 650-614-7401

WWW.ORRICK.COM

April 29, 2019

Cortexyme, Inc.
269 East Grand Avenue
South San Francisco, CA 94080

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We are acting as counsel for Cortexyme, Inc., a Delaware corporation (the "Company"), in connection with the registration statement on Form S-1 filed by the Company with the Securities and Exchange Commission (the "Commission") on April 12, 2019 (File No. 333-230853), as amended (the "Registration Statement"), under the Securities Act of 1933, as amended (the "Securities Act"). The Registration Statement relates to the registration of 4,412,000 shares of common stock of the Company, par value $0.001 per share, (the "Primary Shares") and 661,800 shares of common stock of the Company, par value $0.001 per share, which may be purchased by the underwriters pursuant to an option to purchase additional shares (together with the Primary Shares, the "Shares"). We understand that the Shares are to be sold to the underwriters for resale to the public as described in the Registration Statement and pursuant to an underwriting agreement, substantially in the form filed as an exhibit to the Registration Statement, to be entered into by and among the Company and the underwriters (the "Underwriting Agreement").

In connection with rendering the opinion set forth below, we have examined and relied upon originals or copies, certified or otherwise identified to our satisfaction, of instruments, documents, and records which we deemed relevant and necessary for the purpose of rendering our opinion set forth below. In such examination, we have assumed the following: (a) the authenticity of original documents and the genuineness of all signatures, (b) the conformity to the originals of all documents submitted to us as copies, (c) the representations of officers and employees are correct as to questions of fact, (d) the Registration Statement has been declared effective pursuant to the Securities Act and (e) a pricing committee of the board of directors will have taken action necessary to set the sale price of the Shares.

Our opinion herein is limited to the General Corporation Law of the State of Delaware.

Based upon the foregoing, we are of the opinion that the Shares to be issued and sold by the Company have been duly authorized and, when such Shares are issued and paid for in accordance with the terms of the Underwriting Agreement, will be validly issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption "Legal matters" in the Registration Statement and the prospectus that forms a part thereof. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission promulgated thereunder, nor do we thereby admit that we are "experts" within the meaning of such term as used in the Securities Act with respect to any part of the Registration Statement, including this opinion letter as an exhibit or otherwise.

Very truly yours,

/s/ Orrick, Herrington & Sutcliffe LLP

ORRICK, HERRINGTON & SUTCLIFFE LLP

Exhibit 10.2

CORTEXYME, INC.

AMENDED & RESTATED INDEMNIFICATION AGREEMENT

This Amended & Restated Indemnification Agreement (this "Agreement") is made as of _____, 201_ by and between Cortexyme, Inc., a Delaware corporation (the "Company"), and _____ ("Indemnitee").

RECITALS

The Company and the Indemnitee are parties to an Indemnification Agreement dated as of _____ (the "Prior Agreement").

The Company and Indemnitee recognize the increasing difficulty in obtaining liability insurance for directors, officers and key employees, the significant increases in the cost of such insurance and the general reductions in the coverage of such insurance. The Company and Indemnitee further recognize the substantial increase in corporate litigation in general, subjecting directors, officers and key employees to expensive litigation risks at the same time as the availability and coverage of liability insurance has been severely limited. Indemnitee does not regard the current protection available as adequate under the present circumstances, and Indemnitee may not be willing to continue to serve in Indemnitee's current capacity with the Company without additional protection. The Company desires to attract and retain the services of highly qualified individuals, such as Indemnitee, and to indemnify its directors, officers and key employees so as to provide them with the maximum protection permitted by law.

The Company and the Indemnitee desire to amend and restate the terms of the Prior Agreement in its entirety as set forth herein.

AGREEMENT

In consideration of the mutual promises made in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Company and Indemnitee hereby agree as follows:

1. **Indemnification.**

(a) **Third-Party Proceedings.** To the fullest extent permitted by applicable law, as such may be amended from time to time, the Company shall indemnify Indemnitee, if Indemnitee was, is or is threatened to be made a party to or a participant (as a witness or otherwise) in any Proceeding (other than a Proceeding by or in the right of the Company to procure a judgment in the Company's favor), against all Expenses, judgments, fines, losses, liabilities, penalties, and amounts paid in settlement (if such settlement is approved in advance by the Company, which approval shall not be unreasonably withheld, conditioned or delayed) actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company and, in the case of a criminal Proceeding, had no reasonable cause to believe Indemnitee's conduct was unlawful.

(b) **Proceedings By or in the Right of the Company.** To the fullest extent permitted by applicable law, the Company shall indemnify Indemnitee, if Indemnitee was, is or is threatened to be made a party to or a participant (as a witness or otherwise) in any Proceeding by or in the right of the Company to procure a judgment in the Company's favor, against all Expenses actually and reasonably incurred by Indemnitee in connection with such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, except that no indemnification shall be made in respect of any claim, issue or matter as to which Indemnitee shall have been finally adjudicated by court order or judgment to be liable to the Company unless and only to the extent that the Court of Chancery or the court in which such Proceeding is or was pending shall determine upon application that, in view of all the circumstances of the case, Indemnitee is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper.

(c) **Success on the Merits.** To the fullest extent permitted by applicable law and to the extent that Indemnitee has been successful on the merits or otherwise in defense of any Proceeding referred to in Section 1(a) or Section 1(b) or the defense of any claim, issue or matter therein, in whole or in part, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection therewith. Without limiting the generality of the foregoing, if Indemnitee is successful on the merits or otherwise as to one or more but less than all claims, issues or matters in a Proceeding, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection with such successfully resolved claims, issues or matters to the fullest extent permitted by applicable law. If any Proceeding is disposed of on the merits or otherwise (including a disposition without prejudice), without (i) the disposition being adverse to Indemnitee, (ii) an adjudication that Indemnitee was liable to the Company, (iii) a plea of guilty by Indemnitee, (iv) an adjudication that Indemnitee did not act in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and (v) with respect to any criminal Proceeding, an adjudication that Indemnitee had reasonable cause to believe Indemnitee's conduct was unlawful, Indemnitee shall be considered for the purposes hereof to have been wholly successful with respect thereto.

(d) **Witness Expenses.** To the fullest extent permitted by applicable law and to the extent that Indemnitee is a witness or otherwise asked to participate in any Proceeding to which Indemnitee is not a party, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection with such Proceeding.

2. **Indemnification Procedure.**

(a) **Advancement of Expenses.** To the fullest extent permitted by applicable law, the Company shall advance all Expenses actually and reasonably incurred by Indemnitee in connection with a Proceeding within thirty (30) days after receipt by the Company of a statement requesting such advances from time to time, whether prior to or after final disposition of any Proceeding. Such advances shall be unsecured and interest free and shall be made without regard to Indemnitee's ability to repay the Expenses and without regard to Indemnitee's ultimate entitlement to indemnification under the other provisions of this Agreement. Indemnitee shall be entitled to continue to receive advancement of Expenses pursuant to this Section 2(a) unless and until the matter of Indemnitee's entitlement to indemnification hereunder has been finally

adjudicated by court order or judgment from which no further right of appeal exists. Indemnitee hereby undertakes to repay such amounts advanced only if, and to the extent that, it ultimately is determined that Indemnitee is not entitled to be indemnified by the Company under the other provisions of this Agreement. Indemnitee shall qualify for advances upon the execution and delivery of this Agreement, which shall constitute the requisite undertaking with respect to repayment of advances made hereunder and no other form of undertaking shall be required to qualify for advances made hereunder other than the execution of this Agreement.

(b) **Notice and Cooperation by Indemnitee.** Indemnitee shall promptly notify the Company in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter for which indemnification will or could be sought under this Agreement. Such notice to the Company shall include a description of the nature of, and facts underlying, the Proceeding, shall be directed to the Chief Executive Officer of the Company and shall be given in accordance with the provisions of Section 13(d) below. In addition, Indemnitee shall give the Company such additional information and cooperation as the Company may reasonably request. Indemnitee's failure to so notify, provide information and otherwise cooperate with the Company shall not relieve the Company of any obligation which it may have to Indemnitee under this Agreement, except to the extent that the Company is adversely affected by such failure.

(c) **Determination of Entitlement.**

(i) **Final Disposition.** Notwithstanding any other provision in this Agreement, no determination as to entitlement to indemnification under this Agreement shall be required to be made prior to the final disposition of the Proceeding.

(ii) **Determination and Payment.** Subject to the foregoing, promptly after receipt of a statement requesting payment with respect to the indemnification rights set forth in Section 1, to the extent required by applicable law, the Company shall take the steps necessary to authorize such payment in the manner set forth in Section 145 of the General Corporation Law of Delaware. The Company shall pay any claims made under this Agreement, under any statute or under any provision of the Company's Certificate of Incorporation or Bylaws providing for indemnification or advancement of Expenses, within thirty (30) days after a written request for payment thereof has first been received by the Company, and if such claim is not paid in full within such thirty (30) day-period, Indemnitee may, but need not, at any time thereafter bring an action against the Company in the Delaware Court of Chancery to recover the unpaid amount of the claim and, subject to Section 12, Indemnitee shall also be entitled to be paid for all Expenses actually and reasonably incurred by Indemnitee in connection with bringing such action. It shall be a defense to any such action (other than an action brought to enforce a claim for advancement of Expenses under Section 2(a)) that Indemnitee has not met the standards of conduct which make it permissible under applicable law for the Company to indemnify Indemnitee for the amount claimed. In making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Agreement, and the Company shall have the burden of proof to overcome that presumption with clear and convincing evidence to the contrary. The termination of any Proceeding by judgment, order, settlement, conviction, or upon a plea of *nolo contendere* or its equivalent, shall not, of itself, create a presumption that Indemnitee did not act in good faith

and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Company or, in the case of a criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful. In addition, it is the parties' intention that if the Company contests Indemnitee's right to indemnification, the question of Indemnitee's right to indemnification shall be for the court to decide, and neither the failure of the Company (including its Board of Directors, any committee or subgroup of the Board of Directors, independent legal counsel or its stockholders) to have made a determination that indemnification of Indemnitee is proper in the circumstances because Indemnitee has met the applicable standard of conduct required by applicable law, nor an actual determination by the Company (including its Board of Directors, any committee or subgroup of the Board of Directors, independent legal counsel or its stockholders) that Indemnitee has not met such applicable standard of conduct, shall create a presumption that Indemnitee has or has not met the applicable standard of conduct. If any requested determination with respect to entitlement to indemnification hereunder has not been made within ninety (90) days after the final disposition of the Proceeding, the requisite determination that Indemnitee is entitled to indemnification shall be deemed to have been made.

(iii) **Change of Control.** Notwithstanding any other provision in this Agreement, if a Change of Control has occurred, any person or body appointed by the Board of Directors in accordance with applicable law to review the Company's obligations hereunder and under applicable law shall be Independent Counsel selected by Indemnitee and approved by the Company (which approval shall not be unreasonably withheld). Such counsel, among other things, will render its written opinion to the Company and Indemnitee as to whether and to what extent Indemnitee would be entitled to be indemnified hereunder under applicable law and the Company agrees to abide by such opinion. The Company agrees to pay the reasonable fees of the Independent Counsel referred to above and to indemnify fully such counsel against any and all expenses (including attorneys' fees), claims, liabilities and damages arising out of or relating to this Agreement or its engagement pursuant hereto. Notwithstanding any other provision of this Agreement, the Company shall not be required to pay Expenses of more than one Independent Counsel in connection with all matters concerning a single Indemnitee, and such Independent Counsel shall be the Independent Counsel for any or all other Indemnitees unless (i) the Company otherwise determines or (ii) any Indemnitee shall provide a written statement setting forth in detail a reasonable objection to such Independent Counsel representing other indemnitees under agreements similar to this Agreement.

(d) **Payment Directions.** To the extent payments are required to be made hereunder, the Company shall, in accordance with Indemnitee's request (but without duplication), (i) pay such Expenses on behalf of Indemnitee, (b) advance to Indemnitee funds in an amount sufficient to pay such Expenses, or (c) reimburse Indemnitee for such Expenses.

(e) **Notice to Insurers.** If, at the time of the receipt of a notice of a claim pursuant to Section 2(b) hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of the commencement of such Proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of Indemnitee, all amounts payable as a result of such Proceeding in accordance with the terms of such policies. The Company shall provide to Indemnitee: (i) copies of all potentially applicable directors' and officers' liability insurance policies, (ii) a copy of such notice delivered to the applicable insurers,

and (iii) copies of all subsequent correspondence between the Company and such insurers regarding the Proceeding, in each case substantially concurrently with the delivery or receipt thereof by the Company.

(f) **Defense of Claim and Selection of Counsel.** In the event the Company shall be obligated under Section 2(a) hereof to advance Expenses with respect to any Proceeding, the Company, if appropriate, shall be entitled to assume the defense of such Proceeding, with counsel reasonably acceptable to Indemnitee, upon the delivery to Indemnitee of written notice of its election so to do, and upon Indemnitee providing signed, written consent to such assumption, which shall not be unreasonably withheld. After delivery of such notice, approval of such counsel by Indemnitee and the retention of such counsel by the Company, the Company will not be liable to Indemnitee under this Agreement for any fees of counsel subsequently incurred by Indemnitee with respect to the same Proceeding, provided that (i) Indemnitee shall have the right to employ counsel in any such Proceeding at Indemnitee's expense; and (ii) if (A) the employment of counsel by Indemnitee has been previously authorized by the Company, (B) Indemnitee shall have reasonably concluded that there may be a conflict of interest between the Company and Indemnitee in the conduct of any such defense or (C) the Company shall not, in fact, have employed counsel to assume the defense of such Proceeding, then the fees and expenses of Indemnitee's counsel shall be at the expense of the Company. In addition, if there exists a potential, but not an actual conflict of interest between the Company and Indemnitee, the actual and reasonable legal fees and expenses incurred by Indemnitee for separate counsel retained by Indemnitee to monitor the Proceeding (so that such counsel may assume Indemnitee's defense if the conflict of interest between the Company and Indemnitee becomes an actual conflict of interest) shall be deemed to be Expenses that are subject to indemnification hereunder. The existence of an actual or potential conflict of interest, and whether such conflict may be waived, shall be determined pursuant to the rules of attorney professional conduct and applicable law. The Company shall not be required to obtain the consent of Indemnitee for the settlement of any Proceeding the Company has undertaken to defend if the Company assumes full and sole responsibility for each such settlement; provided, however, that the Company shall be required to obtain Indemnitee's prior written approval, which shall not be unreasonably withheld, before entering into any settlement which (1) does not grant Indemnitee a complete release of liability, (2) would impose any penalty or limitation on Indemnitee, or (3) would admit any liability or misconduct by Indemnitee.

3. **Additional Indemnification Rights.**

(a) **Scope.** Notwithstanding any other provision of this Agreement, the Company hereby agrees to indemnify Indemnitee to the fullest extent permitted by law, notwithstanding that such indemnification is not specifically authorized by the other provisions of this Agreement, the Company's Certificate of Incorporation, the Company's Bylaws or by statute. In the event of any change, after the date of this Agreement, in any applicable law, statute or rule which expands the right of a Delaware corporation to indemnify a member of its board of directors or an officer, such changes shall be deemed to be within the purview of Indemnitee's rights and the Company's obligations under this Agreement. In the event of any change in any applicable law, statute or rule which narrows the right of a Delaware corporation to indemnify a member of its board of directors or an officer, such changes, to the extent not otherwise required by such law, statute or rule to be applied to this Agreement shall have no effect on this Agreement or the parties' rights and obligations hereunder.

(b) **Nonexclusivity.** The indemnification provided by this Agreement shall not be deemed exclusive of any rights to which Indemnitee may be entitled under the Company's Certificate of Incorporation, its Bylaws, any agreement, any vote of stockholders or disinterested members of the Company's Board of Directors, the General Corporation Law of Delaware or otherwise, both as to action in Indemnitee's official capacity and as to action in another capacity while holding such office.

(c) **Interest on Unpaid Amounts.** If any payment to be made by the Company to Indemnitee hereunder is delayed by more than ninety (90) days from the date the duly prepared request for such payment is received by the Company, interest shall be paid by the Company to Indemnitee at the legal rate under Delaware law for amounts which the Company indemnifies or is obligated to indemnify for the period commencing with the date on which Indemnitee actually incurs such Expense or pays such judgment, fine or amount in settlement and ending with the date on which such payment is made to Indemnitee by the Company.

(d) **Third-Party Indemnification.** The Company hereby acknowledges that Indemnitee has or may from time to time obtain certain rights to indemnification, advancement of expenses and/or insurance provided by one or more third parties (collectively, the "Third-Party Indemnitors"). The Company hereby agrees that it is the indemnitor of first resort (*i.e.*, its obligations to Indemnitee are primary, and any obligation of the Third-Party Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by Indemnitee are secondary) and that the Company will not assert that the Indemnitee must seek expense advancement or reimbursement, or indemnification, from any Third-Party Indemnitor before the Company must perform its expense advancement and reimbursement, and indemnification obligations, under this Agreement. No advancement or payment by the Third-Party Indemnitors on behalf of Indemnitee with respect to any claim for which Indemnitee has sought indemnification from the Company shall affect the foregoing. The Third-Party Indemnitors shall be subrogated to the extent of such advancement or payment to all of the rights of recovery which Indemnitee would have had against the Company if the Third-Party Indemnitors had not advanced or paid any amount to or on behalf of Indemnitee. If, for any reason, a court of competent jurisdiction determines that the Third-Party Indemnitors are not entitled to the subrogation rights described in the preceding sentence, the Third-Party Indemnitors shall have a right of contribution by the Company to the Third-Party Indemnitors with respect to any advance or payment by the Third-Party Indemnitors to or on behalf of the Indemnitee.

(e) **Indemnification of Control Person.** If (i) Indemnitee is or was affiliated with one or more of the Company's current or former stockholders that may be deemed to be or to have been a controlling person of the Company (each a "Control Person"), (ii) a Control Person is, or is threatened to be made, a party to or a participant (including as a witness) in any Proceeding, and (iii) the Control Person's involvement in the Proceeding is related to Indemnitee's service to the Company as a director of the Company, or arises from the Control Person's status or alleged status as a controlling person of the Company resulting from such Control Person's affiliation with Indemnitee, then the Control Person shall be entitled to all of the indemnification rights and remedies under this Agreement to the same extent as Indemnitee.

4. **Partial Indemnification.** If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of the Expenses, judgments, fines or amounts paid in settlement, actually and reasonably incurred in connection with a Proceeding, but not, however, for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion of such Expenses, judgments, fines and amounts paid in settlement to which Indemnitee is entitled.

5. **Director and Officer Liability Insurance.**

(a) **D&O Policy.** The Company shall, from time to time, make the good faith determination whether or not it is practicable for the Company to obtain and maintain a policy or policies of insurance with reputable insurance companies providing the directors and officers of the Company with coverage for losses from wrongful acts, or to ensure the Company's performance of its indemnification obligations under this Agreement. Among other considerations, the Company will weigh the costs of obtaining such insurance coverage against the protection afforded by such coverage. In all policies of director and officer liability insurance, Indemnitee shall be named as an insured in such a manner as to provide Indemnitee the same rights and benefits as are accorded to the most favorably insured of the Company's directors, if Indemnitee is a director; or of the Company's officers, if Indemnitee is not a director of the Company but is an officer; or of the Company's key employees, if Indemnitee is not an officer or director but is a key employee. Notwithstanding the foregoing, the Company shall have no obligation to obtain or maintain such insurance if the Company determines in good faith that such insurance is not reasonably available, if the premium costs for such insurance are disproportionate to the amount of coverage provided, if the coverage provided by such insurance is limited by exclusions so as to provide an insufficient benefit, or if Indemnitee is covered by similar insurance maintained by a parent or subsidiary of the Company.

(b) **Tail Coverage.** In the event of a Change of Control or the Company's becoming insolvent (including being placed into receivership or entering the federal bankruptcy process and the like), the Company shall maintain in force any and all insurance policies then maintained by the Company in providing insurance (directors' and officers' liability, fiduciary, employment practices or otherwise) in respect of Indemnitee, for a period of six years thereafter.

6. **Severability.** Nothing in this Agreement is intended to require or shall be construed as requiring the Company to do or fail to do any act in violation of applicable law. The Company's inability, pursuant to court order, to perform its obligations under this Agreement shall not constitute a breach of this Agreement. If this Agreement or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Company shall nevertheless indemnify Indemnitee to the full extent permitted by any applicable portion of this Agreement that shall not have been invalidated, and the balance of this Agreement not so invalidated shall be enforceable in accordance with its terms.

7. **Exclusions.** Any other provision herein to the contrary notwithstanding, the Company shall not be obligated pursuant to the terms of this Agreement:

(a) **Claims Initiated by Indemnitee.** To indemnify or advance Expenses to Indemnitee with respect to Proceedings initiated or brought voluntarily by Indemnitee and not by

way of defense, except with respect to Proceedings brought to establish, enforce or interpret a right to indemnification under this Agreement or any other statute or law or otherwise as required under Section 145 of the General Corporation Law of Delaware, but such indemnification or advancement of Expenses may be provided by the Company in specific cases if the Board of Directors finds it to be appropriate; provided, however, that the exclusion set forth in the first clause of this subsection shall not be deemed to apply to any investigation initiated or brought by Indemnitee to the extent reasonably necessary or advisable in support of Indemnitee's defense of a Proceeding to which Indemnitee was, is or is threatened to be made, a party;

(b) **Lack of Good Faith.** To indemnify Indemnitee for any Expenses incurred by Indemnitee with respect to any Proceeding instituted by Indemnitee to establish, enforce or interpret a right to indemnification under this Agreement or any other statute or law or otherwise as required under Section 145 of the General Corporation Law of Delaware, if a court of competent jurisdiction determines that each of the material assertions made by Indemnitee in such Proceeding was not made in good faith or was frivolous;

(c) **Unlawful Payments.** To indemnify Indemnitee for Expenses to the extent it is determined by a final court order or judgment by a court of competent jurisdiction, to which all rights of appeal have either lapsed or been exhausted, that such indemnification is unlawful;

(d) **Certain Conduct.** To indemnify Indemnitee for Expenses on account of Indemnitee's conduct that is established by a final court order or judgment by a court of competent jurisdiction, to which all rights of appeal have either lapsed or been exhausted, as knowingly fraudulent;

(e) **Insured Claims.** To indemnify Indemnitee for Expenses to the extent such Expenses have been paid directly to Indemnitee by an insurance carrier under an insurance policy maintained by the Company; or

(f) **Certain Exchange Act Claims.** To indemnify Indemnitee in connection with any claim made against Indemnitee for (i) an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Exchange Act or any similar successor statute or any similar provisions of state statutory law or common law, or (ii) any reimbursement of the Company by Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by Indemnitee from the sale of securities of the Company, as required in each case under the Exchange Act (including any such reimbursements that arise from an accounting restatement of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") or Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the payment to the Company of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act); provided, however, that to the fullest extent permitted by applicable law and to the extent Indemnitee is successful on the merits or otherwise with respect to any such Proceeding, the Expenses actually and reasonably incurred by Indemnitee in connection with any such Proceeding shall be deemed to be Expenses that are subject to indemnification hereunder.

8. **Contribution Claims.**

(a) If the indemnification provided in Section 1 is unavailable in whole or in part and may not be paid to Indemnitee for any reason other than those set forth in Section 7, then in respect to any Proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such Proceeding), to the fullest extent permitted by applicable law, the Company, in lieu of indemnifying Indemnitee, shall pay, in the first instance, the entire amount incurred by Indemnitee, whether for Expenses, judgments, fines, losses, liabilities, penalties, and amounts paid in settlement, in connection with any Proceeding without requiring Indemnitee to contribute to such payment, and the Company hereby waives and relinquishes any right of contribution it may have at any time against Indemnitee.

(b) Without diminishing or impairing the obligations of the Company set forth in the preceding Section 8(a), if, for any reason, Indemnitee shall elect or be required to pay all or any portion of any Expenses, judgments, fines, losses, liabilities, penalties and amounts paid in settlement in any Proceeding in which the Company is jointly liable with Indemnitee (or would be if joined in such Proceeding), the Company shall contribute to the amount of Expenses, judgments, fines, losses, liabilities, penalties and amounts paid in settlement actually and reasonably incurred and paid or payable by Indemnitee in proportion to the relative benefits received by the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such Proceeding), on the one hand, and Indemnitee, on the other hand, from the transaction or events from which such Proceeding arose; provided, however, that the proportion determined on the basis of relative benefit may, to the extent necessary to conform to law, be further adjusted by reference to the relative fault of the Company and all officers, directors or employees of the Company other than Indemnitee who are jointly liable with Indemnitee (or would be if joined in such Proceeding), on the one hand, and Indemnitee, on the other hand, in connection with the transaction or events that resulted in such Expenses, judgments, fines, losses, liabilities, penalties or settlement amounts, as well as any other equitable considerations which applicable law may require to be considered. The relative fault of the Company and all officers, directors or employees of the Company, other than Indemnitee, who are jointly liable with Indemnitee (or would be if joined in such Proceeding), on the one hand, and Indemnitee, on the other hand, shall be determined by reference to, among other things, the degree to which their actions were motivated by intent to gain personal profit or advantage, the degree to which their liability is primary or secondary and the degree to which their conduct is active or passive.

(c) With respect to a Proceeding brought against directors, officers, employees or agents of the Company (other than Indemnitee), to the fullest extent permitted by applicable law, the Company shall indemnify Indemnitee from any claims for contribution that may be brought by any such directors, officers, employees or agents of the Company (other than Indemnitee) who may be jointly liable with Indemnitee, to the same extent Indemnitee would have been entitled to such indemnification under this Agreement if such Proceeding had been brought against Indemnitee.

9. **No Imputation.** The knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Company or the Company itself shall not be imputed to Indemnitee for purposes of determining any rights under this Agreement.

10. **Determination of Good Faith.** For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or the Board of Directors of the Enterprise or any counsel selected by any committee of the Board of Directors of the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser, investment banker, compensation consultant or other expert selected with reasonable care by the Enterprise or the Board of Directors of the Enterprise or any committee thereof. The provisions of this Section 10 shall not be deemed to be exclusive or to limit in any way the other circumstances in which the Indemnitee may be deemed to have met the applicable standard of conduct. Whether or not the foregoing provisions of this Section are satisfied, it shall in any event be presumed that Indemnitee has at all times acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Company.

11. **Defined Terms and Phrases.** For purposes of this Agreement, the following terms shall have the following meanings:

(a) "Beneficial Owner" and "Beneficial Ownership" shall have the meanings set forth in Rule 13d-3 promulgated under the Exchange Act as in effect on the date hereof.

(b) "Change of Control" shall be deemed to occur upon the earliest of any of the following events:

(i) Acquisition of Stock by Third Party. Any Person is or becomes the Beneficial Owner, directly or indirectly, of securities of the Company representing twenty percent (20%) or more of the combined voting power of the Company's then outstanding securities entitled to vote generally in the election of directors, unless (1) the change in the relative Beneficial Ownership of the Company's securities by any Person results solely from a reduction in the aggregate number of outstanding shares of securities entitled to vote generally in the election of directors, or (2) such acquisition was approved in advance by the Continuing Directors and such acquisition would not constitute a Change of Control under part (iii) of this definition.

(ii) Change in Board of Directors. Individuals who, as of the date of this Agreement, constitute the Company's Board of Directors (the "Board"), and any new director whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two thirds of the directors then still in office who were directors on the date of this Agreement (collectively, the "Continuing Directors"), cease for any reason to constitute at least a majority of the members of the Board.

(iii) Corporate Transaction. The effective date of a reorganization, merger or consolidation of the Company (a "Business Combination"), in each case, unless, following such Business Combination: (1) all or substantially all of the individuals and entities

who were the Beneficial Owners of securities entitled to vote generally in the election of directors immediately prior to such Business Combination beneficially own, directly or indirectly, more than 51% of the combined voting power of the then outstanding securities of the Company entitled to vote generally in the election of directors resulting from such Business Combination (including a corporation which, as a result of such transaction, owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions as their ownership, immediately prior to such Business Combination, of the securities entitled to vote generally in the election of directors and with the power to elect at least a majority of the Board or other governing body of the surviving entity; (2) no Person (excluding any corporation resulting from such Business Combination) is the Beneficial Owner, directly or indirectly, of 15% or more of the combined voting power of the then outstanding securities entitled to vote generally in the election of directors of such corporation except to the extent that such ownership existed prior to the Business Combination; and (3) at least a majority of the Board of Directors of the corporation resulting from such Business Combination were Continuing Directors at the time of the execution of the initial agreement, or of the action of the Board of Directors, providing for such Business Combination.

(iv) Liquidation. The approval by the Company's stockholders of a complete liquidation of the Company or an agreement or series of agreements for the sale or disposition by the Company of all or substantially all of the Company's assets, other than factoring the Company's current receivables or escrows due (or, if such approval is not required, the decision by the Board to proceed with such a liquidation, sale or disposition in one transaction or a series of related transactions).

(v) Other Events. There occurs any other event of a nature that would be required to be reported in response to Item 6(e) of Schedule 14A of Regulation 14A (or a response to any similar item or any similar schedule or form) promulgated under the Exchange Act whether or not the Company is then subject to such reporting requirement.

(c) "Company" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that if Indemnitee is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, trustee, general partner, managing member, fiduciary, employee or agent of any other enterprise, Indemnitee shall stand in the same position under the provisions of this Agreement with respect to the resulting or surviving corporation as Indemnitee would have with respect to such constituent corporation if its separate existence had continued.

(d) "Enterprise" means the Company and any other enterprise that Indemnitee was or is serving at the request of the Company as a director, officer, partner (general, limited or otherwise), member (managing or otherwise), trustee, fiduciary, employee or agent.

(e) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(f) "Expenses" shall include all direct and indirect costs, fees and expenses of any type or nature whatsoever, including all attorneys' fees and costs, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, fees of private investigators and professional advisors, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, any federal, state, local or foreign taxes imposed on Indemnitee as a result of the actual or deemed receipt of any payment under this Agreement (including taxes that may be imposed upon the actual or deemed receipt of payments under this Agreement with respect to the imposition of federal, state, local or foreign taxes), fax transmission charges, secretarial services and all other disbursements, obligations or expenses in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, settlement or appeal of, or otherwise participating in a Proceeding. Expenses also shall include any of the foregoing expenses incurred in connection with any appeal resulting from any Proceeding, including the principal, premium, security for, and other costs relating to any costs bond, supersedes bond, or other appeal bond or its equivalent. Expenses also shall include any interest, assessment or other charges imposed thereon and costs incurred in preparing statements in support of payment requests hereunder. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(g) "Independent Counsel" means an attorney or firm of attorneys, selected in accordance with the provisions of Section 2(c)(iii), who will not have otherwise performed services for the Company or Indemnitee within the last three years (other than with respect to matters concerning the rights of Indemnitee under this Agreement, or of other indemnitees under similar indemnity agreements).

(h) "Person" shall have the meaning as set forth in Section 13(d) and 14(d) of the Exchange Act as in effect on the date hereof; provided, however, that "Person" shall exclude: (i) the Company; (ii) any direct or indirect majority owned subsidiaries of the Company; (iii) any employee benefit plan of the Company or any direct or indirect majority owned subsidiaries of the Company or of any corporation owned, directly or indirectly, by the Company's stockholders in substantially the same proportions as their ownership of stock of the Company (an "Employee Benefit Plan"); and (iv) any trustee or other fiduciary holding securities under an Employee Benefit Plan.

(i) "Proceeding" shall include any actual, threatened, pending or completed action, suit, arbitration, mediation, alternate dispute resolution mechanism, investigation, inquiry, administrative hearing, claim, or any other actual, threatened or completed proceeding, whether brought by a third party, a government agency, the Company or its Board of Directors or a committee thereof, whether in the right of the Company or otherwise and whether of a civil (including intentional or unintentional tort claims), criminal, administrative, legislative or investigative (formal or informal) nature, including any appeal therefrom, in which Indemnitee was, is, will or might be involved as a party, potential party, non-party witness or otherwise by reason of the fact that Indemnitee is or was a director, officer, employee or agent of the Company, by reason of any action (or failure to act) taken by Indemnitee or of any action (or failure to act) on Indemnitee's part while acting as a director, officer, employee or agent of the Company, or by reason of the fact that Indemnitee is or was serving at the request of the Company as a director, officer, partner (general, limited or otherwise), member (managing or otherwise), trustee, fiduciary, employee or agent of any other enterprise, in each case whether or not serving in such capacity at the time any liability or expense is incurred for which indemnification, reimbursement or advancement of expenses can be provided under this Agreement.

(j) In addition, references to "other enterprise" shall include another corporation, partnership, limited liability company, joint venture, trust, employee benefit plan or any other enterprise; references to "fines" shall include any excise taxes assessed on Indemnitee with respect to an employee benefit plan; references to "serving at the request of the Company" shall include any service as a director, officer, employee or agent of the Company which imposes duties on or involves services by Indemnitee with respect to an employee benefit plan, its participants, or beneficiaries; and if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan, Indemnitee shall be deemed to have acted in a manner "not opposed to the best interests of the Company" as referred to in this Agreement; references to "include" or "including" shall mean include or including, without limitation; and references to Sections, paragraphs or clauses are to Sections, paragraphs or clauses in this Agreement unless otherwise specified.

12. **Attorneys' Fees.** In the event that any Proceeding is instituted by Indemnitee under this Agreement to enforce or interpret any of the terms hereof, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection with such Proceeding, unless a court of competent jurisdiction determines that each of the material assertions made by Indemnitee as a basis for such Proceeding were not made in good faith or were frivolous. In the event of a Proceeding instituted by or in the name of the Company under this Agreement or to enforce or interpret any of the terms of this Agreement, the Company shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee in connection with such Proceeding (including with respect to Indemnitee's counterclaims and cross-claims made in such action), unless a court of competent jurisdiction determines that each of Indemnitee's material defenses to such action were made in bad faith or were frivolous.

13. **Miscellaneous.**

(a) **Governing Law.** The validity, interpretation, construction and performance of this Agreement and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the state of Delaware, without giving effect to principles of conflicts of law.

(b) **Entire Agreement; Binding Effect.** Without limiting any of the rights of Indemnitee described in Section 3(b), this Agreement sets forth the entire agreement and understanding of the parties relating to the subject matter herein and merges all prior discussions and supersedes any and all previous agreements between them covering the subject matter herein. The indemnification provided under this Agreement applies with respect to events occurring before or after the effective date of this Agreement and shall continue to apply even after Indemnitee has ceased to serve the Company in any and all indemnified capacities.

(c) **Amendments and Waivers.** No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, shall be effective unless in writing and signed by the parties to this Agreement. The failure by either party to enforce any rights under this Agreement shall not be construed as a waiver of any rights of such party.

(d) **Notices.** Any notice, demand or request required or permitted to be given under this Agreement shall be in writing and shall be deemed sufficient when delivered personally or sent by fax or 48 hours after being sent by nationally-recognized courier or deposited in the U.S. mail, as certified or registered mail, with postage prepaid, and addressed to the party to be notified at such party's address or fax number as set forth below or as subsequently modified by written notice.

(e) **Severability.** If one or more provisions of this Agreement are held to be unenforceable under applicable law, the parties agree to renegotiate such provision in good faith. In the event that the parties cannot reach a mutually agreeable and enforceable replacement for such provision, then (i) such provision shall be excluded from this Agreement, (ii) the balance of the Agreement shall be interpreted as if such provision were so excluded and (iii) the balance of the Agreement shall be enforceable in accordance with its terms.

(f) **Construction.** This Agreement is the result of negotiations between and has been reviewed by each of the parties hereto and their respective counsel, if any; accordingly, this Agreement shall be deemed to be the product of all of the parties hereto, and no ambiguity shall be construed in favor of or against any one of the parties hereto.

(g) **Counterparts.** This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which together shall constitute one instrument. Execution of a facsimile or scanned copy or by electronic means will have the same force and effect as execution of an original, and a facsimile, scanned or electronically generated signature will be deemed an original and valid signature.

(h) **Successors and Assigns.** This Agreement shall be binding upon the Company and its successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of the Company) and assigns, and inure to the benefit of Indemnitee and Indemnitee's heirs, executors, administrators, legal representatives and assigns. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company, by written agreement in form and substance satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

(i) **No Employment Rights.** Nothing contained in this Agreement is intended to create in Indemnitee any right to continued employment.

(j) **Company Position.** The Company shall be precluded from asserting, in any Proceeding brought for purposes of establishing, enforcing or interpreting any right to indemnification under this Agreement, that the procedures and presumptions of this Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Company is bound by all the provisions of this Agreement and is precluded from making any assertion to the contrary.

(k) **Subrogation.** Subject to Section 3(d), in the event of payment under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all documents required and shall do all acts that may be necessary to secure such rights and to enable the Company to effectively bring suit to enforce such rights.

[Signature Page Follows]

The parties have executed this Amended & Restated Indemnification Agreement as of the date first set forth above.

THE COMPANY:

CORTEXYME, INC.

By: _____
(Signature)

Name: Casey C. Lynch
Title: Chief Executive Officer

Address:

_____

_____

AGREED TO AND ACCEPTED:

INDEMNITEE:

[NAME]

_____
(Signature)

Address:

_____

_____

Exhibit 10.4

CORTEXYME, INC.

2019 EQUITY INCENTIVE PLAN

1. Purposes of the Plan. The purposes of this Plan are (a) to attract and retain the best available personnel to ensure the Company's success and accomplish the Company's goals; (b) to incentivize Employees, Directors and Independent Contractors with long-term equity-based compensation to align their interests with the Company's stockholders, and (c) to promote the success of the Company's business.

The Plan permits the grant of Incentive Stock Options, Nonstatutory Stock Options, Restricted Stock, Restricted Stock Units, Stock Appreciation Rights, Performance Units and Performance Shares.

This Plan is a continuation of the Company's 2014 Stock Plan which has been amended, restated and re-named into the form of this Plan effective as of the Effective Date.

2. Definitions. As used herein, the following definitions will apply:

(a) "Administrator" means the Board or any of its Committees as will be administering the Plan, in accordance with Section 4 of the Plan.

(b) "Affiliate" means (i) an entity other than a Subsidiary which, together with the Company, is under common control of a third person or entity and (ii) an entity other than a Subsidiary in which the Company and/or one or more Subsidiaries own a controlling interest.

(c) "Applicable Laws" means all applicable laws, rules, regulations and requirements, including, but not limited to, all applicable U.S. federal or state laws, rules and regulations, the rules and regulations of any stock exchange or quotation system on which the Common Stock is listed or quoted, and the applicable laws, rules and regulations of any other country or jurisdiction where Awards are, or will be, granted under the Plan or Participants reside or provide services to the Company or any Parent or Subsidiary of the Company, as such laws, rules, and regulations shall be in effect from time to time.

(d) "Award" means, individually or collectively, a grant under the Plan of Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares.

(e) "Award Agreement" means the written or electronic agreement setting forth the terms and provisions applicable to each Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.

(f) "Board" means the Board of Directors of the Company.

(g) "Cause" means, with respect to the termination of a Participant's status as a Service Provider, except as otherwise defined in an Award Agreement, (i) in the case where there is no employment agreement, consulting agreement, change in control agreement or similar agreement in effect between the Company or an Affiliate of the Company and the Participant at the time of the grant of the Award (or where there is such an agreement but it does not define "cause" (or words of like import) or where it only applies upon the occurrence of a change in control and one has not yet taken place): (A) any material breach by Participant of any material written agreement between Participant and the Company; (B) any failure by Participant to comply with the Company's material written policies or rules as they may be in effect from time to time; (C) neglect or persistent unsatisfactory performance of Participant's duties; (D) Participant's repeated failure to follow reasonable and lawful instructions from the Board or Chief Executive Officer; (E) Participant's indictment for, conviction of, or plea of guilty or nolo contendre to, any felony or crime that results in, or is reasonably expected to result in, a material adverse effect on the business or reputation of the Company; (F) Participant's commission of or participation in an act of fraud against the Company; (G) Participant's intentional material damage to the Company's business, property or reputation; or (H) Participant's unauthorized use or disclosure of any proprietary information or trade secrets of the Company or any other party to whom the Participant owes an obligation of nondisclosure as a result of his or her relationship with the Company; or (ii) in the case where there is an employment agreement, consulting agreement, change in control agreement or similar agreement in effect between the Company or an Affiliate and the Participant at the time of the grant of the Award that defines "cause" (or words of like import), "cause" as defined under such agreement; provided, however, that with regard to any agreement under which the definition of "cause" only applies on occurrence of a change in control, such definition of "cause" shall not apply until a change in control actually takes place and then only with regard to a termination thereafter. For purposes of clarity, a termination without "Cause" does not include any termination that occurs solely as a result of Participant's death or Disability. The determination as to whether a Participant's status as a Service Provider for purposes of the Plan has been terminated for Cause shall be made in good faith by the Company and shall be final and binding on the Participant. The foregoing definition does not in any way limit the Company's ability (or that of any Parent or Subsidiary or any successor thereto, as appropriate) to terminate a Participant's employment or consulting relationship at any time, subject to Applicable Laws.

(h) "Change in Control" except as may otherwise be provided in an Award Agreement or other applicable agreement, means the occurrence of any of the following:

(i) The consummation of a merger or consolidation of the Company with or into another entity or any other corporate reorganization, if the Company's stockholders immediately prior to such merger, consolidation or reorganization cease to directly or indirectly own immediately after such merger, consolidation or reorganization at least a majority of the combined voting power of the continuing or surviving entity's securities outstanding immediately after such merger, consolidation or reorganization;

(ii) The consummation of the sale, transfer or other disposition of all or substantially all of the Company's assets (other than (x) to a corporation or other entity of which at least a majority of its combined voting power is owned directly or indirectly by the Company, (y) to a corporation or other entity owned directly or indirectly by the shareholders of the Company in substantially the same proportions as their ownership of the Common Stock of the Company or (z) to a continuing or surviving entity described in Section 2(h)(i) in connection with a merger, consolidation or reorganization which does not result in a Change in Control under Section 2(h)(i));

(iii) A change in the effective control of the Company which occurs on the date that a majority of members of the Board is replaced during any twelve (12) month period by Directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election; or

(iv) The consummation of any transaction as a result of which any Person becomes the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of securities of the Company representing at least fifty percent (50%) of the total voting power represented by the Company's then outstanding voting securities. For purposes of this Section 2(g), the term "Person" shall have the same meaning as when used in Sections 13(d) and 14(d) of the Exchange Act but shall exclude:

(1) a trustee or other fiduciary holding securities under an employee benefit plan of the Company or an affiliate of the Company;

(2) a corporation or other entity owned directly or indirectly by the stockholders of the Company in substantially the same proportions as their ownership of the Common Stock of the Company;

(3) the Company; and

(4) a corporation or other entity of which at least a majority of its combined voting power is owned directly or indirectly by the Company.

A transaction shall not constitute a Change in Control if its sole purpose is to change the state of the Company's incorporation or to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transactions. In addition, if any Person (as defined above) is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered to cause a Change in Control. If required for compliance with Section 409A of the Code, in no event will a Change in Control be deemed to have occurred if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(i) "Code" means the Internal Revenue Code of 1986, as amended. Reference to a specific section of the Code or regulation thereunder shall include such section or regulation, any valid regulation promulgated under such section, and any comparable provision of any future legislation or regulation amending, supplementing or superseding such section or regulation.

(j) "Committee" means a committee of Directors or of other individuals satisfying Applicable Laws appointed by the Board in accordance with Section 4 hereof.

(k) "Common Stock" means the common stock of the Company.

(l) "Company" means Cortexyme, Inc., a Delaware corporation, or any successor thereto.

(m) "Director" means a member of the Board.

(n) "Disability" means total and permanent disability as defined in Section 22(e)(3) of the Code, provided that in the case of Awards other than Incentive Stock Options, the Administrator in its discretion may determine whether a permanent and total disability exists in accordance with uniform and non-discriminatory standards adopted by the Administrator from time to time.

(o) "Effective Date" means the day immediately prior to the Registration Date.

(p) "Employee" means any person, including Officers and Directors, employed by the Company or any Parent or Subsidiary of the Company. Neither service as a Director nor payment of a director's fee by the Company will be sufficient to constitute "employment" by the Company.

(q) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(r) "Exchange Program" means a program under which outstanding Awards are amended to provide for a lower exercise price or surrendered or cancelled in exchange for (i) Awards with a lower exercise price, (ii) a different type of Award or awards under a different equity incentive plan, (iii) cash, or (iv) a combination of (i), (ii) and/or (iii). Notwithstanding the preceding, the term Exchange Program does not include (i) any action described in Section 14 or any action taken in connection with a Change in Control transaction nor (ii) any transfer or other disposition permitted under Section 13. For the purpose of clarity, each of the actions described in the prior sentence, none of which constitute an Exchange Program, may be undertaken (or authorized) by the Administrator in its sole discretion without approval by the Company's stockholders.

(s) "Fair Market Value" means, as of any date, the value of Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or a national market system, its Fair Market Value will be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the day of determination, as reported in such source as the Administrator deems reliable;

(ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share will be the mean between the high bid and low asked prices for the Common Stock on the day of determination, as reported in such source as the Administrator deems reliable;

(iii) For purposes of any Awards granted on the Registration Date, the Fair Market Value will be the initial price to the public as set forth in the final prospectus included within the registration statement on Form S-1 filed with the Securities and Exchange Commission for the initial public offering of the Company's Common Stock; or

(iv) In the absence of an established market for the Common Stock, the Fair Market Value will be determined in good faith by the Administrator in compliance with applicable laws and regulations and in a manner that complies with Sections 409A of the Code.

(t) "Fiscal Year" means the fiscal year of the Company.

(u) "Incentive Stock Option" means an Option that by its terms qualifies and is intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(v) "Independent Contractor" means any person, including an advisor, consultant or agent, engaged by the Company or a Parent or Subsidiary to render services to such entity or who renders, or has rendered, services to the Company, or any Parent, Subsidiary or affiliate and is compensated for such services.

(w) "Inside Director" means a Director who is an Employee.

(x) "Nonstatutory Stock Option" means an Option that by its terms does not qualify or is not intended to qualify as an Incentive Stock Option.

(y) "Officer" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(z) "Option" means a stock option granted pursuant to the Plan.

(aa) "Outside Director" means a Director who is not an Employee.

(bb) "Parent" means any corporation (other than the Company) in an unbroken chain of corporations ending with the Company if each of the corporations other than the Company owns stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Parent on a date after the adoption of the Plan shall be considered a Parent commencing as of such date.

(cc) "Participant" means the holder of an outstanding Award.

(dd) "Performance Goal" means a formula or standard determined by the Committee with respect to each Performance Period based on one or more of the following criteria and any adjustment(s) thereto established by the Committee: (1) sales or non-sales revenue; (2) return on revenues; (3) operating income; (4) income or earnings including operating income; (5) income or earnings before or after taxes, interest, depreciation and/or amortization; (6) income or earnings from continuing operations; (7) net income; (8) pre-tax income or after-tax income; (9) net income excluding amortization of intangible assets, depreciation and impairment of goodwill and intangible assets and/or excluding charges attributable to the adoption of new accounting pronouncements; (10) raising of financing or fundraising; (11) project financing; (12) revenue backlog; (13) gross margin; (14) operating margin or profit margin; (15) capital expenditures, cost targets, reductions and savings and expense management; (16) return on assets (gross or net), return on investment, return on capital, or return on stockholder equity; (17) cash flow, free cash flow, cash flow return on investment (discounted or otherwise), net cash provided by operations, or cash flow in excess of cost of capital; (18) performance warranty and/or guarantee claims; (19) stock price or total stockholder return; (20) earnings or book value per share (basic or diluted); (21) economic value created; (22) pre-tax profit or after-tax profit; (23) strategic business criteria, consisting of one or more objectives based on meeting specified market penetration or market share, completion of strategic agreements such as licenses, joint ventures, acquisitions, and the like, geographic business expansion, objective customer satisfaction or information technology goals, intellectual property asset metrics; (24) objective goals

relating to divestitures, joint ventures, mergers, acquisitions and similar transactions; (25) objective goals relating to staff management, results from staff attitude and/or opinion surveys, staff satisfaction scores, staff safety, staff accident and/or injury rates, compliance, headcount, performance management, completion of critical staff training initiatives; (26) objective goals relating to projects, including project completion, timing and/or achievement of milestones, project budget, technical progress against work plans; and (27) enterprise resource planning. Awards issued to Participants may take into account other criteria (including subjective criteria). Performance Goals may differ from Participant to Participant, Performance Period to Performance Period and from Award to Award. Any criteria used may be measured, as applicable, (i) in absolute terms, (ii) in relative terms (including, but not limited to, any increase (or decrease) over the passage of time and/or any measurement against other companies or financial or business or stock index metrics particular to the Company), (iii) on a per share and/or share per capita basis, (iv) against the performance of the Company as a whole or against any affiliate(s), or a particular segment(s), a business unit(s) or a product(s) of the Company or individual project company, (v) on a pre-tax or after-tax basis, and/or (vi) using an actual foreign exchange rate or on a foreign exchange neutral basis.

(ee) "Performance Period" means the time period during which the Performance Goals or other vesting provisions must be satisfied for Performance Shares or Performance Units.

(ff) "Performance Share" means an Award denominated in Shares which may be earned in whole or in part upon attainment of Performance Goals or other vesting criteria as the Administrator may determine pursuant to Section 10.

(gg) "Performance Unit" means an Award which may be earned in whole or in part upon attainment of Performance Goals or other vesting criteria as the Administrator may determine and which may be settled for cash, Shares or other securities or a combination of the foregoing pursuant to Section 10.

(hh) "Period of Restriction" means the period during which the transfer of Shares of Restricted Stock are subject to restrictions and therefore, the Shares are subject to a substantial risk of forfeiture. Such restrictions may be based on the passage of time, the achievement of target levels of performance, or the occurrence of other events as determined by the Administrator.

(ii) "Plan" means this 2019 Equity Incentive Plan.

(jj) "Registration Date" means the effective date of the first registration statement that is filed by the Company and declared effective pursuant to Section 12(g) of the Exchange Act, with respect to any class of the Company's securities.

(kk) "Restricted Stock" means Shares issued pursuant to a Restricted Stock award under Section 7 of the Plan.

(ll) "Restricted Stock Unit" means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 8. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company.

(mm) "Rule 16b-3" means Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.

(nn) "Section 16(b)" means Section 16(b) of the Exchange Act.

(oo) "Service Provider" means an Employee, Director or Independent Contractor.

(pp) "Share" means a share of the Common Stock, as adjusted in accordance with Section 14 of the Plan.

(qq) "Stock Appreciation Right" means an Award, granted alone or in connection with an Option, that pursuant to Section 9 is designated as a Stock Appreciation Right.

(rr) "Subsidiary" means any corporation (other than the Company) in an unbroken chain of corporations beginning with the Company if each of the corporations other than the last corporation in the unbroken chain owns stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain. A corporation that attains the status of a Subsidiary on a date after the adoption of the Plan shall be considered a Subsidiary commencing as of such date.

(ss) "Tax-Related Items" means income tax, social insurance or other social contributions, national insurance, social security, payroll tax, fringe benefits tax, payment on account or other tax-related items.

3. Stock Subject to the Plan.

(a) Stock Subject to the Plan. Subject to the provisions of Section 14 of the Plan, the maximum aggregate number of Shares that may be issued under the Plan is 5,131,549 Shares. The Shares may be authorized, but unissued, or reacquired Common Stock. Notwithstanding the foregoing, subject to the provisions of Section 14 below, in no event shall the maximum aggregate number of Shares that may be issued under the Plan pursuant to Incentive Stock Options exceed the number set forth in this Section 3(a) plus, to the extent allowable under Section 422 of the Code and the regulations promulgated thereunder, any Shares that again become available for issuance pursuant to Sections 3(b) and 3(c).

(b) Automatic Share Reserve Increase. The number of Shares available for issuance under the Plan will be increased on the first day of each Fiscal Year beginning with the 2020 Fiscal Year, in an amount equal to the lessor of (i) 2,146,354 Shares, (ii) four percent (4%) of the outstanding Shares on the last day of the immediately preceding Fiscal Year and (iii) such number of Shares determined by the Board.

(c) Lapsed Awards. To the extent an Award should expire or be forfeited or become unexercisable for any reason without having been exercised in full, or is surrendered pursuant to an Exchange Program, the unissued Shares that were subject thereto shall, unless the Plan shall have been terminated, continue to be available under the Plan for issuance pursuant to future Awards. In addition, any Shares which are retained by the Company upon exercise of an Award in order to satisfy the exercise or purchase price for such Award or any withholding taxes due with respect to such Award shall be treated as not issued and shall continue to be available under the Plan for issuance pursuant to future Awards. Shares issued under the Plan and later forfeited to the Company due to the failure to vest or repurchased by the Company at the original purchase price paid to the Company for the Shares (including, without limitation, upon forfeiture to or repurchase by the Company in connection with a

Participant ceasing to be a Service Provider) shall again be available for future grant under the Plan. To the extent an Award under the Plan is paid out in cash rather than Shares, such cash payment will not result in reducing the number of Shares available for issuance under the Plan.

4. Administration of the Plan.

(a) Procedure.

(i) Multiple Administrative Bodies. Different Committees with respect to different groups of Service Providers may administer the Plan.

(ii) Rule 16b-3. To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder will be structured to satisfy the requirements for exemption under Rule 16b-3.

(iii) Other Administration. Other than as provided above, the Plan will be administered by (A) the Board or (B) a Committee, which committee will be constituted to satisfy Applicable Laws.

(b) Powers of the Administrator. Subject to the provisions of the Plan, the Administrator will have the authority, in its discretion:

(i) to determine the Fair Market Value in accordance with Section 2(c);

(ii) to select the Service Providers to whom Awards may be granted hereunder;

(iii) to determine the number of Shares to be covered by each Award granted hereunder;

(iv) to approve forms of Award Agreements for use under the Plan;

(v) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder; such terms and conditions include, but are not limited to, the exercise price, the time or times when Awards may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions, and any restriction or limitation regarding any Award or the Shares relating thereto, based in each case on such factors as the Administrator will determine;

(vi) to institute and determine the terms and conditions of an Exchange Program; provided however, that the Committee shall not implement an Exchange Program without the approval of the holders of a majority of the Shares that are present in person or by proxy and entitled to vote at any annual or special meeting of Company’s stockholders;

(vii) to construe and interpret the terms of the Plan and Awards granted pursuant to the Plan;

(viii) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations established for the purpose of satisfying applicable non-U.S. laws, for qualifying for favorable tax treatment under applicable non-U.S. laws or facilitating compliance with non-U.S. laws (sub-plans may be created for any of these purposes);

(ix) to modify or amend each Award (subject to Section 21 of the Plan), including but not limited to the discretionary authority to extend the post-termination exercisability period of Awards, to accelerate vesting and to extend the maximum term of an Option (subject to Section 6(b) of the Plan regarding Incentive Stock Options);

(x) to allow Participants to satisfy tax withholding obligations in such manner as prescribed in Section 15 of the Plan;

(xi) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator;

(xii) to allow a Participant to defer the receipt of the payment of cash or the delivery of Shares that would otherwise be due to such Participant under an Award; and

(xiii) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) Effect of Administrator's Decision. The Administrator's decisions, determinations and interpretations will be final and binding on all Participants and any other holders of Awards.

(d) Delegation by the Committee. To the extent permitted by Applicable Law, the Committee, in its sole discretion and on such terms and conditions as it may provide, may delegate all or any part of its authority and powers under the Plan to one or more Directors or officers of the Company.

5. Award Eligibility. Nonstatutory Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Shares and Performance Units may be granted to Service Providers. Incentive Stock Options may be granted only to Employees.

6. Stock Options.

(a) Limitations. Each Option will be designated in the Award Agreement as either an Incentive Stock Option or a Nonstatutory Stock Option. However, notwithstanding such designation, to the extent that the aggregate Fair Market Value of the Shares with respect to which Incentive Stock Options are exercisable for the first time by the Participant during any calendar year (under all plans of the Company and any Parent or Subsidiary) exceeds one hundred thousand dollars ($100,000), such Options will be treated as Nonstatutory Stock Options. For purposes of this Section 6(a), Incentive Stock Options will be taken into account in the order in which they were granted. The Fair Market Value of the Shares will be determined as of the date the Option with respect to such Shares is granted. With respect to the Committee's authority in Section 4(b)(ix), if, at the time of any such extension, the exercise price per Share of the Option is less than the Fair Market Value of a Share, the extension shall, unless otherwise determined by the Committee, be limited to the earlier

of (1) the maximum term of the Option as set by its original terms, or (2) ten (10) years from the grant date. Unless otherwise determined by the Committee, any extension of the term of an Option pursuant to this Section 4(b)(ix) shall comply with Code Section 409A to the extent necessary to avoid taxation thereunder.

(b) Term of Option. The term of each Option will be stated in the Award Agreement. In the case of an Incentive Stock Option, the term will be ten (10) years from the date of grant or such shorter term as may be provided in the Award Agreement. Moreover, in the case of an Incentive Stock Option granted to a Participant who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Parent or Subsidiary, the term of the Incentive Stock Option will be five (5) years from the date of grant or such shorter term as may be provided in the Award Agreement.

(c) Option Exercise Price and Consideration.

(i) Exercise Price. The per share exercise price for the Shares to be issued pursuant to exercise of an Option will be determined by the Administrator, subject to the following:

(1) In the case of an Incentive Stock Option

(A) granted to an Employee who, at the time the Incentive Stock Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per Share exercise price will be no less than one hundred ten percent (110%) of the Fair Market Value per Share on the date of grant.

(B) granted to any Employee other than an Employee described in paragraph (A) immediately above, the per Share exercise price will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(2) In the case of a Nonstatutory Stock Option, the per Share exercise price will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(3) Notwithstanding the foregoing, Options may be granted with a per Share exercise price of less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant pursuant to a transaction described in, and in a manner consistent with, Section 424(a) of the Code.

(ii) Waiting Period and Exercise Dates. At the time an Option is granted, the Administrator will fix the period within which the Option may be exercised and will determine any conditions that must be satisfied before the Option may be exercised.

(iii) Form of Consideration. The Administrator will determine the acceptable form of consideration for exercising an Option, including the method of payment. In the case of an Incentive Stock Option, the Administrator will determine the acceptable form of consideration at the time of grant. Such consideration for both types of Options may consist entirely of: (1) cash; (2) check; (3) promissory note, to the extent permitted by Applicable Laws, (4) other Shares, provided that such Shares have a Fair Market Value on the date of surrender equal to the

aggregate exercise price of the Shares as to which such Option will be exercised and provided that accepting such Shares will not result in any adverse accounting consequences to the Company, as the Administrator determines in its sole discretion; (5) consideration received by the Company under a broker-assisted (or other) cashless exercise program (whether through a broker or otherwise) implemented by the Company in connection with the Plan; (6) by net exercise; (7) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or (8) any combination of the foregoing methods of payment.

(d) Exercise of Option.

(i) Procedure for Exercise; Rights as a Stockholder. Any Option granted hereunder will be exercisable according to the terms of the Plan and at such times and under such conditions as determined by the Administrator and set forth in the Award Agreement. An Option may not be exercised for a fraction of a Share.

An Option will be deemed exercised when the Company receives: (i) a notice of exercise (in such form as the Administrator may specify from time to time) from the person entitled to exercise the Option, and (ii) full payment for the Shares with respect to which the Option is exercised (together with full payment of any applicable taxes or other amounts required to be withheld or deducted with respect to the Option). Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Award Agreement and the Plan. Shares issued upon exercise of an Option will be issued in the name of the Participant or, if requested by the Participant, in the name of the Participant and his or her spouse. Until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to an Option, notwithstanding the exercise of the Option. The Company will issue (or cause to be issued) such Shares promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 14 of the Plan.

(ii) Termination of Relationship as a Service Provider. If a Participant ceases to be a Service Provider, other than upon the Participant's termination as the result of the Participant's death, Disability or Cause, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option will remain exercisable for three (3) months following the Participant's termination. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If after termination the Participant does not exercise his or her Option within the time specified by the Administrator, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iii) Disability of Participant. If a Participant ceases to be a Service Provider as a result of the Participant's Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent the Option is vested on the date of termination (but in no event later than the expiration of the term of such Option as set forth in the

Award Agreement). In the absence of a specified time in the Award Agreement, the Option will remain exercisable for twelve (12) months following the Participant's termination. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If after termination the Participant does not exercise his or her Option within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iv) Death of Participant. If a Participant dies while a Service Provider, the Option may be exercised following the Participant's death within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of death (but in no event may the Option be exercised later than the expiration of the term of such Option as set forth in the Award Agreement), by the Participant's designated beneficiary, provided such beneficiary has been designated prior to Participant's death in a form acceptable to the Administrator. If no such beneficiary has been designated by the Participant, then such Option may be exercised by the personal representative of the Participant's estate or by the person(s) to whom the Option is transferred pursuant to the Participant's will or in accordance with the laws of descent and distribution. In the absence of a specified time in the Award Agreement, the Option will remain exercisable for twelve (12) months following Participant's death. Unless otherwise provided by the Administrator, if on the date of termination the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If the Option is not so exercised within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(v) Termination for Cause. If a Participant ceases to be a Service Provider as a result of being terminated for Cause, any outstanding Option (including any vested portion thereof) held by such Participant shall immediately terminate in its entirety upon the Participant being first notified of his or her termination for Cause and the Participant will be prohibited from exercising his or her Option from and after the date of such termination. All the Participant's rights under any Option, including the right to exercise the Option, may be suspended pending an investigation of whether Participant will be terminated for Cause.

7. Restricted Stock.

(a) Grant of Restricted Stock. Subject to the terms and provisions of the Plan, the Administrator, at any time and from time to time, may grant Shares of Restricted Stock to Service Providers in such amounts as the Administrator, in its sole discretion, will determine.

(b) Restricted Stock Agreement. Each Award of Restricted Stock will be evidenced by an Award Agreement that will specify the Period of Restriction, the number of Shares granted, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Unless the Administrator determines otherwise, the Company as escrow agent will hold Shares of Restricted Stock until the restrictions on such Shares have lapsed.

(c) Transferability. Except as provided in this Section 7 or the Award Agreement, Shares of Restricted Stock may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable Period of Restriction.

(d) Other Restrictions. The Administrator, in its sole discretion, may impose such other restrictions on Shares of Restricted Stock as it may deem advisable or appropriate.

(e) Removal of Restrictions. Except as otherwise provided in this Section 7, Shares of Restricted Stock covered by each Restricted Stock grant made under the Plan will be released from escrow as soon as practicable after the last day of the Period of Restriction or at such other time as the Administrator may determine. The Administrator, in its discretion, may accelerate the time at which any restrictions will lapse or be removed.

(f) Voting Rights. During the Period of Restriction, Service Providers holding Shares of Restricted Stock granted hereunder may exercise full voting rights with respect to those Shares, unless the Administrator determines otherwise.

(g) Dividends and Other Distributions. During the Period of Restriction, Service Providers holding Shares of Restricted Stock will be entitled to receive all dividends and other distributions paid with respect to such Shares, unless the Administrator provides otherwise. If any such dividends or distributions are paid in Shares, the Shares will be subject to the same restrictions, including, without limitation, restrictions on transferability and forfeitability, as the Shares of Restricted Stock with respect to which they were paid.

(h) Return of Restricted Stock to Company. On the date set forth in the Award Agreement, the Restricted Stock for which restrictions have not lapsed will be cancelled and returned as unissued shares to the Company and again will become available for grant under the Plan.

8. Restricted Stock Units.

(a) Grant. Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator. After the Administrator determines that it will grant Restricted Stock Units under the Plan, it will advise the Participant in an Award Agreement of the terms, conditions, and restrictions (if any) related to the grant, including the number of Restricted Stock Units.

(b) Vesting Criteria and Other Terms. The Administrator will set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant. The Administrator may set vesting criteria based upon the achievement of Company-wide, business unit, or individual goals (including, but not limited to, continued employment), or any other basis (including the passage of time) determined by the Administrator in its discretion.

(c) Earning Restricted Stock Units. Upon meeting the applicable vesting criteria, the Participant will be entitled to receive a payout as determined by the Administrator. Notwithstanding the foregoing, at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.

(d) Dividend Equivalents. The Administrator may, in its sole discretion, award dividend equivalents in connection with the grant of Restricted Stock Units that may be settled in cash, in Shares of equivalent value, or in some combination thereof.

(e) Form and Timing of Payment. Payment of earned Restricted Stock Units will be made upon the date(s) determined by the Administrator and set forth in the Award Agreement. The Administrator, in its sole discretion, may only settle earned Restricted Stock Units in cash, Shares, or a combination of both.

(f) Cancellation. On the date set forth in the Award Agreement, all Shares underlying any unvested, unlapsed unearned Restricted Stock Units will be forfeited to the Company for future issuance.

9. Stock Appreciation Rights.

(a) Grant of Stock Appreciation Rights. Subject to the terms and conditions of the Plan, a Stock Appreciation Right may be granted to Service Providers at any time and from time to time as will be determined by the Administrator, in its sole discretion.

(b) Number of Shares. The Administrator will have complete discretion to determine the number of Stock Appreciation Rights granted to any Service Provider.

(c) Exercise Price and Other Terms. The per share exercise price for the Shares to be issued pursuant to exercise of a Stock Appreciation Right will be determined by the Administrator and will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant. Otherwise, the Administrator, subject to the provisions of the Plan, will have complete discretion to determine the terms and conditions of Stock Appreciation Rights granted under the Plan.

(d) Stock Appreciation Right Agreement. Each Stock Appreciation Right grant will be evidenced by an Award Agreement that will specify the exercise price, the term of the Stock Appreciation Right, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

(e) Expiration of Stock Appreciation Rights. A Stock Appreciation Right granted under the Plan will expire upon the date determined by the Administrator, in its sole discretion, and set forth in the Award Agreement. Notwithstanding the foregoing, the rules of Section 6(b) relating to the maximum term and Section 6(d) relating to exercise also will apply to Stock Appreciation Rights.

(f) Payment of Stock Appreciation Right Amount. Upon exercise of a Stock Appreciation Right, a Participant will be entitled to receive payment from the Company in an amount determined by multiplying:

(i) The difference between the Fair Market Value of a Share on the date of exercise over the exercise price; times

(ii) The number of Shares with respect to which the Stock Appreciation Right is exercised.

At the discretion of the Administrator, the payment upon Stock Appreciation Right exercise may be in cash, in Shares of equivalent value, or in some combination thereof.

10. Performance Units and Performance Shares.

(a) Grant of Performance Units/Shares. Performance Units and Performance Shares may be granted to Service Providers at any time and from time to time, as will be determined by the Administrator, in its sole discretion. The Administrator will have complete discretion in determining the number of Performance Units and Performance Shares granted to each Participant.

(b) Value of Performance Units/Shares. Each Performance Unit will have an initial value that is established by the Administrator on or before the date of grant. Each Performance Share will have an initial value equal to the Fair Market Value of a Share on the date of grant.

(c) Performance Goals and Other Terms. The Administrator will set Performance Goals or other vesting provisions (including, without limitation, continued status as a Service Provider) in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Units/Shares that will be paid out to the Service Providers. Each Award of Performance Units/Shares will be evidenced by an Award Agreement that will specify the Performance Period, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Without limiting the foregoing, the Committee shall adjust any Performance Goals or other feature of an Award that relates to or is wholly or partially based on the number of, or the value of, any stock of the Company, to reflect any stock dividend or split, repurchase, recapitalization, combination, or exchange of shares or other similar changes in such stock.

(d) Earning of Performance Units/Shares. After the applicable Performance Period has ended, the holder of Performance Units/Shares will be entitled to receive a payout of the number of Performance Units/Shares earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding Performance Goals or other vesting provisions have been achieved. After the grant of a Performance Unit/Share, the Administrator, in its sole discretion, may reduce or waive any Performance Goals or other vesting provisions for such Performance Unit/Share.

(e) Form and Timing of Payment of Performance Units/Shares. Payment of earned Performance Units/Shares will be made upon the time set forth in the applicable Award Agreement. The Administrator, in its sole discretion, may pay earned Performance Units/Shares in the form of cash, in Shares (which have an aggregate Fair Market Value equal to the value of the earned Performance Units/Shares at the close of the applicable Performance Period) or in a combination thereof.

(f) Cancellation of Performance Units/Shares. On the date set forth in the Award Agreement, all unearned or unvested Performance Units/Shares will be forfeited to the Company, and again will be available for grant under the Plan.

11. Outside Director Limitations. No Outside Director may receive Awards under the Plan that, when combined with cash compensation received for service as an Outside Director, exceeds $1,000,000 in a calendar year. Grant date fair value for purposes of Awards to Outside Directors under the Plan will be determined as follows: (a) for Options and Stock Appreciation Rights, grant date fair value will be calculated using the Black-Scholes valuation methodology on the date of grant of such Option or Stock Appreciation Right and (b) for all other Awards other than Options and

Stock Appreciation Rights, grant date fair value will be determined by either (i) calculating the product of the Fair Market Value per Share on the date of grant and the aggregate number of Shares subject to the Award or (ii) calculating the product using an average of the Fair Market Value over a number of trading days and the aggregate number of Shares subject to the Award. Awards granted to an individual while he or she was serving in the capacity as an Employee or while he or she was an Independent Contractor but not an Outside Director will not count for purposes of the limitations set forth in this Section 11.

12. Leaves of Absence/Transfer Between Locations. The Administrator shall have the discretion to determine at any time whether and to what extent the vesting of Awards shall be suspended during any leave of absence; provided, however, that in the absence of such determination, vesting of Awards shall continue during any paid leave and shall be suspended during any unpaid leave (unless otherwise required by Applicable Laws). A Participant will not cease to be an Employee in the case of (i) any leave of absence approved by the Participant's employer or (ii) transfers between locations of the Company or between the Company, its Parent, or any Subsidiary. If an Employee is holding an Incentive Stock Option and such leave exceeds three (3) months then, for purposes of Incentive Stock Option status only, such Employee's service as an Employee shall be deemed terminated on the first (1st) day following such three (3) month period and the Incentive Stock Option shall thereafter automatically treated for tax purposes as a Nonstatutory Stock Option in accordance with Applicable Laws, unless reemployment upon the expiration of such leave is guaranteed by contract or statute, or unless provided otherwise pursuant to a written Company policy.

13. Transferability of Awards. Unless determined otherwise by the Administrator, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Participant, only by the Participant. If the Administrator makes an Award transferable, such Award will contain such additional terms and conditions as the Administrator deems appropriate.

14. Adjustments; Dissolution or Liquidation; Merger or Change in Control.

(a) Adjustments. In the event of a stock split, reverse stock split, stock dividend, combination, consolidation, recapitalization (including a recapitalization through a large nonrecurring cash dividend) or reclassification of the Shares, subdivision of the Shares, a rights offering, a reorganization, merger, spin-off, split-up, repurchase, or exchange of Common Stock or other securities of the Company or other significant corporate transaction, or other change affecting the Common Stock occurs, the Administrator, in order to prevent dilution, diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will, in such manner as it may deem equitable, adjust the number, kind and class of securities that may be delivered under the Plan and/or the number, class, kind and price of securities covered by each outstanding Award. Notwithstanding the forgoing, all adjustments under this Section 14 shall be made in a manner that does not result in taxation under Code Section 409A.

(b) Dissolution or Liquidation. In the event of the proposed winding up, dissolution or liquidation of the Company, the Administrator will notify each Participant as soon as practicable prior to the effective date of such proposed transaction. To the extent it has not been previously exercised or settled, an Award will terminate immediately prior to the consummation of such proposed action.

(c) Corporate Transaction. In the event of (i) a transfer of all or substantially all of the Company's assets, (ii) a merger, consolidation or other capital reorganization or business combination transaction of the Company with or into another corporation, entity or person, or (iii) the consummation of a transaction, or series of related transactions, in which any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "beneficial owner" (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of more than 50% of the Company's then outstanding capital stock (a "Corporate Transaction"), each outstanding Award (vested or unvested) will be treated as the Administrator determines, which determination may be made without the consent of any Participant and need not treat all outstanding Awards (or portion thereof) in an identical manner. Such determination, without the consent of any Participant, may provide (without limitation) for one or more of the following in the event of a Corporate Transaction: (A) the continuation of such outstanding Awards by the Company (if the Company is the surviving corporation); (B) the assumption of such outstanding Awards by the surviving corporation or its parent; (C) the substitution by the surviving corporation or its parent of new options or other equity awards for such Awards; (D) the cancellation of such Awards in exchange for a payment to the Participants equal to the excess of (1) the Fair Market Value of the Shares subject to such Awards as of the closing date of such Corporate Transaction over (2) the exercise price or purchase price paid or to be paid (if any) for the Shares subject to the Awards; provided further, that at the discretion of the Committee, such payment may be subject to the same conditions that apply to the consideration that will be paid to holders of Shares in connection with the transaction; provided, however, that any payout in connection with a terminated award shall comply with Section 409A of the Code to the extent necessary to avoid taxation thereunder; or © the opportunity for Participants to exercise the Options prior to the occurrence of the Corporate Transaction and the termination (for no consideration) upon the consummation of such Corporate Transaction of any Options not exercised prior thereto.

(d) Change in Control. An Award may be subject to additional acceleration of vesting and exercisability upon or after a Change in Control as may be provided in the Award Agreement for such Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration will occur.

15. Tax.

(a) Withholding Requirements. Prior to the delivery of any Shares or cash pursuant to an Award (or exercise thereof) or prior to any time the Award or Shares are subject to taxation or other Tax-Related Items, the Company and/or the Participant's employer will have the power and the right to deduct or withhold, or require a Participant to remit to the Company, an amount sufficient to satisfy any Tax-Related Items or other items that are required to be withheld or deducted or otherwise applicable with respect to such Award.

(b) Withholding Arrangements. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit a Participant to satisfy such withholding or deduction obligations or any other Tax-Related Items, in whole or in part by (without limitation) (a) paying cash, (b) electing to have the Company withhold otherwise deliverable cash or Shares, or (c) delivering to the Company already-owned Shares; provided that, unless specifically permitted by the Company, any proceeds derived from a cashless exercise must be an approved broker-assisted cashless exercise or the cash or Shares withheld or delivered must be limited

to avoid financial accounting charges under applicable accounting guidance or Shares must have been previously held for the minimum duration required to avoid financial accounting charges under applicable accounting guidance. Except as otherwise determined by the Administrator, the Fair Market Value of the Shares to be withheld or delivered will be determined as of the date that the amounts are required to be withheld or deducted.

(c) Compliance With Code Section 409A. Awards will be designed and operated in such a manner that they are either exempt from the application of, or comply with, the requirements of Code Section 409A such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A. The Plan and each Award Agreement under the Plan is intended to meet the requirements of Code Section 409A (or an exemption therefrom) and will be construed and interpreted in accordance with such intent, except as otherwise determined in the sole discretion of the Administrator. To the extent that an Award or payment, or the settlement or deferral thereof, is subject to Code Section 409A the Award will be granted, paid, settled or deferred in a manner that will meet the requirements of Code Section 409A (or an exemption therefrom), such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A. In no event will the Company be responsible for or reimburse a Participant for any taxes or other penalties incurred as a result of applicable of Code Section 409A.

16. No Effect on Employment or Service. Neither the Plan nor any Award will confer upon a Participant any right with respect to continuing the Participant's relationship as a Service Provider with the Company or any Subsidiary or Affiliate, nor will they interfere in any way with the Participant's right or the Company's or any Subsidiary or Affiliate's right to terminate such relationship at any time, with or without cause, to the extent permitted by Applicable Laws.

17. Date of Grant. The date of grant of an Award will be, for all purposes, the date on which the Administrator makes the determination granting such Award, or such other later date as is determined by the Administrator. Notice of the determination will be provided to each Participant within a reasonable time after the date of such grant.

18. Corporate Records Control. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement or related grant documents as a result of a clerical error in the papering of the Award Agreement or related grant documents, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement or related grant documents.

19. Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including but not limited to a reacquisition right in respect of previously acquired Shares or other cash or property upon the occurrence of an event constituting Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company.

20. Term of Plan. Subject to Section 24 of the Plan, the restatement of the Company's 2014 Stock Plan into this Plan will become effective as of the Effective Date. The Plan will continue in effect for a term of ten (10) years measured from the earlier of the date the Board approves the restatement of the Company's 2014 Stock Plan into this Plan or the approval of such restatement by the Company's stockholders, unless terminated earlier under Section 21 of the Plan.

21. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Administrator may at any time amend, alter, suspend or terminate the Plan.

(b) Stockholder Approval. The Company will obtain stockholder approval of any Plan amendment to the extent necessary and desirable to comply with Applicable Laws.

(c) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan will materially impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing and signed by the Participant and the Company. Termination of the Plan will not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

22. Conditions Upon Issuance of Shares.

(a) Legal Compliance. Shares will not be issued pursuant to the exercise or vesting (as applicable) of an Award unless the exercise or vesting of such Award and the issuance and delivery of such Shares will comply with Applicable Laws and will be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

23. Inability to Obtain Authority. The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, will relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority will not have been obtained.

24. Stockholder Approval. The Plan will be subject to approval by the stockholders of the Company within twelve (12) months after the date the Plan is adopted by the Board. Such stockholder approval will be obtained in the manner and to the degree required under Applicable Laws.

25. Governing Law. The Plan and all Awards hereunder shall be construed in accordance with and governed by the laws of the State of California, but without regard to its conflict of law provisions.

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CORTEXYME, INC.

2019 EQUITY INCENTIVE PLAN

STOCK OPTION AWARD AGREEMENT

Unless otherwise defined herein, the terms defined in the Cortexyme, Inc. 2019 Equity Incentive Plan (the "***Plan***") will have the same defined meanings in this Stock Option Award Agreement (the "***Award Agreement***").

I. NOTICE OF STOCK OPTION GRANT

Participant Name:

You have been granted an Option to purchase Common Stock of Cortexyme, Inc. (the "***Company***"), subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number	_____
Date of Grant	_____
Vesting Commencement Date	_____
Exercise Price per Share	USD $ _____
Total Number of Shares	_____
Total Exercise Price	USD $ _____
Type of Option:	____ U.S. Incentive Stock Option
	____ Nonstatutory Stock Option
Term/Expiration Date:	_____

Vesting Schedule:

Subject to Section 2 of the Award Agreement, this Option may be exercised, in whole or in part, in accordance with the following schedule:

_____

_____

_____

Termination Period:

This Option will be exercisable for three (3) months after Participant ceases to be a Service Provider, unless such termination is due to Participant's death, Disability or Cause. If Participant's relationship as a Service Provider is terminated as a result of the Service Provider's death or Disability, this Option will be exercisable for twelve (12) months after Participant ceases to be a Service Provider. If Participant's relationship as a Service Provider is terminated for Cause, this Option (including any vested portion thereof) shall immediately terminate in its entirety upon the Participant's being first notified such termination for Cause and Participant will be prohibited from exercising this Option from and after the date of such termination. Notwithstanding the foregoing, in no event may this Option be exercised after the Term/Expiration Date as provided above and may be subject to earlier termination as provided in Section 14 of the Plan.

By Participant's signature and the signature of the Company's representative below, or by Participant otherwise accepting or exercising this Option, Participant and the Company agree that this Option is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Stock Option Grant (including any country-specific addendum thereto), attached hereto as Exhibit A, all of which are made a part of this document. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator on any questions relating to the Plan and Award Agreement.

PARTICIPANT:	CORTEXYME, INC.
_____	_____
Signature	By
_____	_____
Print Name	Title

EXHIBIT A

TERMS AND CONDITIONS OF STOCK OPTION GRANT

1. Grant of Option. The Company hereby grants to the Participant named in the Notice of Stock Option Grant attached as Part I of this Award Agreement (the "***Participant***") an option (the "***Option***") to purchase the number of Shares set forth in the Notice of Stock Option Grant, at the exercise price per Share set forth in the Notice of Stock Option Grant (the "***Exercise Price***"), subject to all of the terms and conditions set forth in the Notice of Stock Option Grant and in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 21 of the Plan, if there is a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

If designated in the Notice of Stock Option Grant as an Incentive Stock Option ("***ISO***"), this Option is intended to qualify as an ISO to the maximum extent permitted under Section 422 of the U.S. Internal Revenue Code of 1986, as amended (the "***Code***"). However, if this Option is intended to be an ISO, to the extent that it exceeds the USD $100,000 rule of Code Section 422(d) it will be treated as a Nonstatutory Stock Option ("***NSO***"). Further, if for any reason this Option (or portion thereof) will not qualify as an ISO, then, to the extent of such non-qualification, such Option (or portion thereof) shall be regarded as a NSO granted under the Plan. In no event will the Administrator, the Company or any Parent or Subsidiary or any of their respective employees or directors have any liability to Participant (or any other person) due to the failure of the Option to qualify for any reason as an ISO.

2. Vesting Schedule. Except as provided in Section 3, the Option awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Stock Option Grant. Options scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs. Service Provider status for purposes of this Award will end on the day that Participant is no longer actively providing services as an Employee, Director, or Independent Contractor and will not be extended by any notice period or "garden leave" that may be required contractually or under any Applicable Laws. Notwithstanding the foregoing, the Administrator (or any delegate) shall have the sole and absolute discretion to determine when Participant is no longer providing active service for purposes of Service Provider status and participation in the Plan.

3. Exercise of Option.

(a) Right to Exercise. This Option may be exercised only within the term set forth in the Notice of Stock Option Grant and may be exercised during such term only in accordance with the Plan and the terms of this Award Agreement.

(b) Method of Exercise. This Option is exercisable by delivery of an exercise notice, in the form attached as Exhibit B (the "***Exercise Notice***") or in a manner and pursuant to such procedures as the Administrator may determine, which will state the election to exercise the

Option, the number of Shares in respect of which the Option is being exercised (the "***Exercised Shares***"), and such other representations and agreements as may be required by the Company pursuant to the provisions of the Plan. The Exercise Notice will be completed by Participant and delivered to the Company. The Exercise Notice will be accompanied by payment of the aggregate Exercise Price as to all Exercised Shares together with any Tax-Related Items (as defined below) required to be withheld, paid or provided pursuant to any Applicable Laws. This Option will be deemed to be exercised upon receipt by the Company of such fully executed Exercise Notice accompanied by such aggregate Exercise Price and any other requirements or restrictions that may be imposed by the Company to comply with Applicable Laws or facilitate administration of the Plan. Notwithstanding the above, Participant understands that the Applicable Laws of the country in which Participant is residing or working at the time of grant, vesting, and/or exercise of this Option (including any rules or regulations governing securities, foreign exchange, tax, labor or other matters) may restrict or prevent exercise of this Option, and neither the Company nor any Parent or Subsidiary assumes any liability in relation to this Option in such case.

4. Method of Payment. Payment of the aggregate Exercise Price will be by any of the following, or a combination thereof, at the election of Participant unless otherwise specified by the Company in its sole discretion:

(a) cash (U.S. dollars); or

(b) check (denominated in U.S. dollars); or

(c) consideration received by the Company under a formal cashless exercise program adopted by the Company in connection with the Plan.

Participant understands and agrees that, unless otherwise permitted by the Company, any cross-border remittance made to exercise this Option or transfer proceeds received upon the sale of Shares must be made through a locally authorized financial institution or registered foreign exchange agency and may require the Participant to provide such entity with certain information regarding the transaction.

5. Tax Obligations.

(a) Withholding Taxes. Regardless of any action the Company or Participant's employer (the "***Employer***") takes with respect to any or all applicable national, local, or other tax or social contribution, withholding, required deductions, or other payments, if any, that arise upon the grant, vesting, or exercise of this Option, the holding or subsequent sale of Shares, and the receipt of dividends, if any, or otherwise in connection with this Option or the Shares ("***Tax-Related Items***"), Participant acknowledges and agrees that the ultimate liability for all Tax-Related Items legally due by Participant is and remains Participant's responsibility and may exceed any amount actually withheld by the Company or the Employer. Participant further acknowledges and agrees that Participant is solely responsible for filing all relevant documentation that may be required in relation to this Option or any Tax-Related Items (other than filings or documentation that is the specific obligation of the Company or a Parent, Subsidiary, or Employer pursuant to Applicable Law) such as but not limited to personal income tax returns or reporting statements in

relation to the grant, vesting or exercise of this Option, the holding of Shares or any bank or brokerage account, the subsequent sale of Shares, and the receipt of any dividends. Participant further acknowledges that the Company and the Employer (a) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Option, including the grant, vesting, or exercise of the Option, the subsequent sale of Shares acquired under the Plan and the receipt of dividends, if any; and (b) does not commit to and is under no obligation to structure the terms of the Option or any aspect of the Option to reduce or eliminate Participant's liability for Tax-Related Items, or achieve any particular tax result. Participant also understands that Applicable Laws may require varying Share or Option valuation methods for purposes of calculating Tax-Related Items, and the Company assumes no responsibility or liability in relation to any such valuation or for any calculation or reporting of income or Tax-Related Items that may be required of Participant under Applicable Laws. Further, if Participant has become subject to tax in more than one jurisdiction between the date of grant and the date of any relevant taxable event, Participant acknowledges that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

(b) Satisfaction of Tax-Related Items. As a condition to the grant, vesting and exercise of this Option and as set forth in Section 15 of the Plan, Participant hereby agrees to make adequate provision for the satisfaction of (and will indemnify the Company and any Parent or Subsidiary for) any Tax-Related Items. No payment will be made to Participant (or his or her estate or beneficiary) related to an Option, and no Shares will be issued pursuant to an Option, unless and until satisfactory arrangements (as determined by the Company) have been made by Participant with respect to the payment of any Tax-Related Items obligations of the Company and/or any Parent, Subsidiary, or Employer with respect to the grant, vesting or exercise of the Option. In this regard, Participant authorizes the Company and/or any Parent, Subsidiary, or Employer, or their respective agents, at their discretion, to satisfy the obligations with regard to all Tax-Related Items by one or a combination of the following:

(i) withholding from Participant's wages or other cash compensation paid to Participant by the Company or the Employer; or

(ii) withholding from proceeds of the sale of Shares acquired upon exercise of the Option, either through a voluntary sale or through a mandatory sale arranged by the Company (on Participant's behalf pursuant to this authorization); or

(iii) withholding in Shares to be issued upon exercise of the Option.

If the obligation for Tax-Related Items is satisfied by withholding Shares, the Participant is deemed to have been issued the full number of Shares purchased for tax purposes, notwithstanding that a number of Shares is held back solely for the purpose of paying the Tax-Related Items due as a result of the Participant's participation in the Plan. Participant shall pay to the Company or a Parent, Subsidiary, or Employer any amount of Tax-Related Items that the Company may be required to withhold, pay or otherwise provide for as a result of Participant's participation in the Plan that cannot be satisfied by one or more of the means previously described in this paragraph 5. Participant acknowledges and agrees that the Company may refuse to honor the exercise and refuse to issue or deliver the Shares or the proceeds of the sale of Shares if Participant fails to comply with his or her obligations in connection with the Tax-Related Items.

(c) Notice of Disqualifying Disposition of ISO Shares. If the Option granted to Participant herein is an ISO, and if Participant sells or otherwise disposes of any of the Shares acquired pursuant to the ISO on or before the later of (i) the date two (2) years after the Date of Grant, or (ii) the date one (1) year after the date of exercise, Participant will immediately notify the Company in writing of such disposition.

(d) Code Section 409A (Applicable Only to Participants Subject to U.S. Taxes). Under Code Section 409A, an option that is granted with a per Share exercise price that is determined by the Internal Revenue Service (the "***IRS***") to be less than the Fair Market Value of a Share on the date of grant (a "***Discount Option***") may be considered "deferred compensation." A Discount Option may result in (i) income recognition by Participant prior to the exercise of the option, (ii) an additional twenty percent (20%) federal income tax, and (iii) potential penalty and interest charges. The Discount Option may also result in additional state income, penalty and interest charges to the Participant. Participant acknowledges that the Company cannot and has not guaranteed that the IRS will agree that the per Share exercise price of this Option equals or exceeds the Fair Market Value of a Share on the Date of Grant in a later examination. Participant agrees that if the IRS determines that the Option was granted with a per Share exercise price that was less than the Fair Market Value of a Share on the date of grant, Participant will be solely responsible for Participant's costs related to such a determination.

6. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares unless and until such Shares will have been issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). After such issuance, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares, but prior to such issuance, Participant will not have any rights to dividends and/or distributions on such Shares.

7. No Guarantee of Continued Service or Grants. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF SHARES PURSUANT TO THE VESTING SCHEDULE HEREOF SHALL OCCUR ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE EMPLOYER OR CONTRACTING ENTITY (AS APPLICABLE) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THE OPTION OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE EMPLOYER OR THE COMPANY, PARENT, OR SUBSIDIARY TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE (SUBJECT TO APPLICABLE LOCAL LAWS).

8. Nature of Grant. In accepting the Option, Participant acknowledges, understands and agrees that:

(a) the Plan is established voluntarily by the Company, it is discretionary in nature and it may be modified, amended, suspended or terminated by the Company at any time;

(b) the grant of the Option is voluntary and occasional and does not create any contractual or other right to receive future grants of Options, or benefits in lieu of Options even if Options have been granted repeatedly in the past;

(c) all decisions with respect to future awards of Options, if any, will be at the sole discretion of the Company;

(d) Participant's participation in the Plan is voluntary;

(e) the Option and the Shares subject to the Option are extraordinary items that do not constitute regular compensation for services rendered to the Company or the Employer, and that are outside the scope of Participant's employment contract, if any;

(f) the Option and the Shares subject to the Option are not intended to replace any pension rights or compensation;

(g) the Option and the Shares subject to the Option are not part of normal or expected compensation or salary for any purposes, including, but not limited to, calculating any severance, resignation, termination, redundancy, dismissal, or end of service payments, bonuses, long-service awards, pension or retirement or welfare benefits or similar payments and in no event should be considered as compensation for, or relating in any way to, past services for the Company or the Employer, subject to Applicable Laws;

(h) the future value of the underlying Shares is unknown and cannot be predicted with certainty; further, if Participant exercises the Option and obtains Shares, the value of the Shares acquired upon exercise may increase or decrease in value, even below the Exercise Price;

(i) Participant also understands that neither the Company nor any affiliate is responsible for any foreign exchange fluctuation between local currency and the United States Dollar or the selection by the Company or any affiliate in its sole discretion of an applicable foreign currency exchange rate that may affect the value of the Option (or the calculation of income or Tax-Related Items thereunder);

(j) in consideration of the grant of the Option, no claim or entitlement to compensation or damages shall arise from forfeiture of the Option resulting from termination of employment by the Employer (for any reason whatsoever and whether or not in breach of Applicable Laws, including, without limitation, applicable local labor laws), and Participant

irrevocably releases the Employer from any such claim that may arise; if, notwithstanding the foregoing, any such claim is found by a court of competent jurisdiction to have arisen, Participant shall be deemed irrevocably to have waived his or her entitlement to pursue such claim; and

(k) the Option and the benefits under the Plan, if any, will not automatically transfer to another company in the case of a merger, take-over or transfer of liability.

9. No Advice Regarding Grant. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's participation in the Plan, or Participant's acquisition or sale of the underlying Shares. Participant is hereby advised to consult with his or her own personal tax, legal and financial advisors regarding Participant's participation in the Plan before taking any action related to the Plan.

10. Data Privacy. Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's Personal Data (as described below) by and among, as applicable, the Company, any Parent, Subsidiary, or affiliate, or third parties as may be selected by the Company for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan. Participant understands that refusal or withdrawal of consent will affect Participant's ability to participate in the Plan; without providing consent, Participant will not be able to participate in the Plan or realize benefits (if any) from the Option.

Participant understands that the Company and any Parent, Subsidiary, affiliate, or designated third parties may hold personal information about Participant, including, but not limited to, Participant's name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares of stock or directorships held in the Company or any Parent, Subsidiary, or affiliate, details of all Options or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Personal Data"). Participant understands that Personal Data may be transferred to any Parent, Subsidiary, affiliate, or third parties assisting in the implementation, administration and management of the Plan, that these recipients may be located in the United States, Participant's country (if different than the United States), or elsewhere, and that the recipient's country may have different data privacy laws and protections than Participant's country. In particular, the Company may transfer Personal Data to the broker or stock plan administrator assisting with the Plan, to its legal counsel and tax/accounting advisor, and to the affiliate or entity that is Participant's employer and its payroll provider.

Participant should also refer to any data privacy policy implemented by the Company (which will be available to Participant separately and may be updated from time to time) for more information regarding the collection, use, storage, and transfer of Participant's Personal Data.

11. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company, in care of its Secretary at Cortexyme, Inc., 269 East Grand Ave., South San Francisco, California 94080, or at such other address as the Company may hereafter designate in writing.

12. Non-Transferability of Option. This Option may not be transferred in any manner otherwise than by will or by the laws of descent or distribution and may be exercised during the lifetime of Participant only by Participant.

13. Binding Agreement. Subject to the limitation on the transferability of this Option contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

14. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or compliance of the Shares upon or with any securities exchange or under any Applicable Laws, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the grant or vesting of the Option or purchase by, or issuance of Shares to, Participant (or his or her estate) hereunder, such purchase or issuance will not occur unless and until such listing, registration, qualification, compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. The Company will make all reasonable efforts to meet the requirements of any Applicable Laws. Assuming such compliance, for purposes of the Tax-Related Items, the Exercised Shares will be considered transferred to Participant on the date the Option is exercised with respect to such Exercised Shares. The Company shall not be obligated to issue any Shares pursuant to this Option at any time if the issuance of Shares, or the exercise of an Option by Participant, violates or is not in compliance with any Applicable Laws.

15. Lock-Up Agreement. In connection with the initial public offering of the Company's securities, Participant hereby agrees not to offer, pledge, sell, contract to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any securities of the Company however and whenever acquired (other than those included in the registration) without the prior written consent of the Company and the managing underwriters for such offering for such period of time (not to exceed 180 days) from the effective date of such registration as may be requested by the Company or such managing underwriters and to execute an agreement reflecting the foregoing as may be requested by the underwriters at the time of the Company's initial public offering. In addition, upon request of the Company or the underwriters managing a public offering of the Company's securities (other than the initial public offering), Participant hereby agrees to be bound by similar restrictions, and to sign a similar agreement, in connection with no more than one additional registration statement filed within 12 months after the closing date of the initial public offering, provided that the duration of the lock-up period with respect to such additional registration shall not exceed 90 days from the effective date of such additional registration statement. Notwithstanding the foregoing, if during the last 17 days of the restricted period, the Company issues an earnings release or material news or a material event relating to the Company occurs, or prior to the expiration of the restricted period the Company announces that it will release earnings results during the 16-day period beginning on the last day of the restricted period, then, upon the request of the managing underwriter, to the extent required by any FINRA rules, the restrictions imposed by this subsection shall continue to apply until the end of the third

trading day following the expiration of the 15-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event. In no event will the restricted period extend beyond 216 days after the effective date of the registration statement. In order to enforce the restriction set forth above, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Award Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Section.

If the underwriters release or waive any of the foregoing restrictions in connection with a transfer of shares of Common Stock, the underwriters shall notify the Company at least three business days before the effective date of any such release or waiver. Further, the Company will announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the underwriters shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (x) the release or waiver is effected solely to permit a transfer not for consideration and (y) the transferee has agreed in writing to be bound by the same terms of the lock-up provisions applicable in general to the extent, and for the duration, that such lock-up provisions remain in effect at the time of the transfer.

16. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. If there is a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

17. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination regarding whether any Shares subject to the Option have vested). All actions taken, and all interpretations and determinations made, by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

18. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to Participant's current or future participation in the Plan, this Option, the Shares subject to this Option, any other securities of the Company or any other Company-related documents, by electronic means. By accepting this Option, whether electronically or otherwise, Participant hereby (i) consents to receive such documents by electronic means, (ii) consents to the use of electronic signatures, and (iii) agrees to participate in the Plan and/or receive any such documents through an on-line or electronic system established and maintained by the Company or a third party designated by the Company, including but not limited to the use of electronic signatures or click-through electronic acceptance of terms and conditions.

19. Translation. If Participant has received this Award Agreement, including appendices, or any other document related to the Plan translated into a language other than English, and the meaning of the translated version is different than the English version, the English version will control.

20. Imposition of Other Requirements. The Company reserves the right to impose other requirements on Participant's participation in the Plan, on the Option and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable in order to comply with any Applicable Laws or facilitate the administration of the Plan, and to require Participant to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing. Furthermore, Participant understands that the Applicable Laws of the country in which he or she is resident at the time of grant, vesting, and/or exercise of this Option or the holding or disposition of Shares (including any rules or regulations governing securities, foreign exchange, tax, labor or other matters) may restrict or prevent exercise of this Option or may subject Participant to additional procedural or regulatory requirements he or she is solely responsible for and will have to independently fulfill in relation to this Option or the Shares. Notwithstanding any provision herein, this Option and any Shares shall be subject to any special terms and conditions or disclosures as set forth in any addendum for Participant's country (the "Country-Specific Addendum," which forms part this Award Agreement). Participant also understands and agrees that if he works, resides, moves to, or otherwise is or becomes subject to Applicable Laws or company policies of another jurisdiction at any time, certain country-specific notices, disclaimers and/or terms and conditions may apply to him as from the date of grant, unless otherwise determined by the Company in its sole discretion.

21. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

22. Agreement Severable. If any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

23. Modifications to the Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Code Section 409A in connection to this Option.

24. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Option under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

25. Governing Law and Venue. This Award Agreement will be governed by the laws of the State of California, without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California and agree that such litigation will be conducted in the courts of San Francisco County, California, or the federal courts for the United States for the Northern District of California, and no other courts.

***

Country-Specific Addendum

This Addendum includes additional country-specific notices, disclaimers, and/or terms and conditions that apply to individuals who are working or residing in the countries listed below, if any, and that may be material to Participant's participation in the Plan. Such notices, disclaimers, and/or terms and conditions may also apply, as from the date of grant, if Participant moves to or otherwise is or becomes subject to the Applicable Laws or company policies of any country listed below. However, because foreign exchange regulations and other local laws are subject to frequent change, Participant is advised to seek advice from his or her own personal legal and tax advisor prior to accepting or exercising an Option or holding or selling Shares acquired under the Plan. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's acceptance of the Option or participation in the Plan. Unless otherwise noted below, capitalized terms shall have the same meaning assigned to them under the Plan, the Notice of Stock Option Grant and the Award Agreement. This Addendum forms part of the Award Agreement and should be read in conjunction with the Award Agreement and the Plan.

Securities Law Notice: Unless otherwise noted, neither the Company nor the Shares are registered with any local stock exchange or under the control of any local securities regulator outside the United States. The Award Agreement (of which this Addendum is a part), the Notice of Stock Option Grant, the Plan, and any other communications or materials that you may receive regarding participation in the Plan do not constitute advertising or an offering of securities outside the United States, and the issuance of securities described in any Plan-related documents is not intended for public offering or circulation in your jurisdiction.

EXHIBIT B

CORTEXYME, INC.

2019 EQUITY INCENTIVE PLAN

EXERCISE NOTICE

Cortexyme, Inc.

_____

_____

Attention: _____

1. Exercise of Option. Effective as of today, _____, _____, the undersigned ("***Purchaser***") hereby elects to purchase _____ shares (the "***Shares***") of the Common Stock of Cortexyme, Inc. (the "***Company***") under and pursuant to the 2019 Equity Incentive Plan (the "***Plan***") and the Stock Option Award Agreement dated _____, _____ (the "***Award Agreement***"). The purchase price for the Shares will be USD $_____, as required by the Award Agreement.

2. Delivery of Payment. Purchaser herewith delivers to the Company, or otherwise makes adequate arrangements satisfactory to the Company, the full purchase price of the Shares and any Tax-Related Items (as defined in the Agreement) to be paid in connection with the exercise of the Option.

3. Representations of Purchaser. Purchaser acknowledges that Purchaser has received, read and understood the Plan and the Award Agreement and agrees to abide by and be bound by their terms and conditions.

4. Rights as Stockholder. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the Shares, no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to the Option, notwithstanding the exercise of the Option. The Shares so acquired will be issued to Purchaser as soon as practicable after exercise of the Option. No adjustment will be made for a dividend or other right for which the record date is prior to the date of issuance, except as provided in Section 14 of the Plan.

5. Tax Consultation. Purchaser understands that Purchaser may suffer adverse tax consequences as a result of Purchaser's purchase or disposition of the Shares. Purchaser represents that Purchaser has consulted with any tax consultants Purchaser deems advisable in connection with the purchase or disposition of the Shares and that Purchaser is not relying on the Company for any tax advice.

6. Entire Agreement; Governing Law. The Plan and Award Agreement are incorporated herein by reference. This Exercise Notice, the Plan and the Award Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all

prior undertakings and agreements of the Company and Purchaser with respect to the subject matter hereof, and may not be modified adversely to the Purchaser's interest except by means of a writing signed by the Company and Purchaser. This agreement is governed by the internal substantive laws, but not the choice of law rules, of the State of California.

Submitted by:	Accepted by:
PURCHASER:	CORTEXYME, INC.
_____	_____
Signature	By
_____	_____
Print Name	Title
	_____
	Date Received

CORTEXYME, INC.

2019 EQUITY INCENTIVE PLAN

RESTRICTED STOCK UNIT AWARD AGREEMENT

Unless otherwise defined herein, the terms defined in the Cortexyme, Inc. 2019 Equity Incentive Plan (the "***Plan***") will have the same defined meanings in this Restricted Stock Unit Award Agreement (the "***Award Agreement***").

I. NOTICE OF RESTRICTED STOCK UNIT GRANT

Participant Name:

You have been granted the right to receive an Award of Restricted Stock Units, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number _____

Date of Grant _____

Vesting Commencement Date _____

Number of Restricted Stock Units _____

Vesting Schedule:

Subject to Section 3 of the Award Agreement, the Restricted Stock Units will vest in accordance with the following schedule:

_____

_____

_____

If Participant ceases to be a Service Provider for any or no reason before Participant vests in the Restricted Stock Unit, the Restricted Stock Unit and Participant's right to acquire any Shares hereunder will terminate in accordance with Section 3 of the Award Agreement.

By Participant's signature and the signature of the representative of Cortexyme, Inc. (the "***Company***") below, or by Participant otherwise accepting this Award, Participant and the Company agree that this Award of Restricted Stock Units is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Restricted Stock Unit Grant (including any country-specific addendum thereto), attached hereto as Exhibit A, all of which are made a part of this document. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator on any questions relating to the Plan and Award Agreement.

PARTICIPANT:	CORTEXYME, INC.
_____	_____
Signature	By
_____	_____
Print Name	Title

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT GRANT

1. Grant. The Company hereby grants to the individual named in the Notice of Grant attached as Part I of this Award Agreement (the "***Participant***") under the Plan an Award of Restricted Stock Units, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 21 of the Plan, if there is a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

2. Company's Obligation to Pay. Each Restricted Stock Unit represents the right to receive a Share on the date it vests. Unless and until the Restricted Stock Units will have vested in the manner set forth in Section 3, Participant will have no right to receive Shares pursuant to any such Restricted Stock Units. Prior to actual settlement of any vested Restricted Stock Units, such Restricted Stock Units will represent an unsecured obligation of the Company. Any Restricted Stock Units that vest in accordance with Section 3 will be settled by delivery of whole Shares as set forth herein to Participant (or in the event of Participant's death, to his or her estate), subject to Participant satisfying any Tax-Related Items as set forth in Section 7. Subject to the provisions of Section 4, such vested Restricted Stock Units will be settled by delivery of whole Shares as soon as practicable after vesting, but in each such case within the period ending no later than the date that is two and one-half (2½) months from the end of the Company's tax year that includes the vesting date. In no event will Participant be permitted, directly or indirectly, to specify the taxable year in which Shares will be issued upon settlement of any Restricted Stock Units under this Award Agreement.

3. Vesting Schedule. The Restricted Stock Units awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Restricted Stock Units scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs. Service Provider status for purposes of this Award will end on the day that Participant is no longer actively providing services as an Employee, Director, or Independent Contractor and will not be extended by any notice period or "garden leave" that may be required contractually or under Applicable Laws. Notwithstanding the foregoing, the Administrator (or any delegate) shall have the sole and absolute discretion to determine when Participant is no longer providing active service for purposes of Service Provider status and participation in the Plan.

4. Administrator Discretion. Notwithstanding anything in the Plan or this Award Agreement to the contrary, if the vesting of the balance, or some lesser portion of the balance, of the Restricted Stock Units is accelerated in connection with Participant's termination as a Service Provider (provided that such termination is a "separation from service" within the meaning of Code Section 409A, as determined by the Company), other than due to death, and if (x) Participant is a "specified employee" within the meaning of Code Section 409A at the time of such termination as a Service Provider and (y) the payment of such accelerated Restricted Stock Units will result in the imposition of additional tax under Code Section 409A if paid to Participant on or within the six (6) month period following Participant's termination as a Service Provider, then the payment

of such accelerated Restricted Stock Units will not be made until the date six (6) months and one (1) day following the date of Participant's termination as a Service Provider, unless the Participant dies following his or her termination as a Service Provider, in which case, the Restricted Stock Units will be settled in Shares to the Participant's estate as soon as practicable following his or her death. It is the intent of this Award Agreement that it and all payments and benefits hereunder be exempt from, or comply with, the requirements of Code Section 409A so that none of the Restricted Stock Units provided under this Award Agreement or Shares issuable thereunder will be subject to the additional tax imposed under Code Section 409A, and any ambiguities herein will be interpreted to be so exempt or so comply. Each payment payable under this Award Agreement is intended to constitute a separate payment for purposes of U.S. Treasury Regulation Section 1.409A-2(b)(2). For purposes of this Award Agreement, "Code Section 409A" means Section 409A of the Code, and any final U.S. Treasury Regulations and U.S. Internal Revenue Service guidance thereunder, as each may be amended from time to time.

5. Forfeiture upon Termination of Status as a Service Provider. Notwithstanding any contrary provision of this Award Agreement, any Restricted Stock Units that have not vested will be forfeited and will return to the Plan on the date that is thirty (30) days following the termination of Participant's status as a Service Provider.

6. Death of Participant. Any distribution or delivery to be made to Participant under this Award Agreement will, if Participant is then deceased, be made to Participant's designated beneficiary, if so allowed by the Administrator in its sole discretion, or if no beneficiary survives Participant, the administrator or executor of Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any Applicable Laws or regulations pertaining to said transfer.

7. Withholding of Taxes. Regardless of any action the Company or Participant's employer (the "***Employer***") takes with respect to any or all applicable national, local, or other tax or social contribution, withholding, required deductions, or other payments, if any, that arise upon the grant or vesting of the Restricted Stock Units or the holding or subsequent sale of Shares, and the receipt of dividends, if any, or otherwise in connection with the Restricted Stock Units or the Shares ("***Tax-Related Items***"), Participant acknowledges and agrees that the ultimate liability for all Tax-Related Items legally due by Participant is and remains Participant's responsibility and may exceed any amount actually withheld by the Company or the Employer. Participant further acknowledges and agrees that Participant is solely responsible for filing all relevant documentation that may be required in relation to the Restricted Stock Units or any Tax-Related Items (other than filings or documentation that is the specific obligation of the Company or a Parent, Subsidiary, or Employer pursuant to Applicable Law) such as but not limited to personal income tax returns or reporting statements in relation to the grant, vesting or settlement of the Restricted Stock Units, the holding of Shares or any bank or brokerage account, the subsequent sale of Shares, and the receipt of any dividends. Participant further acknowledges that the Company and the Employer (a) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Restricted Stock Units, including the grant or vesting of the Restricted Stock Units, the subsequent sale of Shares acquired under the Plan, and the receipt of dividends, if any; and (b) does not commit to and is under no obligation to structure the terms of the Restricted Stock Units or any aspect of the Restricted Stock Units to reduce or eliminate

Participant's liability for Tax-Related Items, or achieve any particular tax result. Participant also understands that Applicable Laws may require varying Share or Restricted Stock Unit valuation methods for purposes of calculating Tax-Related Items, and the Company assumes no responsibility or liability in relation to any such valuation or for any calculation or reporting of income or Tax-Related Items that may be required of Participant under Applicable Laws. Further, if Participant has become subject to tax in more than one jurisdiction between the date of grant and the date of any relevant taxable event, Participant acknowledges that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction. Notwithstanding any contrary provision of this Award Agreement, no certificate representing the Shares will be issued to Participant, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by Participant with respect to the payment of any Tax-Related Items which the Company determines must be withheld with respect to such Shares.

As a condition to the grant and vesting of the Restricted Stock Units and as set forth in Section 15 of the Plan, Participant hereby agrees to make adequate provision for the satisfaction of (and will indemnify the Company and any Parent or Subsidiary for) any Tax-Related Items. The Tax-Related Items shall be satisfied by the Company's withholding all or a portion of any Shares that otherwise would be issued to Participant upon payment of the vested Restricted Stock Units; provided that amounts withheld shall not exceed the amount necessary to satisfy the Company's minimum tax withholding obligations. Such withheld Shares shall be valued based on the Fair Market Value as of the date the withholding obligations are satisfied. Furthermore, Participant agrees to pay the Company or any Parent, Subsidiary, or Employer any Tax-Related Items that cannot be satisfied by the foregoing methods.

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until such Shares will have been issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). After such issuance, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares, but prior to such issuance, Participant will not have any rights to dividends and/or distributions on such Shares.

9. No Guarantee of Continued Service or Grants. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE RESTRICTED STOCK UNITS PURSUANT TO THE VESTING SCHEDULE HEREOF SHALL OCCUR ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE EMPLOYER OR CONTRACTING ENTITY (AS APPLICABLE) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS AWARD OF RESTRICTED STOCK UNITS OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE EMPLOYER OR THE COMPANY (OR ANY PARENT OR SUBSIDIARY) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE, SUBJECT TO APPLICABLE LAWS.

Participant also acknowledges and agrees that: (a) the Plan is established voluntarily by the Company, it is discretionary in nature and it may be modified, amended, suspended or terminated by the Company at any time; (b) the grant of Restricted Stock Units is voluntary and occasional and does not create any contractual or other right to receive future grants of Restricted Stock Units, or benefits in lieu of Restricted Stock Units even if Restricted Stock Units have been granted repeatedly in the past; (c) all decisions with respect to future awards of Restricted Stock Units, if any, will be at the sole discretion of the Company; (d) Participant's participation in the Plan is voluntary; (e) the Restricted Stock Units and the Shares subject to the Restricted Stock Units are extraordinary items that do not constitute regular compensation for services rendered to the Company or the Employer, and that are outside the scope of Participant's employment contract, if any; (f) the Restricted Stock Units and the Shares subject to the Restricted Stock Units are not intended to replace any pension rights or compensation; (g) the Restricted Stock Units and the Shares subject to the Restricted Stock Units are not part of normal or expected compensation or salary for any purposes, including, but not limited to, calculating any severance, resignation, termination, redundancy, dismissal, or end of service payments, bonuses, long-service awards, pension or retirement or welfare benefits or similar payments and in no event should be considered as compensation for, or relating in any way to, past services for the Company or the Employer, subject to Applicable Laws.

10. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company, in care of its Secretary at Cortexyme, Inc., 269 East Grand Ave., South San Francisco, California 94080, or at such other address as the Company may hereafter designate in writing.

11. Grant is Not Transferable. Except to the limited extent provided in Section 6, this grant and the rights and privileges conferred hereby may not be transferred, assigned, pledged or hypothecated in any way (whether by operation of Applicable Laws or otherwise) and may not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

12. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

13. Additional Conditions to Issuance of Stock and Imposition of Other Requirements. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or compliance of the Shares upon or with any securities exchange or under any Applicable Laws, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate) hereunder, such issuance will not occur unless and until such listing, registration, qualification, compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Where the Company

determines that the delivery of any Shares will violate any state, federal or foreign securities or exchange laws or other Applicable Laws, the Company will defer delivery until the earliest date at which the Company reasonably anticipates that the delivery of Shares will no longer cause such violation. The Company will make all reasonable efforts to meet the requirements of any Applicable Laws or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange. The Company shall not be obligated to issue any Shares pursuant to the Restricted Stock Units at any time if the issuance of Shares violates or is not in compliance with any Applicable Laws.

Furthermore, the Company reserves the right to impose other requirements on Participant's participation in the Plan, on the Restricted Stock Units and on any Shares acquired under the Plan, to the extent the Company determines it is necessary or advisable in order to comply with any Applicable Laws or facilitate the administration of the Plan, and to require Participant to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing. Furthermore, Participant understands that the Applicable Laws of the country in which he or she is resident at the time of grant or vesting of the Restricted Stock Units or the holding or disposition of Shares (including any rules or regulations governing securities, foreign exchange, tax, labor or other matters) may restrict or prevent the issuance of Shares or may subject Participant to additional procedural or regulatory requirements he or she is solely responsible for and will have to independently fulfill in relation to the Restricted Stock Units or the Shares. Notwithstanding any provision herein, the Restricted Stock Units and any Shares shall be subject to any special terms and conditions or disclosures as set forth in any addendum for Participant's country (the "Country-Specific Addendum," which forms part this Award Agreement). Participant also understands and agrees that if he works, resides, moves to, or otherwise is or becomes subject to Applicable Laws or company policies of another jurisdiction at any time, certain country-specific notices, disclaimers and/or terms and conditions may apply to him as from the date of grant, unless otherwise determined by the Company in its sole discretion.

14. Lock-Up Agreement. In connection with the initial public offering of the Company's securities, Participant hereby agrees not to offer, pledge, sell, contract to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any securities of the Company however and whenever acquired (other than those included in the registration) without the prior written consent of the Company and the managing underwriters for such offering for such period of time (not to exceed 180 days) from the effective date of such registration as may be requested by the Company or such managing underwriters and to execute an agreement reflecting the foregoing as may be requested by the underwriters at the time of the Company's initial public offering. In addition, upon request of the Company or the underwriters managing a public offering of the Company's securities (other than the initial public offering), Participant hereby agrees to be bound by similar restrictions, and to sign a similar agreement, in connection with no more than one additional registration statement filed within 12 months after the closing date of the initial public offering, provided that the duration of the lock-up period with respect to such additional registration shall not exceed 90 days from the effective date of such additional registration statement. Notwithstanding the foregoing, if during the last 17 days of the restricted period, the Company issues an earnings release or material news or a material event relating to the Company occurs, or prior to the expiration of the restricted period the Company announces that it will release earnings results during the 16-day period beginning on the last day of the restricted period, then, upon the request of the managing underwriter, to the extent required by any FINRA

rules, the restrictions imposed by this subsection shall continue to apply until the end of the third trading day following the expiration of the 15-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event. In no event will the restricted period extend beyond 216 days after the effective date of the registration statement. In order to enforce the restriction set forth above, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Award Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Section.

If the underwriters release or waive any of the foregoing restrictions in connection with a transfer of shares of Common Stock, the underwriters shall notify the Company at least three business days before the effective date of any such release or waiver. Further, the Company will announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the underwriters shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (x) the release or waiver is effected solely to permit a transfer not for consideration and (y) the transferee has agreed in writing to be bound by the same terms of the lock-up provisions applicable in general to the extent, and for the duration, that such lock-up provisions remain in effect at the time of the transfer.

15. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. If there is a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

16. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination regarding whether any Restricted Stock Units have vested). All actions taken, and all interpretations and determinations made, by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

17. Electronic Delivery and Acceptance; Translation. The Company may, in its sole discretion, decide to deliver any documents related to Participant's current or future participation in the Plan, this Award, the Shares subject to this Award, any other securities of the Company or any other Company-related documents, by electronic means. By accepting this Award, whether electronically or otherwise, Participant hereby (i) consents to receive such documents by electronic means, (ii) consents to the use of electronic signatures, and (iii) agrees to participate in the Plan and/or receive any such documents through an on-line or electronic system established and maintained by the Company or a third party designated by the Company, including but not limited to the use of electronic signatures or click-through electronic acceptance of terms and conditions.

18. Translation. If Participant has received this Award Agreement, including appendices, or any other document related to the Plan translated into a language other than English, and the meaning of the translated version is different than the English version, the English version will control.

19. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

19. Agreement Severable. If any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

20. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Code Section 409A in connection to this Award of Restricted Stock Units.

21. Data Privacy. ***Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's Personal Data (as described below) by and among, as applicable, the Company, any Parent, Subsidiary, or affiliate, or third parties as may be selected by the Company for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan. Participant understands that refusal or withdrawal of consent will affect Participant's ability to participate in the Plan; without providing consent, Participant will not be able to participate in the Plan or realize benefits (if any) from the Restricted Stock Unit.***

Participant understands that the Company and any Parent, Subsidiary, affiliate, or designated third parties may hold personal information about Participant, including, but not limited to, Participant's name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares of stock or directorships held in the Company or any Parent, Subsidiary, or affiliate, details of all Restricted Stock Units or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Personal Data"). Participant understands that Personal Data may be transferred to any Parent, Subsidiary, affiliate, or third parties assisting in the implementation, administration and management of the Plan, that these recipients may be located in the United States, Participant's country (if different than the United States), or elsewhere, and that the recipient's country may have different data privacy laws and protections than Participant's country. In particular, the Company may transfer Personal Data to the broker or stock plan administrator assisting with the Plan, to its legal counsel and tax/accounting advisor, and to the affiliate or entity that is Participant's employer and its payroll provider.

Participant should also refer to any data privacy policy implemented by the Company (which will be available to Participant separately and may be updated from time to time) for more information regarding the collection, use, storage, and transfer of Participant's Personal Data.

22. Foreign Exchange Fluctuations and Restrictions. Participant understands and agrees that the future value of the underlying Shares is unknown and cannot be predicted with certainty and may decrease. Participant also understands that neither the Company, nor any affiliate is responsible for any foreign exchange fluctuation between local currency and the United States Dollar or the selection by the Company or any affiliate in its sole discretion of an applicable foreign currency exchange rate that may affect the value of the Restricted Stock Units or Shares received (or the calculation of income or Tax-Related Items thereunder). Participant understands and agrees that any cross-border remittance made to transfer proceeds received upon the sale of Shares must be made through a locally authorized financial institution or registered foreign exchange agency and may require the Participant to provide such entity with certain information regarding the transaction.

23. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Award of Restricted Stock Units under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

24. Governing Law and Venue. This Award Agreement will be governed by the laws of the State of California, without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under this Award of Restricted Stock Units or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California, and agree that such litigation will be conducted in the courts of San Francisco County, California, or the federal courts for the United States for the Northern District of California, and no other courts.

***

Country-Specific Addendum

This Addendum includes additional country-specific notices, disclaimers, and/or terms and conditions that apply to individuals who are working or residing in the countries listed below, if any, and that may be material to Participant's participation in the Plan. Such notices, disclaimers, and/or terms and conditions may also apply, as from the date of grant, if Participant moves to or otherwise is or becomes subject to the Applicable Laws or company policies of any country listed below. However, because foreign exchange regulations and other local laws are subject to frequent change, Participant is advised to seek advice from his or her own personal legal and tax advisor prior to accepting the Restricted Stock Units or holding or selling Shares acquired under the Plan. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's acceptance of the Restricted Stock Units or participation in the Plan. Unless otherwise noted below, capitalized terms shall have the same meaning assigned to them under the Plan, the Notice of Restricted Stock Unit Grant and the Award Agreement. This Addendum forms part of the Award Agreement and should be read in conjunction with the Award Agreement and the Plan.

Securities Law Notice: Unless otherwise noted, neither the Company nor the Shares are registered with any local stock exchange or under the control of any local securities regulator outside the United States. The Award Agreement (of which this Addendum is a part), the Notice of Restricted Stock Unit Grant, the Plan, and any other communications or materials that you may receive regarding participation in the Plan do not constitute advertising or an offering of securities outside the United States, and the issuance of securities described in any Plan-related documents is not intended for public offering or circulation in your jurisdiction.

CORTEXYME, INC.

2019 EQUITY INCENTIVE PLAN

RESTRICTED STOCK AWARD AGREEMENT

Unless otherwise defined herein, the terms defined in the Cortexyme, Inc. 2019 Equity Incentive Plan (the "***Plan***") will have the same defined meanings in this Restricted Stock Award Agreement (the "***Award Agreement***").

NOTICE OF RESTRICTED STOCK GRANT

Participant Name:

You have been granted the right to receive an Award of Restricted Stock, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number _____

Date of Grant _____

Vesting Commencement Date _____

Total Number of Shares Granted _____

Vesting Schedule:

Subject to Section 3 of the Award Agreement, the Restricted Stock will vest and the Company's right to reacquire the Restricted Stock will lapse in accordance with the following schedule:

_____

_____

_____

By Participant's signature and the signature of the representative of Cortexyme, Inc. (the "***Company***") below, or by Participant otherwise accepting this Award, Participant and the Company agree that this Award of Restricted Stock is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Restricted Stock Grant (including any country-specific addendum thereto), attached hereto as Exhibit A, all of which are made a part of this document. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator on any questions relating to the Plan and Award Agreement.

PARTICIPANT:	CORTEXYME, INC.
_____	_____
Signature	By
_____	_____
Print Name	Title

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK GRANT

1. Grant of Restricted Stock. The Company hereby grants to the individual named in the Notice of Grant attached as Part I of this Award Agreement (the "***Participant***") under the Plan for past services as an Employee, Director, or Independent Contractor and as a separate incentive in connection with his or her services and not in lieu of any salary or other compensation for his or her services, an Award of Shares of Restricted Stock, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 21 of the Plan, if there is a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

2. Escrow of Shares.

(a) All Shares of Restricted Stock will, upon execution of this Award Agreement, be delivered and deposited with an escrow holder designated by the Company (the "***Escrow Holder***"). The Shares of Restricted Stock will be held by the Escrow Holder until the Shares vest or following the date Participant ceases to be a Service Provider.

(b) The Escrow Holder will not be liable for any act it may do or omit to do with respect to holding the Shares of Restricted Stock in escrow while acting in good faith and in the exercise of its judgment.

(c) Following Participant's termination as a Service Provider for any reason, the Escrow Holder, upon receipt of written notice of such termination, will take all steps necessary to accomplish the transfer of the unvested Shares of Restricted Stock to the Company. Participant hereby appoints the Escrow Holder with full power of substitution, as Participant's true and lawful attorney in fact with irrevocable power and authority in the name and on behalf of Participant to take any action and execute all documents and instruments, including, without limitation, stock powers which may be necessary to transfer the certificate or certificates evidencing such unvested Shares of Restricted Stock to the Company upon such termination.

(d) The Escrow Holder will take all steps necessary to accomplish the transfer of Shares of Restricted Stock to Participant after they vest following Participant's request that the Escrow Holder do so.

(e) Subject to the terms hereof, Participant will have all the rights of a stockholder with respect to the Shares while they are held in escrow, including without limitation, the right to vote the Shares and to receive any cash dividends declared thereon.

(f) In the event of any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares, the Shares of Restricted Stock will be increased, reduced or otherwise changed, and by virtue of any such change Participant will in his or her capacity as owner of unvested Shares of Restricted Stock be entitled to new or additional or different shares

of stock, cash or securities (other than rights or warrants to purchase securities); such new or additional or different shares, cash or securities will thereupon be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement. If Participant receives rights or warrants with respect to any unvested Shares of Restricted Stock, such rights or warrants may be held or exercised by Participant, provided that until such exercise any such rights or warrants and after such exercise any shares or other securities acquired by the exercise of such rights or warrants will be considered to be unvested Shares of Restricted Stock and will be subject to all of the conditions and restrictions which were applicable to the unvested Shares of Restricted Stock pursuant to this Award Agreement.

(g) The Company may instruct the transfer agent for its Common Stock to place a legend on the certificates representing the Restricted Stock or otherwise note its records as to the restrictions on transfer set forth in this Award Agreement.

3. Vesting Schedule. The Shares of Restricted Stock awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Shares of Restricted Stock scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs. Service Provider status for purposes of this Award will end on the day that Participant is no longer actively providing services as an Employee, Director, or Independent Contractor and will not be extended by any notice period or "garden leave" that may be required contractually or under Applicable Laws. Notwithstanding the foregoing, the Administrator (or any delegate) shall have the sole and absolute discretion to determine when Participant is no longer providing active service for purposes of Service Provider status and participation in the Plan.

4. Forfeiture upon Termination of Status as a Service Provider. Notwithstanding any contrary provision of this Award Agreement, the balance of the Shares of Restricted Stock that have not vested will be forfeited and automatically transferred to and reacquired by the Company at no cost to the Company upon the date that is thirty (30) days following Participant's termination and Participant will have no further rights thereunder. Participant will not be entitled to a refund of the price paid for the Shares of Restricted Stock, if any, returned to the Company pursuant to this Section 4. Participant hereby appoints the Escrow Agent with full power of substitution, as Participant's true and lawful attorney-in-fact with irrevocable power and authority in the name and on behalf of Participant to take any action and execute all documents and instruments, including, without limitation, stock powers which may be necessary to transfer the certificate or certificates evidencing such unvested Shares to the Company upon such termination of service.

5. Death of Participant. Any distribution or delivery to be made to Participant under this Award Agreement will, if Participant is then deceased, be made to Participant's designated beneficiary, if so allowed by the Administrator in its sole discretion, or if no beneficiary survives Participant, the administrator or executor of Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any Applicable Laws or regulations pertaining to said transfer.

6. Withholding of Taxes. Regardless of any action the Company or Participant's employer (the "***Employer***") takes with respect to any or all applicable national, local, or other tax or social contribution, withholding, required deductions, or other payments, if any, that arise upon the grant or vesting of the Restricted Stock or the holding or subsequent sale of Shares, and the receipt of dividends, if any, or otherwise in connection with the Shares ("***Tax-Related Items***"), Participant acknowledges and agrees that the ultimate liability for all Tax-Related Items legally due by Participant is and remains Participant's responsibility and may exceed any amount actually withheld by the Company or the Employer. Participant further acknowledges and agrees that Participant is solely responsible for filing all relevant documentation that may be required in relation to the Shares or any Tax-Related Items (other than filings or documentation that is the specific obligation of the Company or a Parent, Subsidiary, or Employer pursuant to Applicable Law) such as but not limited to personal income tax returns or reporting statements in relation to the grant or vesting of Shares, the holding of Shares or any bank or brokerage account, the subsequent sale of Shares, and the receipt of any dividends. Participant further acknowledges that the Company and the Employer (a) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Restricted Stock, including the grant or vesting of the Shares, the subsequent sale of Shares acquired under the Plan, and the receipt of dividends, if any; and (b) does not commit to and is under no obligation to structure the terms of the Restricted Stock or any aspect of the Restricted Stock to reduce or eliminate Participant's liability for Tax-Related Items, or achieve any particular tax result. Participant also understands that Applicable Laws may require varying Share valuation methods for purposes of calculating Tax-Related Items, and the Company assumes no responsibility or liability in relation to any such valuation or for any calculation or reporting of income or Tax-Related Items that may be required of Participant under Applicable Laws. Further, if Participant has become subject to tax in more than one jurisdiction between the date of grant and the date of any relevant taxable event, Participant acknowledges that the Company and/or the Employer (or former employer, as applicable) may be required to withhold or account for Tax-Related Items in more than one jurisdiction. Notwithstanding any contrary provision of this Award Agreement, no certificate representing the Shares of Restricted Stock may be released from the escrow established pursuant to Section 2, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by Participant with respect to the payment of any Tax-Related Items which the Company determines must be withheld with respect to such Shares.

As a condition to the grant and vesting of the Shares of Restricted Stock and as set forth in Section 15 of the Plan, Participant hereby agrees to make adequate provision for the satisfaction of (and will indemnify the Company and any Parent or Subsidiary for) any Tax-Related Items. The Tax-Related Items shall be satisfied by the Company's withholding all or a portion of any Shares of Restricted Stock that vest; provided that amounts withheld shall not exceed the amount necessary to satisfy the Company's minimum tax withholding obligations. Such withheld Shares shall be valued based on the Fair Market Value as of the date the withholding obligations are satisfied. Furthermore, Participant agrees to pay the Company or any Parent, Subsidiary, or Employer any Tax-Related Items that cannot be satisfied by the foregoing methods.

7. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until such Shares will have been issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer

agent of the Company). Except as provided in Section 2, after such issuance, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares, but prior to such issuance, Participant will not have any rights to dividends and/or distributions on such Shares.

8. No Guarantee of Continued Service or Grants. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE SHARES OF RESTRICTED STOCK PURSUANT TO THE VESTING SCHEDULE HEREOF SHALL OCCUR ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE EMPLOYER OR CONTRACTING ENTITY (AS APPLICABLE) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS RESTRICTED STOCK OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE EMPLOYER OR THE COMPANY (OR ANY PARENT OR SUBSIDIARY) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE, SUBJECT TO APPLICABLE LAWS.

Participant also acknowledges and agrees that: (a) the Plan is established voluntarily by the Company, it is discretionary in nature and it may be modified, amended, suspended or terminated by the Company at any time; (b) the grant of Restricted Stock is voluntary and occasional and does not create any contractual or other right to receive future grants of Restricted Stock, or benefits in lieu of Restricted Stock even if Restricted Stock has been granted repeatedly in the past; (c) all decisions with respect to future awards of Restricted Stock, if any, will be at the sole discretion of the Company; (d) Participant's participation in the Plan is voluntary; (e) the Restricted Stock and the Shares subject to the Restricted Stock are extraordinary items that do not constitute regular compensation for services rendered to the Company or the Employer, and that are outside the scope of Participant's employment contract, if any; (f) the Restricted Stock and the Shares subject to the Restricted Stock are not intended to replace any pension rights or compensation; (g) the Restricted Stock and the Shares subject to the Restricted Stock are not part of normal or expected compensation or salary for any purposes, including, but not limited to, calculating any severance, resignation, termination, redundancy, dismissal, or end of service payments, bonuses, long-service awards, pension or retirement or welfare benefits or similar payments and in no event should be considered as compensation for, or relating in any way to, past services for the Company or the Employer, subject to Applicable Laws.

9. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company, in care of its Secretary at Cortexyme, Inc., 269 East Grand Ave., South San Francisco, California 94080, or at such other address as the Company may hereafter designate in writing.

10. Grant is Not Transferable. Except to the limited extent provided in Section 5, the unvested Shares subject to this grant and the rights and privileges conferred hereby may not be transferred, assigned, pledged or hypothecated in any way (whether by operation of Applicable

Laws or otherwise) and may not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of any unvested Shares of Restricted Stock, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

11. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

12. Additional Conditions; Release from Escrow. The Company will not be required to issue any Shares pursuant to this Award Agreement, or release such Shares from the escrow established pursuant to Section 2, prior to fulfillment of all the following conditions: (a) the admission of such Shares to listing on all stock exchanges on which such class of stock is then listed; (b) the completion of any registration or other qualification of such Shares under any Applicable Laws or under the rulings or regulations of the Securities and Exchange Commission or any other governmental regulatory body or the securities exchange on which the Shares are then registered, which the Administrator will, in its absolute discretion, deem necessary or advisable; (c) the obtaining of any approval or other clearance from any state or federal governmental agency, which the Administrator will, in its absolute discretion, determine to be necessary or advisable; and (d) the lapse of such reasonable period of time following the date of grant of the Restricted Stock as the Administrator may establish from time to time for reasons of administrative convenience.

Furthermore, the Company reserves the right to impose other requirements on Participant's participation in the Plan, on the Restricted Stock and on any Shares acquired under the Plan to the extent the Company determines it is necessary or advisable in order to comply with any Applicable Laws or facilitate the administration of the Plan, and to require Participant to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing. Furthermore, Participant understands that the Applicable Laws of the country in which he or she is resident at the time of grant or vesting of the Restricted Stock or the holding or disposition of Shares (including any rules or regulations governing securities, foreign exchange, tax, labor or other matters) may restrict or prevent the issuance of Shares or may subject Participant to additional procedural or regulatory requirements he or she is solely responsible for and will have to independently fulfill in relation to the Restricted Stock or the Shares. Notwithstanding any provision herein, the Restricted Stock and any Shares shall be subject to any special terms and conditions or disclosures as set forth in any addendum for Participant's country (the "Country-Specific Addendum," which forms part this Award Agreement). Participant also understands and agrees that if he works, resides, moves to, or otherwise is or becomes subject to Applicable Laws or company policies of another jurisdiction at any time, certain country-specific notices, disclaimers and/or terms and conditions may apply to him as from the date of grant, unless otherwise determined by the Company in its sole discretion.

13. Lock-Up Agreement. In connection with the initial public offering of the Company's securities, Participant hereby agrees not to offer, pledge, sell, contract to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any securities of the Company however and whenever acquired (other than those included in the registration)

without the prior written consent of the Company and the managing underwriters for such offering for such period of time (not to exceed 180 days) from the effective date of such registration as may be requested by the Company or such managing underwriters and to execute an agreement reflecting the foregoing as may be requested by the underwriters at the time of the Company's initial public offering. In addition, upon request of the Company or the underwriters managing a public offering of the Company's securities (other than the initial public offering), Participant hereby agrees to be bound by similar restrictions, and to sign a similar agreement, in connection with no more than one additional registration statement filed within 12 months after the closing date of the initial public offering, provided that the duration of the lock-up period with respect to such additional registration shall not exceed 90 days from the effective date of such additional registration statement. Notwithstanding the foregoing, if during the last 17 days of the restricted period, the Company issues an earnings release or material news or a material event relating to the Company occurs, or prior to the expiration of the restricted period the Company announces that it will release earnings results during the 16-day period beginning on the last day of the restricted period, then, upon the request of the managing underwriter, to the extent required by any FINRA rules, the restrictions imposed by this subsection shall continue to apply until the end of the third trading day following the expiration of the 15-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event. In no event will the restricted period extend beyond 216 days after the effective date of the registration statement. In order to enforce the restriction set forth above, the Company may impose stop-transfer instructions with respect to the Shares acquired under this Award Agreement until the end of the applicable stand-off period. The Company's underwriters shall be beneficiaries of the agreement set forth in this Section.

If the underwriters release or waive any of the foregoing restrictions in connection with a transfer of shares of Common Stock, the underwriters shall notify the Company at least three business days before the effective date of any such release or waiver. Further, the Company will announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the underwriters shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (x) the release or waiver is effected solely to permit a transfer not for consideration and (y) the transferee has agreed in writing to be bound by the same terms of the lock-up provisions applicable in general to the extent, and for the duration, that such lock-up provisions remain in effect at the time of the transfer.

14. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. If there is a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

15. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination regarding whether any Shares of Restricted Stock have vested). All actions taken, and all interpretations and determinations made, by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

16. Electronic Delivery and Acceptance; Translation. The Company may, in its sole discretion, decide to deliver any documents related to Participant's current or future participation in the Plan, this Award, the Shares subject to this Award, any other securities of the Company or any other Company-related documents, by electronic means. By accepting this Award, whether electronically or otherwise, Participant hereby (i) consents to receive such documents by electronic means, (ii) consents to the use of electronic signatures, and (iii) agrees to participate in the Plan and/or receive any such documents through an on-line or electronic system established and maintained by the Company or a third party designated by the Company, including but not limited to the use of electronic signatures or click-through electronic acceptance of terms and conditions.

17. Translation. If Participant has received this Award Agreement, including appendices, or any other document related to the Plan translated into a language other than English, and the meaning of the translated version is different than the English version, the English version will control.

18. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

19. Agreement Severable. If any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

20. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Code Section 409A in connection to this Award of Restricted Stock.

21. Data Privacy. ***Participant hereby explicitly and unambiguously consents to the collection, use and transfer, in electronic or other form, of Participant's Personal Data (as described below) by and among, as applicable, the Company, any Parent, Subsidiary, or affiliate, or third parties as may be selected by the Company for the exclusive purpose of implementing, administering and managing Participant's participation in the Plan. Participant understands that refusal or withdrawal of consent will affect Participant's ability to participate in the Plan; without providing consent, Participant will not be able to participate in the Plan or realize benefits (if any) from the Restricted Stock.***

Participant understands that the Company and any Parent, Subsidiary, affiliate, or designated third parties may hold personal information about Participant, including, but not limited to, Participant's name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares of stock or directorships held in the Company or any Parent, Subsidiary, or affiliate, details of all Restricted Stock or any other entitlement to Shares awarded, canceled, exercised, vested, unvested or outstanding in Participant's favor ("Personal Data"). Participant understands that Personal Data may be transferred to any Parent, Subsidiary, affiliate, or third parties assisting in the implementation, administration and management of the Plan, that these recipients may be located in the United States, Participant's country (if different than the United States), or elsewhere, and that the recipient's country may have different data privacy laws and protections than Participant's country. In particular, the Company may transfer Personal Data to the broker or stock plan administrator assisting with the Plan, to its legal counsel and tax/accounting advisor, and to the affiliate or entity that is Participant's employer and its payroll provider.

Participant should also refer to any data privacy policy implemented by the Company (which will be available to Participant separately and may be updated from time to time) for more information regarding the collection, use, storage, and transfer of Participant's Personal Data.

22. Foreign Exchange Fluctuations and Restrictions. Participant understands and agrees that the future value of the underlying Shares is unknown and cannot be predicted with certainty and may decrease. Participant also understands that neither the Company, nor any affiliate is responsible for any foreign exchange fluctuation between local currency and the United States Dollar or the selection by the Company or any affiliate in its sole discretion of an applicable foreign currency exchange rate that may affect the value of the Restricted Stock or Shares received (or the calculation of income or Tax-Related Items thereunder). Participant understands and agrees that any cross-border remittance made to transfer proceeds received upon the sale of Shares must be made through a locally authorized financial institution or registered foreign exchange agency and may require the Participant to provide such entity with certain information regarding the transaction.

23. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Award of Restricted Stock under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

24. Governing Law and Venue. This Award Agreement will be governed by the laws of the State of California, without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under this Award of Restricted Stock or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of California, and agree that such litigation will be conducted in the courts of San Francisco County, California, or the federal courts for the United States for the Northern District of California, and no other courts.

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Country-Specific Addendum

This Addendum includes additional country-specific notices, disclaimers, and/or terms and conditions that apply to individuals who are working or residing in the countries listed below, if any, and that may be material to Participant's participation in the Plan. Such notices, disclaimers, and/or terms and conditions may also apply, as from the date of grant, if Participant moves to or otherwise is or becomes subject to the Applicable Laws or company policies of any country listed below. However, because foreign exchange regulations and other local laws are subject to frequent change, Participant is advised to seek advice from his or her own personal legal and tax advisor prior to accepting the Restricted Stock or holding or selling Shares acquired under the Plan. The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding Participant's acceptance of the Restricted Stock or participation in the Plan. Unless otherwise noted below, capitalized terms shall have the same meaning assigned to them under the Plan, the Notice of Restricted Stock Grant and the Award Agreement. This Addendum forms part of the Award Agreement and should be read in conjunction with the Award Agreement and the Plan.

Securities Law Notice: Unless otherwise noted, neither the Company nor the Shares are registered with any local stock exchange or under the control of any local securities regulator outside the United States. The Award Agreement (of which this Addendum is a part), the Notice of Restricted Stock Grant, the Plan, and any other communications or materials that you may receive regarding participation in the Plan do not constitute advertising or an offering of securities outside the United States, and the issuance of securities described in any Plan-related documents is not intended for public offering or circulation in your jurisdiction.

Exhibit 10.5

CORTEXYME, INC.

2019 EMPLOYEE STOCK PURCHASE PLAN

1. General; Purpose.

(a) The Plan provides a means by which Eligible Employees and/or Eligible Service Providers of either the Company or a Designated Company may be given an opportunity to purchase shares of Common Stock. The Plan permits the Company to grant a series of Purchase Rights to Eligible Employees and/or Eligible Service Providers.

(b) The Company, by means of the Plan, seeks to retain and assist its Related Corporations or Affiliates in retaining the services of such Eligible Employees and Eligible Service Providers, to secure and retain the services of new Eligible Employees and Eligible Service Providers and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Related Corporations and Affiliates.

(c) The Plan includes two components: a 423 Component and a Non-423 Component. The Company intends (but makes no undertaking or representation to maintain) the 423 Component to qualify as an Employee Stock Purchase Plan. The provisions of the 423 Component, accordingly, will be construed in a manner that is consistent with the requirements of Section 423 of the Code, including without limitation, to extend and limit Plan participation in a uniform and non-discriminating basis. In addition, this Plan authorizes grants of Purchase Rights under the Non-423 Component that do not meet the requirements of an Employee Stock Purchase Plan. Except as otherwise provided in the Plan or determined by the Board, the Non-423 Component will operate and be administered in the same manner as the 423 Component. In addition, the Company may make separate Offerings which vary in terms (provided that such terms are not inconsistent with the provisions of the Plan or the requirements of an Employee Stock Purchase Plan, except in each case with respect to a Non-423 Component), and the Company will designate which Designated Company is participating in each separate Offering and if any Eligible Service Providers will be eligible to participate in a separate Offering. Eligible Employees will be able to participate in the 423 Component or Non-423 Component of the Plan. Eligible Service Providers will only be able to participate in the Non-423 Component of the Plan.

2. Administration.

(a) The Board will administer the Plan unless and until the Board delegates administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine how and when Purchase Rights will be granted and the provisions of each Offering (which need not be identical).

(ii) To designate from time to time which Related Corporations will be eligible to participate in the Plan as Designated 423 Corporations or as Designated Non-423 Corporations, which Affiliates will be eligible to participate in the Plan as Designated Non-423 Corporations, and which Designated Companies will participate in each separate Offering (to the extent that the Company makes separate Offerings).

(iii) To designate from time to time which persons will be Eligible Service Providers and which Eligible Service Providers will participate in each separate Offering (to the extent that the Company makes separate Offerings).

(iv) To construe and interpret the Plan and Purchase Rights, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan, in a manner and to the extent it deems necessary or expedient to make the Plan fully effective.

(v) To settle all controversies regarding the Plan and Purchase Rights granted under the Plan.

(vi) To suspend or terminate the Plan at any time as provided in Section 12.

(vii) To amend the Plan at any time as provided in Section 12.

(viii) Generally, to exercise such powers and to perform such acts as it deems necessary or expedient to promote the best interests of the Company, its Related Corporations, and Affiliates and to carry out the intent that the 423 Component be treated as an Employee Stock Purchase Plan.

(ix) To adopt such rules, procedures and sub-plans relating to the operation and administration of the Plan as are necessary or appropriate under applicable local laws, regulations and procedures to permit or facilitate participation in the Plan by Employees or Eligible Service Providers who are foreign nationals or employed or providing services or located or otherwise subject to the laws of a jurisdiction outside the United States. Without limiting the generality of, but consistent with, the foregoing, the Board specifically is authorized to adopt rules, procedures, and sub-plans, which, for purposes of the Non-423 Component, may be beyond the scope of Section 423 of the Code, regarding, without limitation, eligibility to participate in the Plan, handling and making of Contributions, establishment of bank or trust accounts to hold Contributions, payment of interest, conversion of local currency, obligations to pay payroll tax, determination of beneficiary designation requirements, withholding procedures and handling of share issuances, any of which may vary according to applicable requirements.

(c) The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated. Whether or not the Board has delegated administration of the Plan to a Committee, the Board will have the final power to determine all questions of policy and expediency that may arise in the administration of the Plan.

(d) All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. Shares of Common Stock Subject to the Plan.

(a) Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the maximum number of shares of Common Stock that may be issued under the Plan will not exceed 268,295 shares of Common Stock, plus the number of shares of Common Stock that are automatically added on the first day of each Fiscal Year beginning with the 2020 Fiscal Year and ending on (and including) the first day of the 2030 Fiscal Year, in an amount equal to the lesser of (i) one percent (1%) of the total number of shares of Common Stock outstanding on the last day of the calendar month prior to the date of such automatic increase, and (ii) 536,589 shares of Common Stock. Notwithstanding the foregoing, the Board may act prior to the first day of any fiscal year to provide that there will be no increase in the share reserve for such fiscal year or that the increase in the share reserve for such fiscal year will be a lesser number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(b) If any Purchase Right granted under the Plan terminates without having been exercised in full, the shares of Common Stock not purchased under such Purchase Right will again become available for issuance under the Plan.

(c) The stock purchasable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market.

4. Grant of Purchase Rights; Offering.

(a) The Board may from time to time grant or provide for the grant of Purchase Rights to Eligible Employees and/or Eligible Service Providers under an Offering (consisting of one or more Purchase Periods) on an Offering Date or Offering Dates selected by the Board. Each Offering will be in such form and will contain such terms and conditions as the Board will deem appropriate, and, with respect to the 423 Component, will comply with the requirement of Section 423(b)(5) of the Code that all Employees granted Purchase Rights will have the same rights and privileges. The terms and conditions of an Offering will be incorporated by reference into the Plan and treated as part of the Plan. The provisions of separate Offerings need not be identical, but each Offering will include (through incorporation of the provisions of this Plan by reference in the Offering Document or otherwise) the period during which the Offering will be effective, which period will not exceed 27 months beginning with the Offering Date, and the substance of the provisions contained in Sections 5 through 8, inclusive.

(b) If a Participant has more than one Purchase Right outstanding under the Plan, unless he or she otherwise indicates in forms delivered to the Company: (i) each form will apply to all of his or her Purchase Rights under the Plan, and (ii) a Purchase Right with a lower exercise price (or an earlier-granted Purchase Right, if different Purchase Rights have identical exercise prices) will be exercised to the fullest possible extent before a Purchase Right with a higher exercise price (or a later-granted Purchase Right if different Purchase Rights have identical exercise prices) will be exercised.

(c) The Board will have the discretion to structure an Offering so that if the Fair Market Value of a share of Common Stock on the first Trading Day of a new Purchase Period within that Offering is less than or equal to the Fair Market Value of a share of Common Stock on the Offering Date for that Offering, then (i) that Offering will terminate immediately as of that first Trading Day, and (ii) the Participants in such terminated Offering will be automatically enrolled in a new Offering beginning on the first Trading Day of such new Offering Period and Purchase Period.

5. Eligibility.

(a) Purchase Rights may be granted only to Employees of the Company or, as the Board may designate in accordance with Section 2(b), to Employees of a Related Corporation or, solely with respect to the Non-423 Component, Employees of an Affiliate or Eligible Service Providers.

(b) The Board may provide that Employees will not be eligible to be granted Purchase Rights under the Plan if, on the Offering Date, the Employee (i) has not completed at least two (2) years of service since the Employee's last hire date (or such lesser period of time as may be determined by the Board in its discretion), (ii) customarily works not more than twenty (20) hours per week (or such lesser period of time as may be determined by the Board in its discretion), (iii) customarily works not more than five (5) months per calendar year (or such lesser period of time as may be determined by the Board in its discretion), (iv) is an officer or a manager (i.e., a person whose principal duties consist of supervising the work of other employees), or (v) is a highly compensated employee within the meaning of Section 423(b)(4)(D) of the Code. Unless otherwise determined by the Board for any Offering Period, an Employee will not be eligible to be granted Purchase Rights unless, on the Offering Date, the Employee customarily works more than twenty (20) hours per week and more than five (5) months per calendar year, and has been employed by the Company, a Related Corporation, or an Affiliate, as the case may be, for at least three (3) continuous months preceding such Offering Date.

(c) No Employee will be eligible for the grant of any Purchase Rights if, immediately after any such Purchase Rights are granted, such Employee owns stock possessing five (5) percent or more of the total combined voting power or value of all classes of stock of the Company or of any Related Corporation. For purposes of this Section 5(c), the rules of Section 424(d) of the Code will apply in determining the stock ownership of any Employee, and stock which such Employee may purchase under all outstanding Purchase Rights and options will be treated as stock owned by such Employee.

(d) As specified by Section 423(b)(8) of the Code, an Eligible Employee may be granted Purchase Rights only if such Purchase Rights, together with any other rights granted under all Employee Stock Purchase Plans of the Company and any Related Corporations, do not permit such Eligible Employee's rights to purchase stock of the Company or any Related Corporation to accrue at a rate which, when aggregated, exceeds U.S. $25,000 of Fair Market Value of such stock (determined at the time such rights are granted, and which, with respect to the Plan, will be determined as of their respective Offering Dates) for each calendar year in which such rights are outstanding at any time.

(e) An Eligible Service Provider will not be eligible to be granted Purchase Rights unless the Eligible Service Provider is providing bonafide services to the Company or a Designated Company on the applicable Offering Date.

(f) Notwithstanding anything set forth herein except for Section 5(e) above, the Board may establish additional eligibility requirements, or fewer eligibility requirements, for Employees and/or Eligible Service Providers with respect to Offerings made under the Non-423 Component even if such requirements are not consistent with Section 423 of the Code.

6. Purchase Rights; Purchase Price.

(a) On each Offering Date, each Eligible Employee or Eligible Service Provider, pursuant to an Offering made under the Plan, will be granted a Purchase Right to purchase up to that number of shares of Common Stock (rounded down to the nearest whole share) purchasable either with a percentage or with a maximum dollar amount, as designated by the Board; provided however, that in the case of Eligible Employees, such percentage or maximum dollar amount will in either case not exceed 15% of such Employee's earnings (as defined by the Board in each Offering) during the period that begins on the Offering Date (or such later date as the Board determines for a particular Offering) and ends on the date stated in the Offering, which date will be no later than the end of the Offering, unless otherwise provided for in an Offering.

(b) The Board will establish one or more Purchase Dates during an Offering on which Purchase Rights granted for that Offering will be exercised and shares of Common Stock will be purchased in accordance with such Offering.

(c) In connection with each Offering made under the Plan, the Board may specify (i) a maximum number of shares of Common Stock that may be purchased by any Participant on any Purchase Date during such Offering, (ii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants pursuant to such Offering, and (iii) a maximum aggregate number of shares of Common Stock that may be purchased by all Participants on any Purchase Date under the Offering. If the aggregate purchase of shares of Common Stock issuable on exercise of Purchase Rights granted under the Offering would exceed any such maximum aggregate number, then, in the absence of any Board action otherwise, a pro rata (based on each Participant's accumulated Contributions) allocation of the shares of Common Stock (rounded down to the nearest whole share) available will be made in as nearly a uniform manner as will be practicable and equitable.

(d) The purchase price of shares of Common Stock acquired pursuant to Purchase Rights will be not less than the lesser of:

(i) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the Offering Date; or

(ii) an amount equal to 85% of the Fair Market Value of the shares of Common Stock on the applicable Purchase Date.

7. Participation; Withdrawal; Termination.

(a) An Eligible Employee may elect to authorize payroll deductions as the means of making Contributions by completing and delivering to the Company, within the time specified by the Company, an enrollment form provided by the Company or any third party designated by the Company (each, a "Company Designee"). The enrollment form will specify the amount of Contributions not to exceed the maximum amount specified by the Board. Each Participant's Contributions will be credited to a bookkeeping account for such Participant under the Plan and will be deposited with the general funds of the Company except where applicable laws or regulations require that Contributions be deposited with a Company Designee or otherwise be segregated.

(b) If permitted in the Offering, a Participant may begin Contributions with the first payroll or payment date occurring on or after the Offering Date (or, in the case of a payroll date or payment date that occurs after the end of the prior Offering but before the Offering Date of the next new Offering, Contributions from such payroll or payment will be included in the new Offering) or on such other date as set forth in the Offering. If permitted in the Offering, a Participant may thereafter reduce (including to zero) or increase his or her Contributions. If required under applicable laws or regulations or if specifically provided in the Offering, in addition to or instead of making Contributions by payroll deductions, a Participant may make Contributions through a payment by cash, check, or wire transfer prior to a Purchase Date, in a manner directed by the Company or a Company Designee.

(c) During an Offering, a Participant may cease making Contributions and withdraw from the Offering by delivering to the Company or a Company Designee a withdrawal form provided by the Company. The Company may impose a deadline before a Purchase Date for withdrawing. On such withdrawal, such Participant's Purchase Right in that Offering will immediately terminate and the Company will distribute as soon as practicable to such Participant all of his or her accumulated but unused Contributions without interest and such Participant's Purchase Right in that Offering will then terminate. A Participant's withdrawal from that Offering will have no effect on his or her eligibility to participate in any other Offerings under the Plan, but such Participant will be required to deliver a new enrollment form to participate in subsequent Offerings.

(d) Purchase Rights granted pursuant to any Offering under the Plan will terminate immediately if the Participant either (i) is no longer an Eligible Employee or Eligible Service Provider for any reason or for no reason, or (ii) is otherwise no longer eligible to participate. The Company shall have the exclusive discretion to determine when Participant is no longer actively providing services and the date of the termination of employment or service for purposes of the Plan. As soon as practicable, the Company will distribute to such individual all of his or her accumulated but unused Contributions without interest.

(e) During a Participant's lifetime, Purchase Rights will be exercisable only by such Participant. Purchase Rights are not transferable by a Participant, except by will, by the laws of descent and distribution, or, if permitted by the Company, by a beneficiary designation as described in Section 10.

(f) Unless otherwise specified in the Offering or required by applicable law, the Company will have no obligation to pay interest on Contributions.

8. Exercise of Purchase Rights.

(a) On each Purchase Date, each Participant's accumulated Contributions will be applied to the purchase of shares of Common Stock (rounded down to the nearest whole share), up to the maximum number of shares of Common Stock permitted by the Plan and the applicable Offering, at the purchase price specified in the Offering. No fractional shares will be issued unless specifically provided for in the Offering.

(b) Unless otherwise provided in the Offering, if any amount of accumulated Contributions remains in a Participant's account after the purchase of shares of Common Stock on the final Purchase Date in an Offering, then such remaining amount will roll over to the next Offering.

(c) No Purchase Rights may be exercised to any extent unless the shares of Common Stock to be issued on such exercise under the Plan are covered by an effective registration statement pursuant to the Securities Act and the Plan is in material compliance with all applicable U.S. federal and state, foreign and other securities, exchange control, and other laws applicable to the Plan. If on a Purchase Date the shares of Common Stock are not so registered or the Plan is not in such compliance, no Purchase Rights will be exercised on such Purchase Date, and the Purchase Date will be delayed until the shares of Common Stock are subject to such an effective registration statement and the Plan is in material compliance, except that the Purchase Date will in no event be more than three (3) months from the original Purchase Date. If, on the Purchase Date, as delayed to the maximum extent permissible, the shares of Common Stock are not registered and the Plan is not in material compliance with all applicable laws or regulations, as determined by the Company in its sole discretion, no Purchase Rights will be exercised and all accumulated but unused Contributions will be distributed as soon as practicable to the Participants without interest.

9. Covenants of the Company. The Company will seek to obtain from each U.S. federal or state, foreign or other regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Purchase Rights and issue and sell shares of Common Stock thereunder unless the Company determines, in its sole discretion, that doing so would cause the Company to incur costs that are unreasonable. If, after commercially reasonable efforts, the Company is unable to obtain the authority that counsel for the Company deems necessary for the grant of Purchase Rights or the lawful issuance and sale of Common Stock under the Plan, and at a commercially reasonable cost, the Company will be relieved from any liability for failure to grant Purchase Rights or to issue and sell Common Stock on exercise of such Purchase Rights.

10. Designation of Beneficiary.

(a) The Company may, but is not obligated to, permit a Participant to submit a form designating a beneficiary who will receive any shares of Common Stock or Contributions from the Participant's account under the Plan if the Participant dies before such shares or Contributions are delivered to the Participant. The Company may, but is not obligated to, permit the Participant to change such designation of beneficiary. Any such designation or change must be on a form approved by the Company or as approved by the Company for use by a Company Designee.

(b) If a Participant dies, in the absence of a valid beneficiary designation, the Company will deliver any shares of Common Stock and Contributions to the executor or administrator of the estate of the Participant. If no executor or administrator has been appointed (to the knowledge of the Company), the Company, in its sole discretion, may deliver such shares of Common Stock and Contributions, without interest, to the Participant's spouse, dependents or relatives, or if no spouse, dependent or relative is known to the Company, then to such other person as the Company may designate.

11. Capitalization Adjustments; Dissolution or Liquidation; Corporate Transactions.

(a) In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a), (ii) the class(es) and maximum number of securities by which the share reserve is to increase automatically each year pursuant to Section 3(a), (iii) the class(es) and number of securities subject to, and the purchase price applicable to outstanding Offerings and Purchase Rights, and (iv) the class(es) and number of securities that are the subject of the purchase limits under each ongoing Offering. The Board will make these adjustments, and its determination will be final, binding, and conclusive.

(b) In the event of a dissolution or liquidation of the Company, the Board will shorten any Offering then in progress by setting a New Purchase Date prior to the consummation of such proposed dissolution or liquidation. The Board will notify each Participant in writing, prior to the New Purchase Date that the Purchase Date for the Participant's Purchase Rights has been changed to the New Purchase Date and that such Purchase Rights will be automatically exercised on the New Purchase Date, unless prior to such date the Participant has withdrawn from the Offering as provided in Section 7.

(c) In the event of a Corporate Transaction, then: (i) any surviving corporation or acquiring corporation (or the surviving or acquiring corporation's parent company) may assume or continue outstanding Purchase Rights or may substitute similar rights (including a right to acquire the same consideration paid to the stockholders in the Corporate Transaction) for outstanding Purchase Rights, or (ii) if any surviving or acquiring corporation (or its parent company) does not assume or continue such Purchase Rights or does not substitute similar rights for such Purchase Rights, then the Participants' accumulated Contributions will be used to purchase shares of Common Stock (rounded down to the nearest whole share) prior to the Corporate Transaction under the outstanding Purchase Rights (with such actual date to be determined by the Board in its sole discretion), and the Purchase Rights will terminate immediately after such purchase. The Board will notify each Participant in writing, prior to the New Purchase Date that the Purchase Date for the Participant's Purchase Rights has been changed to the New Purchase Date and that such Purchase Rights will be automatically exercised on the New Purchase Date, unless prior to such date the Participant has withdrawn from the Offering as provided in Section 7.

12. Amendment, Termination or Suspension of the Plan.

(a) The Board may amend the Plan at any time in any respect the Board deems necessary or advisable. However, except as provided in Section 11(a) relating to Capitalization Adjustments, stockholder approval will be required for any amendment of the Plan for which stockholder approval is required by applicable laws, regulations or listing requirements, including any amendment that either (i) increases the number of shares of Common Stock available for issuance

under the Plan, (ii) expands the class of individuals eligible to become Participants and receive Purchase Rights, (iii) materially increases the benefits accruing to Participants under the Plan or reduces the price at which shares of Common Stock may be purchased under the Plan, (iv) extends the term of the Plan, or (v) expands the types of awards available for issuance under the Plan, but in each of (i) through (v) above only to the extent stockholder approval is required by applicable laws, regulations, or listing requirements.

(b) The Board may suspend or terminate the Plan at any time. No Purchase Rights may be granted under the Plan while the Plan is suspended or after it is terminated.

(c) Any benefits, privileges, entitlements, and obligations under any outstanding Purchase Rights granted before an amendment, suspension, or termination of the Plan will not be materially impaired by any such amendment, suspension, or termination except (i) with the consent of the person to whom such Purchase Rights were granted, (ii) as necessary to comply with any laws, listing requirements, or governmental regulations (including, without limitation, the provisions of Section 423 of the Code and the regulations and other interpretive guidance issued thereunder relating to Employee Stock Purchase Plans) including without limitation any such regulations or other guidance that may be issued or amended after the date the Plan is adopted by the Board, or (iii) as necessary to obtain or maintain any special tax, listing, or regulatory treatment. To be clear, the Board may amend outstanding Purchase Rights without a Participant's consent if such amendment is necessary to ensure that the Purchase Right or the 423 Component complies with the requirements of Section 423 of the Code.

13. Section 409A of the Code; Tax Qualification.

(a) Purchase Rights granted under the 423 Component are intended to be exempt from the application of Section 409A of the Code under U.S. Treasury Regulation Section 1.409A-1(b)(5)(ii). Purchase Rights granted under the Non-423 Component to U.S. taxpayers are intended to be exempt from the application of Section 409A of the Code under the short-term deferral exception and any ambiguities will be construed and interpreted in accordance with such intent. Subject to Section 13(b) below, Purchase Rights granted to U.S. taxpayers under the Non-423 Component will be subject to such terms and conditions that will permit such Purchase Rights to satisfy the requirements of the short-term deferral exception available under Section 409A of the Code, including the requirement that the shares subject to a Purchase Right be delivered within the short-term deferral period. Subject to Section 13(b) below, in the case of a Participant who would otherwise be subject to Section 409A of the Code, to the extent the Board determines that a Purchase Right or the exercise, payment, settlement, or deferral thereof is subject to Section 409A of the Code, the Purchase Right will be granted, exercised, paid, settled, or deferred in a manner that will comply with Section 409A of the Code, including U.S. Department of Treasury regulations and other interpretive guidance issued thereunder, including, without limitation, any such regulations or other guidance that may be issued after the adoption of the Plan. Notwithstanding the foregoing, the Company will have no liability to a Participant or any other party if the Purchase Right that is intended to be exempt from or compliant with Section 409A of the Code is not so exempt or compliant or for any action taken by the Board with respect thereto.

(b) Although the Company may endeavor to (i) qualify a Purchase Right for special tax treatment under the laws of the United States or jurisdictions outside of the United States, or (ii) avoid adverse tax treatment (*e.g.*, under Section 409A of the Code), the Company makes no representation to that effect and expressly disavows any covenant to maintain special or to avoid unfavorable tax treatment, notwithstanding anything to the contrary in this Plan, including Section 13(a) above. The Company will be unconstrained in its corporate activities without regard to the potential negative tax impact on Participants under the Plan.

14. Effective Date of Plan. The Plan will become effective on the Effective Date. No Purchase Rights will be exercised unless and until the Plan has been approved by the stockholders of the Company, which approval must be within 12 months before or after the date the Plan is adopted (or, if required under Section 12(a) above, amended) by the Board.

15. Miscellaneous Provisions.

(a) Proceeds from the sale of shares of Common Stock pursuant to Purchase Rights will constitute general funds of the Company.

(b) A Participant will not be deemed to be the holder of, or to have any of the rights of a holder with respect to, shares of Common Stock subject to Purchase Rights unless and until the Participant's shares of Common Stock acquired on exercise of Purchase Rights are recorded in the books of the Company (or its transfer agent).

(c) The Plan and Offering do not constitute an employment or service contract. Nothing in the Plan or in the Offering will in any way alter the at-will nature of a Participant's employment, if applicable, or be deemed to create in any way whatsoever any obligation on the part of any Participant to continue his or her employment or service relationship with the Company, a Related Corporation, or an Affiliate, or on the part of the Company, a Related Corporation, or an Affiliate to continue the employment or service of a Participant.

(d) The provisions of the Plan will be governed by the laws of the State of Delaware without resort to that state's conflicts of laws rules. For purposes of litigating any dispute that may arise directly or indirectly from the Plan or any Offering, the parties hereby submit and consent to the exclusive jurisdiction of the State of California and agree that any such litigation shall be conducted only in the courts of California or the federal courts of the United States located in California and no other courts.

(e) If any particular provision of the Plan is found to be invalid or otherwise unenforceable, such provision will not affect the other provisions of the Plan, but the Plan will be construed in all respects as if such invalid provision were omitted.

(f) If any provision of the Plan does not comply with applicable law or regulations, such provision will be construed in such a manner as to comply with applicable law or regulations.

16. Definitions. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "423 Component" means the part of the Plan, which excludes the Non-423 Component, pursuant to which Purchase Rights that satisfy the requirements for an Employee Stock Purchase Plan may be granted to Eligible Employees.

(b) "Affiliate" means any entity, other than a Related Corporation, in which the Company has an equity or other ownership interest or that is directly or indirectly controlled by, controls, or is under common control with the Company, in all cases, as determined by the Board, whether now or hereafter existing.

(c) "Board" means the Board of Directors of the Company.

(d) "Capitalization Adjustment" means, with respect to the Common Stock subject to the Plan or subject to any Purchase Right after the date the Plan is adopted by the Board, a stock split, reverse stock split, stock dividend, combination, consolidation, recapitalization (including a recapitalization through a large nonrecurring cash dividend) or reclassification of the Common Stock, subdivision of the Common Stock, a rights offering, a reorganization, merger, spin-off, split-up, repurchase, or exchange of Common Stock or other securities of the Company or other significant corporate transaction, or other change affecting the Common Stock occurs.

(e) "Code" means the U.S. Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(f) "Committee" means a committee of one or more members of the Board to whom authority has been delegated by the Board in accordance with Section 2(c).

(g) "Common Stock" means the common stock of the Company.

(h) "Company" means Cortexyme, Inc., a Delaware corporation.

(i) "Contributions" means the payroll deductions or other payments specifically provided for in the Offering that a Participant contributes to fund the exercise of a Purchase Right. A Participant may make additional payments into his or her account if specifically provided for in the Offering, and then only if the Participant has not already contributed the maximum permitted amount of payroll deductions and other payments during the Offering.

(j) "Corporate Transaction" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a transfer of all or substantially all of the Company's assets;

(ii) a merger, consolidation or other capital reorganization or business combination transaction of the Company with or into another corporation, entity or person; or

(iii) the consummation of a transaction, or series of related transactions, in which any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "beneficial owner" (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of more than 50% of the Company's then outstanding capital stock.

(k) "Designated 423 Corporation" means any Related Corporation selected by the Board as participating in the 423 Component.

(l) "Designated Company" means any Designated Non-423 Corporation or Designated 423 Corporation, provided, however, that at any given time, a Related Corporation participating in the 423 Component will not be a Related Corporation participating in the Non-423 Component.

(m) "Designated Non-423 Corporation" means any Related Corporation or Affiliate selected by the Board as participating in the Non-423 Component.

(n) "Director" means a member of the Board.

(o) "Effective Date" means the day immediately prior to the Registration Date.

(p) "Eligible Employee" means an Employee who meets the requirements set forth in the document(s) governing the Offering for eligibility to participate in the Offering, provided that such Employee also meets the requirements for eligibility to participate set forth in the Plan. For purposes of the Plan, the employment relationship will be treated as continuing intact while the Employee is on sick leave or other leave of absence approved by the Company or a Related Corporation or Affiliate that directly employs the Employee. Where the period of leave exceeds three (3) months and the Employee's right to reemployment is not guaranteed either by statute or by contract, the employment relationship will be deemed to have terminated three (3) months and one (1) day following the commencement of such leave.

(q) "Eligible Service Provider" means a natural person other than an Employee or Director who (i) is designated by the Committee to be an "Eligible Service Provider," (ii) provides bonafide services to the Company or a Related Corporation, (iii) is not a U.S. taxpayer and (iv) meets the requirements set forth in the document(s) governing the Offering for eligibility to participate in the Offering, provided that such person also meets the requirements for eligibility to participate set forth in the Plan.

(r) "Employee" means any person, including an Officer or Director, who is treated as an employee in the records of the Company or a Related Corporation or Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(s) "Employee Stock Purchase Plan" means a plan that grants Purchase Rights intended to be options issued under an "employee stock purchase plan," as that term is defined in Section 423(b) of the Code.

(t) "Exchange Act" means the U.S. Securities Exchange Act of 1934, as amended and the rules and regulations promulgated thereunder.

(u) "Fair Market Value" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or a national market system, its Fair Market Value will be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the date of determination, as reported in such source as the Board deems reliable;

(ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, its Fair Market Value will be the mean of the closing bid and asked prices for the Common Stock on the date of determination, as reported in such source as the Board deems reliable;

(iii) In the absence of an established market for the Common Stock, the Fair Market Value will be determined in good faith by the Board in compliance with applicable laws and regulations and in a manner that complies with Sections 409A of the Code; or

(iv) Notwithstanding the foregoing, for any Offering that commences on the Registration Date, the Fair Market Value of the shares of Common Stock on the Offering Date will be the price per share at which shares are first sold to the public in the Company's initial public offering as specified in the final prospectus for that initial public offering.

(v) "Fiscal Year" means the fiscal year of the Company.

(w) "New Purchase Date" means a new Purchase Date set by shortening any Offering then in progress.

(x) "Non-423 Component" means the part of the Plan, which excludes the 423 Component, pursuant to which Purchase Rights that are not intended to satisfy the requirements for an Employee Stock Purchase Plan may be granted to Eligible Employees and Eligible Service Providers.

(y) "Offering" means the grant to Eligible Employees or Eligible Service Providers of Purchase Rights, with the exercise of those Purchase Rights automatically occurring at the end of one or more Purchase Periods. The terms and conditions of an Offering will generally be set forth in the "Offering Document" approved by the Board for that Offering.

(z) "Offering Date" means a date selected by the Board for an Offering to commence.

(aa) "Officer" means a person who is an officer of the Company or a Related Corporation or Affiliate within the meaning of Section 16 of the Exchange Act.

(bb) "Participant" means an Eligible Employee or Eligible Service Provider who holds an outstanding Purchase Right.

(cc) "Plan" means this Cortexyme, Inc. 2019 Employee Stock Purchase Plan, including both the 423 Component and the Non-423 Component, as amended from time to time.

(dd) "Purchase Date" means one or more dates during an Offering selected by the Board on which Purchase Rights will be exercised and on which purchases of shares of Common Stock will be carried out in accordance with such Offering.

(ee) "Purchase Period" means a period of time specified within an Offering, generally beginning on the Offering Date or on the first Trading Day following a Purchase Date, and ending on a Purchase Date. An Offering may consist of one or more Purchase Periods.

(ff) "Purchase Right" means an option to purchase shares of Common Stock granted pursuant to the Plan.

(gg) "Registration Date" means the effective date of the first registration statement that is filed by the Company and declared effective pursuant to Section 12(g) of the Exchange Act, with respect to any class of the Company's securities.

(hh) "Related Corporation" means any "parent corporation" or "subsidiary corporation" of the Company whether now or subsequently established, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(ii) "Securities Act" means the U.S. Securities Act of 1933, as amended.

(jj) "Trading Day" means any day on which the exchange or market on which shares of Common Stock are listed is open for trading.

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Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

Cortexyme, Inc.
South San Francisco, California

We hereby consent to the use in the Prospectus constituting a part of this Registration Statement of our report dated March 4, 2019 (except for the "Reverse Stock Split" paragraph of Note 2, as to which the date is April 29, 2019), relating to the financial statements of Cortexyme, Inc., which is contained in that Prospectus.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP
San Jose, California

April 29, 2019