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BELLICUM PHARMACEUTICALS, INC.  
2130 W. Holcombe Blvd., Suite 800  
Houston, TX 77030

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On June 13, 2019

Dear Stockholder:

You are cordially invited to attend the 2019 Annual Meeting of Stockholders of Bellicum Pharmaceuticals, Inc., a Delaware corporation (the "Company"). The meeting will be held on Thursday, June 13, 2019 at 10:00 a.m. (local time) at the offices of the Company, located at 611 Gateway Blvd., Suite 820, South San Francisco, CA 94080, for the following purposes:

1. To elect the three Class II directors named herein to hold office until the 2022 Annual Meeting of Stockholders.
2. To approve the Company's 2019 Equity Incentive Plan.
3. To ratify the selection of Ernst & Young LLP by the Audit Committee of the Board of Directors to serve as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019.
4. To conduct any other business properly brought before the meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

The record date for the Annual Meeting is April 17, 2019. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

Important Notice

Regarding the  
Availability of Proxy  
Materials for the  
Shareholder Meeting  
To Be Held on June  
13, 2019 at 10:00 a.m.  
(local time) at the  
offices of the  
Company, located at  
611 Gateway Blvd.,  
Suite 820, South San  
Francisco, CA 94080.  
The proxy statement  
and annual report to  
shareholders  
are available at  
[www.proxyvote.com](http://www.proxyvote.com).

By Order of the Board of Directors

/s/ Atabak Mokari  
Atabak Mokari, Chief Financial Officer

Houston, Texas  
April 25, 2019

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please complete, date, sign and return the proxy mailed to you, or vote over the telephone or the internet as instructed in

these materials, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

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BELLICUM PHARMACEUTICALS, INC.

2130 W. Holcombe Blvd., Suite 800

Houston, TX 77030

PROXY STATEMENT

FOR THE 2019 ANNUAL MEETING OF STOCKHOLDERS

To Be Held On June 13, 2019

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive a notice regarding the availability of proxy materials on the internet?

Pursuant to rules adopted by the Securities and Exchange Commission (the "SEC"), we have elected to provide access to our proxy materials over the internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the "Notice") because the Board of Directors (sometimes referred to as the "Board") of Bellicum Pharmaceuticals, Inc. (sometimes referred to as the "Company," or "Bellicum," "we," "our" or "us") is soliciting your proxy to vote at the 2019 Annual Meeting of Stockholders (the "Annual Meeting"), including at any adjournments or postponements of the meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about May 2, 2019 to all stockholders of record entitled to vote at the Annual Meeting.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after May 14, 2019.

How do I attend the annual meeting?

The meeting will be held on Thursday, June 13, 2019 at 10:00 a.m. local time at the offices of the Company, located at 611 Gateway Blvd., Suite 820, South San Francisco, CA 94080. Directions to the Annual Meeting may be found at [www.bellicum.com](http://www.bellicum.com). The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report for fiscal year 2018. Information on how to vote in person at the Annual Meeting is discussed below.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on April 17, 2019 will be entitled to vote at the Annual Meeting. On this record date, there were 45,957,576 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If, on April 17, 2019, your shares were registered directly in your name with Bellicum's transfer agent, American Stock Transfer & Trust Company, LLC, then you are a stockholder of record. As a stockholder of record, you may vote in person at the Annual Meeting or vote by proxy. Whether or not you plan to attend the Annual Meeting, we urge you to fill out and return the proxy card that may be mailed to you, or vote by proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If, on April 17, 2019, your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in "street name" and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the Annual Meeting unless you request and obtain a valid proxy from your broker or other agent.

What am I voting on?

There are three matters scheduled for a vote:

Proposal 1: Election of the three Class II directors named herein to hold office until the 2022 Annual Meeting of Stockholders;

Proposal 2: Approval of the Company's 2019 Equity Incentive Plan (the "2019 Plan").

Proposal 3: Ratification of the selection of Ernst & Young LLP by the Audit Committee of the Board as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019.

What if another matter is properly brought before the meeting?

The Board knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

You may either vote "For" all the nominees to the Board or you may "Withhold" your vote for any nominee you specify.

For each of the other matters to be voted on, you may vote "For" or "Against" or abstain from voting.

The procedures for voting are as follows:

**Stockholder of Record: Shares Registered in Your Name**

If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy over the telephone, vote by proxy through the internet or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting and vote in person even if you have already voted by proxy.

**▲VOTE IN PERSON:** You may come to the Annual Meeting and we will give you a ballot when you arrive.

**VOTE BY PHONE:** To vote over the telephone, dial toll-free 1-800-690-6903, using any touch-tone telephone and follow the recorded instructions. You will be asked to provide the control number from the Notice. Your telephone vote must be received by 11:59 p.m. Eastern Time on June 12, 2019 to be counted.

**VOTE BY INTERNET:** You may vote at [www.proxyvote.com](http://www.proxyvote.com) to complete an electronic proxy card. You will be asked to provide the control number from the Notice. Your internet vote must be received by 11:59 p.m. Eastern Time on June 12, 2019, to be counted.

**VOTE BY PROXY CARD:** To vote using a proxy card, simply complete, sign and date the proxy card that may be delivered and return it promptly in the envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.

**Beneficial Owner: Shares Registered in the Name of Broker or Bank**

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a Notice containing voting instructions from that organization rather than from Bellicum. Simply follow the voting instructions in the Notice to ensure that your vote is counted. Alternatively, you may vote by telephone or over the internet as instructed by your broker or bank. To vote in person at the annual meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

We provide internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions.

However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of the close of business on April 17, 2019.

What happens if I do not vote?

**Stockholder of Record: Shares Registered in Your Name**

If you are a stockholder of record and do not vote by completing your proxy card, by telephone, through the internet or in person at the Annual Meeting, your shares will not be voted.

**Beneficial Owner: Shares Registered in the Name of Broker or Bank**

If you are a beneficial owner and do not instruct your broker, bank, or other agent how to vote your shares, the question of whether your broker or nominee will still be able to vote your shares depends on whether the New York Stock Exchange (“NYSE”) deems the particular proposal to be a “routine” matter. Brokers and nominees can use their discretion to vote “uninstructed” shares with respect to matters that are considered to be “routine”, but not with respect to “non-routine” matters. Under the rules of the NYSE applicable to brokers and agents, “non-routine” matters are matters that may substantially affect the rights or privileges of stockholders, such as mergers, stockholder proposals, elections of directors (even if not contested), executive compensation (including any advisory stockholder votes on executive

compensation and on the frequency of stockholder votes on executive compensation), and certain corporate governance proposals, even if management-supported. Accordingly, your broker or nominee may not vote your shares on Proposals 1 and 2, without your instructions, but may vote your shares on Proposal 3.

What if I return a proxy card or otherwise vote but do not make specific choices?

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, "For" the election of all three nominees for director, "For" the approval of the 2019 Plan and "For" the ratification of the selection of Ernst & Young LLP by the Audit Committee of the Board as the independent registered public accounting firm of the Company for its fiscal year ending December 31, 2019. If any other matter is properly presented at the meeting, your proxy holder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment. We have engaged The Proxy Advisory Group, LLC to assist in the solicitation of proxies and provide related advice and informational support, for a services fee and the reimbursement of customary disbursements, which are not expected to exceed \$12,000 in total.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the Notices to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy at any time before the final vote at the Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

• You may submit another properly completed proxy card with a later date.



You may grant a subsequent proxy by telephone or through the internet.

- You may send a timely written notice that you are revoking your proxy to Bellicum Pharmaceuticals, Inc., Attn: Corporate Secretary, 2130 W. Holcombe Blvd., Suite 800, Houston, TX 77030.

You may attend the Annual Meeting and vote in person. Simply attending the Annual Meeting will not, by itself, revoke your proxy.

Your most current proxy card or telephone or internet proxy is the one that is counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

When are stockholder proposals and director nominations due for next year's Annual Meeting?

To be considered for inclusion in the Company's proxy materials for next year's annual meeting, your proposal must be submitted in writing by January 3, 2020, to Bellicum Pharmaceuticals, Inc., Attn: Corporate Secretary, 2130 W. Holcombe Blvd., Suite 800, Houston, TX 77030. If you wish to submit a proposal (including a director nomination) at the annual meeting that is not to be included in the Company's proxy materials for next year's annual meeting, such proposal must be received no earlier than the close of business on February 14, 2020 nor later than the close of business on March 16, 2020. You are also advised to review the Company's Bylaws, which contain additional requirements relating to advance notice of stockholder proposals and director nominations.

How are votes counted?

Votes will be counted by the inspector of election appointed for the Annual Meeting, who will separately count, for the proposal to elect directors, votes "For," "Withhold" and broker non-votes; and, with respect to the other proposals, votes "For" and "Against," abstentions and, if applicable, broker non-votes. Abstentions will be counted towards the vote total for Proposals 2 and 3, and will have the same effect as "Against" votes.

What are "broker non-votes"?

When a beneficial owner of shares held in "street name" does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed to be non-routine under applicable rules, the broker or nominee cannot vote the shares on such matters. These unvoted shares are counted as "broker non-votes." Broker non-votes will be counted towards the presence of a quorum but will not be counted towards the vote total for any proposal.

How many votes are needed to approve each proposal?

To be approved, Proposal 1, the election of three Class II directors, the three nominees receiving the most "For" votes from the holders of shares present in person or represented by proxy and entitled to vote on the election of directors will be elected. Only votes "For" or "Withheld" will affect the outcome. Broker non-votes will have no effect.

To be approved, Proposal 2, the approval of the 2019 Plan, must receive "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.

To be approved, Proposal 3, the ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm for its fiscal year ending December 31, 2019, must receive "For" votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter. If you "Abstain" from voting, it will have the same effect as an "Against" vote.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the outstanding shares entitled to vote are present at the Annual Meeting in person or represented by proxy. On the

record date, April 17, 2019, there were 45,957,576 shares outstanding and entitled to vote. Thus, the holders of 27,978,789 shares must be present in person or represented by proxy at the meeting to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the Annual Meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present at the Annual Meeting in person or represented by proxy may adjourn the Annual Meeting to another date.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the Annual Meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

## PROPOSAL 1

### ELECTION OF DIRECTORS

The Company's Board of Directors is divided into three classes. Each class consists, as nearly as possible, of one-third of the total number of directors, and each class has a three-year term. Vacancies on the Board may be filled only by persons elected by a majority of the remaining directors. A director elected by the Board to fill a vacancy in a class, including vacancies created by an increase in the number of directors, shall serve for the remainder of the full term of that class and until the director's successor is duly elected and qualified.

The Board presently has eight members. There are three Class II directors whose term of office expires in 2019: James F. Brown, Edmund P. Harrigan, and Judith Klimovsky. Mr. Brown and Drs. Harrigan and Klimovsky have been nominated for election at the Annual Meeting. Proxies may not be voted for a greater number of persons than the number of nominees named in this Proxy Statement. Each of the nominees listed below is currently a director of the Company. If elected at the Annual Meeting, each of these nominees would serve until the 2022 annual meeting or until his/her successor has been duly elected and qualified, or, if sooner, until his or her death, resignation or removal. It is the Company's policy to invite directors and nominees for director to attend the Annual Meeting. Mr. Brown and Mr. Fair attended the 2018 Annual Meeting of Stockholders.

Directors are elected by a plurality of the votes of the holders of shares present in person or represented by proxy and entitled to vote on the election of directors. Accordingly, the three nominees receiving the highest number of "For" votes will be elected. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of the three nominees named below. If any nominee becomes unavailable for election as a result of an unexpected occurrence, shares that would have been voted for that nominee will instead will be voted for the election of a substitute nominee proposed by the Company. Each person nominated for election has agreed to serve if elected. The Company's management has no reason to believe that any nominee will be unable to serve.

### NOMINEES

The Nominating and Governance Committee seeks to assemble a board that, as a whole, possesses the appropriate balance of professional and industry knowledge, financial expertise and high-level management experience necessary to oversee and direct the Company's business. To that end, the Nominating and Governance Committee has identified and evaluated nominees in the broader context of the Board's overall composition, with the goal of recruiting members who complement and strengthen the skills of other members and who also exhibit integrity, collegiality, sound business judgment and other qualities that the Nominating and Governance Committee views as critical to effective functioning of the Board. The brief biographies below include information, as of the date of this Proxy Statement, regarding the specific and particular experience, qualifications, attributes or skills of each director or nominee that led the Nominating and Governance Committee to believe that that nominee should continue to serve on the Board. However, each of the members of the Nominating and Governance Committee may have a variety of reasons why he believes a particular person would be an appropriate nominee for the Board, and these views may differ from the views of other members.

#### Nominees for Election for a Three-year Term Expiring at the 2022 Annual Meeting

James F. Brown, 54, has served as a member of our Board since November 2011 and as Chairman of our Board since December 2014. From July 2009 to May 2017 he has served as Managing Director of AVG Ventures, a private investment firm. From 2003 to 2009, Mr. Brown was an independent investor and served on a number of private company boards of directors. From 1999 to 2002, he served as Executive Vice President and General Manager of OpenTV, Inc., a technology and media company, where he co-founded and managed the company's applications business unit, prior to its sale to Liberty Media in 2002. Earlier in his career, Mr. Brown was a partner in the law firms of McDermott, Will & Emery and Pillsbury Madison & Sutro. Mr. Brown is currently a director of Landmark Infrastructure Partners, LP, a public real estate management company. He also served as a director of Perk.com, Inc., a public company traded on the Toronto Stock Exchange, from July 2015 to January 2017. He received his B.S. in accounting from Weber State University and his J.D. from Brigham Young University School of Law. Our Board believes that Mr. Brown's business experience and his success as an investor and entrepreneur qualify him to serve on our Board.

Edmund P. Harrigan, M.D., 66, has served as a member of our Board since February 2018. Dr. Harrigan served as Senior Vice President of Worldwide Safety and Regulatory for Pfizer Inc. from February 2012 to July 2015, where he led a 3,500-person team in 80 countries that was responsible for collecting, interpreting and reporting clinical safety data for more than 600 marketed products, and managing regulatory interactions with global health agencies. Dr. Harrigan's previous executive leadership roles at Pfizer included serving as Senior Vice President, Head of Worldwide Business Development, Senior Vice President, Head of

Worldwide Regulatory Affairs and Quality Assurance, and Vice President, Head of Neuroscience and Ophthalmology. Earlier in his career at Pfizer, Dr. Harrigan served as Vice President of Clinical Development, Therapeutic Area Head, CNS and Pain. Prior to entering the pharmaceutical industry in 1990, Dr. Harrigan was a practicing neurologist for seven years. He currently serves on the board of directors of the public companies PhaseBio Pharmaceuticals, Inc. and ACADIA Pharmaceuticals Inc., as well as the private companies Karuna Pharmaceuticals and Lyndra, Inc. Dr. Harrigan holds a B.A. degree in Chemistry from St. Anselm College and earned his M.D. from the University of Massachusetts at Worcester. Our Board believes that Dr. Harrigan's extensive leadership experience and cross-functional background in clinical and regulatory matters qualify him to serve on our Board.

Judith Klimovsky, M.D., 62, has served as a member of our Board since December 2018. Since February 2017, Dr. Klimovsky has served as the Executive Vice President & Chief Development Officer of Genmab A/S, a public international biotechnology company developing antibody therapeutics for cancer, where she leads the company's product development efforts. Dr. Klimovsky previously held a number of senior positions at Novartis AG, a public international pharmaceutical company, including Senior Vice President, Head of Clinical Development from May 2015 to February 2017, Vice President, Global Program Head from April 2013 to April 2015, and Executive Medical Director from May 2009 to April 2013. Prior to joining Novartis, Dr. Klimovsky held successively senior positions at Bristol-Myers Squibb and Merck, where she led and contributed to the clinical development of key cancer drugs. Previously, Dr. Klimovsky served in various hematology clinical practice positions in Buenos Aires, Argentina. Dr. Klimovsky earned her M.D. from the Buenos Aires University School of Medicine. Our Board believes that Dr. Klimovsky brings extensive leadership experience in drug development, particularly in the areas of oncology and hematology that qualify her to serve on our Board.

**THE BOARD OF DIRECTORS RECOMMENDS**

**A VOTE "FOR" EACH NAMED NOMINEE.**

**Directors Continuing in Office until the 2020 Annual Meeting**

Richard A. Fair, 50, has served as our President and Chief Executive Officer and a member of our Board since January 2017. From January 2014 to January 2017, Mr. Fair served as Senior Vice President, Therapeutic Head Oncology Global Product Strategy at Genentech, Inc., a biotechnology company that in 2009 was acquired and became a subsidiary of Roche Holding AG. His responsibilities included leadership of lifecycle strategy and global commercialization of the organization's late stage and commercial oncology and hematology portfolio. From April 2006 to January 2014, Mr. Fair held other positions at Genentech, including Vice President, Global Product Strategy Hematology & Signaling, from November 2012 through December 2013, and Vice President, Sales & Marketing, Oral Oncolytics, from May 2010 to November 2012. Prior to Genentech, Mr. Fair held positions at Johnson & Johnson, a public pharmaceutical and medical device company. Since October 2018, Mr. Fair has served as a member of the board of directors of Clovis Oncology, Inc., a public biotechnology company. Mr. Fair received his B.S. in computer science from the University of Michigan and his MBA, with a dual concentration in finance and management, from Columbia University. Our Board believes that Mr. Fair's background in the biotechnology and pharmaceutical industry, and extensive commercial and senior management experience qualify him to serve on our Board.

James M. Daly, 57, has served as a member of our Board since May 2016. Mr. Daly currently serves on the board of directors of three other biopharmaceutical companies, including ACADIA Pharmaceuticals, Inc., Halozyme Therapeutics, Inc. and Chimerix, Inc. From October 2012 to June 2015, Mr. Daly served as Executive Vice President and Chief Commercial Officer of Incyte Corporation, a public biotechnology company. From January 2002 to December 2011, Mr. Daly held various positions at Amgen, Inc., a public biopharmaceutical company, where he most recently served as Senior Vice President of North America Commercial Operations and Global Marketing/Commercial Development. Prior to his employment with Amgen, Mr. Daly served as Senior Vice President and General Manager of the Respiratory/Anti-infective business unit of GlaxoSmithKline, a public pharmaceutical company, where he was employed from June 1985 to December 2001. Mr. Daly received his B.S. in Pharmacy and an M.B.A. from the University at Buffalo, The State University of New York. Our Board believes that Mr. Daly's extensive background in the pharmaceutical industry and experience as an executive and director at multiple public biopharmaceutical companies qualify him to serve on our Board.

Reid M. Huber, Ph.D., 47, has served as a member of our Board since October 2014. Dr. Huber has served as a Partner at Third Rock Ventures since December 2018, where he focuses on discovering, launching and building innovative, value-creating, product engine-focused companies across multiple therapeutic areas. From April 2014 to December 2018, Dr. Huber served as at Executive Vice President and Chief Scientific Officer at Incyte Corporation, where he led drug discovery research primarily in the area of hematology and oncology. From 2002 to 2014, Dr. Huber held various roles of increasing responsibility at Incyte. Prior to joining Incyte, Dr. Huber held scientific research positions at DuPont Pharmaceuticals and Bristol-Myers Squibb from 1997 to 2002. Dr. Huber received his Ph.D. in molecular genetics from the Washington University School of Medicine and held pre- and

post-doctoral fellowships at the National Institutes of Health. Our Board believes that Dr. Huber's extensive background in the pharmaceutical industry and senior management experience qualify him to serve on our Board. Directors Continuing in Office until the 2021 Annual Meeting

Jon P. Stonehouse, 58, has served as a member of our Board since December 2014. Since January 2007, Mr. Stonehouse has served as the Chief Executive Officer and a member of the Board of BioCryst Pharmaceuticals, Inc., a public biopharmaceutical company. Since July 2007, he has also served as President of BioCryst. From March 2002 to December 2006, Mr. Stonehouse served in various positions at Merck KGaA, a pharmaceutical company, including as Senior Vice President of Corporate Development from July 2002 to December 2006, and Vice President of Global Licensing and Business Development and Integration from March 2002 to December 2006. Since November 2008, Mr. Stonehouse has also served as a member of the Advisory Board of Precision Biosciences, Inc., a private biotechnology company. Mr. Stonehouse received his B.S. in Chemistry from the University of Minnesota. Our Board believes that Mr. Stonehouse's management background, experience as a director at a public pharmaceutical company and extensive history as an advisory board member in the pharmaceutical industry qualify him to serve on our Board.

Stephen R. Davis, 58, has served as a member of our Board since July 2015. Since March 2015, Mr. Davis has served as President and Chief Executive Officer of ACADIA Pharmaceuticals, Inc., a public biotechnology company. Prior to that, Mr. Davis served as ACADIA's Executive Vice President, Chief Financial Officer and Chief Business Officer from July 2014 through March 2015. From June 2012 to June 2015, Mr. Davis served as a member of the board of directors of Heron Therapeutics, Inc., a public biotechnology company, where he also served as Executive Vice President and Chief Operating Officer from May 2013 to July 2014. From April 2010 to December 2012, Mr. Davis served as Executive Vice President and Chief Operating Officer of Ardea Biosciences, Inc., a public biotechnology company which was acquired by AstraZeneca PLC in June 2012. He also recently served as a director of Synageva BioPharma Corp. Earlier in his career, Mr. Davis practiced as a certified public accountant with a major accounting firm and as a corporate and securities attorney with a Wall Street law firm. Mr. Davis received his B.S. degree in accounting from Southern Nazarene University and his J.D. degree from Vanderbilt University. Our Board believes that Mr. Davis' experience as an executive at various public biotechnology companies, his background in law, finance and accounting and his experience as a director at public biotechnology companies qualify him to serve on our Board.

## INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

### INDEPENDENCE OF THE BOARD OF DIRECTORS

As required under the Nasdaq Capital Market LLC (“Nasdaq”) listing standards, a majority of the members of a listed company’s Board must qualify as “independent,” as affirmatively determined by the Board. The Board consults with the Company’s counsel to ensure that the Board’s determinations are consistent with relevant securities and other laws and regulations regarding the definition of “independent,” including those set forth in pertinent listing standards of Nasdaq, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent auditors, the Board has affirmatively determined that the following seven directors are independent directors within the meaning of the applicable Nasdaq listing standards: Messrs. Brown, Stonehouse, Davis and Daly, and Drs. Huber, Harrigan and Klimovsky. In making this determination, the Board found that none of these directors had a material or other disqualifying relationship with the Company. Mr. Fair is an executive officer of the Company, and therefore is not considered independent.

### BOARD LEADERSHIP STRUCTURE

Our Board currently is chaired by James F. Brown who has authority, among other things, to call and preside over Board meetings, to set meeting agendas and to determine materials to be distributed to the Board. Accordingly, the Chairman has substantial ability to shape the work of the Board. We believe that separation of the positions of Chairman and Chief Executive Officer reinforces the independence of the Board in its oversight of our business and affairs. In addition, we have a separate chair for each committee of the Board. The chairs of each committee are expected to report regularly to the Board on the activities of their committee in fulfilling their responsibilities as detailed in their respective charters or specify any shortcomings should that be the case. In addition, we believe that having a separate Chairman creates an environment that is more conducive to objective evaluation and oversight of management’s performance, increasing management accountability and improving the ability of the Board to monitor whether management’s actions are in the best interests of us and our stockholders. As a result, we believe that having a separate Chairman can enhance the effectiveness of the Board as a whole.

### ROLE OF THE BOARD IN RISK OVERSIGHT

One of the key functions of our Board is informed oversight of our risk management process. Our Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various standing committees of our Board that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure and the Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The Audit Committee also monitors compliance with legal and regulatory requirements. The Nominating and Governance Committee monitors the effectiveness of our corporate governance practices, including whether they are successful in preventing illegal or improper liability-creating conduct. The Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

### MEETINGS OF THE BOARD OF DIRECTORS

The Board met five times during 2018. All directors attended at least 75% of the aggregate number of meetings of the Board and of the committees on which they served, held during the portion of the last fiscal year for which they were directors or committee members, respectively.

In fiscal year 2018, at each meeting of the Board, other than at one special meeting, the Company’s independent directors met in an executive session at which only independent directors were present.



## INFORMATION REGARDING COMMITTEES OF THE BOARD OF DIRECTORS

The Board has an Audit Committee, a Compensation Committee, a Nominating and Governance Committee, a Science Committee, and a Finance Committee. The following table provides current membership and meeting information for fiscal year 2018 for each of our Board committees:

Name	Audit	Compensation	Nominating and Governance	Finance	Science
Richard A. Fair .....					
James F. Brown .....	X	X	X	X	
James M. Daly .....			X		
Stephen R. Davis .....	X*			X	
Edmund P. Harrigan, M.D. <sup>(1)</sup> .....		X			X
Reid M. Huber, Ph.D .....		X	X*		X*
Frank B. McGuyer <sup>(2)</sup> .....		X	X		
Jon P. Stonehouse .....	X	X *		X*	
Judith Klimovsky M.D. <sup>(3)</sup> .....					X
Total meetings in fiscal year 2018 .....	5	2	2	2	2

\*Committee Chairperson

(1) Dr. Harrigan was appointed to the Science Committee in February 2018 and to the Compensation Committee in May 2018.

(2) Mr. McGuyer resigned from the Compensation and Nominating and Governance Committees in May 2018, and resigned from the Board on December 20, 2018.

(3) Dr. Klimovsky was appointed to the Science Committee in December 2018.

Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. The Board has determined that each member of each committee satisfies the Nasdaq and the SEC independence requirements. Below is a description of each committee of the Board.

#### Audit Committee

The Audit Committee is currently composed of three directors: Messrs. Davis (Chair), Brown and Stonehouse. The Audit Committee met five times during the last fiscal year. The Board has adopted a written Audit Committee charter that is available to stockholders on the Company's website at [www.bellicum.com](http://www.bellicum.com). The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report for fiscal year 2018.

The Audit Committee of the Board was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), to oversee the Company's corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, the Audit Committee performs several functions, including, among other things:

- evaluating the performance, independence and qualifications of our independent auditors and determining whether to retain our existing independent auditors or engage new independent auditors;
- reviewing and approving the engagement of our independent auditors to perform audit services and any permissible non-audit services;
- monitoring the rotation of partners of our independent auditors on our engagement team as required by law;

prior to engagement of any independent auditor, and at least annually thereafter, reviewing relationships that may reasonably be thought to bear on their independence, and assessing and otherwise taking the appropriate action to oversee the independence of our independent auditor;



reviewing our annual and quarterly financial statements and reports, including the disclosures contained under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and discussing the statements and reports with our independent auditors and management;

reviewing, with our independent auditors and management, significant issues that arise regarding accounting principles and financial statement presentation and matters concerning the scope, adequacy and effectiveness of our financial controls;

reviewing with management and our independent auditors any earnings announcements and other public announcements regarding material developments;

establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters and other matters;

preparing the report that the SEC requires in our annual proxy statement;

reviewing and providing oversight of any related-party transactions in accordance with our related-party transaction policy and reviewing and monitoring compliance with legal and regulatory responsibilities, including our code of business conduct and ethics;

reviewing our major financial risk exposures, including the guidelines and policies to govern the process by which risk assessment and risk management are implemented;

reviewing, on a periodic basis, our investment policy; and

reviewing and evaluating, on an annual basis, the performance of the Audit Committee and the Audit Committee charter.

The Board reviews the Nasdaq listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of the Company’s Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A) of the Nasdaq listing standards and Rule 10A-3 of the Exchange Act).

The Board has also determined that Messrs. Davis, Brown, and Stonehouse each qualify as an “audit committee financial expert,” as defined in applicable SEC rules. The Board made a qualitative assessment of their respective levels of knowledge and experience based on a number of factors, including their respective formal education and previous and current experience in financial roles.

Report of the Audit Committee of the Board of Directors\*

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2018 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by Auditing Standard No. 1301, Communications with Audit Committees, as adopted by the Public Company Accounting Oversight Board (“PCAOB”). The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants’ communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm’s independence. Based on the foregoing, the Audit Committee has recommended to the Board that the audited financial statements be included in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Stephen R. Davis (Chair)

James F. Brown

Jon P. Stonehouse

The material in this report is not “soliciting material,” is not deemed “filed” with the SEC and is not to be incorporated by reference in any filing of the Company under the Exchange Act or the Securities Act of 1933, as amended, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Compensation Committee

The Compensation Committee is currently composed of four directors: Messrs. Stonehouse (Chair) and Brown and Drs. Huber and Harrigan. All members of the Compensation Committee are independent as independence is currently

defined in Rule 5605(d)(2)(A) of the Nasdaq listing standards and Rule 10C-1 of the Exchange Act. The Compensation Committee met two

11

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times during the last fiscal year. The Board has adopted a written Compensation Committee charter that is available to stockholders on the Company's website at [www.bellicum.com](http://www.bellicum.com). The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report for fiscal year 2018.

The Compensation Committee of the Board acts on behalf of the Board to review, adopt or recommend for adoption and oversee the Company's compensation strategy, policies, plans and programs. For this purpose, the Compensation Committee performs several functions, including, among other things:

- reviewing, modifying and approving (or if it deems appropriate, making recommendations to the full Board regarding) our overall compensation strategy and policies;
- making recommendations to the full Board regarding the compensation and other terms of employment of our executive officers;
- reviewing and making recommendations to the full Board regarding performance goals and objectives relevant to the compensation of our executive officers and assessing their performance against these goals and objectives;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full Board regarding) the equity incentive plans, compensation plans and similar programs advisable for us, as well as modifying, amending or terminating existing plans and programs;
- evaluating risks associated with our compensation policies and practices and assessing whether risks arising from our compensation policies and practices for our employees are reasonably likely to have a material adverse effect on us;
- reviewing and making recommendations to the full Board regarding the type and amount of compensation to be paid or awarded to our non-employee board members;
- establishing policies with respect to votes by our stockholders to approve executive compensation to the extent required by Section 14A of the Exchange Act and, if applicable, determining our recommendations regarding the frequency of advisory votes on executive compensation;
- reviewing and assessing the independence of compensation consultants, legal counsel and other advisors as required by Section 10C of the Exchange Act;
- administering our equity incentive plans;
- establishing policies with respect to equity compensation arrangements;
- reviewing the competitiveness of our executive compensation programs and evaluating the effectiveness of our compensation policy and strategy in achieving expected benefits to us;
- reviewing and approving (or if it deems it appropriate, making recommendations to the full Board regarding) the terms of any employment agreements, severance arrangements, change in control protections and any other compensatory arrangements for our executive officers;
- reviewing with management and approving our disclosures under the caption "Compensation Discussion and Analysis" in our periodic reports or proxy statements to be filed with the SEC, to the extent such caption is included in any such report or proxy statement;
- preparing the report that the SEC requires in our annual proxy statement; and
- reviewing and evaluating, on an annual basis, the performance of the Compensation Committee and the Compensation Committee charter.

#### Compensation Committee Processes and Procedures

Typically, the Compensation Committee meets or takes action by unanimous written consent at least quarterly and with greater frequency if necessary. The agenda for each meeting is usually developed by the Chair of the Compensation Committee, in consultation with the Chief Executive Officer. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees, as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the Compensation Committee regarding his compensation or individual performance objectives. The charter of the Compensation Committee grants the Compensation Committee full access to all books, records, facilities and personnel of the Company. In addition, under the charter, the Compensation Committee has the authority to obtain, at the expense of the Company, advice and assistance from internal and external legal, accounting or other advisors and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. The Compensation Committee has direct responsibility for the oversight of the work of any advisers engaged for the purpose of advising the Compensation Committee. In particular, the Compensation Committee has the sole authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms. Under its charter, to the extent required by SEC and Nasdaq rules, the Compensation Committee may select, or receive advice from, a compensation consultant, legal counsel or other adviser to the Compensation Committee, other than in-house legal counsel and certain other types of advisers, only after taking into consideration six factors, prescribed by the SEC and Nasdaq, that bear upon the adviser's independence; however, there is no requirement that any adviser be independent.

Since 2014, the Company has engaged Radford, a business unit of Aon plc ("Radford"), as its compensation consultant. Radford was retained to provide an assessment of the Company's executive and director compensation programs in comparison to executive and director compensation programs at selected publicly-traded peer companies. As part of its engagement, Radford was requested by the Board to develop a comparative group of companies and to perform analyses of competitive performance and compensation levels for that group. Radford ultimately developed recommendations that were presented to the Board for its consideration.

The Compensation Committee considers most of the significant adjustments to annual compensation, target bonuses and equity awards and establishes new performance objectives at one or more meetings held during the last quarter of each year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, including, for example, the efficacy of the Company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at periodic meetings throughout the year on an as-needed basis. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Compensation Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data and analyses of historical executive compensation levels and current Company-wide compensation levels and recommendations of the Compensation Committee's compensation consultant, including analyses of executive and director compensation paid at other companies identified by the consultant.

#### Nominating and Governance Committee

The Nominating and Governance Committee is currently composed of three directors: Dr. Huber (Chair) and Messrs. Brown and Daly. All members of the Nominating and Governance Committee are independent (as independence is

currently defined in Rule 5605(a)(2) of the Nasdaq listing standards). The Nominating and Governance Committee met two times during the last fiscal year. The Board has adopted a written Nominating and Governance Committee charter that is available to stockholders on the Company's website at [www.bellicum.com](http://www.bellicum.com). The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report for fiscal year 2018. The Nominating and Governance Committee of the Board is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company consistent with criteria approved by the Board, reviewing and evaluating incumbent directors, selecting or recommending to the Board for selection candidates for election to the Board, making recommendations to the Board regarding the membership of the committees of the Board, assessing the performance of the Board, and developing a set of corporate governance principles for the Company.

The functions of this committee include, among other things:

- identifying, reviewing and evaluating candidates to serve on our Board;
- determining the minimum qualifications for service on our Board;
- evaluating director performance on the board and applicable committees of the board and determining whether continued service on our board is appropriate;
- evaluating, nominating and recommending individuals for membership on our Board;
- evaluating nominations by stockholders of candidates for election to our Board;
- considering and assessing the independence of members of our Board;
- developing a set of corporate governance policies and principles and recommending to our Board any changes to such policies and principles;
- considering questions of possible conflicts of interest of directors as such questions arise; and
- reviewing and evaluating on an annual basis the performance of the Nominating and Governance Committee and the Nominating and Governance Committee charter.

The Nominating and Governance Committee believes that candidates for director should have certain minimum qualifications, including the ability to read and understand basic financial statements and having the highest personal integrity and ethics. The Nominating and Governance Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to the affairs of the Company, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of the Company's stockholders. However, the Nominating and Governance Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Nominating and Governance Committee typically considers diversity, age, skills and such other factors as it deems appropriate, given the current needs of the Board and the Company, to maintain a balance of knowledge, experience and capability.

In the case of incumbent directors whose terms of office are set to expire, the Nominating and Governance Committee reviews these directors' overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. In the case of new director candidates, the Nominating and Governance Committee also determines whether the nominee is independent for Nasdaq purposes, which determination is based upon applicable Nasdaq listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Governance Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Nominating and Governance Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. The Nominating and Governance Committee meets to discuss and consider the candidates' qualifications and then selects a nominee by majority vote which we expect will typically be recommended to the full Board.

The Nominating and Governance Committee will consider director candidates recommended by stockholders. The Nominating and Governance Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by the Nominating and Governance Committee to become nominees for election to the Board may do so by delivering a written recommendation to the Nominating and Governance Committee at the following address: Bellicum Pharmaceuticals, Inc., Attn: Corporate Secretary, 2130 W. Holcombe Blvd., Suite 800, Houston, TX 77030, no later than the close of business on the 90<sup>th</sup> day nor earlier than the close of business on the 120<sup>th</sup> day prior to the first anniversary of the preceding year's annual meeting (or in the case of the 2019 Annual Meeting of Stockholders, the 10<sup>th</sup> day following the day on which public announcement of the date of such meeting is first made). Submissions must include the name and address of the Company stockholder on whose behalf the submission is made; the number of Company shares that are owned



beneficially by such stockholder as of the date of the submission; the full name of the proposed candidate; a description of the proposed candidate's business experience for at least the previous five years; complete biographical information for the proposed candidate; and a description of the proposed candidate's qualifications as a director. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected.

#### Finance Committee

The Finance Committee is currently composed of three directors: Messrs. Stonehouse (Chair), Davis and Brown. The Finance Committee acts on behalf of the Board to, among other things, advise management on the Company's business development, collaboration and financing arrangements and make recommendations to the Board with respect to such matters. The Finance Committee met two times during the last fiscal year.

#### Science Committee

The Science Committee is currently composed of three directors: Drs. Huber (Chair), Harrigan and Klimovsky. The Science Committee acts on behalf of the Board to, among other things, advise management from time to time upon request and make recommendations to the Board with respect to our research and development programs, technology and objectives. The Science Committee met two times during the last fiscal year.

#### STOCKHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS

The Company's Board has adopted a formal process by which stockholders may communicate with the Board or any of its directors. Stockholders who wish to communicate with the Board may do so by sending written communications addressed to Bellicum Pharmaceuticals, Inc., Attn: Corporate Secretary, 2130 W. Holcombe Blvd., Suite 800, Houston, TX 77030. These communications will be reviewed by the Secretary of Bellicum, who will determine whether the communication is appropriate for presentation to the Board or the relevant director. The purpose of this screening is to allow the Board to avoid having to consider irrelevant or inappropriate communications (such as advertisements, solicitations and hostile communications).

#### CODE OF ETHICS

The Company has adopted a Code of Business Conduct and Ethics that applies to all officers, directors and employees. The Code of Business Conduct and Ethics is available on the Company's website at [www.bellicum.com](http://www.bellicum.com). The information on our website is not incorporated by reference into this Proxy Statement or our Annual Report for fiscal year 2018. If the Company makes any substantive amendments to the Code of Business Conduct and Ethics or grants any waiver from a provision of the Code to any executive officer or director, the Company will promptly disclose the nature of the amendment or waiver on its website.

## PROPOSAL 2

### APPROVAL OF THE 2019 EQUITY INCENTIVE PLAN

The Board is requesting stockholder approval of the Bellicum Pharmaceuticals, Inc. 2019 Equity Incentive Plan (the “2019 Plan”). The 2019 Plan is intended to be the successor to the Bellicum Pharmaceuticals, Inc. 2014 Equity Incentive Plan, as amended (the “2014 Plan”).

#### Why We Are Asking Our Stockholders to Approve the 2019 Plan

Currently, we maintain the 2014 Plan to grant stock options, restricted stock unit awards and other forms of equity-based awards to our employees, directors and consultants.

We are seeking stockholder approval of the 2019 Plan to grant stock options, restricted stock unit awards and other awards, which will enable us to have a competitive equity incentive program to compete for key talent. If the 2019 Plan is approved by our stockholders, no additional awards will be granted under the 2014 Plan, the Bellicum Pharmaceuticals, Inc. 2011 Stock Option Plan, as amended (the “2011 Plan”), or the Bellicum Pharmaceuticals, Inc. 2006 Stock Option Plan, as amended (the “2006 Plan” and together with the 2014 Plan and 2006 Plan, the “Prior Plans”). Approval of the 2019 Plan by our stockholders will allow us to grant stock options, restricted stock unit awards and other awards at levels determined appropriate by the Board or Compensation Committee. The 2019 Plan will also allow us to utilize a broad array of equity incentives in order to secure and retain the services of our employees and directors, and to provide long-term incentives that align the interests of our employees and directors with the interests of our stockholders.

#### Requested Shares

If this Proposal 2 is approved by our stockholders, then subject to adjustment for certain changes in our capitalization, the aggregate number of shares of our common stock that may be issued under the 2019 Plan will not exceed the sum of (i) 2,500,000 new shares and (ii) shares subject to outstanding stock awards granted under the Prior Plans that may become available for issuance under the 2019 Plan as such shares become available from time to time, not to exceed 6,005,401 shares (as further described below in “Description of the 2019 Equity Incentive Plan - Shares Available for Awards”).

#### Stockholder Approval

If this Proposal 2 is approved by our stockholders, the 2019 Plan will become effective as of the date of the Annual Meeting and, thereafter, no additional awards will be granted under the 2014 Plan. In the event that our stockholders do not approve this Proposal 2, the 2019 Plan will not become effective, and the 2014 Plan (including the inducement award pool under the 2014 Plan) will continue to be effective in accordance with its terms.

#### Why You Should Vote for the 2019 Plan

##### The 2019 Plan Contains Compensation and Governance Best Practices

In addition to providing us with additional shares to grant stock awards, the 2019 Plan includes provisions that are designed to protect our stockholders’ interests and to reflect corporate governance best practices including:

No “evergreen” provision for additional shares. The 2019 Plan does not contain an annual “evergreen” provision. Therefore, the share reserve will not increase automatically on an annual basis.

No liberal share counting or recycling. The following shares will not become available again for issuance under the 2019 Plan: (i) shares that are reacquired or withheld (or not issued) by us to satisfy the exercise or purchase price of a stock award; (ii) shares that are reacquired or withheld (or not issued) by us to satisfy a tax withholding obligation in connection with a stock award; (iii) any shares repurchased by us on the open market with the proceeds of the exercise or purchase price of a stock award and (iv) in the event a stock appreciation right is settled in shares, the gross number of shares subject to such award.

Repricing is not allowed without stockholder approval. The 2019 Plan expressly prohibits the repricing of outstanding stock options and stock appreciation rights and the cancellation of any outstanding stock options or stock appreciation rights that have an exercise or strike price greater than the then-current fair market value of our common stock in exchange for cash or other stock awards under the 2019 Plan without prior stockholder approval.

No discounted stock options or stock appreciation rights. All stock options and stock appreciation rights granted under the 2019 Plan must have an exercise price equal to or greater than the fair market value of our common stock on the date the stock option or stock appreciation right is granted.

Limited discretion to accelerate vesting of awards. The 2019 Plan provides that the Board or Compensation Committee may not accelerate the vesting of outstanding awards after they have been granted, except in connection with a corporate transaction or change in control, or upon the death or disability of the participant.

Minimum vesting requirements. The 2019 Plan provides that no award may vest until at least 12 months following the date of grant of such award, except that up to 5% of the total shares authorized for issuance under the 2019 Plan may be subject to awards that do not meet such vesting requirements.

Limit on non-employee director compensation. The aggregate value of all compensation granted or paid in any calendar year to any individual for service as a non-employee director, including stock awards granted under the 2019 Plan or otherwise, and any cash fees paid by the Company to such non-employee director, will not exceed \$600,000 in total value, or \$1,000,000 with respect to the calendar year in which the individual is first appointed or elected to the Board (calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes).

Awards subject to forfeiture/clawback. Awards granted under the 2019 Plan are subject to recoupment in accordance with the terms of the clawback policy adopted by the Compensation Committee of our Board (the terms of our clawback policy are described in the “Executive and Director Compensation” section of this proxy statement below), and in addition, any clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose other clawback, recovery or recoupment provisions in an award agreement, including a reacquisition right in respect of previously acquired shares or other cash or property upon the occurrence of cause.

No liberal change in control definition. The change in control definition in the 2019 Plan is not a “liberal” definition. A change in control transaction must actually occur in order for the change in control provisions in the 2019 Plan to be triggered.

Restrictions on dividends. The 2019 Plan provides that (i) no dividends or dividend equivalents may be paid with respect to any shares of our common stock subject to an award before the date such shares have vested, (ii) any dividends or dividend equivalents that are credited with respect to any such shares will be subject to all of the terms and conditions applicable to such shares under the terms of the applicable award agreement (including any vesting conditions), and (iii) any dividends or dividend equivalents that are credited with respect to any such shares will be forfeited to us on the date such shares are forfeited to or repurchased by us due to a failure to vest.

#### The Size of Our Share Reserve Request Is Reasonable and We Manage Our Equity Award Use Carefully

If our stockholders approve this Proposal 2, we will have approximately 2,500,000 new shares available for grant after our 2019 Annual Meeting of Stockholders. We continue to believe that equity incentive awards such as stock options and restricted stock unit awards are a vital part of our overall compensation program. Our compensation philosophy reflects broad-based eligibility for equity incentive awards, and we grant awards to substantially all of our employees and non-employee directors. However, we recognize that equity incentive awards dilute existing stockholders, and, therefore, we must responsibly manage the growth of our equity compensation program.

We have managed our long-term stockholder dilution by limiting the number of equity incentive awards granted. The Board and Compensation Committee monitors our stock award burn rate and dilution, among other factors, in its efforts to maximize stockholders' value by granting what, in the Board's or Compensation Committee's judgment, are the appropriate number of equity incentive awards necessary to attract, reward, and retain employees, consultants and directors based on the Company's business plan and anticipated grants.

As of the record date there were 45,957,576 shares of our common stock outstanding and the per-share closing price of our common stock as reported on Nasdaq Global Market was \$3.21.

#### Description of the 2019 Equity Incentive Plan

A summary of the principal features of the 2019 Plan follows below. The summary is qualified by the full text of the 2019 Plan that is attached as Appendix A to this proxy statement.

#### Purpose

The 2019 Plan is designed to secure and retain the services of our employees and directors, provide incentives for our employees and directors to exert maximum efforts for the success of the Company and its affiliates, and provide a means by which our employees and directors may be given an opportunity to benefit from increases in the value of our common stock.

#### Types of Awards

The 2019 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, and other stock awards.

#### Shares Available for Awards

Subject to adjustment for certain changes in our capitalization, the aggregate number of shares of our common stock that may be issued under the 2019 Plan, or the Share Reserve, will not exceed the sum of (i) 2,500,000 new shares and (ii) the Prior Plans' Returning Shares (as defined below) in an amount not to exceed 6,005,401 shares, as such shares become available from time to time. The term "Prior Plans' Returning Shares" refers to the following shares of our common stock subject to any stock award granted under the Prior Plans that were outstanding as of the date the 2019 Plan is approved by our stockholders: (i) any shares subject to such stock award that are not issued because such stock award expires or otherwise terminates without all of the shares covered by such stock award having been issued; (ii) any shares subject to such stock award that are not issued because such stock award is settled in cash; and (iii) any shares issued pursuant to such stock award that are forfeited back to or repurchased by us because of a failure to vest. The following shares of our common stock (collectively, the "2019 Plan Returning Shares") will also become available again for issuance under the 2019 Plan: (i) any shares subject to a stock award granted under the 2019 Plan that are not issued because such stock award expires or otherwise terminates without all of the shares covered by such stock award having been issued; (ii) any shares subject to a stock award granted under the 2019 Plan that are not issued because such stock award is settled in cash; and (iii) any shares issued pursuant to a stock award granted under the 2019 Plan that are forfeited back to or repurchased by us because of a failure to vest.

The following shares of our common stock will not become available again for issuance under the 2019 Plan: (i) any shares that are reacquired or withheld (or not issued) by us to satisfy the exercise, strike or purchase price of a stock award granted under the 2019 Plan or any Prior Plan (including any shares subject to such award that are not delivered because such award is exercised through a reduction of shares subject to such award); (ii) any shares that are reacquired or withheld (or not issued) by us to satisfy a tax withholding obligation in connection with a stock award granted under the 2019 Plan or any Prior Plan; (iii) any shares repurchased by us on the open market with the proceeds of the exercise, strike or purchase price of a stock award granted under the 2019 Plan or any Prior Plan; and (iv) in the event that a stock appreciation right granted under the 2019 Plan or any Prior Plan is settled in shares, the gross number of shares subject to such award.

The number of shares of our common stock available for issuance under the 2019 Plan will be reduced by: (i) one share for each share issued pursuant to a stock option or stock appreciation right with an exercise price that is at least 100% of the fair market value of our common stock on the date of grant (an "Appreciation Award") granted under the 2019 Plan; and (ii) 1.25 shares for each share issued pursuant to a stock award that is not an Appreciation Award (a "Full Value Award") granted under the 2019 Plan.



The number of shares of our common stock available for issuance under the 2019 Plan will be increased by: (i) one share for each Prior Plans' Returning Share or 2019 Plan Returning Share subject to an Appreciation Award; and (ii) 1.25 shares for each Prior Plans' Returning Share or 2019 Plan Returning Share subject to a Full Value Award.

#### Eligibility

All of our (including our affiliates') employees, consultants and non-employee directors are eligible to participate in the 2019 Plan and may receive all types of awards other than incentive stock options. Incentive stock options may be granted under the 2019 Plan only to our (including our affiliates') employees.

As of April 22, 2019, we (including our affiliates) had approximately 175 employees, 35 consultants and seven non-employee directors.

#### Non-Employee Director Compensation Limit

Under the 2019 Plan, the aggregate value of all compensation granted or paid in any calendar year to any individual for service as a non-employee director, including stock awards granted under the 2019 Plan or otherwise, and any cash fees paid by the Company to such non-employee director, will not exceed \$600,000 in total value, or \$1,000,000 with respect to the calendar year in which the individual is first appointed or elected to the Board (calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes).

#### Administration

The 2019 Plan will be administered by our Board, which may in turn delegate authority to administer the 2019 Plan to a committee. Our Board has delegated concurrent authority to administer the 2019 Plan to our Compensation Committee. Our Board and Compensation Committee are each considered to be a Plan Administrator for purposes of this Proposal 2.

Subject to the terms of the 2019 Plan, the Plan Administrator may determine the recipients, the types of awards to be granted, the number of shares of our common subject to or the cash value of awards, and the terms and conditions of awards granted under the 2019 Plan, including the period of their exercisability and vesting. The Plan Administrator also has the authority to provide for accelerated exercisability and vesting of awards, provided that the Plan Administrator may not accelerate the vesting of outstanding awards after they have been granted other than in connection with a corporate transaction or a change in control, or upon the death or disability of the participant. Subject to the limitations set forth below, the Plan Administrator also determines the fair market value applicable to a stock award and the exercise or strike price of stock options and stock appreciation rights granted under the 2019 Plan. The Plan Administrator may also delegate to one or more officers the authority to designate employees who are not officers to be recipients of certain stock awards and the number of shares of our common stock subject to such stock awards. Under any such delegation, the Plan Administrator will specify the total number of shares of our common stock that may be subject to the stock awards granted by such officer. The officer may not grant a stock award to himself or herself.

#### Repricing; Cancellation and Re-Grant of Stock Awards

Under the 2019 Plan, the Plan Administrator does not have the authority to reprice any outstanding stock option or stock appreciation right by reducing the exercise or strike price of the stock option or stock appreciation right or to cancel any outstanding stock option or stock appreciation right that has an exercise or strike price greater than the then-current fair market value of our common stock in exchange for cash or other stock awards without obtaining the approval of our stockholders. Such approval must be obtained within 12 months prior to such an event.

#### Minimum Vesting Requirements

Under the 2019 Plan, no award may vest until at least 12 months following the date of grant of such award, except that up to 5% of the Share Reserve of the 2019 Plan may be subject to awards that do not meet such vesting requirements.

#### Dividends and Dividend Equivalents

The 2019 Plan provides that dividends or dividend equivalents may be paid or credited with respect to any shares of our common stock subject to an award, as determined by the Plan Administrator and contained in the applicable award agreement; provided, however, that (i) no dividends or dividend equivalents may be paid with respect to any such shares before the date such shares have vested, (ii) any dividends or dividend equivalents that are credited with respect to any such shares will be subject to all of the terms





and conditions applicable to such shares under the terms of the applicable award agreement (including any vesting conditions), and (iii) any dividends or dividend equivalents that are credited with respect to any such shares will be forfeited to us on the date such shares are forfeited to or repurchased by us due to a failure to vest.

#### Limited Discretion to Accelerate Vesting

The 2019 Plan provides that, except in connection with a corporate transaction or a change in control, or the death or disability of a participant after the time an award has been granted, the Plan Administrator may not accelerate the time or times at which the award vests or becomes exercisable.

#### Stock Options

Stock options may be granted under the 2019 Plan pursuant to stock option agreements. The 2019 Plan permits the grant of stock options that are intended to qualify as incentive stock options, or ISOs, and nonstatutory stock options, or NSOs.

The exercise price of a stock option granted under the 2019 Plan may not be less than 100% of the fair market value of our common stock on the date of grant and, in some cases (see “Limitations on Incentive Stock Options” below), may not be less than 110% of such fair market value.

The term of stock options granted under the 2019 Plan may not exceed ten years and, in some cases (see “Limitations on Incentive Stock Options” below), may not exceed five years. Except as otherwise provided in a participant’s stock option agreement or other written agreement with us or one of our affiliates, if a participant’s service relationship with us or any of our affiliates (referred to in this Proposal 2 as “continuous service”) terminates (other than for cause and other than upon the participant’s death or disability), the participant may exercise any vested stock options for up to three months following the participant’s termination of continuous service. Except as otherwise provided in a participant’s stock option agreement or other written agreement with us or one of our affiliates, if a participant’s continuous service terminates due to the participant’s disability or death (or the participant dies within a specified period, if any, following termination of continuous service), the participant, or his or her beneficiary, as applicable, may exercise any vested stock options for up to 12 months following the participant’s termination due to the participant’s disability or for up to 18 months following the participant’s death. Except as explicitly provided otherwise in a participant’s stock option agreement or other written agreement with us or one of our affiliates, if a participant’s continuous service is terminated for cause (as defined in the 2019 Plan), all stock options held by the participant will terminate upon the participant’s termination of continuous service and the participant will be prohibited from exercising any stock option from and after such termination date. The term of a stock option may be extended if the exercise of the stock option following the participant’s termination of continuous service (other than for cause and other than upon the participant’s death or disability) would be prohibited by applicable securities laws or, unless otherwise provided in a participant’s stock option agreement, if the sale of any common stock received upon exercise of the stock option following the participant’s termination of continuous service (other than for cause) would violate our insider trading policy. In no event, however, may a stock option be exercised after its original expiration date. Acceptable forms of consideration for the purchase of our common stock pursuant to the exercise of a stock option under the 2019 Plan will be determined by the Plan Administrator and may include payment: (i) by cash, check, bank draft or money order payable to us; (ii) pursuant to a program developed under Regulation T promulgated by the Federal Reserve Board; (iii) by delivery to us of shares of our common stock (either by actual delivery or attestation); (iv) by a net exercise arrangement (for NSOs only); or (v) in other legal consideration approved by the Plan Administrator.

Stock options granted under the 2019 Plan may vest and become exercisable in cumulative increments, as determined by the Plan Administrator at the rate specified in the stock option agreement (subject to the limitations described in “Minimum Vesting Requirements” above). Shares covered by different stock options granted under the 2019 Plan may be subject to different vesting schedules as the Plan Administrator may determine.

The Plan Administrator may impose limitations on the transferability of stock options granted under the 2019 Plan in its discretion. Generally, a participant may not transfer a stock option granted under the 2019 Plan other than by will or the laws of descent and distribution or, subject to approval by the Plan Administrator, pursuant to a domestic relations order or an official marital settlement agreement. However, the Plan Administrator may permit transfer of a stock option in a manner that is not prohibited by applicable tax and securities laws. In addition, subject to approval

by the Plan Administrator, a participant may designate a beneficiary who may exercise the stock option following the participant's death. Notwithstanding the foregoing, no option may be transferred to any financial institution without prior stockholder approval.

#### Limitations on Incentive Stock Options

The aggregate fair market value, determined at the time of grant, of shares of our common stock with respect to ISOs that are exercisable for the first time by a participant during any calendar year under all of our stock plans may not exceed \$100,000. The stock options or portions of stock options that exceed this limit or otherwise fail to qualify as ISOs are treated as NSOs. No ISO may be granted to any person who, at the time of grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any affiliate unless the following conditions are satisfied:

- the exercise price of the ISO must be at least 110% of the fair market value of our common stock on the date of grant; and

- the term of the ISO must not exceed five years from the date of grant.

Subject to adjustment for certain changes in our capitalization, the aggregate maximum number of shares of our common stock that may be issued pursuant to the exercise of ISOs under the 2019 Plan is 17,010,802 shares.

#### Stock Appreciation Rights

Stock appreciation rights may be granted under the 2019 Plan pursuant to stock appreciation right agreements. Each stock appreciation right is denominated in common stock share equivalents. The strike price of each stock appreciation right will be determined by the Plan Administrator, but will in no event be less than 100% of the fair market value of our common stock on the date of grant. The Plan Administrator may also impose restrictions or conditions upon the vesting of stock appreciation rights that it deems appropriate. The appreciation distribution payable upon exercise of a stock appreciation right may be paid in shares of our common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the stock appreciation right agreement. Stock appreciation rights will be subject to the same conditions upon termination of continuous service and restrictions on transfer as stock options under the 2019 Plan.

#### Restricted Stock Awards

Restricted stock awards may be granted under the 2019 Plan pursuant to restricted stock award agreements. A restricted stock award may be granted in consideration for cash, check, bank draft or money order payable to us, the participant's services performed for us or any of our affiliates, or any other form of legal consideration acceptable to the Plan Administrator. Shares of our common stock acquired under a restricted stock award may be subject to forfeiture to or repurchase by us in accordance with a vesting schedule to be determined by the Plan Administrator (subject to the limitations described in "Minimum Vesting Requirements" above). Rights to acquire shares of our common stock under a restricted stock award may be transferred only upon such terms and conditions as are set forth in the restricted stock award agreement; provided, however, that no restricted stock award may be transferred to any financial institution without prior stockholder approval. Upon a participant's termination of continuous service for any reason, any shares subject to restricted stock awards held by the participant that have not vested as of such termination date may be forfeited to or repurchased by us.

#### Restricted Stock Unit Awards

Restricted stock unit awards may be granted under the 2019 Plan pursuant to restricted stock unit award agreements. Payment of any purchase price may be made in any form of legal consideration acceptable to the Plan Administrator. A restricted stock unit award may be settled by the delivery of shares of our common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the restricted stock unit award agreement. Restricted stock unit awards may be subject to vesting in accordance with a vesting schedule to be determined by the Plan Administrator (subject to the limitations described in "Minimum Vesting Requirements" above). Except as otherwise provided in a participant's restricted stock unit award agreement or other written agreement with us or one of our affiliates, restricted stock units that have not vested will be forfeited upon the participant's termination of continuous service for any reason.

#### Performance Stock Awards

A performance stock award is a stock award that is payable (including that may be granted, may vest, or may be exercised) contingent upon the attainment of pre-determined performance goals during a performance period. A performance stock award may require the completion of a specified period of continuous service. The length of any

performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will be determined by the Plan Administrator (subject to the limitations described in “Minimum Vesting Requirements” above). In

addition, to the extent permitted by applicable law and the performance stock award agreement, the Plan Administrator may determine that cash may be used in payment of performance stock awards.

Performance goals under the 2019 Plan will be based on any one or more of the following performance criteria: (i) earnings (including earnings per share and net earnings); (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization; (iv) earnings before interest, taxes, depreciation, amortization and legal settlements; (v) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (vi) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (vii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (viii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation, other non-cash expenses and changes in deferred revenue; (ix) total stockholder return; (x) return on equity or average stockholder's equity; (xi) return on assets, investment, or capital employed; (xii) stock price; (xiii) margin (including gross margin); (xiv) income (before or after taxes); (xv) operating income; (xvi) operating income after taxes; (xvii) pre-tax profit; (xviii) operating cash flow; (xix) sales or revenue targets; (xx) increases in revenue or product revenue; (xxi) expenses and cost reduction goals; (xxii) improvement in or attainment of working capital levels; (xxiii) economic value added (or an equivalent metric); (xxiv) market share; (xxv) cash flow; (xxvi) cash flow per share; (xxvii) cash balance; (xxviii) cash burn; (xxix) cash collections; (xxx) share price performance; (xxxi) debt reduction; (xxxii) implementation or completion of projects or processes (including, without limitation, clinical trial initiation, clinical trial enrollment and dates, clinical trial results, regulatory filing submissions, regulatory filing acceptances, regulatory or advisory committee interactions, regulatory approvals, and product supply); (xxxiii) stockholders' equity; (xxxiv) capital expenditures; (xxxv) debt levels; (xxxvi) operating profit or net operating profit; (xxxvii) workforce diversity; (xxxviii) growth of net income or operating income; (xxxix) billings; (xl) bookings; (xli) employee retention; (xlii) initiation of studies by specific dates; (xliii) budget management; (xliv) submission to, or approval by, a regulatory body (including, but not limited to the U.S. Food and Drug Administration) of an applicable filing or a product; (xlv) regulatory milestones; (xlvi) progress of internal research or development programs; (xlvii) acquisition of new customers; (xlviii) customer retention and/or repeat order rate; (xlix) improvements in sample and test processing times; (l) progress of partnered programs; (li) partner satisfaction; (lii) timely completion of clinical trials; (liii) submission of 510(k)s or pre-market approvals and other regulatory achievements; (liv) milestones related to samples received and/or tests or panels run; (lv) expansion of sales in additional geographies or markets; (lvi) research progress, including the development of programs; (lvii) strategic partnerships or transactions (including in-licensing and out-licensing of intellectual property; and (lviii) and any other measures of performance selected by the Plan Administrator.

Performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Plan Administrator (i) in the award agreement at the time the award is granted or (ii) in such other document setting forth the performance goals at the time they are established, the Plan Administrator will appropriately make adjustments in the method of calculating the attainment of performance goals for a performance period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (11) to exclude the

goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; (12) to exclude the effects of the timing of acceptance for review and/or approval of submissions to the U.S. Food and Drug Administration or any other regulatory body; and (13) to make other appropriate adjustments selected by the Plan Administrator.

In addition, the Plan Administrator retains the discretion to reduce or eliminate the compensation or economic benefit due upon the attainment of any performance goals and to define the manner of calculating the performance criteria it selects to use for a performance period.

#### Other Stock Awards

Other forms of stock awards valued in whole or in part by reference to, or otherwise based on, our common stock may be granted either alone or in addition to other stock awards under the 2019 Plan. Subject to the terms of the 2019 Plan (including the limitations described in “Minimum Vesting Requirements” above), the Plan Administrator will have sole and complete authority to determine

the persons to whom and the time or times at which such other stock awards will be granted, the number of shares of our common stock to be granted and all other terms and conditions of such other stock awards.

#### Clawback Policy

Awards granted under the 2019 Plan will be subject to recoupment in accordance with any clawback policy adopted by the Board or Compensation Committee, and with any other clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Plan Administrator may impose other clawback, recovery or recoupment provisions in an award agreement, including a reacquisition right in respect of previously acquired shares or other cash or property upon the occurrence of cause.

#### Changes to Capital Structure

In the event of certain capitalization adjustments, the Plan Administrator will appropriately adjust: (i) the class(es) and maximum number of securities subject to the 2019 Plan; (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of ISOs; and (iii) the class(es) and number of securities and price per share of stock subject to outstanding stock awards.

#### Corporate Transaction and Change in Control

In the event of a corporate transaction (as defined in the 2019 Plan and described below) or a change in control (as defined in the 2019 Plan and described below), the Plan Administrator may take one or more of the following actions with respect to stock awards, contingent upon the closing or consummation of the transaction, unless otherwise provided in the instrument evidencing the stock award or in any other written agreement between us or one of our affiliates and the participant, or unless otherwise provided by the Plan Administrator at the time of grant of the stock award. For purposes of this Proposal 2, the term “transaction” will mean such corporate transaction or change in control.

arrange for the surviving or acquiring corporation (or its parent company) to assume or continue the stock award or to substitute a similar stock award for the stock award (including an award to acquire the same consideration paid to our stockholders pursuant to the transaction);

arrange for the assignment of any reacquisition or repurchase rights held by us in respect of our common stock issued pursuant to the stock award to the surviving or acquiring corporation (or its parent company);

accelerate the vesting (and, if applicable, the exercisability) of the stock award to a date prior to the effective time of the transaction as determined by the Plan Administrator (or, if the Plan Administrator does not determine such a date, to the date that is five days prior to the effective date of the transaction), with the stock award terminating if not exercised (if applicable) at or prior to the effective time of the transaction; provided, however, that the Plan Administrator may require participants to complete and deliver to us a notice of exercise before the effective date of a transaction, which is contingent upon the effectiveness of the transaction;

arrange for the lapse of any reacquisition or repurchase rights held by us with respect to the stock award;

cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the transaction, in exchange for such cash consideration, if any, as the Plan Administrator may consider appropriate; and

cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the transaction, in exchange for a payment, in such form as may be determined by the Plan Administrator equal to the excess, if any, of (i) the value of the property the participant would have received upon the exercise of the stock award immediately prior to the effective time of the transaction, over (ii) any exercise price payable in connection with such exercise, provided that payments may be delayed to the same extent that payment of consideration to the holders of our common stock is delayed as a result of escrows, earn outs, holdbacks or any other contingencies.



The Plan Administrator is not required to take the same action with respect to all stock awards or portions of stock awards or with respect to all participants. The Plan Administrator may take different actions with respect to the vested and unvested portions of a stock award.

Outstanding awards under the 2019 Plan may be subject to additional acceleration of vesting and exercisability upon or after a change in control as may be provided in the participant's award agreement, in any other written agreement with us or one of our affiliates, but in the absence of such provision, no such acceleration will occur.

For purposes of the 2019 Plan, a corporate transaction generally will be deemed to occur in the event of the consummation of: (i) a sale or other disposition of all or substantially all of our consolidated assets; (ii) a sale or other disposition of at least 50% of our outstanding securities; (iii) a merger, consolidation or similar transaction following which we are not the surviving corporation; or (iv) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of our common stock outstanding immediately prior to the transaction are converted or exchanged into other property by virtue of the transaction.

For purposes of the 2019 Plan, a change in control generally will be deemed to occur in the event: (i) a person, entity or group acquires, directly or indirectly, our securities representing more than 50% of the combined voting power of our then outstanding securities, other than by virtue of a merger, consolidation, or similar transaction; (ii) there is consummated a merger, consolidation, or similar transaction and, immediately after the consummation of such transaction, our stockholders immediately prior thereto do not own, directly or indirectly, more than 50% of the combined outstanding voting power of the surviving entity or the parent of the surviving entity in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such transaction; (iii) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of our consolidated assets, other than a sale, lease, exclusive license or other disposition to an entity in which more than 50% of the entity's combined voting power is owned by our stockholders in substantially the same proportions as their ownership of our outstanding voting securities immediately prior to such sale or other disposition; (iv) a complete dissolution or liquidation of the company; or (v) when a majority of our Board becomes comprised of individuals who were not serving on our Board on the date the 2019 Plan was adopted by the Board, or the incumbent board, or whose nomination, appointment, or election was not approved by a majority of the incumbent board still in office.

#### Plan Amendments and Termination

The Board (or a committee of one or more directors delegated by the Board) will have the authority to amend or terminate the 2019 Plan at any time. However, except as otherwise provided in the 2019 Plan or an award agreement, no amendment or termination of the 2019 Plan may materially impair a participant's rights under his or her outstanding awards without the participant's written consent.

We will obtain stockholder approval of any amendment to the 2019 Plan as required by applicable law and listing requirements. No incentive stock options may be granted under the 2019 Plan after the tenth anniversary of the date the 2019 Plan was adopted by the Board.

#### U.S. Federal Income Tax Consequences

The following is a summary of the principal United States federal income tax consequences to participants and us with respect to participation in the 2019 Plan. This summary is not intended to be exhaustive and does not discuss the income tax laws of any local, state or foreign jurisdiction in which a participant may reside. The information is based upon current federal income tax rules and therefore is subject to change when those rules change. Because the tax consequences to any participant may depend on his or her particular situation, each participant should consult the participant's tax adviser regarding the federal, state, local and other tax consequences of the grant or exercise of an award or the disposition of stock acquired under the 2019 Plan. The 2019 Plan is not qualified under the provisions of Section 401(a) of the Internal Revenue Code of 1986, as amended (the "Code"), and is not subject to any of the provisions of the Employee Retirement Income Security Act of 1974. Our ability to realize the benefit of any tax deductions described below depends on our generation of taxable income as well as the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of our tax reporting obligations.

#### Nonstatutory Stock Options

Generally, there is no taxation upon the grant of an NSO if the stock option is granted with an exercise price equal to the fair market value of the underlying stock on the grant date. Upon exercise, a participant will recognize ordinary income equal to the excess, if any, of the fair market value of the underlying stock on the date of exercise of the stock option over the exercise price. If the participant is employed by us or one of our affiliates, that income will be subject to withholding taxes. The participant's tax basis in those shares will be equal to their fair market value on the date of

exercise of the stock option, and the participant's capital gain holding period for those shares will begin on that date. Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of our tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant.

### Incentive Stock Options

The 2019 Plan provides for the grant of stock options that are intended to qualify as “incentive stock options,” as defined in Section 422 of the Code. Under the Code, a participant generally is not subject to ordinary income tax upon the grant or exercise of an ISO. If the participant holds a share received upon exercise of an ISO for more than two years from the date the stock option was granted and more than one year from the date the stock option was exercised, which is referred to as the required holding period, the difference, if any, between the amount realized on a sale or other taxable disposition of that share and the participant’s tax basis in that share will be long-term capital gain or loss. If, however, a participant disposes of a share acquired upon exercise of an ISO before the end of the required holding period, which is referred to as a disqualifying disposition, the participant generally will recognize ordinary income in the year of the disqualifying disposition equal to the excess, if any, of the fair market value of the share on the date of exercise of the stock option over the exercise price. However, if the sales proceeds are less than the fair market value of the share on the date of exercise of the stock option, the amount of ordinary income recognized by the participant will not exceed the gain, if any, realized on the sale. If the amount realized on a disqualifying disposition exceeds the fair market value of the share on the date of exercise of the stock option, that excess will be short-term or long-term capital gain, depending on whether the holding period for the share exceeds one year.

For purposes of the alternative minimum tax, the amount by which the fair market value of a share of stock acquired upon exercise of an ISO exceeds the exercise price of the stock option generally will be an adjustment included in the participant’s alternative minimum taxable income for the year in which the stock option is exercised. If, however, there is a disqualifying disposition of the share in the year in which the stock option is exercised, there will be no adjustment for alternative minimum tax purposes with respect to that share. In computing alternative minimum taxable income, the tax basis of a share acquired upon exercise of an ISO is increased by the amount of the adjustment taken into account with respect to that share for alternative minimum tax purposes in the year the stock option is exercised.

We are not allowed a tax deduction with respect to the grant or exercise of an ISO or the disposition of a share acquired upon exercise of an ISO after the required holding period. If there is a disqualifying disposition of a share, however, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the participant, subject to the requirement of reasonableness and the provisions of Section 162(m) of the Code, and provided that either the employee includes that amount in income or we timely satisfy our reporting requirements with respect to that amount.

### Restricted Stock Awards

Generally, the recipient of a restricted stock award will recognize ordinary income at the time the stock is received equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. If, however, the stock is not vested when it is received (for example, if the employee is required to work for a period of time in order to have the right to sell the stock), the recipient generally will not recognize income until the stock becomes vested, at which time the recipient will recognize ordinary income equal to the excess, if any, of the fair market value of the stock on the date it becomes vested over any amount paid by the recipient in exchange for the stock. A recipient may, however, file an election with the Internal Revenue Service, within 30 days following his or her receipt of the stock award, to recognize ordinary income, as of the date the recipient receives the award, equal to the excess, if any, of the fair market value of the stock on the date the award is granted over any amount paid by the recipient for the stock.

The recipient’s basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock award will be the amount paid for such shares plus any ordinary income recognized either when the stock is received or when the stock becomes vested.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of our tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock award.

### Restricted Stock Unit Awards

Generally, the recipient of a restricted stock unit award structured to comply with the requirements of Section 409A of the Code or an exemption to Section 409A of the Code will recognize ordinary income at the time the stock is

delivered equal to the excess, if any, of the fair market value of the stock received over any amount paid by the recipient in exchange for the stock. To comply with the requirements of Section 409A of the Code, the stock subject to a restricted stock unit award may generally only be delivered upon one of the following events: a fixed calendar date (or dates), separation from service, death, disability or a change in control. If delivery occurs on another date, unless the restricted stock unit award otherwise complies with or qualifies for an exemption to the requirements

of Section 409A of the Code, in addition to the tax treatment described above, the recipient will owe an additional 20% federal tax and interest on any taxes owed.

The recipient's basis for the determination of gain or loss upon the subsequent disposition of shares acquired from a restricted stock unit award will be the amount paid for such shares plus any ordinary income recognized when the stock is delivered.

Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code and the satisfaction of our tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the restricted stock unit award.

#### Stock Appreciation Rights

Generally, if a stock appreciation right is granted with an exercise price equal to the fair market value of the underlying stock on the grant date, the recipient will recognize ordinary income equal to the fair market value of the stock or cash received upon such exercise. Subject to the requirement of reasonableness, the provisions of Section 162(m) of the Code, and the satisfaction of our tax reporting obligation, we will generally be entitled to a tax deduction equal to the taxable ordinary income realized by the recipient of the stock appreciation right.

#### Section 162(m) Limitations

Under Section 162(m) of the Code, compensation paid to any publicly held corporation's "covered employees" that exceeds \$1 million per taxable year for any covered employee is generally non-deductible.

However, Section 162(m) of the Code provides a reliance period exception, pursuant to which the deduction limit under Section 162(m) of the Code does not apply to certain compensation paid (or in some cases, granted) pursuant to a plan or agreement that existed during the period in which the corporation was not publicly held, subject to certain requirements and limitations. Under Section 162(m) of the Code, this reliance period ends upon the earliest of the following: (i) the expiration of the plan or agreement; (ii) the material modification of the plan or agreement; (iii) the issuance of all employer stock and other compensation that has been allocated under the plan; or (iv) the first meeting of stockholders at which directors are to be elected that occurs after the close of the third calendar year following the calendar year in which the corporation's initial public offering occurs. However, the reliance period exception under Section 162(m) of the Code may be repealed or modified in the future as a result of certain changes that were made to Section 162(m) of the Code pursuant to the Tax Cuts and Jobs Act.

In addition, prior to the enactment of the Tax Cuts and Jobs Act, Section 162(m) of the Code provided a performance-based compensation exception, pursuant to which the deduction limit under Section 162(m) of the Code did not apply to any compensation that qualified as "performance-based compensation" under Section 162(m) of the Code. Pursuant to the Tax Cuts and Jobs Act, the performance-based compensation exception under Section 162(m) of the Code was repealed with respect to taxable years beginning after December 31, 2017, except that certain transition relief is provided for compensation paid pursuant to a written binding contract which was in effect on November 2, 2017 and which is not modified in any material respect on or after such date.

Compensation paid to each of the Company's "covered employees" in excess of \$1 million per taxable year generally will not be deductible unless it qualifies for (i) the reliance period exception under Section 162(m) of the Code or (ii) the performance-based compensation exception under Section 162(m) of the Code pursuant to the transition relief described above. Because of certain ambiguities and uncertainties as to the application and interpretation of Section 162(m) of the Code, as well as other factors beyond the control of the Compensation Committee, no assurance can be given that any compensation paid by the Company will qualify for the reliance period exception under Section 162(m) of the Code or will be eligible for such transition relief and be deductible by the Company in the future. However, stock awards granted under the 2019 Plan will be subject to the deduction limit under Section 162(m) of the Code and will not be eligible to qualify for the reliance period exception or the performance-based compensation exception under Section 162(m) of the Code pursuant to the transition relief provided by the Tax Cuts and Jobs Act. Although the Compensation Committee will continue to consider tax implications as one factor in determining executive compensation, the Compensation Committee also looks at other factors in making its decisions and retains the flexibility to provide compensation for the Company's named executive officers in a manner consistent with the goals of the Company's executive compensation program and the best interests of the Company and its stockholders, which may include providing for compensation that is not deductible by the Company due to the deduction limit under

Section 162(m) of the Code. The Compensation Committee also retains the flexibility to modify compensation that was initially intended to be exempt from the deduction limit under Section 162(m) of the Code if it determines that such modifications are consistent with the Company's business needs.

## New Plan Benefits.

The following table sets forth the benefits or amounts that will be received by or allocated to each of the individuals and groups indicated below under the 2019 Plan, if such benefits or amounts are determinable.

## New Plan Benefits under 2019 Plan

Name and Position	Dollar Value	Number of Units
Richard A. Fair <sup>(1)</sup> President and Chief Executive Officer .....	(1)	300,000
William Grossman, M.D., Ph.D. Former Chief Medical Officer .....	(1)	—
Shane M. Ward <sup>(1)</sup> General Counsel and Secretary .....	(1)	45,000
Alan M. Musso, C.P.A., C.M.A. Former Chief Financial Officer and Treasurer .....	(1)	—
All current executive officers as a group <sup>(1)</sup> .....	(1)	607,500
All current directors who are not executive officers as a group <sup>(2)</sup> .....	(2)	175,000 per calendar year
All employees, including all current officers who are not executive officers, as a group .....	(1)	—

(1) Awards granted under the 2019 Plan to our executive officers and other employees are discretionary and are not subject to set benefits or amounts under the terms of the 2019 Plan. Accordingly, except as noted below, the benefits or amounts that will be received by or allocated to our executive officers and other employees under the 2019 Plan, as well as the benefits or amounts which would have been received by or allocated to our executive officers and other employees for fiscal year 2018 if the 2019 Plan had been in effect, are not determinable. In April 2019, our Compensation Committee approved the grant of stock options under the 2019 Plan to certain of our current executive officers, to be granted, contingent upon stockholder approval of this Proposal 2. Such options will be granted under the 2019 Plan if this Proposal 2 is approved by our stockholders, effective upon the first trading day of July 2019 (provided each such officer remains in service with us as of such date) with an exercise price per share equal to the closing price of our common stock on such date. However, the number of stock options to be granted under the 2019 Plan on such date may be less than 607,500 if any such executive officer is no longer providing services to the Company on such date or if the Compensation Committee determines to grant any of such options under the 2014 Plan, prior to the annual meeting. The actual value realized upon exercise of an option will depend on the excess, if any, of the stock price over the exercise prices on the date of exercise.

(2) Awards granted under the 2019 Plan to our non-employee directors are discretionary and are not subject to set benefits or amounts under the terms of the 2019 Plan. However, pursuant to our current compensation policy for non-employee directors, each of our continuing non-employee directors is eligible to receive an annual grant of a stock option to purchase 25,000 shares of our common stock as of the date of the annual meeting. Such options will be granted under the 2019 Plan if this Proposal 2 is approved by our stockholders. For additional information regarding our current compensation policy for non-employee directors, please see “Director Compensation” below. The actual value realized upon exercise of an option will depend on the excess, if any, of the stock price over the exercise prices on the date of exercise.

## Vote Required

The affirmative vote of the holders of a majority of shares present (either in person or by proxy) and entitled to vote on the proposal will be required to approve this Proposal 2. Abstentions will have the same effect as negative votes. Broker non-votes are counted towards a quorum but are not counted for any purpose in determining whether this



Proposal 2 has been approved.

THE BOARD OF DIRECTORS RECOMMENDS

A VOTE "FOR" PROPOSAL 2.

**PROPOSAL 3****RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Audit Committee of the Board has selected Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2019 and has further directed that management submit the selection of its independent registered public accounting firm for ratification by the stockholders at the annual meeting. Ernst & Young LLP has audited the Company's financial statements since 2014. Representatives of Ernst & Young LLP are expected to attend the annual meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither the Company's Bylaws nor other governing documents or law require stockholder ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm. However, the Audit Committee of the Board is submitting the selection of Ernst & Young LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee of the Board will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee of the Board in its discretion may direct the appointment of different independent auditors at any time during the year if they determine that such a change would be in the best interests of the Company and its stockholders.

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote on the matter at the annual meeting will be required to ratify the selection of Ernst & Young LLP.

**PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The following table represents aggregate fees billed to the Company by Ernst & Young LLP, for the fiscal years ended December 31, 2018 and 2017:

	Fiscal Year Ended 2018	Fiscal Year Ended 2017
Audit Fees <sup>(1)</sup> .....	\$ 464,000	\$ 428,000
Audit-Related Fees .....	—	—
Tax Fees .....	—	—
All Other Fees <sup>(2)</sup> .....	\$ 1,672	\$ 3,020
<b>Total Fees .....</b>	<b>\$ 465,672</b>	<b>\$ 431,020</b>

Audit Fees consist of fees billed for professional services by Ernst & Young LLP for audit and quarterly review of (1) our financial statements and review of our registration statements and related services that are normally provided in connection with statutory and regulatory filings or engagements.

(2) All Other Fees consists of fees billed for the Company's subscription to an Ernst & Young LLP online service used for accounting research purposes for the fiscal year ended December 31, 2018.

All fees described above were pre-approved by the Audit Committee.

In connection with the audit of the 2018 financial statements, the Company entered into an engagement agreement with Ernst & Young LLP that sets forth the terms by which Ernst & Young LLP will perform audit services for the Company. That agreement is subject to alternative dispute resolution procedures and an exclusion of punitive damages.

**PRE-APPROVAL POLICIES AND PROCEDURES**

The Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by the Company's independent registered public accounting firm, Ernst & Young LLP. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members, but the decision must be reported to the full Audit Committee at its next scheduled meeting. The Audit Committee has determined that the rendering of services other than audit services by Ernst & Young LLP is compatible with maintaining the principal accountant's independence.

**THE BOARD OF DIRECTORS RECOMMENDS**

**A VOTE "FOR" PROPOSAL 3.**

## EXECUTIVE OFFICERS

Richard A. Fair, 50, has served as our President and Chief Executive Officer and a member of our Board since January 2017. For additional information regarding Mr. Fair's industry experience and education, see above under "Directors Continuing in Office Until the 2020 Annual Meeting."

Aaron A. Foster, Ph.D., 47 has served as our Senior Vice President, Head of Research since March 2019. Since joining us as a Senior Scientist in March 2012, Dr. Foster has held roles of increasing responsibility, including Vice President, Translational Research and New Product Development, from June 2016 to March 2019, Senior Director of Product Discovery, from February 2015 to June 2016, Director of Product Discovery, from February 2014 to February 2015, and Principal Scientist from January 2013 to January 2014. Prior to joining us in 2012, Dr. Foster was an Assistant Professor at Baylor College of Medicine at the Center for Cell and Gene Therapy, where he led a group researching adoptive T cell therapies, cancer vaccines and nanotherapeutics. He received his B.A. in Biology from the University of Puget Sound and his Ph.D. in Chemical Engineering from the University of Sydney.

Atabak Mokari, 42, has served as our Chief Financial Officer since December 2018. From July 2016 to December 2018, Mr. Mokari served as Chief Financial Officer and Vice President, Corporate Development at IRIDEX Corporation, a public medical technology company, where his responsibilities included strategic and financial planning, financial analysis, capital raising, and corporate development. Mr. Mokari served as a Director in Wells Fargo Securities' healthcare investment banking group from September 2013 to July 2016, where he assisted client companies in strategic and financial analysis, mergers and acquisitions advisory, and equity and debt capital raises. Prior to joining Wells Fargo, he served in various positions as a healthcare investment banker at UBS Group AG, from September 2009 to July 2013, and Credit Suisse, from July 2005 to February 2009. Earlier in his career, he served as an analyst at the private equity firm Olympus Partners and at the investment banking firm Bowles Hollowell Conner & Co. Mr. Mokari earned his MBA from The Tuck School of Business at Dartmouth and a B.S. in Chemistry and Biology from Duke University.

Gregory Naeve, Ph.D., 54, has served as our Chief Business Officer since August 2017. From August 2012 to August 2017, Dr. Naeve served as the ImmunoOncology & Cell Therapy Lead for Pfizer's External Research and Development Unit, where he was responsible for identifying and implementing strategic partnerships in Pfizer's ImmunoOncology portfolio. Prior to that he served as Head of Strategic Research Groups at Pfizer from 2011 until 2012. From 2007 to 2010, Dr. Naeve served as Principal of The Column Group, a venture capital firm focused on investing in and creating innovative biotechnology companies. He also served as President and Chief Scientific Officer at Parallax Biosystems from 2002 to 2007, a company he co-founded that developed novel technologies with applications in preclinical drug discovery and diagnostics. Dr. Naeve received his B.S. in Biochemistry and Biological Sciences from Colorado State University and his Ph.D. in Biochemistry from the University of Southern California.

Alan K. Smith, Ph.D., 63, has served as our Executive Vice President of Technical Operations since May 2017 and previously served as our Senior Vice President of Manufacturing from October 2015 to May 2017. From July 2013 to October 2015, Dr. Smith served as Vice President of Research & Development and Cellular Therapeutics for LifeNet Health, a private biotechnology company. Prior to LifeNet, Dr. Smith served as President and Chief Executive Officer for Cognate BioServices. In addition, Dr. Smith held positions as an Adjunct Professor at Eastern Virginia Medical School, California State University Long Beach and Utah State University. Dr. Smith received his B.S. in Chemistry from Southern Utah University and his Ph.D. in Biochemistry from Utah State University.

Shane M. Ward, 44, has served as our General Counsel and Corporate Secretary since May 2018. From April 2015 to May 2018, Mr. Ward served as Senior Vice President and General Counsel for Versartis, Inc., a publicly traded biopharmaceutical company, where he built the legal, compliance and quality assurance teams and infrastructure in preparation for Versartis' first BLA submission and potential commercialization. From November 2012 to March 2015, Mr. Ward served as Vice President and Associate General Counsel for Dynavax Technologies Corporation, a publicly traded clinical-stage biopharmaceutical company, where his responsibilities included management of all legal matters. Prior to that, he served in roles of increasing responsibility at Human Genome Sciences, Inc. including as Associate General Counsel. Earlier in his career, Mr. Ward was a senior in-house attorney with commercial pharmaceutical companies Gilead Sciences and Abbott Laboratories. He began his legal career as an associate for the international law firm Sidley Austin LLP. Mr. Ward earned his B.A. from the University of Virginia, and his J.D. from

Georgetown University Law Center and is admitted to practice law in California, Illinois and Virginia.. Rosemary Y. Williams, 55, has served as our Vice President of Finance and Controller since January 2017. She previously served as our Director of Accounting and Controller from May 2014 through December 2016. Ms. Williams is a Certified Public Accountant with over 30 years of experience in finance and accounting. She began her career working in the public accounting field at Arthur Andersen and later held positions of increasing responsibility with various companies and industries, such as vcfo,

Cathexis Oil & Gas, Horn Solutions, Inc., Capital Guidance Corporation and The Mischer Corporation. Ms. Williams received a B.A. in Accounting with a minor in French from the University of Utah.

Joseph Paul Woodard, M.D., 53, has served as our Senior Vice President of Clinical and Medical Affairs since April 2019. He previously served as Vice President of Clinical Development from November 2017 through April 2019.

From March 2013 to November 2017, Dr. Woodard had roles of increasing seniority at Genentech including clinical development of TECENTRIQ in breast cancer, combinations in solid tumors and Global Development Team Leader in hematology. His responsibilities included overall product strategy and development, hematology portfolio strategy in multiple myeloma, and leadership of immunotherapy projects hematology. From June 2010 to February 2013, he served as Global Development Leader at Amgen. Prior to joining Amgen, Dr. Woodard was a Senior Director of Clinical Research at Exelixis. At PDL BioPharma, Dr. Woodard was a Medical Director in Medical Affairs. Dr. Woodard received a B.A. in Chemistry from the University of North Carolina at Chapel Hill and a M.D. from the University of North Carolina at Chapel Hill School of Medicine.

#### SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the ownership of the Company's common stock within 60 days of March 31, 2019 by: (i) each director; (ii) each of our named executive officers; (iii) all executive officers and directors of the Company as a group; and (iv) all those known by the Company to be beneficial owners of more than 5% of its common stock.

The following table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G filed with the SEC. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, the Company believes that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 44,965,597 shares outstanding on March 31, 2019, adjusted as required by rules promulgated by the SEC. Unless otherwise indicated, the address for the following stockholders is care of: Bellicum Pharmaceuticals, Inc., 2130 W. Holcombe Blvd., Suite 800, Houston, TX 77030.

Beneficial Owner	Beneficial Ownership	
	Number of Shares (#)	Percent of Total (%)
<b>Greater than 5% stockholders</b>		
JPMorgan Chase & Co. <sup>(1)</sup> 270 Park Ave. New York, NY 10017 .....	4,002,294	8.77 %
BlackRock, Inc. <sup>(2)</sup> 55 East 52nd Street New York, NY 10055 .....	2,935,508	6.43 %
Baker Bros. Advisors LP <sup>(3)</sup> 667 Madison Avenue, 21st Floor New York, NY 10065 .....	2,677,818	5.87 %
 <b>Named Executive Officers and Directors</b>		
Richard A. Fair <sup>(4)</sup> .....	446,868	*
William Grossman, M.D., Ph.D. <sup>(5)</sup> .....	59,061	*
Shane M. Ward <sup>(6)</sup> .....	32,500	*
Alan A. Musso, C.P.A., C.M.A. <sup>(7)</sup> .....	286,574	*
James F. Brown, Chairman and Director <sup>(8)</sup> .....	62,696	*
Stephen Davis, Director <sup>(9)</sup> .....	58,334	*
Reid M. Huber, Ph.D., Director <sup>(10)</sup> .....	62,696	*
Jon P. Stonehouse, Director <sup>(11)</sup> .....	62,696	*
James M. Daly, Director <sup>(12)</sup> .....	50,000	*
Edmund P. Harrigan, M.D., Director <sup>(13)</sup> .....	20,666	*
Judith Klimovsky, Director <sup>(14)</sup> .....	17,361	*
All executive officers and directors as a group (15 persons) <sup>(15)</sup> .....	1,236,577	2.64%

\*Less than one percent.

Based solely upon a Schedule 13G/A filed with the SEC on January 18, 2019 by JPMorgan Chase & Co., or J.P.

(1) Morgan, on behalf of itself and certain wholly owned subsidiaries, reporting beneficial ownership as of December 31, 2018. J.P. Morgan has sole voting power over 3,411,838 shares of our common stock and sole dispositive power over 3,995,794 shares of our common stock.

(2)

Based solely upon a Schedule 13G/A filed with the SEC on February 4, 2019 by BlackRock, Inc., or BlackRock, on behalf of itself and certain wholly owned subsidiaries, reporting beneficial ownership as of December 31, 2018. BlackRock has sole voting power over 2,859,544 shares of our common stock and sole dispositive power over 2,935,508 shares of our common stock.

- Based solely upon a Schedule 13G/A filed with the SEC on February 13, 2019 by Baker Bros. Advisors LP, or Baker Advisors, on behalf of itself and Baker Bros. Advisors (GP) LLC, or the Baker Adviser GP, Felix J. Baker and Julian C. Baker, or collectively the Baker Reporting Persons, reporting beneficial ownership as of December 31, 2018. According to the Schedule 13D/A, each of the Baker Reporting Persons has sole voting and sole dispositive power over 2,677,818 shares of our common stock held by the following funds, or the Baker Funds:
- (3) 234,631 held by 667, L.P and 2,443,187 held by Baker Brothers Life Sciences, L.P. Pursuant to management agreements, the Baker Funds relinquished to Baker Advisors all discretion and authority with respect to the investment and voting power of the securities held by the Funds. The Baker Adviser GP is the general partner of Baker Advisors. Felix J. Baker and Julian C. Baker are principals of the Baker Adviser GP. The Baker Reporting Persons disclaim beneficial ownership of the securities held by each of the Baker Funds.
  - (4) Consists of (i) 5,202 shares of common stock and (ii) 441,666 shares of common stock subject to options exercisable by Mr. Fair within 60 days of March 31, 2019.
  - (5) Consists of (i) 4,324 shares of common stock and (ii) 54,687 shares of common stock subject to options exercisable by Dr. Grossman within 60 days of March 31, 2019. Effective April 22, 2019, Dr. Grossman resigned from his position as our Chief Medical Officer.



- (6) Consists of (i) 2,500 shares of common stock and (ii) 30,000 shares of common stock subject to options exercisable by Mr. Ward within 60 days of March 31, 2019.
- (7) Consists of (i) 18,929 shares of common stock, and (ii) 267,645 shares of common stock subject to options exercisable by Mr. Musso within 60 days of March 31, 2019. Effective August 31, 2018, Mr. Musso resigned from his position as our Chief Financial Officer and Treasurer.
- (8) Consists of 62,696 shares of common stock subject to options exercisable by Mr. Brown within 60 days of March 31, 2019.
- (9) Consists of 58,334 shares of common stock subject to options exercisable by Mr. Davis within 60 days of March 31, 2019.
- (10) Consists of 62,696 shares of common stock subject to options exercisable by Dr. Huber within 60 days of March 31, 2019.
- (11) Consists of 62,696 shares of common stock subject to options exercisable by Mr. Stonehouse within 60 days of March 31, 2019.
- (12) Consists of 50,000 shares of common stock subject to options exercisable by Mr. Daly within 60 days of March 31, 2019.
- (13) Consists of 20,666 shares of common stock subject to options exercisable by Dr. Harrigan within 60 days of March 31, 2019.
- (14) Consists of 17,361 shares of common stock subject to options exercisable by Dr. Klimovsky within 60 days of March 31, 2019.
- (15) Consists of shares identified in footnotes (4), (5), (6), (8), (9), (10), (11), (12), (13) and (14) and includes 3,191 shares of common stock owned by Gregory Naeve and 73,125 shares of common stock subject to options exercisable by Dr. Naeve within 60 days of March 31, 2019, 5,008 shares of common stock owned by Alan Smith, Ph.D. and 149,061 shares of common stock subject to options exercisable by Dr. Smith within 60 days of March 31, 2019, 3,737 shares of common stock owned by Aaron Foster, Ph.D. and 94,654 shares of common stock subject to options exercisable by Dr. Foster within 60 days of March 31, 2019 and 2,415 shares of common stock owned by Joseph Paul Woodard and 15,000 shares of common stock subject to options exercisable by Dr. Woodard within 60 days of March 31, 2019 and 4,471 shares of common stock owned by Rosemary Williams and 72,098 shares of common stock subject to options exercisable by Ms. Williams within 60 days of March 31, 2019. Atabak Mokari did not beneficially own any shares of common stock within 60 days of March 31, 2019.

**SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Exchange Act requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company.

Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company's knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations that no other reports were required, during the fiscal year ended December 31, 2018, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with except for the Initial Statement of Beneficial Ownership on Form 3 for Ms. Williams, which was filed on January 4, 2019.

## EXECUTIVE AND DIRECTOR COMPENSATION

Our named executive officers for the year ended December 31, 2018, which consist of our principal executive officer, our two other most highly compensated executive officers and one former executive officer who would have been one of the most highly paid if he was still an executive officer at year end, are:

Richard A. Fair, our President and Chief Executive Officer

Shane M. Ward, our General Counsel and Corporate Secretary

William Grossman, M.D., Ph.D., our former Chief Medical Officer

Alan A. Musso, C.P.A., C.M.A., our former Chief Financial Officer and Treasurer

Summary Compensation Table

Name and Principal Position	Year	Salary (\$)	Stock Awards (\$)(1)	Option Awards (\$)(2)	Non-Equity Incentive Plan Compensation (\$)(3)	All Other Compensation (\$)(4)	Total (\$)
Richard A. Fair, President and Chief Executive Officer	2018	551,050	—	2,429,201	280,347	17,527	3,278,125
	2017	494,532	—	3,839,408	534,731	13,791	4,882,462
Shane M. Ward, General Counsel and Secretary <sup>(5)</sup>	2018	208,205	79,500	626,730	82,365	8,067	1,004,867
William Grossman, M.D. Ph.D., former Chief Medical Officer <sup>(6)</sup>	2018	372,942	168,300	634,859	377,182	14,842	1,568,125
Alan A. Musso, C.P.A., C.M.A., former Chief Financial Officer and Treasurer <sup>(7)</sup>	2018	290,127	115,375	402,469	—	264,885	1,072,856
	2017	385,000	104,175	360,046	78,829	47,919	975,969

In accordance with SEC rules, this column reflects the aggregate grant date fair value of stock awards granted during 2018 and 2017, as applicable, computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718 for stock-based compensation transactions (ASC 718). Assumptions (1) used in the calculation of these amounts are included in Note 11 to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018. These amounts do not reflect the actual economic value that will be realized by the named executive officer upon the vesting of the stock awards or the sale of the common stock underlying such stock awards.

In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during 2018 and 2017, as applicable, computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718 for stock-based compensation transactions (ASC 718). Assumptions (2) used in the calculation of these amounts are included in Note 11 to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2018. These amounts do not reflect the actual economic value that will be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options, or the sale of the common stock underlying such stock options.

(3) Amounts represent annual performance-based bonuses earned for 2018 and 2017. For more information, see “—Annual Bonus Opportunity” below.

(4) Amounts reflect the following for 2018: for Mr. Fair, \$15,361.38 for health insurance costs, \$966 for life insurance premiums and \$1,200 in cell phone reimbursement costs; for Dr. Grossman, \$13,217 for health insurance costs, \$525 for life insurance premiums and \$1,100 in cell phone reimbursement costs; for Mr. Ward, \$7,857.26 for health insurance costs and \$210 for life insurance premiums; for Mr. Musso, \$29,848 in commuting expenses,

\$15,146 for health insurance costs, \$1,725 for life insurance premiums, \$1,200 in parking subsidies and \$226,666 in connection with the termination of Mr. Musso's employment with us.

(5) On May 29, 2018, Mr. Ward was appointed as our General Counsel and Corporate Secretary. Mr. Ward did not receive any compensation from us during the fiscal year ended December 31, 2017.

On February 5, 2018, Dr. Grossman was appointed as our Chief Medical Officer. Dr. Grossman did not receive any (6) compensation from us during the fiscal year ended December 31, 2017. Effective April 22, 2019 Dr. Grossman resigned from his position as our Chief Medical Officer.

(7) Effective August 31, 2018, Mr. Musso resigned from his position as our Chief Financial Officer and Treasurer. Annual Base Salary

The compensation of our named executive officers is determined and approved by the Compensation Committee of our Board. The 2018 annual base salaries for Mr. Fair, Mr. Grossman, Mr. Ward and Mr. Musso, were as follows:

NAME	2018 BASE
Richard A. Fair <sup>(1)</sup> .....	\$ 551,050
Shane M. Ward <sup>(2)</sup> .....	\$ 350,000
William Grossman, M.D., Ph.D. <sup>(3)</sup> .....	\$ 410,000
Alan A. Musso, C.P.A., C.M.A. <sup>(4)</sup> .....	\$ 400,000

(1) Mr. Fair's annual salary was effective as of January 1, 2018.

(2) Mr. Ward's annual salary was effective as of May 29, 2018.

(3) Dr. Grossman's annual salary was effective as of February 5, 2018.

(4) Mr. Musso's annual salary was effective as of January 1, 2018.

In December 2018, the Compensation Committee approved 2019 annual base salaries of \$567,582, \$428,040 and \$376,250 for Mr. Fair, Dr. Grossman and Mr. Ward, respectively, effective as of February 1, 2019.

#### Annual Bonus Opportunity

In addition to base salaries, our named executive officers are eligible to receive annual performance-based cash bonuses, which are designed to provide appropriate incentives to our executives to achieve defined annual corporate goals and to reward our executives for individual achievement towards these goals. The annual performance-based bonus each named executive officer is eligible to receive is generally based on the extent to which we achieve the corporate goals that our Board or Compensation Committee establishes each year. At the end of the year, the Compensation Committee reviews our performance against each corporate goal and approves the extent to which we achieved each of our corporate goals.

The Compensation Committee generally will consider each named executive officer's individual contributions towards reaching our annual corporate goals but does not typically establish specific individual goals for our named executive officers. There is no minimum bonus percentage or amount established for the named executive officers and, as a result, the bonus amounts vary from year to year based on corporate and individual performance. For 2018, the target bonus for Mr. Fair was 50% of his base salary, the target bonus for Dr. Grossman was 40% of his base salary and the target bonus for Mr. Ward was 35% of his base salary.

Our corporate goals for 2018, established by the Compensation Committee, included clinical development goals, new product development objectives, technical operations goals, European launch preparation goals, business development goals and financial goals. The clinical development goals included certain objectives related to initiation and conduct of clinical trials for our rivo-cel, BPX-601 and BPX-701 product candidates. The new product development goals were related to pipeline expansion through advancement of multiple new preclinical candidates to clinical readiness and furthering the development of the iMC technology platform through in vitro and in vivo laboratory testing. The technical operations goals related to improving manufacturing yield and speed for cell constructs and viral vectors. The European launch preparedness goals included a range of activities required for establishment of infrastructure and operations to support a potential launch of rivo-cel in Europe, including among other items determination of resourcing and organizational structure and establishing pricing and reimbursement strategies. The business development goals were related to partnering or codevelopment transactions for the iMC or dual-switch technologies. The financial goals included completing planned activities within the corporate budget and balance sheet targets. No specific individual goals were established for any of our named executive officers for 2018.

In January 2019, the Compensation Committee reviewed our corporate goals and determined that on an overall basis, we had achieved 92.5% of our corporate goals for 2018. Specifically, on the clinical development goals, which were the most heavily

weighted category, the Compensation Committee assessed accomplishment at 106% of target level, recognizing that BPX-601 study had exceeded enrollment target and initiation of the THRIVE Trial was achieved ahead of schedule. On the new product development goals, the Compensation Committee determined that the goals were achieved at 50% of target level. For the technical operations goals the Compensation Committee assessed performance at 150% of target level, recognizing the significant accomplishments with respect to increasing yield of cell construct manufacturing. The European launch preparation goals and the financial goals were assessed by the Compensation Committee at 100% of target level and the business development goals, which were structured as extra credit opportunity only, were not achieved. Following deliberations and consideration of individual performance factors, the Compensation Committee determined that Mr. Fair would receive a bonus payout of 92.5% of his 50% target bonus amount and both Dr. Grossman and Mr. Ward would receive prorated bonus payouts equal to 92.5% of their target bonus amounts of 40% and 35%, respectively.

#### Equity-Based Incentive Awards

Our equity-based incentive awards are designed to align our interests with those of our employees and consultants, including our named executive officers. Our Board or the Compensation Committee approves equity grants. Vesting of equity awards is generally tied to continuous service with us and serves as an additional retention measure. Our executives as well as our other employees, generally are awarded an initial new hire grant upon commencement of employment. Additional grants may occur periodically in order to specifically incentivize employees, including our executives with respect to achieving certain corporate goals or to reward such employees for exceptional performance. Prior to our initial public offering in December 2014, we granted all equity awards pursuant to our 2011 stock option plan, as amended, or the 2011 Plan, and our 2006 stock option plan, as amended, or the 2006 Plan. Upon and following our initial public offering, all equity awards are granted under the 2014 equity incentive plan, or the 2014 Plan. The terms of our 2011 Plan, 2006 Plan and 2014 Plan are described below under “—Equity Benefit Plans.” We have primarily granted equity awards in the form of stock options. In December 2016, the Compensation Committee approved the grant of restricted stock unit awards in addition to stock options. All options are granted with a per share exercise price equal to no less than the fair market value of a share of our common stock on the date of the grant of such award, as determined by our Board. Generally, our stock option and restricted stock units awards vest over a four-year period subject to the holder’s continuous service to us.

On January 2, 2018, Mr. Fair received an option to purchase 225,000 shares of our common stock and Mr. Musso received an option to purchase 22,500 shares of our common stock and 12,500 restricted stock units. Each of the options was granted at a per share exercise price of \$9.23, the fair market value on the date of the grant, and vests over a four-year period, subject to the named executive officer’s continued service with us. Each of the restricted stock unit awards vests over a four-year period, subject to the named executive officer’s continued service with us. Effective August 31, 2018, Mr. Musso resigned from his position as our Chief Financial Officer and Treasurer.

On February 5, 2018, in connection with his appointment as our Chief Medical Officer, Dr. Grossman received an option to purchase 175,000 shares of our common stock and 30,000 restricted stock units. Dr. Grossman’s option was granted at a per share exercise price of \$5.61, the fair market value on the date of the grant, and vests over a four-year period, subject his continued service with us. Each of the restricted stock unit awards vests over a four-year period, subject to the named executive officer’s continued service with us. Effective April 22, 2019, Dr. Grossman resigned from his position as our Chief Medical Officer.

On May 29, 2018, in connection with his appointment as our General Counsel, Mr. Ward received an option to purchase 120,000 shares of our common stock and 10,000 restricted stock units. Mr. Ward’s option was granted at a per share exercise price of \$7.95, the fair market value on the date of the grant, and vests over a four-year period, subject his continued service with us. Each of the restricted stock unit awards vests over a four-year period, subject to the named executive officer’s continued service with us.

On July 2, 2018, Mr. Fair received an option to purchase 225,000 shares of our common stock and Mr. Musso received an option to purchase 52,500 shares of our common stock. Each of these options was granted at a per share exercise price of \$7.72, the fair market value on the date of the grant, and vests over a four-year period (commencing on January 1, 2018), subject to the named executive officer’s continued service with us.

On January 15, 2019, the Compensation Committee approved the grant of stock options and restricted stock unit awards to our named executive officers to be granted in 2019. Effective February 1, 2019, Mr. Fair received an option to purchase 300,000 shares of our common stock, Dr. Grossman received an option to purchase 82,500 shares of our common stock and Mr. Ward received an option to purchase 45,000 shares of our common stock. Each of the options was granted at a per share exercise price of \$3.35, the fair market value on the date of the grant, and vests, over a four-year period, subject to the named executive officer's continued service with us.

37

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Effective July 1, 2019, Mr. Fair will receive an option to purchase 300,000 shares of our common stock, and Mr. Ward will receive an option to purchase 45,000 shares of our common stock. Each of these options will be granted at a per share exercise price equal to the fair market value on the date of the grant, and will vest, over a four-year period, subject to the named executive officer's continued service with us.

Agreements with our Named Executive Officers

Below are descriptions of our employment agreements with our named executive officers. For a discussion of the severance pay and other benefits to be provided in connection with a termination of employment and/or a change in control under the arrangements with our named executive officers, please see “—Potential Payments Upon Termination or Change in Control” below.

**Richard Fair.** We entered into an Employment Agreement with Mr. Fair in January 2017 that governs the terms of his employment with us. Under the Employment Agreement, Mr. Fair was initially entitled to an annual base salary of \$535,000, which was increased to \$551,050 effective as of January 2018 and \$576,582 effective February 2019. Mr. Fair is also eligible to receive an annual target performance bonus of up to 50% of his base salary, which was increased to 55% for fiscal year 2019, as determined by the Compensation Committee. Pursuant to the Employment Agreement, in January 2017, we granted Mr. Fair an option to purchase 500,000 shares of the Company's common stock, with an exercise price equal to \$11.87, which will vest over a four-year period, subject to Mr. Fair's continued service with us. In addition, Mr. Fair was entitled to a one-time cash signing bonus of \$300,000. The Employment Agreement also provides that Mr. Fair is eligible to receive certain severance benefits, the terms of which are described below under “-Potential Payments Upon Termination or Change of Control.”

**Shane Ward.** We entered into an Employment Agreement with Mr. Ward in May 2018 that governs the terms of his employment with us. Under the Employment Agreement, Mr. Ward was initially entitled to an annual base salary of \$350,000, which was increased to \$376,250, effective February 2019. Mr. Ward is also eligible to receive an annual target performance bonus of up to 35% of his base salary. Pursuant to the Employment Agreement, in May 2018, we granted Mr. Ward an option to purchase 120,000 shares of the Company's common stock and 10,000 restricted stock units, with an exercise price equal to \$7.95, which will vest over a four-year period, subject to Mr. Ward's continued service with us. The Employment Agreement also provides that Mr. Ward is eligible to receive certain severance benefits, the terms of which are described below under “-Potential Payments Upon Termination or Change of Control.”

**William Grossman, M.D., Ph.D.** We entered into an Employment Agreement with Dr. Grossman in February 2018 that governed the terms of his employment with us. Under the Employment Agreement, Dr. Grossman was initially entitled to an annual base salary of \$410,000, which was increased to \$428,000, effective February 2019. Dr. Grossman was also eligible to receive an annual target performance bonus of up to 40% of his base salary. Pursuant to the Employment Agreement, in February 2018, we granted Dr. Grossman an option to purchase 175,000 shares of the Company's common stock and 30,000 restricted stock units, with an exercise price equal to \$5.61, which will vest over a four-year period, subject to Dr. Grossman's continued service with us. The Employment Agreement also provided that Dr. Grossman was eligible to receive certain severance benefits, the terms of which are described below under “-Potential Payments Upon Termination or Change of Control.” Effective April 22, 2019, Dr. Grossman resigned from his position as our Chief Medical Officer.

**Alan A. Musso, C.P.A., C.M.A.** We entered into an Employment Agreement with Mr. Musso in December 2014, which replaced the prior letter agreement between us and Mr. Musso, dated November 7, 2014. Under the Employment Agreement, Mr. Musso was entitled to an annual base salary of \$385,000 effective as of January 2017 and \$400,000 as of January 2018. Mr. Musso was also eligible to receive an annual target performance bonus of 35% of his base salary, as determined by the Compensation Committee. The Employment Agreement also provided that Mr. Musso is eligible to receive certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.” Effective August 31, 2018, Mr. Musso resigned from his position as our Chief Financial Officer and Treasurer. In connection with Mr. Musso's resignation, we entered into an agreement with Mr. Musso, described below under "Potential Payments Upon Termination or Change of Control".

Potential Payments Upon Termination or Change of Control

Regardless of the manner in which a named executive officer's service terminates, the named executive officer is entitled to receive amounts earned during his or her term of service, including salary and unused vacation pay. In

addition, each of our named executive officers is eligible to receive certain benefits pursuant to his or her employment agreement with us described above under “—Agreements with our Named Executive Officers.”

38

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Under the terms of Mr. Fair's employment agreement that became effective in January 2017, Dr. Grossman's employment agreement that became effective in February 2018, Mr. Ward's employment agreement that became effective in May 2018, and Mr. Musso's employment agreement that became effective in December 2014 or collectively, the employment agreements, each officer's employment is "at will" and may be terminated at any time. Under the employment agreements, upon a termination without "cause" or resignation for "good reason" (each as defined below), each of the officers is eligible to receive payments equal to his or her base salary, COBRA premium payments for 12 months and a pro-rated annual performance bonus. If such termination without cause or resignation for good reason occurs immediately prior to, on or within the 12 months following a change of control (as defined in the 2014 Plan), instead of the benefits described above, each of the officers will be eligible to receive (1) continued base salary payments and COBRA premium payments for 12 months, (2) a lump sum payment equal to his or her full target bonus for the year of termination, and (3) full vesting acceleration of all outstanding equity awards that are subject to time-based vesting. All severance benefits under the employment agreements are contingent upon the officer executing an effective release and waiver of claims against us as well as complying with certain other post-termination obligations to us.

For purposes of the employment agreements, "cause" generally means the occurrence of any of the following events, conditions or actions with respect to the executive: (1) willful misconduct that is demonstrably and materially injurious to our reputation, financial condition, or business relationships; (2) failure to attempt in good faith to follow the legal written direction of our Board; (3) failure to attempt in good faith to perform his or her duties (other than any such failure resulting from incapacity due to physical or mental illness) after receiving a written demand for substantial performance from our Board; (4) conviction of, indictment for, or a plea of guilty or nolo contendere to, a felony or any crime involving dishonesty, fraud or moral turpitude; (5) dishonesty with regard to us or in the performance of his or her duties under the executive's employment agreement, which in either case has a material adverse effect on us; (6) material breach of his or her agreement unless corrected within ten days of written notification of such breach from us; or (7) failure to comply in any material respect with our policies and/or procedures, unless corrected within 10 days of written notification to the executive of such breach. "Good reason" under the employment agreements generally means the following events, conditions or actions taken by us with respect to the executive without the executive's written consent: (1) a material reduction in base salary; (2) a material reduction in the executive's authority, duties or responsibilities; (3) a relocation of the executive's principal place of employment to a place that increases the executive's one-way commute by more than 50 miles; or (4) our material breach of any material provision of the employment agreements.

In addition to special vesting acceleration terms in the named executive officer's employment agreements described above, each of our named executive officers holds stock options, restricted stock units, under our equity incentive plans that were granted subject to the general terms of our equity incentive plans and form of award agreements. A description of the termination and change of control provisions in such equity incentive plans and awards granted thereunder is provided below under "-Equity Benefit Plans" and the specific vesting terms of each named executive officer's awards are described below under "-Outstanding Equity Awards at Fiscal Year-End."



## Outstanding Equity Awards at Fiscal Year-End

The following table sets forth certain information regarding equity awards granted to our named executive officers that remain outstanding as of December 31, 2018.

Name	Grant Date	Option Awards <sup>(1)</sup>			Option Expiration Date	Stock Awards <sup>(3)</sup>	
		Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$) <sup>(2)</sup>		Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$) <sup>(4)</sup>
Richard A. Fair .....	1/30/2017	239,583	260,417	11.87	1/29/2027	—	—
	1/2/2018	—	225,000	9.23	1/1/2028	—	—
	7/2/2018	—	225,000	7.72	7/1/2028	—	—
Shane M. Ward.....	5/29/2018	—	120,000	7.95	5/28/2028	—	—
	5/29/2018	—	—	—	—	10,000	29,200