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

SCHEDULE 14A INFORMATION

**Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934
(Amendment No.)**

Filed by the Registrant Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material under § 240.14a-12

Zafgen, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11

(1) Title of each class of securities to which transaction applies:

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(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11
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Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by the registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:



Zafgen, Inc.
175 Portland Street, 4th Floor
Boston, MA 02114

NOTICE OF 2019 ANNUAL MEETING OF STOCKHOLDERS

Notice is hereby given that the 2019 Annual Meeting of Stockholders of Zafgen, Inc. will be held on June 13, 2019, at 8:30 a.m. Eastern Time, at the offices of Goodwin Procter at 100 Northern Avenue, Boston, Massachusetts 02210. The purpose of the meeting is the following:

1. to elect two directors, Peter Barrett, Ph.D. and Wendy Everett, Sc.D. to serve as Class II directors until the 2022 annual meeting of stockholders and until their successors are duly elected and qualified, subject to their earlier death, resignation, or removal;
2. to ratify the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019; and
3. to transact such other business as may properly come before the meeting or at any and all adjournments or postponements thereof.

The proposal for the election of directors relates solely to the election of Class II directors nominated by the Board of Directors.

Only Zafgen, Inc. stockholders of record at the close of business on April 22, 2019, will be entitled to vote at the meeting and any adjournment or postponement thereof.

We are pleased to take advantage of Securities and Exchange Commission rules that allow companies to furnish their proxy materials over the Internet. We are mailing to many of our stockholders a Notice of Internet Availability of Proxy Materials, or Notice, instead of a paper copy of our proxy materials and our 2018 Annual Report on Form 10-K. The Notice contains instructions on how to access those documents and to cast your vote via the Internet. The Notice also contains instructions on how to request a paper copy of our proxy materials and our 2018 Annual Report on Form 10-K. All stockholders who do not receive a Notice will receive a paper copy of the proxy materials and our 2018 Annual Report on Form 10-K, by mail. This process allows us to provide our stockholders with the information they need on a more timely basis, while reducing the environmental impact and lowering the costs of printing and distributing our proxy materials.

Your vote is important. Whether or not you are able to attend the meeting in person, it is important that your shares be represented. To ensure that your vote is recorded promptly, please vote as soon as possible, even if you plan to attend the meeting, by submitting your proxy via the Internet at the address listed on the proxy card or by signing, dating and returning the proxy card.

By Order of the Board of Directors,

A handwritten signature in black ink, appearing to read "Jeffrey S. Hatfield".

Jeffrey S. Hatfield
Chief Executive Officer and Director

Boston, Massachusetts
April 26, 2019

BUSINESS AND COMPENSATION UPDATES

To assist you in reviewing the proposals to be acted upon, we call your attention to the following business and compensation highlights since the beginning of 2018. The following description is only a summary. For more complete information on these topics, please review our Annual Report on Form 10-K for the year ended December 31, 2018 (including the Risk Factors therein), and this Proxy Statement in full.

Business Highlights

Zafgen provided a number of notable clinical, business and personnel updates over the past year regarding its work to unlock and deliver the full value of MetAP2 inhibition to patients affected by a variety of metabolic diseases as summarized below:

In the past year, our leadership team and executive level skill set significantly evolved through a combination of strategic hires and executive departures. Notably, we have in the past several months greatly boosted critical drug safety, regulatory and corporate/business development skills at the executive level.

We significantly strengthened our research and development (R&D) leadership with the March 2019 appointment of Priya Singhal, M.D., M.P.H. as overall Head of Research and Development. Priya brings nearly a decade of senior level R&D leadership experience working with first-in-class molecules, including extensive specific expertise focusing on drug safety, benefit-risk management and overall R&D strategy. Dr. Singhal is responsible for leading and overseeing our research, clinical development, project management and manufacturing functions, as well as contributing broadly as a corporate executive. Her skills and experiences are ideally suited to lead efforts across our key areas of scientific focus. We strengthened our regulatory leadership in late 2018 with the appointment of Lisa Percival, M.S. as our Vice President of Regulatory. Lisa brings substantial global regulatory experience, with particular expertise in specialty and pediatric disease indications. Also in 2018, we strengthened our corporate and business development leadership with the strategic hire of our Chief Business Officer, Brian McVeigh, who has over 25 years of pharmaceutical and biotech industry experience, including 15 years of extensive experience in buy-side and sell-side business development deal making. Also as part of our leadership evolution, our former President and Chief Scientific Officer, Thomas Hughes, Ph.D. left the Company in August 2018 to join a privately-held biotechnology company, and our former Chief Medical Officer, or CMO, Dennis Kim, M.D., M.B.A. left the Company in March 2019 to serve as a CMO consultant.

ZGN-1061

Across two important data readouts in 2018 and early 2019 for our lead program, ZGN-1061, for the treatment of type 2 diabetes, we have seen robust safety and efficacy data that reinforce our belief that there is a differentiated safety profile between ZGN-1061 and the Company's prior compound, beloranib. In addition, the data from these clinical readouts confirm effects on important measures of efficacy.

Our progress over the past year began with the presentation at the American Diabetes Association (ADA) 78th Scientific Sessions of positive Phase 2 data from the initial cohort of our Phase 2 clinical trial for ZGN-1061, which was conducted in Australia and New Zealand. The data demonstrated proof-of-concept efficacy and safety in patients with type 2 diabetes and established a minimally effective dose. The trial met all of its primary endpoints at the 0.9 mg dose, and 12-week data demonstrated a favorable safety and tolerability profile.

In January 2019, we followed up with positive results from the second cohort of our Phase 2 clinical trial for ZGN-1061, which was designed to further evaluate efficacy and safety in patients with type 2 diabetes at a higher 1.8 mg dose level. The clinical trial met all of its primary objectives at the 1.8 mg dose, which included glycemic control, or change in A1C, and safety and tolerability. The 12-week data demonstrated that treatment with the 1.8 mg dose of ZGN-1061 produced substantially more improvement in A1C than the 0.9 mg dose. Progressive and notable reduction in body weight also occurred in patients treated with the 1.8 mg dose. The data showed a favorable safety and tolerability profile for ZGN-1061 with no treatment-related serious adverse events and no cardiovascular (CV) safety signals observed. These results appear competitive with the currently available best-in-class anti-diabetes therapies. Importantly, no treatment-related serious adverse events and no CV safety signals have been observed with ZGN-1061 in either cohort.

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In the time between the Phase 2 data announcements, the U.S. Food and Drug Administration (FDA) placed a clinical hold on the Investigational New Drug (IND) application to conduct clinical trials of ZGN-1061 in the United States. In its letter, the FDA cited the possibility of CV safety risk based on our prior compound. Since then, Zafgen has made important progress in preparation for a Type A meeting to address the concerns raised by the FDA, including: newly developed *in vitro* assays of human plasma coagulation using endothelial cells and assessment of tissue factor expression with endothelial cells, and other supportive new assays, all of which we believe continue to substantially differentiate ZGN-1061 from our prior compound, beloranib, and the efficacy data and the full safety data from the second cohort of the Phase 2 clinical trial. We anticipate providing an update on the clinical hold in the second quarter of 2019.

ZGN-1258

In October 2018, Zafgen presented three nonclinical studies of ZGN-1258 at the 2018 Foundation for Prader-Willi Research (FPWR) Family Conference. Together, these studies demonstrated nonclinical efficacy and safety for ZGN-1258 and supported further development. Unfortunately, after proactively starting long-term toxicology studies, we announced in March 2019 our decision to suspend plans to file an IND for ZGN-1258 based on an unexpected finding in muscle tissue in four- and six-month long-term rodent toxicology studies. Nonclinical data showed degeneration and other anomalies in rat muscle tissue to different degrees in both vehicle and dose arms of the studies. The effects were absent from other animal species in long term studies, and importantly, this finding has not been observed with any of our other MetAP2 inhibitors and appears to be specific to ZGN-1258.

In the fourth quarter of 2018, we launched PATH for PWS, Zafgen's natural history study conducted in collaboration with the FPWR. This study is independent of any specific development program with enrollment recently exceeding our 500-participant goal. The data from this study are intended to inform the development and clinical trial design of potential new treatments and are reflective of our commitment to patients and their families who are impacted by this disease.

ZGN-1345

In November 2018, Zafgen announced that ZGN-1345, an orally dosed MetAP2 inhibitor specifically targeting the liver, has been formally advanced to development candidate stage as a differentiated new asset within the Company's pipeline. Nonclinical models have shown positive preliminary results in multiple liver disease indications.

Compensation Highlights

We believe our compensation program has been effective to attract a seasoned Head of Research and Development, Priya Singhal, in March 2019, and CBO, Brian McVeigh in May 2018. Our compensation program has also contributed to our ability to hire and retain other key members of our team during an intense period of clinical and nonclinical program efforts, including efforts to resolve the full clinical hold on the IND for ZGN-1061. As more fully described in this Proxy Statement, the Compensation Committee of our Board of Directors, or the Compensation Committee, in consultation with our Chief Executive Officer, made the following decisions with respect to our compensation program for our executive officers.

- **Cash bonuses to executives under the annual performance-based cash bonus program.** In January 2019, the Compensation Committee awarded our executive officers a cash bonus for 2018 based on the achievement of corporate goals in 2018. The cash bonuses were significantly below the target levels set by the Compensation Committee for 2018.
- **Equity grants to executives and our staff continue to be an important part of compensation.** In January 2019, the Compensation Committee awarded our executive officers and staff stock option grants that considered the need to retain executive officers and staff when determining the amounts of the annual stock option grants. The Compensation Committee also considered the competitive hiring market for our industry. The Compensation Committee believes that granting stock options at this critical time in the Company's development aligns executive officer's incentives with our corporate strategy, business objectives and the long-term interest of our stockholders.

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**ZAFGEN, INC.
PROXY STATEMENT
FOR THE 2019 ANNUAL MEETING OF STOCKHOLDERS**

GENERAL INFORMATION

Our Board of Directors, or the Board of Directors, has made this Proxy Statement, or this Proxy Statement, and related materials available to you on the Internet, or at your request has delivered printed versions to you by mail, in connection with the Board of Directors' solicitation of proxies for our 2019 Annual Meeting of Stockholders, or the Annual Meeting, and any adjournments or postponements of the Annual Meeting. If you requested printed versions of these materials by mail, they will also include a proxy card for the Annual Meeting.

Pursuant to rules adopted by the Securities and Exchange Commission, or SEC, we are providing access to our proxy materials over the Internet. Accordingly, we are sending a Notice of Internet Availability of Proxy Materials, or the Notice, to our stockholders of record and beneficial owners as of the record date identified below. The mailing of the Notice to our stockholders is scheduled to begin on or around May 3, 2019.

IMPORTANT NOTICE REGARDING THE INTERNET AVAILABILITY OF PROXY MATERIALS FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON June 13, 2019: *This Proxy Statement, the accompanying proxy card or voting instruction card and our 2018 Annual Report on Form 10-K are available at <http://www.proxyvote.com>.*

In this Proxy Statement, the terms "Zafgen," "we," "us," and "our" refer to Zafgen, Inc. The mailing address of our principal executive offices is Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114.

EXPLANATORY NOTE

We are an "emerging growth company" under applicable federal securities laws and therefore permitted to take advantage of certain reduced public company reporting requirements. As an emerging growth company, we provide in this Proxy Statement the scaled disclosure permitted under the Jumpstart Our Business Startups Act of 2012, or the "JOBS Act," including the compensation disclosures required of a "smaller reporting company," as that term is defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In addition, as an emerging growth company, we are not required to conduct votes seeking approval, on an advisory basis, of the compensation of our named executive officers or the frequency with which such votes must be conducted. We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of \$1.07 billion or more; (ii) December 31, 2019; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

Stockholders Entitled to Vote; Record Date

As of the close of business on April 22, 2019, the record date for determination of stockholders entitled to vote at the Annual Meeting, there were outstanding 37,326,895 shares of our common stock, par value \$0.001 per share, or common stock, all of which are entitled to vote with respect to all matters to be acted upon at the Annual Meeting. Each stockholder of record is entitled to one vote for each share of our common stock held by such stockholder. No shares of our preferred stock were outstanding as of the record date.

Quorum; Abstentions; Broker Non-Votes

Our By-laws provide that a majority of the shares entitled to vote, present in person or represented by proxy, will constitute a quorum for the transaction of business at the Annual Meeting. Under the General Corporation Law of the State of Delaware, shares that are voted "abstain" or "withheld" and broker "non-votes" are counted as present for purposes of determining whether a quorum is present at the Annual Meeting.

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Under our By-laws, any proposal other than an election of directors is decided by a majority of the votes properly cast for and against such proposal, except where a larger vote is required by law or by our Certificate of Incorporation or By-laws. Abstentions and broker “non-votes” are not included in the tabulation of the voting results on any such proposal and, therefore, do not have the effect of votes in opposition to such proposals. A broker “non-vote” occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that item and has not received instructions from the beneficial owner.

If your shares are held in “street name” by a brokerage firm, your brokerage firm is required to vote your shares according to your instructions. If you do not give instructions to your brokerage firm, the brokerage firm will still be able to vote your shares with respect to certain “discretionary” items, but will not be allowed to vote your shares with respect to “non-discretionary” items. Proposal 1 is a “non-discretionary” item. If you do not instruct your broker how to vote with respect to that proposal, your broker may not vote for that proposal, and those votes will be counted as broker “non-votes.” Proposal 2 is considered to be a discretionary item, and your brokerage firm will be able to vote on this proposal even if it does not receive instructions from you.

Voting

In Person

If you are a stockholder of record, you may vote in person at the meeting. We will give you a ballot when you arrive. If you hold your shares through a bank or broker and wish to vote in person at the meeting, you must obtain a valid proxy from the firm that holds your shares.

By Proxy

If you do not wish to vote in person or will not be attending the meeting, you may vote by proxy. You can vote by proxy over the Internet by following the instructions provided in the Notice, or, if you requested printed copies of the proxy materials by mail, you can vote by mailing your proxy as described in the proxy materials. You may also authorize another person or persons to act for you as proxy in writing, signed by you or your authorized representative, specifying the details of those proxies’ authority. Such original writing must be given to each of the named proxies, although it may be sent to them by electronic transmission if, from that transmission, it can be determined that the transmission was authorized by you. If you complete and submit your proxy before the Annual Meeting, the persons named as proxies will vote the shares represented by your proxy in accordance with your instructions. If you submit a proxy without giving voting instructions, your shares will be voted in the manner recommended by the Board of Directors on all matters presented in this Proxy Statement, and as the persons named as proxies may determine in their discretion with respect to any other matters properly presented at the Annual Meeting.

If any other matters are properly presented for consideration at the Annual Meeting, including, among other things, consideration of a motion to adjourn the Annual Meeting to another time or place (including, without limitation, for the purpose of soliciting additional proxies), the persons named in the enclosed proxy card and acting thereunder will have discretion to vote on those matters in accordance with their best judgment. We do not currently anticipate that any other matters will be raised at the Annual Meeting.

Revocability of Proxy

You may revoke your proxy by (1) following the instructions on the Notice and entering a new vote by mail or over the Internet before the Annual Meeting or (2) attending the Annual Meeting and voting in person (although attendance at the Annual Meeting will not in and of itself revoke a proxy). Any written notice of revocation or subsequent proxy card must be received by our Secretary prior to the taking of the vote at the Annual Meeting. Such written notice of revocation or subsequent proxy card should be hand delivered to our Secretary or sent to our principal executive offices at Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114, Attention: Secretary. If a broker, bank, or other nominee holds your shares, you must contact such broker, bank, or nominee in order to find out how to change your vote.

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Expenses of Solicitation

Zafgen is making this solicitation and will pay the entire cost of preparing and distributing the Notice and these proxy materials and soliciting votes. If you choose to access the proxy materials or vote over the Internet, you are responsible for any Internet access charges that you may incur. Our officers and employees may, without compensation other than their regular compensation, solicit proxies through further mailings, personal conversations, facsimile transmissions, e-mails, or otherwise. We have hired Broadridge Financial Solutions, Inc. to assist us in preparing, mailing, returning, and tabulating the proxies. We have also hired Laurel Hill for the solicitation of votes described above for a fee of \$7,800 plus reimbursement of reasonable out-of-pocket expenses.

Procedure for Submitting Stockholder Proposals

Stockholder proposals intended to be presented at the next annual meeting of our stockholders must satisfy the requirements set forth in the advance notice provision under our By-laws. To be timely for our next annual meeting of stockholders, any such proposal must be delivered in writing to our Secretary at 3 Center Plaza, Boston, MA 02108 between the close of business on February 14, 2020, and March 15, 2020. If the date of the next annual meeting of the stockholders is scheduled to take place before May 14, 2020, or after August 12, 2020, notice by the stockholder must be delivered no later than the close of business on the later of (1) the 90th day prior to such annual meeting or (2) the 10th day following the day on which public announcement of the date of such meeting is first made.

Any nomination must include all information relating to the nominee that is required to be disclosed in solicitations of proxies for election of directors in election contests or is otherwise required under Regulation 14A of the Exchange Act, the person's written consent to be named in the Proxy Statement and to serve as a director if elected and such information as we might reasonably require to determine the eligibility of the person to serve as a director. As to other business, the notice must include a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting, and any material interest of such stockholder (and the beneficial owner) in the proposal. The proposal must be a proper subject for stockholder action. In addition, to make a nomination or proposal, the stockholder must be of record at the time the notice is made and must provide certain information regarding itself (and the beneficial owner), including the name and address, as they appear on our books, of the stockholder proposing such business, the number of shares of our capital stock which are, directly or indirectly, owned beneficially or of record by the stockholder proposing such business or its affiliates or associates (as defined in Rule 12b-2 promulgated under the Exchange Act) and certain additional information.

In addition, any stockholder proposal intended to be included in the Proxy Statement for the next annual meeting of our stockholders must also satisfy the SEC regulations under Rule 14a-8 of the Exchange Act, and be received not later than December 28, 2019. If the date of the annual meeting is moved by more than 30 days from the date contemplated at the time of the previous year's Proxy Statement, then notice must be received within a reasonable time before we begin to print and send proxy materials. If that happens, we will publicly announce the deadline for submitting a proposal in a press release or in a document filed with the SEC.

OVERVIEW OF PROPOSALS

This Proxy Statement contains two proposals requiring stockholder action. Proposal 1 requests the election of two Class II directors to the Board of Directors. Proposal 2 requests the ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019. Each of the proposals is discussed in more detail in the pages that follow.

PROPOSAL 1

ELECTION OF DIRECTORS

The Board of Directors is divided into three classes. One class is elected each year at the annual meeting of stockholders for a term of three years. Vacancies on the Board of Directors are filled exclusively by the affirmative vote of a majority of the remaining directors, even if less than a quorum is present, and not by stockholders. A director elected by the Board of Directors to fill a vacancy in a class shall hold office for the remainder of the full term of that class, and until the director's successor is duly elected and qualified or until his or her earlier resignation, death, or removal.

The terms of the Class II directors are scheduled to expire on the date of the upcoming Annual Meeting. Based on the recommendation of the Nominating and Corporate Governance Committee of the Board of Directors, or Nominating and Corporate Governance Committee, the Board of Directors' nominees for election by the stockholders are the current Class II members: Peter Barrett, Ph.D. and Wendy Everett, Sc.D. If elected, each nominee will serve as a director until the annual meeting of stockholders in 2022 and until his or her successor is duly elected and qualified, or until his or her earlier death, resignation, or removal.

The names of and certain information about the directors in each of the three classes are set forth below. There are no family relationships among any of our directors or executive officers.

It is intended that the proxy in the form presented will be voted, unless otherwise indicated, for the election of the Class II director nominees to the Board of Directors. If any of the nominees should for any reason be unable or unwilling to serve at any time prior to the Annual Meeting, the proxies will be voted for the election of such substitute nominee as the Board of Directors may designate.

Nominees for Class II Directors

The names of the nominees for Class II directors and certain information about each as of April 12, 2019 are set forth below.

<u>Name</u>	<u>Positions and Offices Held with Zafgen</u>	<u>Director Since</u>	<u>Age</u>
Peter Barrett, Ph.D.	Chairman of the Board	2006	66
Wendy Everett, Sc.D.	Director	2018	73

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The names of and certain information as of April 1, 2019 about the members of the Board of Directors who are not standing for election or re-election at this year's Annual Meeting are set forth below.

<u>Name</u>	<u>Positions and Offices Held with Zafgen</u>	<u>Director Since</u>	<u>Class and Year in Which Term Will Expire</u>	<u>Age</u>
Jeffrey S. Hatfield	Chief Executive Officer and Director	2017	Class III—2020	61
John L. LaMattina, Ph.D.	Director	2013	Class III—2020	69
Frank E. Thomas	Director	2014	Class III—2020	49
Thomas O. Daniel, M.D.	Director	2016	Class I—2021	65
Cameron Geoffrey McDonough, M.D.	Director	2015	Class I—2021	48
Robert J. Perez	Director	2015	Class I—2021	54

Set forth below are the biographies of each director, as well as a discussion of the particular experience, qualifications, attributes, and skills that led our Board of Directors to conclude that each person nominated to serve or currently serving on our Board of Directors should serve as a director. In addition to the information presented below, we believe that each director meets the minimum qualifications established by the Nominating and Corporate Governance Committee.

Peter Barrett, Ph.D. Dr. Barrett has served as the Chairman of our Board of Directors since August 2006. Dr. Barrett joined Atlas Venture, an early-stage venture capital fund, in 2002, and currently serves as a Partner in the Life Sciences Group. Previously, from 1998 to 2002, he was a Co-founder, Executive Vice President and Chief Business Officer of Celera Genomics. Prior to Celera, from 1979 to 1998, Dr. Barrett held senior management positions at Perkin-Elmer Corporation, most recently serving as Vice President, Corporate Planning and Business Development. Dr. Barrett served on the Board of Directors of SciClone Pharmaceuticals, Inc. from 2011 to 2013, and Helicos BioSciences Corporation from 2003 to 2012 and Vitae Pharmaceuticals, Inc. from 2004 to 2015. Dr. Barrett currently serves on the Board of Directors of the Perkin-Elmer Corporation and Synlogic, Inc., and several other privately held companies. Dr. Barrett is a Senior Fellow at Harvard Business School and is the Faculty Chair of the Key Advisory Board of the Blavatnik Fellowship Program. He is a member of the Research Council at Boston Children's Hospital. Dr. Barrett holds a B.S. in chemistry from Lowell Technological Institute (now known as the University of Massachusetts, Lowell) and a Ph.D. in analytical chemistry from Northeastern University. He also completed Harvard Business School's Management Development Program. Dr. Barrett's qualifications to sit on our Board of Directors include his extensive leadership, executive, managerial and business experience with life sciences companies, including experience in the formation, development and business strategy of multiple start-up companies in the life sciences sector.

Thomas O. Daniel, M.D. Dr. Daniel has served as a member of our Board of Directors since March 2016. Dr. Daniel has more than 18 years of experience in biopharmaceutical discovery and development. He is currently Chairman of Vividion Therapeutics, Inc., is a Venture Partner at ARCH Venture Partners, and serves as a Director of ImmusanT, Inc., Gossamer Bio, Inc., Sana Biotechnology, Inc., Magenta Therapeutics, Inc., and VIR Biotechnology, Inc. Previously, he served as President of Research and Early Development of Celgene Corporation from 2006 until 2012, as Executive Vice President and President of Research and Early Development until 2015 and as Chairman of Research until mid-2016. Prior to Celgene, he served as Chief Scientific Officer and Director at Ambrx Inc., from 2003 to 2006. Dr. Daniel also served as Vice President of Research at Amgen from 2002 to 2003, where he was Research Site Head of Amgen Washington and Therapeutic Area Head of Inflammation. Prior to Amgen's acquisition of Immunex Corporation, Dr. Daniel served as Senior Vice President of Discovery Research at Immunex from 2000 to 2002. Dr. Daniel advises Bria Bio, Inc. and BlackThom Therapeutics, Inc., privately-held biotechnology companies. Dr. Daniel serves as a member of the Biomedical Science Advisory Board of Vanderbilt University Medical Center and is a trustee of Reed College. A nephrologist and former academic investigator, Dr. Daniel was previously the C.M. Hakim Professor of Medicine and Cell Biology at Vanderbilt University, and Director of the Vanderbilt Center for

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Vascular Biology. He formerly conducted research in the Howard Hughes Medical Institute at UC San Francisco, earned an M.D. from the University of Texas, Southwestern, and completed medical residency at Massachusetts General Hospital. Dr. Daniel's qualifications to sit on our Board of Directors include his biotechnology and pharmaceutical experience, including senior leadership roles at global biopharmaceutical companies Celgene Corporation and Amgen.

Wendy Everett, Sc.D. Dr. Everett has served on our Board of Directors since June 2018. Dr. Everett has more than 30 years of experience spanning a variety of healthcare, health policy, academic, entrepreneurial, educational and clinical care settings. Since 2002, Dr. Everett has held multiple executive-level positions at the Network for Excellence in Health Innovation (or NEHI), formerly the New England Healthcare Institute, including Chief Executive Officer and President, and currently serves as Special Advisor to the organization. She also currently serves as Senior Advisor to Avalere Health. Prior to NEHI, Dr. Everett was Managing Director at the Institute for the Future from 1995 to 2002, an independent, futures research organization. Other previous strategic and leadership roles held by Dr. Everett include Principal, GBE Consulting; Senior Vice President, Interpractice Systems; National Program Director, Kaiser Family Foundation; Vice President, Brigham and Women's Hospital; National Program Director, Robert Wood Johnson Foundation; and other positions in academia and health care. Dr. Everett received a B.S. in psychology and education from University of Rochester and B.S. in Nursing from the University of California, San Francisco. Dr. Everett also earned her S.M. and Sc.D. in health policy and management from Harvard University. Dr. Everett's qualifications to sit on our Board of Directors include her valuable leadership positions in healthcare and health policy positions, including her service at NEHI and Avalere Health.

Jeffrey S. Hatfield. Mr. Hatfield has served as our Chief Executive Officer and a member of our Board of Directors since October 2017. He previously served as President, Chief Executive Officer and Director of Vitae Pharmaceuticals, Inc., where he led the growth of the company from start-up in 2004, until its unsolicited acquisition by Allergan Plc. in 2016. Prior to Vitae, Mr. Hatfield was a senior executive at Bristol-Myers Squibb Corporation, or BMS, for twenty years, where he held roles of increasing responsibility including Senior Vice President, Immunology and Virology Divisions; President, BMS-Canada; and Vice President of US Market Access. During his career at BMS, Mr. Hatfield was directly involved with several successful commercial launches, including Plavix®, Pravachol®, Glucophage® and Atripla®. Mr. Hatfield currently serves on the boards of miRagen Therapeutics, Inc., where he is Chairman of the Board, and aTyr Pharmaceuticals, Inc. He previously served on the board of Ambit Biosciences, Inc. before its acquisition by Daiichi-Sankyo, and on the board and Executive Committee of BIO (the Biotechnology Innovation Organization). Mr. Hatfield earned an M.B.A. from The Wharton School, University of Pennsylvania, and a B.S. from the College of Pharmacy, Purdue University, where he currently serves as an Adjunct Professor for doctoral students, and as a member of the Dean's Advisory Council. We believe that Mr. Hatfield's extensive experience as a CEO at Vitae, along with his extensive experience in the pharmaceutical and biotechnology industry qualifies him to serve on our Board of Directors.

John L. LaMattina, Ph.D. Dr. LaMattina has served as a member of our Board of Directors since December 2013. Since 2009, Dr. LaMattina has been a Senior Partner at PureTech Health, a technology development company focusing on biotechnology investments. Dr. LaMattina is also on the Board of Directors of PureTech Health. Prior to that, Dr. LaMattina spent 30 years at Pfizer Inc. beginning as a medicinal chemist in 1977. During his career, he was appointed to various positions of increasing responsibility for Pfizer Central Research, including Vice President of U.S. Discovery Operations in 1993, Senior Vice President of Worldwide Discovery Operations in 1998, Senior Vice President of Worldwide Development in 1999 and President of Pfizer Global R&D in 2003. Dr. LaMattina graduated with cum laude honors from Boston College with a B.S. in Chemistry. He received a Ph.D. from the University of New Hampshire in Organic Chemistry and subsequently was at Princeton University in the National Institutes of Health Postdoctoral Fellowship program. From 2008 to 2012, Dr. LaMattina served on the Board of Directors of Human Genome Sciences. From 2008 to 2010, Dr. LaMattina served on the Board of Directors of Neurogen Corp. Dr. LaMattina currently serves on several boards, including the Board of Directors of Ligand Pharmaceuticals, Inc., Gelesis, Inc., Immunome, Inc. and Vedanta Biosciences, Inc. Dr. LaMattina's qualifications to sit on our Board of Directors include his valuable pharmaceutical

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experience, including his service at Pfizer Inc., one of the world's largest pharmaceutical companies, in addition to his experience on several boards and involvement in the biotechnology industry through his position as a Senior Partner and member of the Board of Directors at PureTech Health.

Cameron Geoffrey McDonough, M.D. Dr. McDonough has served as a member of our Board of Directors since September 2015. Since 2018, Dr. McDonough has served as the President, Chief Executive Officer and member of the Board of Directors of Generation Bio Corporation, a biotechnology company developing a break through class of genetic medicines to enable a new generation of people unaffected by inherited disease. From 2011 to 2017, he served as President and Chief Executive Officer of Swedish Orphan Biovitrum AB, or Sobi, a Swedish pharmaceutical company. Prior to joining Sobi, Dr. McDonough held several senior leadership positions at Genzyme Corporation, a biotechnology company, from 2002 to 2011, including Senior Vice President and General Manager, Personalized Genetic Health, Senior Vice President, Lysosomal Storage Disease Therapeutics and most recently, as President of Europe, Middle East and Africa. Prior to joining Genzyme, Dr. McDonough was a practicing internist and pediatrician. He currently serves on the Board of Directors of Surface Oncology. Dr. McDonough received a B.A. and a B.Sc. from the University of North Carolina at Chapel Hill and an M.D. from Harvard Medical School. Dr. McDonough's qualifications to sit on our Board of Directors include his valuable experience as an M.D. and the CEO of a rare disease company, Sobi, as well as his prior experience at Genzyme, one of the world's largest biopharmaceutical companies, in addition to his position as a chief executive officer and member of the Board of Directors of publicly traded companies.

Robert J. Perez. Mr. Perez has served as a member of our Board of Directors since September 2015. He has served as an Operating Partner at General Atlantic since 2019. Mr. Perez was previously the Founder and Managing Partner of Vineyard Sound Advisors, a biopharmaceutical advisory firm, since 2015. He is the former Chief Executive Officer of Cubist Pharmaceuticals, Inc., a public pharmaceutical development company, which was acquired by Merck in 2015. He joined Cubist in 2003 as Senior Vice President, Sales and Marketing, and led the launch of Cubicin® (daptomycin for injection). He served as Executive Vice President and Chief Operating Officer from 2007 to 2012 and President and Chief Operating Officer from 2012 to 2014. Prior to joining Cubist, he served as Vice President of Biogen, Inc.'s CNS business unit from 2001 to 2003, where he was responsible for commercial leadership of an \$800 million neurology business unit, and from 1995 to 2001 he held positions of increasing responsibility within Biogen's CNS commercial organization. From 1987 to 1995, Mr. Perez held various sales and marketing positions at Zeneca Pharmaceuticals. Mr. Perez also currently serves as a member of the Board of Directors of public companies Unum Therapeutics Inc., AMAG Pharmaceuticals, Inc., and Spark Therapeutics, Inc. and sits on the Board of several private companies in the biotechnology industry. Mr. Perez previously served on the board of directors of Cidara Therapeutics, Inc. until March 2018. Mr. Perez is the Founder and Chairman of Life Sciences Cares since 2016, and has also been a member of the Board of Trustees at The Dana Farber Cancer Institute, Inc. since 2013. Mr. Perez received a B.S. in business from California State University, Los Angeles and an M.B.A. from the Anderson Graduate School of Management at the University of California, Los Angeles. Mr. Perez's qualifications to sit on our Board of Directors include his valuable pharmaceutical experience, including his service at Cubist Pharmaceuticals, Inc., a commercial stage biotechnology company, in addition to his experience at Biogen, Inc., and his experience as a director in many growth companies in the biotechnology sector.

Frank E. Thomas. Mr. Thomas has served as a member of our Board of Directors since June 2014. Mr. Thomas has been the Chief Financial Officer and Chief Business Officer of Orchard Therapeutics since 2018, a biotechnology company dedicated to transforming the lives of patients with rare disorders through innovative gene therapies. Previously, Mr. Thomas served as President and Chief Operating Officer of AMAG Pharmaceuticals, Inc., a publicly traded, specialty pharmaceutical company, from 2015 to 2017, and previously served as AMAG's Executive Vice President and Chief Operating Officer from 2012 through 2015 and as Executive Vice President, Chief Financial Officer and Treasurer from 2011 through 2012. Prior to joining AMAG, he served as Senior Vice President, Chief Operating Officer and Chief Financial Officer for Molecular Biometrics, Inc., a commercial stage medical diagnostics company, from 2008 to 2011. Prior to Molecular Biometrics, Mr. Thomas spent four years at Critical Therapeutics, Inc., a public biopharmaceutical company,

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from 2004 to 2008, where he was promoted to President in 2006 and Chief Executive Officer in 2006 from the position of Senior Vice President and Chief Financial Officer. He also served on the Board of Directors of Critical Therapeutics from 2006 to 2008. Prior to 2004, Mr. Thomas served as the Chief Financial Officer and Vice President of Finance and Investor Relations at Esperion Therapeutics, Inc., a public biopharmaceutical company. Since July 2017, Mr. Thomas has served on the Board of Directors of Spero Therapeutics, Inc., a publicly traded, development-stage biotechnology company. Mr. Thomas was a member of the Board of Directors of the Massachusetts Biotechnology Council from 2007 to 2015. Mr. Thomas holds a B.B.A. from the University of Michigan, Ann Arbor. We believe that Mr. Thomas' extensive management experience at biopharmaceutical companies and with financial matters qualifies him to serve on our Board of Directors.

Vote Required and Board of Directors' Recommendation

Directors will be elected by a plurality of the votes cast by the stockholders entitled to vote on this proposal at the Annual Meeting. Broker non-votes and proxies marked to withhold authority with respect to one or more Class II directors will not be treated as votes cast for this purpose and, therefore, will not affect the outcome of the election.

The proposal for the election of directors relates solely to the election of Class II directors nominated by the Board of Directors.

The Board of Directors recommends that stockholders vote FOR the election of each of the Class II director nominees listed above.

PROPOSAL 2

RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS

On the recommendation of the Audit Committee of the Board of Directors, or the Audit Committee, the Board of Directors has appointed PricewaterhouseCoopers LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2019. The Board of Directors recommends that stockholders vote for ratification of this appointment. If this proposal is not approved at the Annual Meeting, the Board of Directors will reconsider its appointment. Even if the appointment is ratified, the Audit Committee may, in its discretion, direct the appointment of a different independent registered accounting firm at any time during the year if the Audit Committee determines that such a change would be in our stockholders' best interests.

PricewaterhouseCoopers LLP audited our consolidated financial statements for the fiscal years ended December 31, 2018 and 2017. We expect representatives of PricewaterhouseCoopers LLP to be present at the Annual Meeting and available to respond to appropriate questions. They will have the opportunity to make a statement if they desire to do so.

PricewaterhouseCoopers LLP Fees

The following table sets forth the fees that our independent auditors, PricewaterhouseCoopers LLP, an independent registered public accounting firm, billed to us for audit and other services for the fiscal years ended December 31, 2018 and 2017.

	<u>2018</u>	<u>2017</u>
Audit Fees	\$685,200	\$462,200
Audit-Related Fees	—	—
Tax Fees	39,723	42,686
All Others	956	956
Total	<u>\$725,879</u>	<u>\$505,842</u>

Audit Fees. Audit fees consist of fees billed for the audit of our annual consolidated financial statements, the review of the interim consolidated financial statements, and related services that are normally provided in connection with registration statements. Included in the 2018 audit fees are fees billed in connection with our secondary public offering, fees billed in connection with the filing of our Registration Statement on Form S-3 and fees billed in connection with our Prospectus Supplement associated with our at the market offering sales agreement with Cowen and Company, LLC.

Audit-Related Fees. There were no such fees incurred in 2018 or 2017.

Tax Fees. Tax fees consist of fees for professional services, including tax consulting and compliance performed by PricewaterhouseCoopers LLP.

All Other Fees. All other fees represent payment for access to PricewaterhouseCoopers LLP on-line software tools. These fees were approved by the Audit Committee.

Pre-Approval of Audit and Non-Audit Services

It is the policy of our Audit Committee that all services to be provided by our independent registered public accounting firm, including audit services and permitted audit-related and non-audit services, must be approved in advance by our Audit Committee, and all such services provided in 2018 and 2017 were pre-approved by the Audit Committee.

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Vote Required and Board of Directors' Recommendation

The approval of Proposal 2 requires that a majority of the votes properly cast vote FOR this proposal. Shares that are voted "abstain" will not affect the outcome of this proposal.

The Board of Directors recommends that stockholders vote FOR ratification of the appointment of PricewaterhouseCoopers LLP as our independent registered public accounting firm, for the fiscal year ending December 31, 2019.

TRANSACTION OF OTHER BUSINESS

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

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding beneficial ownership of our common stock as of April 15, 2019, for: each person known to us to be the beneficial owner of more than five percent of our outstanding common stock; each of our named executive officers; each of our directors and nominees; and all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Except as noted by footnote, and subject to community property laws where applicable, we believe based on the information provided to us that the persons and entities named in the table below have sole voting and investment power with respect to all shares of our common stock shown as beneficially owned by them.

The table lists applicable percentage ownership based on 37,326,895 shares of our common stock outstanding as of April 15, 2019. The number of shares beneficially owned includes shares of our common stock and shares of common stock that each person has the right to acquire within 60 days of April 15, 2019 upon the exercise of stock options. These stock options shall be deemed to be outstanding for the purpose of computing the percentage of outstanding shares of our common stock owned by such person but shall not be deemed to be outstanding for the purpose of computing the percentage of outstanding shares of our common stock owned by any other person.

Name and address of beneficial owner ⁽¹⁾	Shares beneficially owned	
	Number	Percent
5% Stockholders		
Great Point Partners, LLC ⁽²⁾	3,598,392	9.6%
Atlas Venture Fund VII, L.P. ⁽³⁾	3,506,184	9.4%
BlackRock, Inc. ⁽⁴⁾	2,596,716	7.0%
Entities Affiliated with FMR LLC ⁽⁵⁾	2,322,846	6.2%
Armistice Capital, LLC ⁽⁶⁾	2,100,000	5.6%
Named Executive Officers and Directors		
Jeffrey S. Hatfield ⁽⁷⁾	318,966	*%
Named Executive Officers		
Thomas E. Hughes, Ph.D. ⁽⁸⁾	211,167	*%
Dennis D. Kim, M.D., M.B.A. ⁽⁹⁾	438,221	1.2%
Brian P. McVeigh ⁽¹⁰⁾	58,750	*%
Other Directors		
Peter Barrett, Ph.D. ⁽¹¹⁾	3,623,121	9.7%
Thomas O. Daniel, M.D. ⁽¹²⁾	97,113	*%
Wendy Everett, Sc.D. ⁽¹³⁾	33,333	*%
John L. LaMattina, Ph.D. ⁽¹⁴⁾	100,447	*%
Cameron Geoffrey McDonough, M.D. ⁽¹⁵⁾	104,201	*%
Robert J. Perez ⁽¹⁶⁾	102,207	*%
Frank E. Thomas ⁽¹⁷⁾	71,827	*%
All directors and executive officers as a group (12 persons) ⁽¹⁸⁾	5,558,791	14.2%

* Indicates beneficial ownership of less than one percent.

(1) Unless otherwise indicated, the address of each beneficial owner is c/o Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114.

(2) Based solely on a Schedule 13G/A filed on February 14, 2019 by Great Point Partners, LLC (or Great Point). Consists of 1,093,911 shares of common stock owned by Biomedical Value Fund, L.P. (or BVF), Great Point, Dr. Jeffrey R. Jay, M.D. (or Dr. Jay) and Mr. David Kroin (or Mr. Kroin); 1,414,168 shares of common stock owned by Biomedical Offshore Value Fund, Ltd. (or BOVF), Great Point, Dr. Jay and

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Mr. Kroin; 1,090,313 shares of common stock held by GEF-SMA, LP (or GEF-SMA), Great Point, Dr. Jay and Mr. Kroin. Great Point is the investment manager of BVF, BOVF and GEF-SMA. Each of Dr. Jay, as senior managing member of Great Point, and Mr. Kroin, as special managing member of Great Point, has voting and investment power with respect to the shares held by BVF, BOVF and GEF-SMA, and therefore may be deemed to be the beneficial owner of the shares held by BVF, BOVF and GEF-SMA. The address of the filer is 165 Mason Street, 3rd Floor, Greenwich, CT 06830.

- (3) Based solely on a Schedule 13G/A filed on February 8, 2019 by Atlas Venture Fund VII, L.P. (or Atlas Venture VII). All shares are held directly by Atlas Venture VII. Atlas Venture Associates VII, L.P. (or AVA VII LP) is the general partner of Atlas Venture VII, and Atlas Venture Associates VII, Inc. (or AVA VII Inc.) is the general partner of AVA VII LP. Peter Barrett, Bruce Booth, Jean-Francois Formela and Jeff Fagnan is each a director of AVA VII Inc. (or collectively, the Directors). Dr. Barrett is a member of our Board of Directors and Dr. Booth was previously a member of our Board of Directors. Each of Atlas Venture VII, AVA VII LP, AVA VII Inc. and the Directors disclaim beneficial ownership of the shares, except to the extent of their proportionate pecuniary interest therein, if any. The address of the filer is 46 Wareham Street, Boston, MA 02118.
- (4) Based solely on a Schedule 13G filed on February 8, 2019 by BlackRock, Inc. Consists of 2,596,716 of which BlackRock, Inc. has sole dispositive power and 2,555,004 of which BlackRock, Inc. has sole voting power. The address of the filer is 55 East 52nd Street, New York, NY 10055.
- (5) Based solely on a Schedule 13G/A filed on February 13, 2019 by FMR LLC, Abigail P. Johnson and Select Biotechnology Portfolio. Fidelity Management & Research Company (or Fidelity), a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of shares of common stock as a result of acting as investment adviser to various investment companies (or Fidelity Funds), registered under Section 8 of the Investment Company Act of 1940. Consists of 2,322,846 shares of common stock held by entities affiliated with FMR LLC. Ms. Johnson is a director, the vice chairman, the chief executive officer and the president of FMR LLC. Ms. Johnson and FMR LLC, through its control of Fidelity and the Fidelity Funds, each has sole power to dispose of the shares owned by the Fidelity Funds. Neither FMR LLC nor Ms. Johnson has the sole power to vote or direct the voting of the shares owned directly by the Fidelity Funds, which power resides with the Fidelity Funds' Boards of Trustees. Fidelity carries out the voting of the shares under written guidelines established by the Fidelity Funds' Boards of Trustees. The address of each filer is 245 Summer Street, Boston, MA 02210.
- (6) Based solely on a Schedule 13G filed on March 13, 2019 by Armistice Capital, LLC., Armistice Capital Master Fund Ltd. and Steven Boyd. Consists of 2,100,000 of which Armistice Capital, LLC., Armistice Capital Master Fund Ltd. and Steven Boyd have shared dispositive power and shared voting power. The address of Armistice Capital, LLC and Steven Boyd are 510 Madison Avenue, 7th Floor, New York, NY 10022. The address of Armistice Capital Master Fund Ltd. is 20 Genesis Close, P.O. Box 314, Grand Cayman KY1-1104, Cayman Islands.
- (7) Consists of 3,863 shares of common stock and 315,103 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (8) Based solely on a review of Section 16 filings and information provided by the Company's transfer agent, consists of 211,167 shares of common stock.
- (9) Consists of 21,443 shares of common stock and 416,778 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (10) Consists of 2,500 shares of common stock and 56,250 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (11) Consists of (i) 10,597 shares of common stock Dr. Barrett holds in his individual capacity, (ii) 106,340 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019 and (iii) 3,506,184 shares of common stock described in note (2) above. Dr. Barrett is a general partner of Atlas Venture Fund VII, L.P., and as such Dr. Barrett may be deemed to share voting and dispositive power with respect to all shares held by such entity. Dr. Barrett disclaims beneficial ownership of such shares except to the extent of any pecuniary interest therein. Dr. Barrett's business address is 400 Technology Square, 10th Floor, Cambridge, MA 02139.

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- (12) Consists of 19,452 shares of common stock and 77,661 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (13) Consists of 33,333 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (14) Consists of (i) 22,243 shares of common stock and (ii) 77,204 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (15) Consists of 104,201 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (16) Consists of (i) 7,568 shares of common stock and (ii) 94,639 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (17) Consists of 71,827 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.
- (18) Consists of 3,834,673 shares of common stock and 1,724,118 shares of common stock issuable upon exercise of options within 60 days of April 15, 2019.

EXECUTIVE OFFICERS

The following table identifies our executive officers and sets forth their current position(s) at Zafgen and their ages as of April 12, 2019.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Jeffrey S. Hatfield	61	Chief Executive Officer and Director
Patricia L. Allen	57	Chief Financial Officer
Brian P. McVeigh	46	Chief Business Officer
Priya Singhal, M.D., M.P.H.	51	Head of Research and Development

You should refer to “*Proposal 1: Election of Directors*” above for information about our Chief Executive Officer, Jeffrey S. Hatfield, information for our other executive officers, as of April 12, 2019, is set forth below.

Patricia L. Allen. Ms. Allen has served as our Chief Financial Officer since January 2013. Ms. Allen has over 25 years of financial leadership experience in the biotechnology industry at both publicly traded and private companies. From 2011 to 2012, she provided independent consulting services to biotechnology companies in a variety of areas, including interim Chief Financial Officer services, fundraising, deal structures, financial planning, organizational structure, investor relations and business development. Previously, from 2004 to 2011, Ms. Allen served as the Vice President of Finance, Treasurer and Principal Financial Officer of Alnylam Pharmaceuticals, Inc., a publicly traded biotechnology company, where she had significant interactions with the investment community and was influential in raising over \$900 million via the company’s initial public offering, follow-on common stock offerings and multiple business development transactions with top-tier pharmaceutical companies. Prior to Alnylam, Ms. Allen was at Alkermes, Inc., a publicly traded biotechnology company, most recently as the Director of Finance. Ms. Allen began her career as an auditor at Deloitte & Touche, LLP. Since 2016, Ms. Allen has served on the Board of Directors of Deciphera Pharmaceuticals, Inc., a publicly traded clinical stage biopharmaceutical company. Ms. Allen graduated summa cum laude from Bryant College with a B.S. in business administration.

Brian P. McVeigh. Mr. McVeigh has served as our Chief Business Officer since May 2018. Mr. McVeigh was previously at GlaxoSmithKline (or GSK) where he held multiple senior-level positions within the global Business Development, Finance, Marketing, Corporate and Research and Development organizations. Throughout his 15-year tenure in the Business Development organization he personally led the assessment and negotiation of more than two-dozen significant transactions including the acquisitions of Sirtris Pharmaceuticals, Domantis Ltd. and Genelab Technologies, Inc. While with GSK he most recently served as the Vice President of Worldwide Business Development Transactions and Investment Management. In this role he formed and led a global organization accountable for delivering GSK’s business development deals, and he provided oversight and advisement to his team on the execution of over 100 global business development transactions. He also managed GSK’s portfolio of research and development equity investments in biotechnology partners and early-stage venture capital funds totaling more than \$500 million of invested and committed capital, which delivered more than \$650 million of realized financial returns while under his leadership. Prior to joining Zafgen, Mr. McVeigh was most recently the Chief Executive Officer and Board Director of KBP Biosciences, a multinational clinical stage biotechnology company. Mr. McVeigh is Chairman of the Board of Directors of Genisphere LLC, a privately held preclinical stage biotechnology company developing a DNA-based nanoparticle drug delivery technology. Mr. McVeigh holds B.S. degrees in accounting and finance from LaSalle University, an M.B.A. with a concentration in finance from Villanova University, a Post-M.B.A. certificate in pharmaceutical marketing from Saint Joseph’s University and a certificate of professional development from the Wharton Business School at the University of Pennsylvania. He is a member of the Licensing Executives Society and is a Certified Public Accountant, Certified Management Accountant and a Certified Licensing Professional.

Priya Singhal, M.D., M.P.H. Dr. Singhal joined Zafgen in March 2019. Dr. Singhal brings more than a decade of experience as a senior drug development executive and several years of experience as a clinician to her role as Head of Research and Development. She leads and oversees the Company’s research, clinical and

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manufacturing strategy and implementation and serves as a key member of the executive team supporting overall business strategy. Most recently, Dr. Singhal was concurrently the Senior Vice President and the Global Head of Safety and Benefit Risk Management (or SABR) and the Interim Global Co-lead and Senior Vice President of Global Development at Biogen Inc. Dr. Singhal led the worldwide benefit-risk strategy for the Biogen portfolio as well as for the filings and approvals of six products, including Tecfidera and Spinraza. She also contributed to Biogen's overall research and development strategy and drug development plans, chaired safety governance for the entire portfolio, and led numerous successful portfolio and product interactions with regulators worldwide. Prior to Biogen, Dr. Singhal held roles of increasing seniority at Vertex Pharmaceuticals Incorporated, including Vice President, Medical Affairs, where she led strategy and educational efforts across all Vertex programs including the company's hepatitis C (or HCV) and cystic fibrosis portfolios. She led benefit-risk for the HCV portfolio and represented Vertex at the FDA Advisory Committee for Incivek that resulted in an 18-0 positive vote. Previously, Dr. Singhal also led benefit-risk for Velcade and two compounds in the development portfolio at Millennium Pharmaceuticals, Inc. Dr. Singhal earned her M.P.H. at Harvard School of Public Health and M.D. (internal medicine) from the University of Mumbai. She is a frequent, invited speaker at pharmaceutical and biotechnology conferences, is actively engaged in national and international educational programs about drug development and was named a Rising Star by the Healthcare Businesswomen's Association in 2012.

RELATED PERSON TRANSACTIONS

We describe below the transactions, and series of similar transactions, since January 1, 2018, to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed \$120,000; and
- any of our directors, executive officers or holders of more than 5% of our capital stock, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

We did not enter into any related party transactions in 2018.

We have adopted a written policy that requires all transactions between us and any director, executive officer, holder of 5% or more of any class of our capital stock or any member of the immediate family of, or entities affiliated with, any of them, or any other related persons (as defined in Item 404 of Regulation S-K) or their affiliates, in which the amount involved is equal to or greater than \$120,000, be approved in advance by our Audit Committee. Any request for such a transaction must first be presented to our Audit Committee for review, consideration and approval. In approving or rejecting any such proposal, our Audit Committee is to consider the relevant facts and circumstances available and deemed relevant to the Audit Committee, including, but not limited to, the extent of the related party's interest in the transaction, and whether the transaction is on terms no less favorable to us than terms we could have generally obtained from an unaffiliated third party under the same or similar circumstances.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During 2018, John L. LaMattina, Ph.D., Thomas O. Daniel, M.D. and Cameron Geoffrey McDonough, M.D. served on the Compensation Committee of the Board of Directors, or Compensation Committee, which was chaired by Dr. Daniel. None of the members of our Compensation Committee has at any time during the last three years been one of our officers or employees or had any relationship requiring disclosure under Item 404 of Regulation S-K. None of our executive officers currently serves, or in the past fiscal year has served, as a member of the Board of Directors or Compensation Committee of any entity that has one or more executive officers serving on our Board of Directors or Compensation Committee.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our officers and directors and persons who beneficially own more than 10% of our outstanding common stock, or Reporting Persons, to file reports of beneficial ownership and changes in beneficial ownership with the SEC. Reporting Persons are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. Based solely on our review of such reports received or written representations from certain Reporting Persons during the fiscal year ended December 31, 2018, we believe that all Reporting Persons complied with all Section 16(a) reporting requirements.

CORPORATE GOVERNANCE

Board and Committee Matters

Board Leadership and Independence. Our Board of Directors has determined that all members of the Board of Directors, except Mr. Hatfield, are independent, as determined in accordance with the rules of the NASDAQ Stock Market. In making such independence determination, the Board of Directors considered the relationships that each such nonemployee director has with us and all other facts and circumstances that the Board of Directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each nonemployee director. In considering the independence of the directors listed above, our Board of Directors considered the association of our directors with the holders of more than 5% of our common stock. There are no family relationships among any of our directors or executive officers.

The positions of our Chairman of the Board of Directors, or Chairman of the Board, and Chief Executive Officer are presently separated. Separating these positions allows our Chief Executive Officer to focus on our day-to-day business, while allowing the Chairman of the Board to lead the Board of Directors in its fundamental role of providing advice to and independent oversight of management. Our Board of Directors recognizes the time, effort and energy that the Chief Executive Officer must devote to his position in the current business environment, as well as the commitment required to serve as Chairman of the Board, particularly as the Board of Directors' oversight responsibilities continue to grow. Our Board of Directors also believes that this structure ensures a greater role for the non-management directors in the oversight of our Company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of our Board of Directors. Our Board of Directors believes its administration of its risk oversight function has not affected its leadership structure. Although our By-laws do not require our Chairman of the Board and Chief Executive Officer positions to be separate, our Board of Directors believes that having separate positions is the appropriate leadership structure for us at this time.

Code of Business Conduct and Ethics. We have adopted a Code of Business Conduct and Ethics that applies to all of our employees, officers and directors, including those officers responsible for financial reporting. The current version of the Code of Business Conduct and Ethics is available on our website at <http://ir.zafgen.com/corporate-governance>. A copy of the Code of Business Conduct and Ethics may also be obtained, free of charge, upon a request directed to: Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114, Attention: Chief Financial Officer. We intend to disclose any amendment or waiver of a provision of the Code of Business Conduct and Ethics that applies to our principal executive officer, principal financial officer, or principal accounting officer, or persons performing similar functions, by posting such information on our website (available at <http://www.zafgen.com/>) and/or in our public filings with the SEC.

Corporate Governance Guidelines. The Board of Directors has adopted corporate governance guidelines to assist and guide its members in the exercise of its responsibilities. These guidelines should be interpreted in accordance with any requirements imposed by applicable federal or state law or regulation, the NASDAQ Stock Market and our Certificate of Incorporation and By-laws. Our corporate governance guidelines are available in the corporate governance section of our website at <http://ir.zafgen.com/corporate-governance>. Although these corporate governance guidelines have been approved by the Board of Directors, it is expected that these guidelines will evolve over time as customary practice and legal requirements change. In particular, guidelines that encompass legal, regulatory or exchange requirements as they currently exist will be deemed to be modified as and to the extent that such legal, regulatory or exchange requirements are modified. In addition, the guidelines may also be amended by the Board of Directors at any time as it deems appropriate.

Board Meetings and Committees. Our Board of Directors held 4 meetings during 2018. The independent directors regularly hold executive sessions at meetings of the Board of Directors. During 2018, each of the directors then in office attended at least 75% of the aggregate of all meetings of the Board of Directors and at least 75% of the aggregate of all meetings of the committees of the Board of Directors on which such director then served. Continuing directors and nominees for election as directors in a given year are encouraged to attend

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the annual meeting of stockholders. All directors serving on the Board of Directors for our 2018 annual meeting of stockholders attended that meeting, except Cameron Geoffrey McDonough, M.D.

Our Board of Directors has three standing committees: Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee.

Audit Committee.

Wendy Everett, Sc.D., John L. LaMattina, Ph.D., and Frank E. Thomas serve on the Audit Committee, which is chaired by Mr. Thomas. Our Board of Directors has determined that all members of the Audit Committee are “independent” for Audit Committee purposes as that term is defined in the rules of the SEC and the applicable NASDAQ Stock Market rules, and have sufficient knowledge in financial and auditing matters to serve on the Audit Committee. Our Board of Directors has designated Frank E. Thomas as an “audit committee financial expert,” as defined under the applicable rules of the SEC. The Audit Committee’s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our independent registered public accounting firm;
- pre-approving auditing and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the overall audit plan with our independent registered public accounting firm and members of management responsible for preparing our consolidated financial statements;
- reviewing and discussing with management and our independent registered public accounting firm our annual and quarterly consolidated financial statements and related disclosures as well as critical accounting policies and practices used by us;
- coordinating the oversight and reviewing the adequacy of our internal control over financial reporting;
- establishing policies and procedures for the receipt and retention of accounting-related complaints and concerns;
- recommending based upon the Audit Committee’s review and discussions with management and our independent registered public accounting firm whether our audited consolidated financial statements shall be included in our Annual Report on Form 10-K;
- monitoring the integrity of our consolidated financial statements and our compliance with legal and regulatory requirements as they relate to our consolidated financial statements and accounting matters;
- preparing the audit committee report required by SEC rules to be included in our annual proxy statement;
- reviewing all related person transactions for potential conflict of interest situations and approving all such transactions; and
- reviewing quarterly earnings releases.

The Audit Committee held 4 meetings during 2018. The Audit Committee operates under a written charter that satisfies the applicable standards of the SEC and the NASDAQ Stock Market. A copy of the audit committee charter is available on our website at <http://ir.zafgen.com/corporate-governance>.

Compensation Committee.

Thomas O. Daniel, M.D., John L. LaMattina, Ph.D. and Cameron Geoffrey McDonough, M.D. serve on the Compensation Committee, which is chaired by Dr. Daniel. Our Board of Directors has determined that each

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member of the Compensation Committee is “independent” as defined in the applicable NASDAQ Stock Market rules. The Compensation Committee’s responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our Chief Executive Officer;
- evaluating the performance of our Chief Executive Officer in light of such corporate goals and objectives and determining the compensation of our Chief Executive Officer;
- reviewing and approving the compensation of our other executive officers;
- reviewing and establishing our overall management compensation, philosophy and policy;
- overseeing and administering our compensation and similar plans;
- reviewing and approving our policies and procedures for the grant of equity-based awards;
- reviewing and making recommendations to the Board of Directors with respect to director compensation;
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement or Annual Report on Form 10-K; and
- reviewing and discussing with the Board of Directors the corporate succession plans for the Chief Executive Officer and other key officers.

The Compensation Committee held 2 meetings during 2018 and conducted other business through unanimous written consent. The Compensation Committee operates under a written charter adopted by the Board, which is available on our website at <http://ir.zafgen.com/corporate-governance>.

Nominating and Corporate Governance Committee.

Peter Barrett, Ph.D. and Robert J. Perez serve on the Nominating and Corporate Governance Committee, which is chaired by Dr. Barrett. Our Board of Directors has determined that each member of the Nominating and Corporate Governance Committee is “independent” as defined in the applicable NASDAQ Stock Market rules. The Nominating and Corporate Governance Committee’s responsibilities include:

- developing and recommending to the Board of Directors criteria for board and committee membership;
- establishing procedures for identifying and evaluating board of director candidates, including nominees recommended by stockholders;
- reviewing the size and composition of the Board of Directors to ensure that it is composed of members containing the appropriate skills and expertise to advise us;
- identifying individuals qualified to become members of the Board of Directors;
- recommending to the Board of Directors the persons to be nominated for election as directors and to each of the board’s committees;
- developing and recommending to the Board of Directors a code of business conduct and ethics and a set of corporate governance guidelines;
- developing a mechanism by which violations of the code of business conduct and ethics can be reported in a confidential manner; and
- overseeing the evaluation of the Board of Directors and management.

The Nominating and Corporate Governance Committee held 2 meetings during 2018, and conducted its business through unanimous written consent. The Nominating and Corporate Governance Committee operates pursuant to a written charter adopted by the Board, which is available on our website at <http://ir.zafgen.com/corporate-governance>.

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The Nominating and Corporate Governance Committee considers candidates for Board membership suggested by its members and the Chief Executive Officer. Additionally, in selecting nominees for directors, the Nominating and Corporate Governance Committee will review candidates recommended by stockholders in the same manner and using the same general criteria as candidates recruited by the committee and/or recommended by the Board of Directors. Any stockholder who wishes to recommend a candidate for consideration by the committee as a nominee for director should follow the procedures described later in this Proxy Statement under the heading “Stockholder Recommendations.” The Nominating and Corporate Governance Committee will also consider whether to nominate any person proposed by a stockholder in accordance with the provisions of our By-laws relating to stockholder nominations as described previously in this Proxy Statement under the heading “Procedure for Submitting Stockholder Proposals.”

Identifying and Evaluating Director Nominees. The Board of Directors is responsible for selecting its own members. The Board of Directors delegates the selection and nomination process to the Nominating and Corporate Governance Committee, with the expectation that other members of the Board of Directors, and of management, will be requested to take part in the process as appropriate.

Generally, the Nominating and Corporate Governance Committee identifies candidates for director nominees in consultation with management, through the use of search firms or other advisors, through the recommendations submitted by stockholders or through such other methods as the Nominating and Corporate Governance Committee deems to be helpful to identify candidates. Once candidates have been identified, the Nominating and Corporate Governance Committee confirms that the candidates meet all of the minimum qualifications for director nominees established by the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee may gather information about the candidates through interviews, detailed questionnaires, comprehensive background checks or any other means that the Nominating and Corporate Governance Committee deems to be appropriate in the evaluation process. The Nominating and Corporate Governance Committee then meets as a group to discuss and evaluate the qualities and skills of each candidate, both on an individual basis and taking into account the overall composition and needs of the Board of Directors. Based on the results of the evaluation process, the Nominating and Corporate Governance Committee recommends candidates for the Board of Director’s approval as director nominees for election to the Board of Directors.

Minimum Qualifications. The Nominating and Corporate Governance Committee will consider, among other things, the following qualifications, skills and attributes when recommending candidates for the Board of Director’s selection as nominees for the Board of Directors and as candidates for appointment to the Board of Director’s committees. The nominee shall have the highest personal and professional integrity, shall have demonstrated exceptional ability and judgment, and shall be most effective, in conjunction with the other nominees to the Board of Directors, in collectively serving the long-term interests of the stockholders.

In evaluating proposed director candidates, the Nominating and Corporate Governance Committee may consider, in addition to the minimum qualifications and other criteria for Board of Directors membership approved by the Board of Directors from time to time, all facts and circumstances that it deems appropriate or advisable, including, among other things, the skills of the proposed director candidate, his or her depth and breadth of professional experience or other background characteristics, his or her independence and the needs of the Board of Directors.

Stockholder Recommendations. Stockholders may submit recommendations for director candidates to the Nominating and Corporate Governance Committee by sending the individual’s name and qualifications to our Secretary at Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114, who will forward all recommendations to the Nominating and Corporate Governance Committee. The Nominating and Corporate Governance Committee will evaluate any candidates recommended by stockholders against the same criteria and pursuant to the same policies and procedures applicable to the evaluation of candidates proposed by directors or management.

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Stockholder Communications. The Board of Directors provides to every stockholder the ability to communicate with the Board of Directors, as a whole, and with individual directors on the Board of Directors through an established process for stockholder communication. For a stockholder communication directed to the Board of Directors as a whole, stockholders may send such communication to the attention of the Chairman of the Board via U.S. Mail or Expedited Delivery Service to: Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114, Attention: Chairman of the Board.

For a stockholder communication directed to an individual director in his or her capacity as a member of the Board of Directors, stockholders may send such communication to the attention of the individual director via U.S. Mail or Expedited Delivery Service to: Zafgen, Inc., 175 Portland Street, 4th Floor, Boston, MA 02114, Attention: [Name of Individual Director].

We will forward by U.S. Mail any such stockholder communication to each director, and the Chairman of the Board in his or her capacity as a representative of the Board of Directors, to whom such stockholder communication is addressed to the address specified by each such director and the Chairman of the Board, unless there are safety or security concerns that mitigate against further transmission.

Risk Oversight. Our Board of Directors oversees the management of risks inherent in the operation of our business and the implementation of our business strategies. Our Board of Directors performs this oversight role by using several different levels of review. In connection with its reviews of the operations and corporate functions of our Company, our Board of Directors addresses the primary risks associated with those operations and corporate functions. In addition, our Board of Directors reviews the risks associated with our Company's business strategies periodically throughout the year as part of its consideration of undertaking any such business strategies.

Each committee of our Board of Directors also oversees the management of our risk that falls within the committee's areas of responsibility. In performing this function, each committee has full access to management, as well as the ability to engage advisors. In connection with its risk management role, our Audit Committee meets privately with representatives from our independent registered public accounting firm, and privately with our Chief Financial Officer. The Audit Committee oversees the operation of our risk management program, including the identification of the primary risks associated with our business and periodic updates to such risks, and reports to our Board of Directors regarding these activities.

Audit Committee Report

The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

The Audit Committee operates under a written charter approved by the Board of Directors, which provides that its responsibilities include the oversight of the quality of our financial reports and other financial information and its compliance with legal and regulatory requirements; the appointment, compensation, and oversight of our independent registered public accounting firm, PricewaterhouseCoopers LLP, including reviewing their independence; reviewing and approving the planned scope of our annual audit; reviewing and pre-approving any non-audit services that may be performed by PricewaterhouseCoopers LLP; the oversight of our internal audit function; reviewing with management and our independent registered public accounting firm the adequacy of internal financial controls; and reviewing our critical accounting policies and estimates and the application of accounting principles generally accepted in the United States of America.

The Audit Committee oversees our financial reporting process on behalf of the Board of Directors. Management is responsible for our internal controls, financial reporting process, and compliance with laws and

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regulations and ethical business standards. PricewaterhouseCoopers LLP is responsible for performing an independent audit of our consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States), or PCAOB. The Audit Committee's main responsibility is to monitor and oversee this process.

The Audit Committee reviewed and discussed our audited consolidated financial statements for the fiscal year ended December 31, 2018, with management. The Audit Committee discussed with PricewaterhouseCoopers LLP the matters required to be discussed by PCAOB Auditing Standard No. 16, *Communications with Audit Committees*, and SEC Regulation S-X Rule 207, *Communications with Audit Committees*. The Audit Committee has received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and has discussed with the independent registered public accounting firm the independent registered public accounting firm's independence.

The Audit Committee considered any fees paid to PricewaterhouseCoopers LLP for the provision of non-audit related services, if any, and does not believe that these fees compromise PricewaterhouseCoopers LLP's independence in performing the audit.

Based on the review and discussions referred to above, the Audit Committee recommended to the Board of Directors that such audited consolidated financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2018, for filing with the SEC.

THE AUDIT COMMITTEE

Frank E. Thomas, Chair
Wendy Everett, Sc.D.
John L. LaMattina, Ph.D.

EXECUTIVE COMPENSATION

Our executive compensation consists of base salary, cash incentive bonuses, long-term incentive compensation in the form of restricted common stock, restricted stock units and/or stock options (subject to time or performance based vesting) and broad-based benefits programs. We have not adopted any formal guidelines for allocating total compensation between long-term and short-term compensation, cash compensation and non-cash compensation, or among different forms of non-cash compensation. The Compensation Committee considers a number of factors in setting compensation for its executive officers, including Company performance, as well as the executive's performance, experience, responsibilities and the compensation of executive officers in similar positions at comparable companies.

Base Salary

Base salary is intended to provide compensation for day-to-day performance. The Compensation Committee believes that a competitive base salary is a necessary element of any compensation program that is designed to attract and retain talented and experienced executives. Base salaries for our named executive officers are intended to be competitive with those received by other individuals in similar positions at the companies with which we compete for talent. Base salaries are originally established at the time the executive is hired based on individual experience, skills and expected contributions, our understanding of what executives in similar positions at peer companies were paid, and also negotiations during the hiring process. The base salaries of our named executive officers are reviewed annually and may be adjusted to reflect market conditions and our executives' performance during the prior year as well as the financial position of the Company, or if there is a change in the scope of the officer's responsibilities.

Performance-based Cash Bonus

Our Compensation Committee has the authority to award annual performance-based cash bonuses to our executive officers. In 2019, the Compensation Committee awarded cash bonuses to named executive officers in recognition of their performance in achieving certain corporate, clinical, and operational milestones for 2018. In 2018, the Compensation Committee awarded cash bonuses to our named executive officers in recognition of their performance in achieving certain corporate, clinical, and operational milestones during 2017. The amounts of such performance-based cash bonus awarded for 2018 and 2017 are set forth in the column "Non-Equity Incentive Plan Compensation" in the "Summary Compensation Table—2018 and 2017 Fiscal Years" below.

Equity Incentive Compensation

Equity incentive grants to our named executive officers are made at the discretion of the Compensation Committee under the terms of the 2014 Stock Option and Incentive Plan, or as inducement awards pursuant to non-qualified stock option agreements outside of the 2014 Stock Option and Incentive Plan as a material inducement to acceptance of employment with the Company in accordance with NASDAQ Listing Rule 5635(c)(4). We believe that equity incentives subject to vesting over time can be an effective vehicle for the long-term element of compensation, as these awards align individual and team performance with the achievement of our strategic and financial goals over time, and with stockholders' interests. Stock options, which have exercise prices equal to at least fair market value of our common stock on the date of grant, reward executive officers only if the stock price increases from the date of grant.

Employee Benefits

In addition to the primary elements of compensation described above, the named executive officers also participate in the same broad-based employee benefits programs available to all of our employees, including health insurance, life and disability insurance, dental insurance and our new 401(k) plan. The Company does not provide special benefits to its executives and officers.

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Simple IRA and 401(k)

In 2009, we established a Savings Incentive Match Plan, or Simple IRA, for employees. Under the terms of the plan, we contribute 2% of an employee’s annual base salary, up to a maximum of the annual Internal Revenue Service, or IRS, compensation limits, for all full-time employees. We terminated this plan as of December 31, 2017 and implemented a new 401(k) plan in 2018. Under the terms of the 401(k) plan, we contribute 3% of an employee’s annual base salary for all full-time employees.

Summary Compensation Table—2018 and 2017 Fiscal Years

The following table presents information regarding the total compensation awarded to, earned by, and paid during the fiscal years ended December 31, 2018 and 2017 to each individual serving as our Chief Executive Officer in 2017 and the two most highly-compensated executive officers (other than any individual serving as Chief Executive Officer in 2017) who were serving as executive officers as of December 31, 2018. These individuals are our named executive officers for 2018.

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Option Awards⁽¹⁾ (\$)	Non-Equity Incentive Plan Compensation⁽²⁾ (\$)	All Other Compensation (\$)	Total (\$)
Jeffrey S. Hatfield	2018	518,000	—	1,720,290	155,400	75,165 ⁽⁵⁾	2,468,855
<i>Chief Executive Officer</i>	2017	114,583 ⁽³⁾	100,000 ⁽⁴⁾	4,262,335	48,177	4,292 ⁽⁶⁾	4,529,387
Thomas E. Hughes, Ph.D. ⁽⁷⁾	2018	367,801	—	1,720,290	—	8,250 ⁽⁶⁾	2,096,341
<i>President and Chief Scientific Officer</i>	2017	480,000	—	1,346,659	222,000	5,400 ⁽⁶⁾	2,054,059
Brian P. McVeigh	2018	237,500	—	1,162,305	56,000	7,125 ⁽⁶⁾	1,462,930
<i>Chief Business Officer</i>							
Dennis D. Kim, M.D., M.B.A. ⁽⁸⁾	2018	409,000	—	781,950	85,890	8,250 ⁽⁶⁾	1,285,090
<i>Chief Medical Officer</i>	2017	392,000	—	261,492	126,910	5,400 ⁽⁶⁾	785,802

- (1) Amounts represent the aggregate grant-date fair value of option awards granted to our named executive officers in 2018 and 2017 computed in accordance with FASB ASC Topic 718. The assumptions used in the valuation of these awards are consistent with the valuation methodologies specified in the notes to our consolidated financial statements and discussions in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our Annual Report on Form 10-K for 2018. The amounts above reflect our aggregate accounting expense for these awards and do not necessarily correspond to the actual value that will be recognized by the named executive officers.
- (2) Represents amount of performance-based cash bonuses earned for 2018 and 2017.
- (3) Represents base salary earned by Mr. Hatfield for services as Chief Executive Officer during 2017. Mr. Hatfield’s employment with us commenced on October 9, 2017 and his annual base salary during this period was \$500,000.
- (4) Represents a sign-on bonus of \$100,000.
- (5) Consists of reimbursement of moving expenses in the amount of \$66,915 and employer contributions to the 401(k) plan.
- (6) Consists of employer match contribution to the Simple IRA in 2017 and employer contributions to the 401(k) plan in 2018.
- (7) Dr. Hughes resigned from the Company on July 29, 2018. Accordingly, Dr. Hughes was not eligible for annual incentive cash compensation.
- (8) Dr. Kim resigned from the Company on March 5, 2019.

Employment Agreements with Our Named Executive Officers

We have entered into an offer letter and severance and change in control agreements with each of our named executive officers in connection with their employment with us. These offer letters and severance and change in control agreements provide for “at will” employment and a double trigger for change of control.

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Jeffrey S. Hatfield. On October 9, 2017, we entered into an offer letter and a severance and change in control agreement with Mr. Hatfield, our Chief Executive Officer. Pursuant to the severance and change in control agreement, in the event that Mr. Hatfield terminates his employment with “good reason” or is terminated without “cause,” he is eligible to receive 12 months of base salary continuation and 12 months of COBRA continuation medical benefits subsidized by us, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. In the event that Mr. Hatfield’s employment is terminated without “cause” or he terminates his employment for “good reason” within 12 months of a “change of control,” Mr. Hatfield is eligible to receive 18 months base salary continuation, 18 months of COBRA continuation medical benefits subsidized by us, and all options and other stock-based awards held by him shall immediately accelerate and become fully exercisable or non-forfeitable as of the date of termination, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. For 2018, Mr. Hatfield received a base salary of \$518,000, and was eligible for an annual merit bonus with a target bonus opportunity of 50% of his base salary for 2018, payable at the discretion of the Board of Directors, based upon performance. Mr. Hatfield was also eligible to participate in our employee benefit plans generally available to our executive employees, subject to the terms of those plans.

Thomas E. Hughes, Ph.D. On June 30, 2016, we entered into a severance and change in control agreement with Dr. Hughes, our President and Chief Scientific Officer, which superseded any terms of his prior offer letter. Dr. Hughes resigned from the Company on July 29, 2018. Pursuant to the severance and change in control agreement, in the event that Dr. Hughes terminated his employment with “good reason” or was terminated without “cause,” he was eligible to receive 12 months of base salary continuation and 12 months of COBRA continuation medical benefits subsidized by us, provided that he executed and did not revoke a separation agreement and release of us and our affiliates. In the event that Dr. Hughes’ employment was terminated without “cause” or he terminated his employment for “good reason” within 12 months of a “change of control,” Dr. Hughes was eligible to receive 18 months of base salary continuation, 18 months of COBRA continuation medical benefits subsidized by us, and all options and other stock-based awards held by him would have immediately accelerated and become fully exercisable or non-forfeitable as of the date of termination, provided that he executed and did not revoke a separation agreement and release of us and our affiliates. Furthermore, effective as of October 9, 2017, we entered into an offer letter with Dr. Hughes in connection with his transition from Chief Executive Officer to President and Chief Scientific Officer. Pursuant to the offer letter, Dr. Hughes agreed to waive his option to resign for “good reason,” in connection with such transition, but if he terminated his employment on the third anniversary of the effective date of the offer letter, he was eligible to receive (i) 12 months of base salary continuation and 12 months of COBRA continuation medical benefits subsidized by us, (ii) pro-rated bonus for the time period between January 1, 2020 and such third anniversary, as determined by the Compensation Committee, and (iii) 12 months of accelerated vesting of his then outstanding time-based equity awards, provided that he executed and did not revoke a separation agreement and release of us and our affiliates. Prior to his resignation in 2018, Dr. Hughes received an annual base salary of \$497,000. Dr. Hughes was not eligible for an annual merit bonus for 2018. Dr. Hughes was also eligible to participate in our employee benefit plans generally available to our executive employees, subject to the terms of those plans.

Brian P. McVeigh. On May 29, 2018, we entered into a severance and change in control agreement with Mr. McVeigh, our Chief Business Officer. Pursuant to his severance and change in control agreement, in the event that Mr. McVeigh terminates his employment with “good reason” or is terminated without “cause,” he is eligible to receive 9 months of base salary continuation and 9 months of COBRA continuation medical benefits subsidized by us, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. In the event that Mr. McVeigh’s employment is terminated without “cause” or he terminates his employment for “good reason” within 12 months of a “change of control,” he is eligible to receive 12 months of base salary continuation and 12 months of COBRA continuation medical benefits subsidized by us, and all options and other stock-based awards held by him shall immediately accelerate and become fully exercisable or non-forfeitable as of the date of termination, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. For 2018, Mr. McVeigh received a base salary of \$400,000, and was eligible for an annual merit bonus with a target bonus opportunity of 40% of his base salary for 2018,

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payable at the discretion of the Board of Directors, based upon performance. Mr. McVeigh was also eligible to participate in our employee benefit plans generally available to our executive employees, subject to the terms of those plans.

Dennis D. Kim, M.D., M.B.A. On June 30, 2016, we entered into a severance and change in control agreement with Dr. Kim, our Chief Medical Officer, which supersedes any terms of his prior offer letter. Pursuant to his severance and change in control agreement, in the event that Dr. Kim terminates his employment with “good reason” or is terminated without “cause,” he is eligible to receive nine months of base salary continuation and nine months of COBRA continuation medical benefits subsidized by us, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. In the event that Dr. Kim’s employment is terminated without “cause” or he terminates his employment for “good reason” within 12 months of a “change of control”, he is eligible to receive 12 months of base salary continuation and 12 months of COBRA continuation medical benefits subsidized by us, and all options and other stock-based awards held by him shall immediately accelerate and become fully exercisable or non-forfeitable as of the date of termination, provided that he executes and does not revoke a separation agreement and release of us and our affiliates. Dr. Kim resigned from the Company on March 5, 2019. For 2018, Dr. Kim received a base salary of \$409,000, which was subject to review and adjustment in accordance with company policy. Dr. Kim was also eligible for an annual merit bonus with a target bonus opportunity of 35% of his base salary for 2018, payable at the discretion of the Board of Directors, based upon performance. Dr. Kim was eligible to participate in our employee benefit plans generally available to our executive employees, subject to the terms of those plans.

For purposes of the severance and change in control agreements of our named executive officers, “cause” means:

- the commission by the officer of any felony, any crime involving the Company, or any crime involving fraud or dishonesty;
- any unauthorized use or disclosure of the Company’s proprietary information by the officer;
- any intentional misconduct or gross negligence on the officer’s part which has a materially adverse effect on the Company’s business or reputation; or
- the officer’s repeated and willful failure to perform the duties, functions and responsibilities of the officer’s position after a written warning from the Company.

For purposes of the severance and change in control agreements of our named executive officers, “good reason” means:

- a material diminution in the officer’s title, responsibilities, authority or duties;
- a material diminution in the officer’s base salary except for across-the-board salary reductions based on the Company’s financial performance similarly affecting all or substantially all senior management employees of the Company;
- a breach by the Company of the material terms of the severance and change in control agreement or any other written agreement between the Company and the officer; or
- a 50 mile or greater change in the geographic location at which the officer is required to provide services to the Company, not including business travel and short-term assignments.

For purposes of the severance and change in control agreements of our named executive officers, a “change in control” shall be deemed to have occurred upon the occurrence of any one of the following events:

- the sale or exclusive out-license (even as to the Company) of all or substantially all of the assets of the Company on a consolidated basis to an unrelated person or entity;

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- a merger, reorganization or consolidation pursuant to which the holders of the Company’s outstanding voting power and outstanding stock immediately prior to such transaction do not own a majority of the outstanding voting power or fair market value of the stock or other equity interests of the resulting or successor entity (or its ultimate parent, if applicable) immediately upon completion of such transaction;
- the sale of all of the stock of the Company to an unrelated person, entity or group thereof acting in concert; or
- any other transaction in which the owners of the Company’s outstanding voting power immediately prior to such transaction do not own at least a majority of the outstanding voting power of the Company or any successor entity immediately upon completion of the transaction other than as a result of the acquisition of securities directly from the Company.

Employee Confidentiality, Non-Competition, Non-Solicitation and Assignment Agreements

Each of our named executive officers has entered into a standard form agreement with respect to confidential information and assignment of inventions. Among other things, this agreement obligates each named executive officer to refrain from disclosing any of our proprietary information received during the course of employment and to assign to us any inventions conceived or developed during the course of employment. Such agreement also provides that during the period of the named executive officer’s employment and for 12 months thereafter, the named executive officer will not compete with us and will not solicit our employees, consultants, customers or suppliers.

Outstanding Equity Awards at Fiscal Year-End—2018

The following table summarizes, for each of the named executive officers, the number of shares of common stock underlying outstanding stock options held as of December 31, 2018.

Name	Option Awards				
	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Equity Incentive Plan Awards: Number Of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date
	Exercisable	Unexercisable			
Jeffrey S. Hatfield	160,416	389,584(1)	—	3.40	10/9/2027
	—	—	1,100,000(2)	3.40	10/9/2027
	—	275,000(3)	—	7.77	2/22/2028
Thomas E. Hughes, Ph.D. (4)	—	—	—	—	—
Dennis D. Kim, M.D., M.B.A.	103,312(5)	—	—	1.57	10/11/2021
	48,197(6)	—	—	2.45	6/12/2023
	86,250	3,750(7)	—	38.65	2/27/2025
	51,562	23,438(8)	—	6.68	3/31/2026
	37,500	— (9)	—	6.68	3/31/2026
	42,166	45,834(10)	—	4.05	1/27/2027
	—	125,000(11)	—	7.77	2/22/2028
Brian P. McVeigh	—	225,000(12)	—	6.46	5/29/2028

- (1) Under the terms of Mr. Hatfield’s option agreement, 25% of the shares vest on October 9, 2018 and the remaining shares will vest in 36 equal monthly installments through October 9, 2021.
- (2) Under the terms of Mr. Hatfield’s option agreement, option awards vest and become exercisable based on the Company’s common stock price during the two years after the first anniversary of the date of grant as follows: 25% of shares subject to the option are earned after the stock price is equal to or greater than \$10.00 per share for 20 consecutive trading days; and an additional 6.25% of the shares subject to the option

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are earned for every additional \$2.50 in stock price above \$10.00 per share for 20 consecutive trading days. Any earned options become vested and exercisable upon completion of the three-year performance period, subject to Mr. Hatfield's continued employment, provided that if Mr. Hatfield's employment is terminated by us without cause, or he resigns for good reason, or his employment is terminated due to his death or disability, any earned options shall vest and become exercisable.

- (3) Under the terms of Mr. Hatfield's option agreement, 25% of the shares vested on February 22, 2019 and the remaining shares will vest in 36 equal monthly installments and become fully vested on February 22, 2022.
- (4) Dr. Hughes resigned from the Company on July 29, 2018. Dr. Hughes did not have any outstanding equity awards as of December 31, 2018.
- (5) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on September 5, 2012 and the remaining shares vested in equal installments and became fully vested on September 5, 2015.
- (6) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on December 19, 2013 and the remaining shares vested in equal installments and became fully vested on December 19, 2016.
- (7) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on February 27, 2016 and the remaining shares will vest in 36 equal monthly installments and became fully vested on through February 27, 2019.
- (8) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on March 31, 2017 and the remaining shares will vest in 36 equal monthly installments through March 31, 2020.
- (9) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on March 31, 2017, 25% vested on September 30, 2017 and 50% vested on March 31, 2018.
- (10) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on January 27, 2018 and the remaining shares will vest in 36 equal monthly installments through January 27, 2021.
- (11) Under the terms of Dr. Kim's option agreement, 25% of the shares vested on February 22, 2019 and the remaining shares will vest in 36 equal monthly installments through February 22, 2022.
- (12) Under the terms of Mr. McVeigh's option agreement, 25% of the shares will vest on May 29, 2019 and the remaining shares will vest in 36 equal monthly installments through May 29, 2022.

Compensation Risk Assessment

We believe that although a portion of the compensation provided to our executive officers and other employees is performance-based, our executive compensation program does not encourage excessive or unnecessary risk-taking. This is primarily due to the fact that our compensation programs are designed to encourage our executive officers and other employees to remain focused on both short-term and long-term strategic goals, in particular in connection with our pay-for-performance compensation philosophy. As a result, we do not believe that our compensation programs are reasonably likely to have a material adverse effect on the Company.

Rule 10b5-1 Sales Plans

Our policy governing transactions in our securities by directors, officers and employees permits our officers, directors and certain other persons to enter into trading plans complying with Rule 10b5-1 under the Exchange Act. Generally, under these trading plans, the individual relinquishes control over the transactions once the trading plan is put into place. Accordingly, sales under these plans may occur at any time, including possibly before, simultaneously with, or immediately after significant events involving our Company. All sales made by our executive officers were made pursuant to trading plans complying with Rule 10b5-1 under the Exchange Act.

Compensation Committee Report

The information contained in this report shall not be deemed to be (1) "soliciting material," (2) "filed" with the SEC, (3) subject to Regulations 14A or 14C of the Exchange Act, or (4) subject to the liabilities of Section 18 of the Exchange Act. This report shall not be deemed incorporated by reference into any of our other filings under the Exchange Act or the Securities Act, except to the extent that we specifically incorporate it by reference into such filing.

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The Compensation Committee reviewed and discussed the disclosure included in the Executive Compensation section of this Proxy Statement with management. Based on the review and discussions, the Compensation Committee recommended to the Board of Directors that the disclosure included in the Executive Compensation section be included in this Proxy Statement and incorporated by reference in the Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

THE COMPENSATION COMMITTEE

Thomas O. Daniel, M.D., Chair
John L. LaMattina, Ph.D.
Cameron Geoffrey McDonough, M.D.

DIRECTOR COMPENSATION

The following table sets forth a summary of the compensation we paid to our nonemployee directors during 2018. Mr. Hatfield, our Chief Executive Officer, receives no compensation for his service as director, and, consequently, is not included in this table. The compensation received by Mr. Hatfield as employee during 2018 is presented in the “Summary Compensation Table—2018 and 2017 Fiscal Years.”

<u>Name</u>	<u>Fees earned or paid in cash (\$)</u>	<u>Option awards⁽¹⁾⁽²⁾ (\$)</u>	<u>Stock awards⁽¹⁾⁽³⁾ (\$)</u>	<u>Total (\$)</u>
Peter Barrett, Ph.D.	—	178,044	—	178,044
Bruce Booth, Ph.D. (4)	—	34,990	—	34,990
Thomas O. Daniel, M.D.	—	105,560	45,000	150,560
Wendy Everett, Sc.D.	24,200	316,680	—	340,880
Frances K. Heller (4)	21,250	—	—	21,250
John L. LaMattina, Ph.D.	—	105,560	47,500	153,060
Cameron Geoffrey McDonough, M.D.	—	145,550	—	145,550
Robert J. Perez	—	144,300	—	144,300
Frank E. Thomas	50,000	105,560	—	155,560

- (1) Amounts represent the aggregate grant-date fair value of option or stock awards granted to our directors in 2018 computed in accordance with FASB ASC Topic 718. The assumptions used in the valuation of these awards are consistent with the valuation methodologies specified in the notes to our consolidated financial statements and discussions in “Management’s Discussion and Analysis of Financial Condition and Result of Operations,” included in our Annual Report on Form 10-K for the year ended December 31, 2018. The amounts above reflect our aggregate accounting expense for these awards and do not necessarily correspond to the actual value that will be recognized by the directors.
- (2) Each nonemployee director was granted an annual stock option grant in accordance with the non-employee director compensation policy for 20,000 shares on June 6, 2018, which vests upon the earlier of the first anniversary of the date of grant or the date of the 2019 annual meeting of stockholders. Dr. Barrett was granted an option for 13,996 shares of common stock in lieu of \$72,500 in fees, Dr. Booth was granted an option for 8,509 shares of common stock in lieu of \$17,500 in fees, Dr. McDonough was granted an option for 7,722 shares of common stock in lieu of \$40,000 in fees and Mr. Perez was granted an option for 7,480 shares of common stock in lieu of \$38,750 in fees. Each such option was granted on January 3, 2018, and vested on a quarterly basis over 2018. As of December 31, 2018, the aggregate number of outstanding vested and unvested stock option awards held by each nonemployee director was: Dr. Barrett, 100,991 shares; Dr. Booth, 59,012 shares; Dr. Daniel, 74,341 shares; Ms. Everett, 60,000 shares; Ms. Heller, 51,827 shares; Dr. LaMattina, 77,204 shares; Dr. McDonough, 101,250 shares; Mr. Perez, 93,210 shares; and Mr. Thomas, 71,827 shares.
- (3) Dr. Daniel and Dr. LaMattina were granted restricted stock units for: 8,687 shares in lieu of \$45,000 in fees for serving on the Board of Directors and committees thereof and 9,169 shares in lieu of \$47,500 in fees for serving on the Board of Directors and committees thereof, respectively, on January 3, 2018, each of which vested on a quarterly basis over 2018.
- (4) Dr. Booth and Ms. Heller resigned from our Board of Directors on June 6, 2018.

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Our Board of Directors has adopted a nonemployee director compensation policy that is designed to provide a total compensation package that enables us to attract and retain, on a long-term basis, high caliber nonemployee directors. Under the policy, all nonemployee directors will be paid compensation as set forth below:

	Annual Retainer
Board of Directors:	
All nonemployee members (including Chairman of the Board of Directors)	\$ 35,000
Chairman of the Board of Directors	\$ 30,000
Audit Committee:	
Chairman	\$ 15,000
Non-Chairman members	\$ 7,500
Compensation Committee:	
Chairman	\$ 10,000
Non-Chairman members	\$ 5,000
Nominating and Corporate Governance Committee:	
Chairman	\$ 7,500
Non-Chairman members	\$ 3,750

Under the nonemployee director compensation policy in 2018, each person who was initially appointed or elected to the Board of Directors was eligible for an option grant to purchase up to 40,000 shares of our common stock under the 2014 Stock Option and Incentive Plan on the date he or she first became a nonemployee director, which vest monthly over a three-year period. In 2019, each person who is initially appointed or elected to the Board of Directors will be eligible for an option grant to purchase up to 54,000 shares of our common stock under the 2014 Stock Option and Incentive Plan on the date he or she first became a nonemployee director, which will vest monthly over a three-year period. In addition, on the date of the annual meeting of stockholders, each continuing nonemployee director who has served on the Board of Directors will be eligible to receive an annual option grant to purchase up to 27,000 shares of our common stock, which will vest in full upon the earlier of the first anniversary of the date of grant or the date of the following annual meeting of stockholders. All of the foregoing options will be granted at fair market value on the date of grant. All of the foregoing option grants will become immediately exercisable upon the death or disability of the applicable director, or upon a change in control of the Company.

Each nonemployee director shall have the right to elect to receive all or a portion of his or her annual director compensation under the nonemployee director compensation policy in the form of either cash, restricted stock units based on the closing price of the stock on the date of grant, or stock options to purchase our common stock based on the Black-Scholes option-pricing model as of the date of grant. Any such election will be made before the start of our fiscal year and with any such stock options or restricted stock units elected by the directors to vest over a period of one year on a quarterly basis in arrears, with stock options to expire ten years from the date of grant.

HOUSEHOLDING OF PROXY MATERIALS

Some banks, brokers, and other nominee record holders may be participating in the practice of “householding” proxy statements and annual reports. This means that only one copy of the Notice of Internet Availability of Proxy Materials, Proxy Statement and Annual Report on Form 10-K for the year ended December 31, 2018, is being delivered to stockholders sharing an address unless we have received contrary instructions. We will promptly deliver a separate copy of any of these documents to you if you write to us at 175 Portland Street, 4th Floor, Boston, MA 02114, Attention: Secretary or call us at (617) 622-4003. If you want to receive separate copies of the Notice of Internet Availability of Proxy Materials, Proxy Statement, or Annual Report on Form 10-K for the year ended December 31, 2018, in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address or telephone number.

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*ZAFGEN, INC.
175 PORTLAND STREET, 4TH FLOOR
BOSTON, MA 02114*

VOTE BY INTERNET - www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE – 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting: The Annual Report, Notice & Proxy Statement is/are available at www.proxyvote.com.

ZAFGEN, INC.
Annual Meeting of Stockholders
June 13, 2019, 8:30 AM
This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint(s) Jeffrey S. Hatfield and Patricia L. Allen, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this proxy, all of the shares of common stock of ZAFGEN, INC. that the stockholder(s) is entitled to vote at the Annual Meeting of Stockholders to be held at 8:30 AM, ET on June 13, 2019, at the offices of Goodwin Procter at 100 Northern Avenue, Boston, Massachusetts 02210, and any adjournments or postponements thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations.