

ACCELERON PHARMA INC
Form DEF 14A
April 15, 2016
Table of Contents

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 14A
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

ACCELERON PHARMA INC.
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the 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:
 - (2) Aggregate number of securities to which transaction applies:
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):
 - (4) Proposed maximum aggregate value of transaction:
 - (5) Total fee paid:
- 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 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:
-

Table of Contents

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139

NOTICE OF 2016 ANNUAL MEETING OF STOCKHOLDERS

The 2016 Annual Meeting of Stockholders of Acceleron Pharma Inc. (the "Company" or "Acceleron") will be held on June 2, 2016, at 10:00 a.m. local time, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199 for the following purpose of considering four company-sponsored proposals:

1. To elect Tom Maniatis, Ph.D., Richard F. Pops and Joseph S. Zakrzewski as Class III directors, each for a three-year term.
2. To approve, on an advisory basis, the compensation paid to our named executive officers as described in this proxy statement.
3. To approve the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan.
4. To ratify the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2016.

We will also consider and act upon any other matters that properly come before the Annual Meeting or any adjournment or postponement thereof.

Our Board of Directors recommends that you vote "for" each of the nominees for Class III director (proposal no. 1), "for" approval, on an advisory basis, of the compensation paid to our named executive officers as described in this proxy statement (proposal no. 2), "for" approval of the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan (proposal no. 3), and "for" ratification of the proposed independent registered public accounting firm (proposal no. 4).

Each outstanding share of the Company's common stock (NASDAQ: XLRN) entitles the holder of record at the close of business on April 4, 2016, to receive notice of and to vote at the Annual Meeting or any adjournment or postponement of the Annual Meeting.

Whether or not you expect to attend the meeting, we urge you to vote your shares by following the instructions in the Important Notice Regarding the Availability of Proxy Materials that you previously received and submit your proxy by the Internet, telephone or by signing, dating and returning the proxy card included in these materials in order to ensure the presence of a quorum. If you choose to attend the Annual Meeting, you may still vote your shares in person, even if you have previously voted or returned your proxy by any of the methods described in our proxy statement. If your shares are held in a bank or brokerage account, please refer to the materials provided by your bank or broker for voting instructions.

All stockholders are extended a cordial invitation to attend the meeting.

By Order of the Board of Directors

John L. Knopf, Ph.D.
Chief Executive Officer, President and Director
April 15, 2016

Table of Contents

TABLE OF CONTENTS

	Page
<u>IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON JUNE 2, 2016</u>	<u>1</u>
<u>IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING</u>	<u>1</u>
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	<u>5</u>
<u>MANAGEMENT AND CORPORATE GOVERNANCE</u>	<u>7</u>
<u>COMPENSATION DISCUSSION AND ANALYSIS</u>	<u>16</u>
<u>EXECUTIVE OFFICER AND DIRECTOR COMPENSATION</u>	<u>25</u>
<u>COMPENSATION COMMITTEE REPORT</u>	<u>36</u>
<u>AUDIT COMMITTEE REPORT</u>	<u>37</u>
<u>SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</u>	<u>38</u>
<u>CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS</u>	<u>38</u>
<u>PROPOSAL NO. 1—ELECTION OF DIRECTORS</u>	<u>39</u>
<u>PROPOSAL NO. 2—ADVISORY VOTE TO APPROVE THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS</u>	<u>40</u>
<u>PROPOSAL NO. 3—APPROVAL OF SHORT-TERM INCENTIVE COMPENSATION PLAN</u>	<u>44</u>
<u>PROPOSAL NO. 4—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM</u>	<u>44</u>
<u>GENERAL MATTERS</u>	<u>46</u>

Table of Contents

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139

PROXY STATEMENT FOR 2016 ANNUAL MEETING OF STOCKHOLDERS

To Be Held On Thursday, June 2, 2016 at 10:00 am ET

This proxy statement, along with the accompanying Notice of 2016 Annual Meeting of Stockholders, contains information about the 2016 Annual Meeting of Stockholders of Acceleron Pharma Inc., which we refer to as the Annual Meeting, including any adjournments or postponements of the Annual Meeting. We are holding the Annual Meeting at 10:00 a.m. local time, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199. In this proxy statement, we refer to Acceleron Pharma Inc. as "Acceleron," "the Company," "we" and "us."

This proxy statement relates to the solicitation of proxies by our Board of Directors for use at the Annual Meeting.

On or about April 15, 2016, we made available this proxy statement and the attached Notice of 2016 Annual Meeting of Stockholders to all stockholders entitled to vote at the Annual Meeting, and we began sending the proxy card and the Important Notice Regarding the Availability of Proxy Materials to all stockholders entitled to vote at the Annual Meeting. Although not part of this proxy statement, we have also made available with this proxy statement our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 (the "Annual Report"), which includes our financial statements for the fiscal year ended December 31, 2015.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON JUNE 2, 2016

This proxy statement and our Annual Report are available for viewing, printing and downloading at www.proxyvote.com. To view these materials, please have your 16-digit control number(s) available that appears on your proxy card.

Additionally, you can find a copy of our Annual Report on the website of the Securities and Exchange Commission, or the SEC, at www.sec.gov, or in the "Annual Report" tab of the "Investors & Media" section of our website at www.acceleronpharma.com. You may also obtain a printed copy of our Annual Report, free of charge, by sending a written request to: Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139, Attention: Secretary. Exhibits, if any, will be provided upon written request and payment of an appropriate processing fee.

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Why is the Company Soliciting My Proxy?

The Board of Directors of Acceleron Pharma Inc. is soliciting your proxy to vote at the 2016 Annual Meeting of Stockholders to be held at 10:00 a.m. local time on June 2, 2016, at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199, and any adjournments of the meeting, which we refer to as the Annual Meeting. The proxy statement along with the accompanying Notice of 2016 Annual Meeting of Stockholders summarizes the purposes of the meeting and the information you need to know to vote at the Annual Meeting.

We have made available to you on the Internet or have sent you this proxy statement, the Notice of 2016 Annual Meeting of Stockholders, the proxy card and a copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 because you owned shares of Acceleron Pharma Inc. common stock on the record date. When were this proxy statement and the accompanying materials sent to stockholders?

On or about April 15, 2016, we began sending the Important Notice Regarding the Availability of Proxy Materials to all stockholders entitled to vote at the Annual Meeting.

Table of Contents

When is the record date for the Annual Meeting?

The Company's Board of Directors has fixed the record date for the Annual Meeting as of the close of business on April 4, 2016. Only stockholders who owned our common stock at the close of business on April 4, 2016 are entitled to vote at the Annual Meeting.

How many votes can be cast by all stockholders?

A total of 37,170,583 shares of common stock of the Company were outstanding on April 4, 2016 and are entitled to be voted at the meeting. Each share of common stock is entitled to one vote on each matter.

How do I vote?

If you are a stockholder of record and your shares are registered directly in your name, you may vote:

• **By Internet.** You may vote by proxy via the Internet at www.proxyvote.com by following the instructions provided on the Important Notice Regarding the Availability of Proxy Materials or the proxy card.

• **By Telephone.** If you live in the United States or Canada, you may vote by proxy by calling toll-free 1-800-690-6903 and by following the instructions provided on the proxy card. You must have the control number that is on either the notice or the proxy card when voting.

• **By Mail.** Complete and mail your proxy card in the postage prepaid envelope you receive, and return the proxy card to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717. Your proxy will be voted in accordance with your instructions. If you sign and return the enclosed proxy but do not specify how you want your shares voted, they will be voted as recommended by our Board of Directors and according to the discretion of the proxy holder named in the proxy card upon any other business that may properly be brought before the meeting and at all adjournments and postponements thereof.

• **In Person at the Meeting.** If you attend the meeting, be sure to bring a form of personal picture identification with you, and you may deliver your completed proxy card in person, or you may vote by completing a ballot, which will be available at the meeting.

If your shares of common stock are held in street name (held for your account by a broker or other nominee):

• **By Internet or By Telephone.** You will receive instructions from your broker or other nominee if you are permitted to vote by Internet or telephone.

• **By Mail.** You will receive instructions from your broker or other nominee explaining how to vote your shares.

• **In Person at the Meeting.** If you attend the meeting, in addition to picture identification, you should both bring an account statement or a letter from the record holder indicating that you owned the shares as of the record date, and contact the broker or other nominee who holds your shares to obtain a broker's proxy card and bring it with you to the meeting.

What are the Board's recommendations on how to vote my shares?

The Board of Directors recommends a vote:

Proposal 1: FOR election of Tom Maniatis, Ph.D., Richard F. Pops and Joseph S. Zakrzewski as Class III directors.

Proposal 2: FOR approval, on an advisory basis, of the compensation paid to our named executive officers as described in this proxy statement.

Proposal 3: FOR approval of the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan.

Proposal 4: FOR ratification of selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2016.

Who pays the cost for soliciting proxies?

Acceleron will bear the cost of solicitation of proxies. This includes the charges and expenses of brokerage firms and others for forwarding solicitation material to beneficial owners of our outstanding common stock. Acceleron may solicit proxies by mail, personal interview, telephone or via the Internet through its officers, directors and other management employees, who will receive no additional compensation for their services.

Can I change my vote?

You may revoke your proxy at any time before it is voted by notifying the Secretary in writing, by returning a signed proxy with a later date, by transmitting a subsequent vote over the Internet or by telephone prior to the close of the Internet voting

Table of Contents

facility or the telephone voting facility, or by attending the meeting and voting in person. If your stock is held in street name, you must contact your broker or nominee for instructions as to how to change your vote.

How is a quorum reached?

The presence, in person or by proxy, of holders of at least a majority of the total number of outstanding shares entitled to vote is necessary to constitute a quorum for the transaction of business at the Annual Meeting. Abstentions and "broker non-votes" (i.e., shares represented at the meeting held by brokers, bankers or other nominees as to which instructions have not been received from the beneficial owners or persons entitled to vote such shares and, with respect to one or more but not all issues, such brokers or nominees do not have discretionary voting power to vote such shares), if any, will be counted for purposes of determining whether a quorum is present for the transaction of business at the meeting.

What vote is required to approve each item?

Proposal 1: Elect Directors

The three nominees for director who receive the most votes (also known as a "plurality" of the votes cast) will be elected. You may vote either FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees. Votes that are withheld will not be included in the vote tally for the election of the directors. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name for the election of directors. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.

Proposal 2: Approve, on an Advisory Basis, the Compensation Paid to Our Named Executive Officers

The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to approve, on an advisory basis, the compensation of our named executive officers as described in this proxy statement. Abstentions will have no effect on the results of this vote. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name on this proposal. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote. Although the advisory vote is non-binding, the Compensation Committee and the Board of Directors will review the voting results and take them into consideration when making future decisions regarding executive compensation.

Proposal 3: Approve the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan

The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to approve the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan. Abstentions will have no effect on the results of this vote. Brokerage firms do not have authority to vote customers' unvoted shares held by the firms in street name on this proposal. As a result, any shares not voted by a customer will be treated as a broker non-vote. Such broker non-votes will have no effect on the results of this vote.

Proposal 4: Ratify Selection of our Independent Registered Public Accounting Firm

The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to ratify the selection of our independent registered public accounting firm. Abstentions will have no effect on the results of this vote. Brokerage firms have authority to vote customers' unvoted shares held by the firms in street name on

this proposal. If a broker does not exercise this authority, such broker non-votes will have no effect on the results of this vote. We are not required to obtain the approval of our stockholders to select our independent registered public accounting firm. However, if our stockholders do not ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2016, the Audit Committee of our Board of Directors will reconsider its selection.

If there are insufficient votes to approve these proposals, your proxy may be voted by the persons named in the proxy card to adjourn the Annual Meeting in order to solicit additional proxies in favor of the approval of such proposal(s). If the Annual Meeting is adjourned or postponed for any purpose, at any subsequent reconvening of the meeting, your proxy will be voted in the same manner as it would have been voted at the original convening of the Annual Meeting unless you withdraw or revoke your proxy.

Table of Contents

Could other matters be decided at the Annual Meeting?

Acceleron does not know of any other matters that may be presented for action at the Annual Meeting. Should any other business come before the meeting, the persons named on the enclosed proxy will have discretionary authority to vote the shares represented by such proxies in accordance with their best judgment. If you hold shares through a broker, bank or other nominee as described above, they will not be able to vote your shares on any other business that comes before the Annual Meeting unless they receive instructions from you with respect to such matter.

What happens if the meeting is postponed or adjourned?

Your proxy may be voted at the postponed or adjourned meeting. You will still be able to change your proxy until it is voted.

What does it mean if I receive more than one proxy card or voting instruction form?

It means that you have multiple accounts at the transfer agent or with brokers. Please complete and return all proxy cards or voting instruction forms to ensure that all of your shares are voted.

Who should I call if I have any additional questions?

If you hold your shares directly, please call John Quisel, Secretary of the Company, at (617) 649-9200. If your shares are held in street name, please contact the telephone number provided on your voting instruction form or contact your broker or nominee holder directly.

Electronic Delivery of Company Stockholder Communications

Most stockholders can elect to view future proxy materials and annual reports over the Internet instead of receiving paper copies in the mail. You can choose this option and save Acceleron the cost of producing and mailing these documents by following the instructions provided when you vote over the Internet.

Table of Contents

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information as of March 31, 2016 (unless otherwise specified), with respect to the beneficial ownership of our common stock by each person who is known to own beneficially more than 5% of the outstanding shares of common stock, each person currently serving as a director, each nominee for director, each named executive officer (as set forth in the Summary Compensation Table below), and all directors and executive officers as a group.

Shares of common stock subject to options, restricted stock units or other rights to purchase which are now exercisable or are exercisable within 60 days after March 31, 2016 are to be considered outstanding for purposes of computing the percentage ownership of the persons holding these options or other rights but are not to be considered outstanding for the purpose of computing the percentage ownership of any other person. As of March 31, 2016, there were 37,169,958 shares of common stock outstanding. Unless otherwise indicated, the address for each beneficial owner is c/o Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139.

Name and address of beneficial owner	Number of shares beneficially owned	Percentage of shares beneficially owned	
5% or greater stockholders:			
Celgene Corporation(1)	5,411,866	14.6	%
FMR LLC and affiliates(2)	4,987,985	13.4	%
T. Rowe Price Associates, Inc.(3)	2,929,479	7.9	%
Blackrock, Inc. and subsidiaries(4)	2,235,763	6.0	%
Directors and named executive officers:			
John L. Knopf, Ph.D.(5)	750,398	2.0	%
Jean M. George(6)	1,464,441	3.9	%
George Golumbeski, Ph.D.	—	—	
Terrence C. Kearney(7)	16,332	*	
Tom Maniatis, Ph.D.(8)	168,398	*	
Terrance G. McGuire(9)	1,508,722	4.0	%
Francois Nader, M.D.(10)	12,242	*	
Richard F. Pops(11)	105,417	*	
Joseph S. Zakrzewski(12)	45,417	*	
Kevin F. McLaughlin(13)	140,035	*	
Steven D. Ertel(14)	175,751	*	
Matthew L. Sherman, M.D.(15)	145,438	*	
John D. Quisel, J.D., Ph.D.(16)	105,271	*	
All executive officers and directors as a group (14 persons)(17)	4,754,042	12.2	%

* Represents beneficial ownership of less than one percent of our outstanding common stock.

(1) This information is based solely on a Schedule 13D/A filed by Celgene Corporation ("Celgene") on January 11, 2016, reporting ownership as of January 11, 2016. According to this Schedule 13D/A, these shares include 38,979 shares of common stock that can be acquired upon the exercise of warrants to purchase shares of our common stock, and Celgene exercises sole voting and sole dispositive authority over all of these shares. The address of Celgene is 86 Morris Avenue, Summit, NJ 07901.

(2) This information is based solely on a Schedule 13G/A filed jointly by FMR LLC ("FMR"), Abigail P. Johnson, and Select Biotechnology Portfolio ("Select") on February 12, 2016, reporting ownership as of December 31, 2015. According to this Schedule 13G/A, Ms. Johnson is a Director, the Vice Chairman, the Chief Executive Officer and the President of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B shareholders have entered into a shareholders' voting

agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the shareholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. FMR exercises sole voting authority over 4,857 shares of our common stock, and FMR and Ms. Johnson each exercise sole dispositive authority over 4,987,985 shares of our common stock. Select exercises sole voting authority over 3,246,194 shares of our common stock and no dispositive authority of any of our shares of common stock. The address of FMR, Ms. Johnson and Select is 245 Summer Street, Boston, Massachusetts 02210.

Table of Contents

(3) This information is based solely on a Schedule 13G/A filed by T. Rowe Price Associates, Inc. ("T. Rowe") on February 11, 2016, reporting ownership as of December 31, 2015. According to this Schedule 13G/A, T. Rowe exercises sole voting power over 474,120 shares of our common stock and sole dispositive power over 2,929,479 shares of our common stock. The address of T. Rowe is 100 E. Pratt Street, Baltimore, Maryland 21202.

(4) This information is based solely on a Schedule 13G/A filed by Blackrock, Inc. ("Blackrock") on January 25, 2016, reporting ownership as of December 31, 2015 for Blackrock and its subsidiaries. According to this Schedule 13G/A, Blackrock exercises sole voting power over 2,193,427 shares of our common stock, and sole dispositive power over 2,235,763 shares of our common stock. The address of Blackrock is 55 East 52nd Street, New York, New York 10055.

(5) Includes 720,314 shares of common stock that can be acquired upon the exercise of outstanding options.

(6) The following information is based solely on a Schedule 13G/A filed jointly by Advanced Technology Ventures VI, L.P. ("ATV VI"), Advanced Technology Ventures VII, L.P. ("ATV VII"), Advanced Technology Ventures VII (B), L.P. ("ATV VII-B"), Advanced Technology Ventures VII (C), L.P. ("ATV VII-C"), ATV Entrepreneurs VI, L.P. ("ATVE VI"), ATV Entrepreneurs VII, L.P. ("ATVE VII"), ATV Alliance 2003, L.P. ("ATV Alliance"), ATV Associates VI, L.L.C. (the general partner of ATV VI and ATVE VI) ("ATVA VI"), ATV Associates VII, L.L.C. (the general partner of ATV VII, ATV VII-B, ATV VII-C and ATVE VII) ("ATVA VII"), and ATV Alliance Associates, L.L.C. (the general partner of ATV Alliance) ("ATVAA" and, together with ATV VI, ATV VII, ATV VII-B, ATV VII-C, ATVE VI, ATVE VII, ATV Alliance, ATVA VI and ATVA VII, the "ATV Entities") on February 16, 2016, reporting ownership as of December 31, 2015. According to this Schedule 13G/A, these shares consist of (i) 1,227,853 shares of common stock and warrants to purchase 119,323 shares of common stock owned by ATV VII, (ii) 49,271 shares of common stock and warrants to purchase 4,788 shares of common stock owned by ATV VII-B, (iii) 23,684 shares of common stock and warrants to purchase 2,302 shares of common stock owned by ATV VII-C, (iv) 7,314 shares of common stock and warrants to purchase 711 shares of common stock owned by AVTE VII, and (v) 2,528 shares of common stock owned by ATV Alliance. ATVA VII is the general partner of ATV VII, ATV VII-B, ATV VII-C and ATVE VII and exercises voting and dispositive authority over the shares held by ATV VII, ATV VII-B, ATV VII-C and ATVE VII. Voting and dispositive decisions of ATVA VII are made by Ms. George and ATVA VII's other managing directors. Ms. George disclaims beneficial ownership of the shares held by ATV VII, ATV VII-B, ATV VII-C and ATVE VII except to the extent of her pecuniary interest therein. ATVAA is the general partner of ATV Alliance and exercises voting and dispositive authority over the shares held by ATV Alliance. Voting and dispositive decisions of ATVAA are made by Ms. George. Ms. George disclaims beneficial ownership of the shares held by ATV Alliance except to the extent of her pecuniary interest therein. Also includes 26,667 shares of common stock that can be acquired upon the exercise of outstanding options held by Ms. George.

(7) Includes 16,332 shares of common stock that can be acquired upon the exercise of outstanding options.

(8) Includes 54,167 shares of common stock that can be acquired upon the exercise of outstanding options.

(9) The following information is based solely on a Schedule 13D/A filed jointly by Polaris Venture Partners IV, L.P. ("PVP IV"), Polaris Venture Partners Entrepreneurs' Fund IV, L.P. ("PVPE IV"), Polaris Venture Management Co. IV, L.L.C. ("PVM IV"), Jonathan A. Flint and Terrance G. McGuire on August 27, 2015, reporting ownership as of August 17, 2015. According to this Schedule 13D/A, these shares consist of (i) 1,453,693 shares of common stock directly owned by PVP IV and a warrant to purchase 180,518 shares of common stock issued to PVP IV, (ii) 22,983 shares of common stock directly owned by PVPE IV and a warrant to purchase 3,384 shares of common stock issued to PVPE IV, and (iii) 1,995 shares of common stock directly owned by PVM IV. Mr. McGuire is a managing member of PVM IV (which is general partner of PVP IV and PVPE IV) and may be deemed to have shared voting and dispositive power over shares held by PVP IV, PVPE IV and PVM IV. Mr. McGuire disclaims beneficial ownership of all securities held by PVP IV, PVPE IV and PVM IV other than those he owns directly, if any, or by virtue of his indirect pro rata interest as a member of PVM IV. Also includes 26,667 shares of common stock that can be acquired upon the exercise of outstanding options held by Mr. McGuire.

(10) Includes 12,242 shares of common stock that can be acquired upon the exercise of outstanding options.

(11) Includes 76,767 shares of common stock that can be acquired upon the exercise of outstanding options.

(12) Includes 45,417 shares of common stock that can be acquired upon the exercise of outstanding options.

- (13) Includes 92,535 shares of common stock that can be acquired upon the exercise of outstanding options.
- (14) Includes 118,095 shares of common stock that can be acquired upon the exercise of outstanding options.
- (15) Includes 91,334 shares of common stock that can be acquired upon the exercise of outstanding options.
- (16) Includes 69,148 shares of common stock that can be acquired upon the exercise of outstanding options.
- (17) See footnotes 5 through 16. Also includes 77,430 shares of common stock that can be acquired upon the exercise of outstanding options.

Table of Contents

MANAGEMENT AND CORPORATE GOVERNANCE

BOARD COMPOSITION AND STRUCTURE

Our certificate of incorporation states that our Board of Directors shall consist of not fewer than three and not more than fifteen members, and the precise number of directors shall be fixed by a resolution of our Board of Directors. Each director holds office until his or her successor is duly elected and qualified or until his or her death, resignation or removal. Our certificate of incorporation provides that our directors may be removed only for cause by the affirmative vote of the holders of at least seventy-five percent (75%) of the voting power of the outstanding shares of capital stock of the Company entitled to vote generally in the election of directors, voting together as a single class, at a meeting of the stockholders called for that purpose. Any vacancy in the Board of Directors, including a vacancy that results from an increase in the number of directors, may be filled by a vote of the majority of the directors then in office.

Our certificate of incorporation provides that our Board of Directors is divided into three classes of directors, with the classes as nearly equal in number as possible. Each of our directors identified below serves in the class indicated. Subject to any earlier resignation or removal in accordance with the terms of our restated certificate of incorporation and bylaws, our Class I directors will serve until the 2017 annual meeting of stockholders; our Class II directors will serve until the 2018 annual meeting of stockholders; and our Class III directors will serve until the 2016 annual meeting of stockholders. Any additional directorships resulting from an increase in the number of directors will be apportioned by our Board among the three classes.

Our Board of Directors is currently comprised of nine members. Below is a list of the names, ages as of March 31, 2016 and classification of the individuals who currently serve as our directors.

Name	Age	Position
Jean M. George	58	Director (Class I)
George Golumbeski, Ph.D.	58	Director (Class I)
Francois Nader, M.D.	59	Chair of the Board of Directors (Class I)
Terrence C. Kearney	61	Director (Class II)
John L. Knopf, Ph.D.	63	Director (Class II); Chief Executive Officer and President
Terrance G. McGuire	60	Director (Class II)
Tom Maniatis, Ph.D.	72	Director (Class III)
Richard F. Pops	54	Director (Class III)
Joseph S. Zakrzewski	53	Director (Class III)

DIRECTOR BIOGRAPHIES

Information concerning our directors is set forth below. The biographical description of each director includes the specific experience, qualifications, attributes and skills that led to the Board of Directors' conclusion at the time of filing of this proxy statement that each person listed below should serve as a director.

CLASS III DIRECTOR NOMINEES

Tom Maniatis, Ph.D. co-founded Acceleron in 2003, and has served as a member of our Board of Directors and Chair of our Scientific Advisory Board from the inception of the company. He is currently a Professor and Chair of the Department of Biochemistry & Molecular Biophysics at the Columbia University College of Physicians and Surgeons. Prior to 2010 he was a professor of Molecular and Cellular Biology at Harvard University. Dr. Maniatis currently serves on the board of two private companies, Constellation Pharmaceuticals, Inc. and Kallyope, Inc. Prior to that Dr. Maniatis was a co-founder of Genetics Institute (1980) and ProScript Inc., and in both companies he chaired the scientific advisory board and served on the board of directors. Dr. Maniatis is a member of the U.S. National Academy of Sciences, the U.S. National Academy of Medicine, and has received numerous awards for his research contributions, including the Eli Lilly Research Award in Microbiology and Immunology, the Richard Lounsbery Award for Biology and Medicine from the U.S. and French National Academies of Science, and the 2012 Lasker-Koshland Special Achievement Award in Medical Science. Dr. Maniatis received a BA in biology, an MS in chemistry from the University of Colorado at Boulder, and a Ph.D. in molecular biology from Vanderbilt University. We believe Dr. Maniatis's extensive experience and knowledge of biopharmaceuticals and the biopharmaceutical

industry qualify him to serve as a member of our Board of Directors.

Richard F. Pops has served as a member of our Board of Directors since 2004. Since 2011, Mr. Pops has served as Chief Executive Officer and Chairman of the board of Alkermes plc, the parent company of Alkermes. From 2009 to 2011, Mr. Pops served as Chief Executive Officer and Chairman of the Board of Alkermes, from 2007 to 2009 he served as the Chairman of the

7

Table of Contents

board of Alkermes, and from 1991 through 2007 he served as the Chief Executive Officer of Alkermes. Mr. Pops also serves on the board of directors of two other public companies, Neurocrine Biosciences, Inc. and Epizyme Inc., on the board of directors for the Biotechnology Industry Organization (BIO) and Pharmaceutical Researcher and Manufacturers of America (PhRMA), and on the value and coverage advisory council of FasterCures. He has previously served on the board of directors of Sirtris Pharmaceuticals from 2004 to 2008, and CombinatoRx, Inc. from 2001 to 2009. Mr. Pops also served on the board of directors of Reliant Pharmaceuticals, a privately held pharmaceutical company purchased by GlaxoSmithKline in 2007, and on the advisory board of Polaris Venture Partners. He was a member of the Harvard Medical School Board of Fellows from 2002 through June 2012. Mr. Pops received a BA in economics from Stanford University. We believe that Mr. Pops' leadership experience and industry knowledge qualify him to serve as a member of our Board of Directors.

Joseph S. Zakrzewski has served as a member of our Board of Directors since 2011. Mr. Zakrzewski has also served as a member of the board of directors of Amarin Corporation since 2010, Insulet Corporation since 2008 and Onxeo S.A. since 2015 (Chairman). From 2010 through 2013, Mr. Zakrzewski served as Chairman and Chief Executive Officer of Amarin. From 2007 to 2010, Mr. Zakrzewski served as President and Chief Executive Officer of Xcellerex. From 2005 to 2007, Mr. Zakrzewski served as the Chief Operating Officer of Reliant Pharmaceuticals. From 1988 to 2004, Mr. Zakrzewski served in a variety of positions at Eli Lilly and Company including as Vice President, Corporate Business Development from 2003 through 2004. In addition, Mr. Zakrzewski served as a Venture Partner with OrbiMed in 2010 and 2011. He also currently serves and has previously served on the board of directors of a number of privately held companies. Mr. Zakrzewski received a BS in Chemical Engineering and an MS in Biochemical Engineering from Drexel University as well as an MBA in Finance from Indiana University. We believe that Mr. Zakrzewski's substantial experience as an executive officer of other pharmaceutical companies, as well as Mr. Zakrzewski's service on boards of directors of other pharmaceutical companies qualify him to serve as a member of our Board of Directors.

CURRENT DIRECTORS NOT STANDING FOR ELECTION AT THE ANNUAL MEETING

Jean M. George has served as a member of our Board of Directors since 2005. Since 2002, Ms. George has been a Managing Director at Advanced Technology Ventures (ATV), and, concurrently since April 2013, Ms. George has been a Managing Director at Lightstone Ventures. She joined ATV in 2002 and serves as the firm's East Coast lead partner for healthcare investments. Prior to joining ATV, Ms. George was a director at BancBoston Ventures, where she led the health care team's investment activity in NuGenesis Technologies Corp., Ironwood Pharmaceuticals, Inc., Syntonix Pharmaceuticals, Inc. and Neurometrix, Inc. Before BancBoston Ventures, she worked at Genzyme Corporation from 1988 to 1998, where she held a variety of operational roles in marketing, product development, and business development, including Vice President of Global Sales and Marketing. She also worked as a Vice President and Founder of Genzyme's Tissue Repair Division. She is currently a director of public companies Catabasis Pharmaceuticals, Inc. and Calithera Biosciences, Inc., as well as several private companies, including Hydra Biosciences, Inc., Thrasos Therapeutics, Inc. and Tizona Therapeutics. Ms. George was a director of Zeltiq Aesthetics, Inc., Hypnion, Inc., Critical Therapeutics, Inc., Portola Pharmaceuticals, Inc. and Proteolix, Inc. She was named a member of the Scientific Advisory Board for the Massachusetts Life Sciences Center. Ms. George received a BS in biology from the University of Maine and an MBA from Simmons College Graduate School of Management. We believe that Ms. George's executive experience in the life sciences and therapeutic device industries qualifies her to serve as a member of our Board of Directors.

George Golumbeski, Ph.D. has served as a member of our Board of Directors since 2011. Dr. Golumbeski, who joined Celgene in early 2009, is Executive Vice President of Business Development, where he is responsible for the full array of business development activities, including identification and evaluation of opportunities, structuring and negotiating transactions, in-licensing, M&A, out-licensing, and alliance management. At Celgene, these activities are focused primarily within the therapeutic areas of oncology and inflammation. Since 2014, Dr. Golumbeski has served on the board of directors of one other public company, Enanta Pharmaceuticals, Inc., and has served as a trustee of the Keck Graduate Institute since 2013. Dr. Golumbeski has also served as a member of the board of directors of the National Audubon Society since 2015. From 2008 to 2009, Dr. Golumbeski served as the CEO of Nabriva Therapeutics AG. Prior to Nabriva, Dr. Golumbeski served as Vice President of Business Development, Licensing and

Strategy for Novartis-Oncology. During his tenure at Novartis, Dr. Golumbeski's group closed a significant number of collaboration agreements which bolstered the development pipeline. Earlier in his career, Dr. Golumbeski held senior positions at Elan Pharmaceuticals and at Schwarz Pharma, where he led the effort to in-license rotigotine and lacosamide (now both approved agents). Dr. Golumbeski received a BA in biology from the University of Virginia and a Ph.D. in genetics from the University of Wisconsin-Madison. We believe that Dr. Golumbeski's experience as an officer of other pharmaceutical companies, as well as Dr. Golumbeski's extensive experience in research and development and corporate leadership positions, qualify him to serve as a member of our Board of Directors. Terrence C. Kearney has served as a member of our Board of Directors since July 2014. Mr. Kearney has served as a member of the board of directors of Vertex Pharmaceuticals Incorporated since 2011, as a member of the board of directors of Innoviva, Inc. (formerly Theravance, Inc.) since 2014 and as a member of the board of directors of AveXis, Inc. since January,

Table of Contents

2016. Mr. Kearney previously served as the Chief Operating Officer of Hospira, Inc., a specialty pharmaceutical and medication delivery company, from 2006 to 2011. From 2004 to 2006, he served as Hospira's Senior Vice President, Finance, and Chief Financial Officer, and he served as Acting Chief Financial Officer through 2006. Mr. Kearney served as Vice President and Treasurer of Abbott Laboratories from 2001 to 2004. From 1996 to 2001, Mr. Kearney was Divisional Vice President and Controller for Abbott's International Division. He received a BS in biology from the University of Illinois and an MBA from the University of Denver. We believe that Mr. Kearney's extensive experience as a director and officer of many biotechnology companies and his financial expertise qualify him to serve as a member of our Board of Directors.

John L. Knopf, Ph.D. co-founded Acceleron in 2003 and is our Chief Executive Officer and President. Dr. Knopf served on our Board of Directors from 2003 to 2004, and from 2007 to the present. Prior to founding Acceleron, Dr. Knopf served as Site Head of the Wyeth Research facilities in Cambridge, MA and Vice President of Metabolic and Respiratory Disease. Dr. Knopf was an early key scientist at Genetics Institute (GI) from 1982 to 1998, where he participated in the development of pioneering biopharmaceutical products including the first treatment for hemophilia, recombinant factor VIII Recombinate® and helped establish GI as a premier biopharmaceutical company. While at GI, he established a structure-based small molecule discovery group. Dr. Knopf is the author of several key scientific manuscripts in the area of signal transduction, and is named as an inventor of several patents. Dr. Knopf received a BS in biology from SUNY Stonybrook and his Ph.D. in biology at SUNY Buffalo. We believe Dr. Knopf's extensive experience and knowledge of biopharmaceuticals and our company qualifies him to serve as a member of our Board of Directors.

Terrance G. McGuire has served as a member of our Board of Directors since 2005. Mr. McGuire co-founded Polaris Partners in 1996 and is currently one of their general partners. Prior to starting Polaris Partners, Mr. McGuire spent seven years at Burr, Egan, Deleage & Co., investing in early stage medical and information technology companies. He currently serves on the board of directors of two other public companies, Ironwood Pharmaceuticals, Inc. and Pulmatrix, Inc., and has previously served on the boards of public companies including: Trevena Inc., Akamai Technologies Inc., Aspect Medical Systems, Inc., Cubist Pharmaceuticals, Inc. and deCODE genetics, Inc. He also serves on the boards of several private companies, including Adimab/Arsanis, Alektor, Quantum Designs, Arsenal Medical/480 Biomedical, Iora Health, and MicroCHIPS and has served on the boards of numerous other private companies. Mr. McGuire is the former chairman of the National Venture Capital Association, chairman of the board of the Thayer School of Engineering at Dartmouth College, and a member of the boards of The David H. Koch Institute for Integrative Cancer Research at the Massachusetts Institute of Technology and The Arthur Rock Center for Entrepreneurship at Harvard Business School. Mr. McGuire earned a BS in physics and economics from Hobart College, an MS in engineering from The Thayer School at Dartmouth College, and an MBA from Harvard Business School. We believe that Mr. McGuire's extensive experience as a venture capitalist focused on the biotechnology industry, as well as Mr. McGuire's many years of experience helping companies evolve from the start-up phase to successful public companies qualify him to serve as a member of our Board of Directors.

Francois Nader, M.D. has served as a member of our Board of Directors since December 2014, and has served as the Chair of our Board of Directors since March 2015. Since February 2015, Dr. Nader has served as the chief executive officer of Jesra Advisors, LLC, a consulting services company founded by Dr. Nader. He served as the President and Chief Executive Officer of NPS Pharmaceuticals, Inc., or NPS, from 2008 through February 2015 when NPS was acquired by Shire plc. Dr. Nader joined NPS in 2006 and served as Executive Vice President and Chief Operating Officer until 2008. He has served as a director of Clementia Pharmaceuticals, Inc. since March 2014 and a director of Baxalta, Inc. since July 2015 and sits on their audit, compensation, and transaction committees. Before joining NPS, Dr. Nader was a venture partner at Care Capital, LLC, where he served as Chief Medical Officer of its Clinical Development Capital unit from 2005 to 2006. From 2000 to 2004, he served as Senior Vice President, Integrated Healthcare Markets and Senior Vice President, North America Medical and Regulatory Affairs with Aventis Pharmaceuticals. He also held similar positions at Hoechst Marion Roussel and served as Head of Global Commercial Operations at the Pasteur Vaccines division of Rhone-Poulenc. Dr. Nader is the immediate past Chair of the Board of BioNJ, a trade association representing the biotechnology industry in New Jersey, and a Board member of the New Jersey Chamber of Commerce. He previously served as a director of Noven Pharmaceuticals and Trevena, Inc., where

he also chaired the compensation committee. Dr. Nader received a French State Doctorate in Medicine from St. Joseph University (Lebanon) and a Physician Executive M.B.A. from the University of Tennessee. We believe Dr. Nader's extensive experience in the life sciences industry and his background in research and development qualify him to serve as a member of our Board of Directors.

Director Independence

Under NASDAQ Rule 5605, a majority of a listed company's board of directors must be comprised of independent directors. In addition, NASDAQ rules require that, subject to specified exceptions, each member of a listed company's audit committee, compensation committee and nominating and corporate governance committee be independent and, in the case of the audit committee and compensation committee, satisfy additional independence criteria set forth in Rule 10A-3 and 10C-1, respectively, under the Securities Exchange Act of 1934, or the Exchange Act.

Table of Contents

Based upon information requested from and provided by each director concerning their background, employment and affiliations, including family relationships, our Board of Directors has determined that each of Ms. George, Messrs. Kearney, McGuire, Pops and Zakrzewski, and Drs. Golumbeski, Maniatis and Nader, representing eight of our nine directors, is "independent" as that term is defined under NASDAQ Rule 5605(a)(2). Our Board of Directors also determined that each of the current members of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee satisfies the independence standards for such committee established by Rule 10A-3 and 10C-1 under the Exchange Act, the SEC rules and the NASDAQ rules, as applicable. In making such determination, our Board of Directors considered the relationships that each such non-employee director has with our Company and all other facts and circumstances deemed relevant in determining their independence.

As part of such determination, our Board of Directors reviewed the facts and circumstances relevant to Dr. Maniatis's independence given his status as one of our co-founders. The Board of Directors considered that Dr. Maniatis has never served as one of Acceleron's executives or other employees and he has not managed any operational activities at Acceleron. The Board of Directors further considered that Acceleron was founded over ten years ago and Dr. Maniatis was employed full time at Harvard University at such time. Based on these factors, the Board of Directors determined that Dr. Maniatis satisfies the independence standards established by Rule 10A-3 and 10C-1 under the Exchange Act, the SEC rules and the NASDAQ rules, as applicable.

Board Meetings and Attendance

The Board of Directors held four meetings during the year ended December 31, 2015. Each of the directors attended at least seventy-five percent (75%) of the meetings of the Board of Directors and the committees of the Board of Directors on which he or she served during the year ended December 31, 2015 (in each case, which were held during the period for which he or she was a director and/or a member of the applicable committee and excluding any meetings in which a director was an interested party).

The non-management directors met in executive session during each of the regularly scheduled Board of Directors meetings during the year ended December 31, 2015.

The Board of Directors has adopted a policy requiring that members of our Board of Directors make every effort to attend our annual stockholder meetings. Eight of our then ten directors attended our 2015 Annual Meeting of Stockholders.

Board of Directors Leadership Structure

Our current Board leadership structure separates the positions of Chief Executive Officer and Chair of the Board of Directors, although we do not have a corporate policy requiring that structure. The Board believes that this separation is appropriate for the organization at this time because it allows for a division of responsibilities and a sharing of ideas between individuals having different perspectives. Our Chief Executive Officer, who is also a member of our Board of Directors, is primarily responsible for our operations and strategic direction, while our Board Chair, who is an independent member of the Board, is primarily focused on matters pertaining to corporate governance, including management oversight, and strategic guidance. While the Board believes that this is the most appropriate structure at this time, the Nominating and Corporate Governance Committee evaluates our Board leadership structure from time to time, and may recommend alterations of this structure in the future.

The Board of Directors' Role in Risk Oversight

The Board of Directors plays an important role in risk oversight at Acceleron through direct decision-making authority with respect to significant matters, as well as through the oversight of management by the Board of Directors and its committees. In particular, the Board of Directors administers its risk oversight function through (1) the review and discussion of regular periodic reports by the Board of Directors and its committees on topics relating to the risks that Acceleron faces, (2) the required approval by the Board of Directors (or a committee of the Board of Directors) of significant transactions and other decisions, (3) the direct oversight of specific areas of Acceleron's business by the Audit, Compensation and Nominating and Corporate Governance Committees, and (4) regular periodic reports from the auditors and other outside consultants regarding various areas of potential risk, including, among others, those relating to our internal control over financial reporting. The Board of Directors also relies on management to bring significant matters impacting Acceleron to the attention of the Board of Directors.

Pursuant to the Audit Committee's charter, the Audit Committee is responsible for reviewing and discussing with management and Acceleron's independent registered public accounting firm, Acceleron's system of internal controls, its critical accounting practices, and policies relating to risk assessment and management. As part of this process, the Audit Committee discusses Acceleron's major financial risk exposures and steps that management has taken to monitor and control such exposure. In addition, the Audit Committee has established procedures for the receipt, retention and treatment of complaints

Table of Contents

received by the Company regarding accounting, internal accounting controls or auditing matters, and the confidential, anonymous submissions by employees of concerns regarding questionable accounting or accounting matters.

Because of the role of the Board of Directors and the Audit Committee in risk oversight, the Board of Directors believes that any leadership structure that it adopts must allow it to effectively oversee the management of the risks relating to Acceleron's operations. The Board of Directors acknowledges that there are different leadership structures that could allow it to effectively oversee the management of the risks relating to the Company's operations and believes its current leadership structure enables it to effectively provide oversight with respect to such risks.

BOARD COMMITTEES

The Board of Directors has a standing Audit, Compensation and Nominating and Corporate Governance Committee, each of which is comprised solely of independent directors, and is described more fully below. Each committee operates pursuant to a written charter and each reviews and assesses the adequacy of its charter periodically and submits its charter to the Board for approval. The charters for each committee are all available on our website (www.acceleronpharma.com) under the "Investors & Media—Corporate Governance" section.

The following table describes which directors serve on each of the Board of Directors' committees.

Name	Nominating and Corporate Governance Committee	Compensation Committee	Audit Committee
John L. Knopf, Ph.D.			
Jean M. George	X	(2)	X
George Golumbeski, Ph.D.			
Terrence C. Kearney			X (2)
Tom Maniatis, Ph.D.(1)		X	
Terrance G. McGuire	X	X	(3)
Francois Nader, M.D.			
Richard F. Pops(1)	X		
Joseph S. Zakrzewski(1)		X	(2) X

(1) Sitting for election in Proposal 1.

(2) Chair of the committee.

(3) Interim committee member.

Audit Committee

Our Audit Committee is composed of Jean M. George, Terrence C. Kearney and Joseph S. Zakrzewski, with Mr. Kearney serving as Chair of the committee. Our Board of Directors has determined that each member of the Audit Committee meets the independence requirements of Rule 10A-3 under the Exchange Act and the applicable listing standards of NASDAQ. Our Board of Directors has determined that Messrs. Kearney and Zakrzewski are "audit committee financial experts" within the meaning of the Securities and Exchange Commission, or SEC, regulations and applicable listing standards of NASDAQ. The Audit Committee's responsibilities include:

- appointing, approving the compensation of, and assessing the qualifications, performance and independence of our independent registered public accounting firm;
- pre-approving audit and permissible non-audit services, and the terms of such services, to be provided by our independent registered public accounting firm;
- reviewing the audit plan with the independent registered public accounting firm and members of management responsible for preparing our financial statements;
- reviewing and discussing with management and the independent registered public accounting firm our annual and quarterly financial statements and related disclosures as well as critical accounting policies and practices used by us;
- 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 the independent registered public accounting firm, whether our audited financial statements shall be included in our Annual Report on Form 10-K;

11

Table of Contents

• monitoring our compliance with legal and regulatory requirements as they relate to our financial statements and accounting matters;

• preparing the audit committee report required by the rules of the SEC to be included in our annual proxy statement;

• viewing all related party transactions for potential conflict of interest situations and approving all such transactions; and

• reviewing and discussing with management and our independent registered public accounting firm our earnings releases and scripts.

During the year ended December 31, 2015, the Audit Committee met six times. The report of the Audit Committee is included in this proxy statement under "Report of the Audit Committee."

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is composed of Jean M. George, Terrance G. McGuire and Richard F. Pops, with Ms. George serving as Chair of the committee. Our Board of Directors has determined that each member of the Nominating and Corporate Governance Committee is "independent" as defined under the applicable listing standards of NASDAQ. 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;
- 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 set of corporate governance principles;
- articulating to each director what is expected, including reference to the corporate governance principles and directors' duties and responsibilities;
- reviewing and recommending to the Board of Directors practices and policies with respect to directors;
- reviewing and recommending to the Board of Directors the functions, duties and compositions of the committees of the Board of Directors;
- reviewing and assessing the adequacy of the committee charter and submitting any changes to the Board of Directors for approval;
- considering and reporting to the Board of Directors any questions of possible conflicts of interest of Board of Directors members;
- providing for new director orientation and continuing education for existing directors on a periodic basis;
- performing an evaluation of the performance of the committee; and
- overseeing the evaluation of the Board of Directors and management.

During the year ended December 31, 2015, the Nominating and Corporate Governance Committee met five times.

Compensation Committee

Our Compensation Committee is composed of Tom Maniatis, Ph.D., Terrance G. McGuire (interim) and Joseph S. Zakrzewski, with Mr. Zakrzewski serving as Chair of the committee. Our Board of Directors has determined that each member of the Compensation Committee is "independent" as defined under the applicable listing standards of NASDAQ and meets the independence criteria set forth in Rule 10C-1. The Compensation Committee has the authority to delegate to subcommittees of the Compensation Committee any of the responsibilities of the full committee. The Compensation Committee's responsibilities include:

- annually reviewing and recommending to the full Board corporate goals and objectives relevant to the compensation of our chief executive officer and our other executive officers;
- evaluating the performance of our chief executive officer in light of such corporate goals and objectives and determining and approving the compensation of our chief executive officer;
- reviewing and approving the compensation of our other executive officers;
- appointing, compensating and overseeing the work of any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;

conducting the independence assessment outlined in NASDAQ rules with respect to any compensation consultant, legal counsel or other advisor retained by the Compensation Committee;
annually reviewing and reassessing the adequacy of the committee charter in its compliance with the listing requirements of NASDAQ;
reviewing and establishing our overall management compensation, philosophy and policy;

12

Table of Contents

- overseeing and administering our equity compensation and other compensatory plans;
- reviewing and approving our equity and incentive policies and procedures for the grant of equity-based awards and approving the grant of such equity-based awards;
- reviewing and making recommendations to the Board of Directors with respect to director compensation; and
- reviewing and discussing with management the compensation discussion and analysis to be included in our annual proxy statement.

During the year ended December 31, 2015, the Compensation Committee met six times.

Compensation Consultant

As a part of determining compensation for our named executive officers, the Compensation Committee has engaged Radford, an Aon Hewitt Company - a division of Aon Corporation, as its independent compensation consultant.

Radford provides analysis and recommendations to the Compensation Committee regarding:

- trends and emerging topics with respect to executive compensation;
- peer group selection for executive compensation benchmarking;
- compensation practices of our peer group;
- compensation programs for executives, directors, and all of our employees; and
- stock utilization and related metrics.

When requested, Radford consultants attend meetings of the Compensation Committee, including executive sessions in which executive compensation related matters are discussed. Radford reports to the Compensation Committee and not to management, although Radford meets with management for purposes of gathering information for its analyses and recommendations.

In determining to engage Radford, the Compensation Committee considered the independence of Radford, taking into consideration relevant factors, including the absence of other services provided to the Company by Radford, the amount of fees the Company paid to Radford as a percentage of Radford's total revenue, the policies and procedures of Radford that are designed to prevent conflicts of interest, any business or personal relationship of the individual compensation advisors employed by Radford with an executive officer of the Company, any business or personal relationship the individual compensation advisors employed by Radford have with any member of the Compensation Committee, and any stock of the Company owned by Radford or the individual compensation advisors employed by Radford. The Compensation Committee has determined, based on its analysis in light of all relevant factors, including the factors listed above, that the work of Radford and the individual compensation advisors employed by Radford as compensation consultants to the Compensation Committee has not created any conflicts of interest, and that Radford is independent pursuant to the independence standards set forth in the Nasdaq listing standards promulgated pursuant to Section 10C of the Exchange Act.

Compensation Committee Interlocks and Insider Participation

None of the members of our Compensation Committee has at any time during the prior three years been one of our officers or employees. 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. For a description of transactions between us and members of our Compensation Committee and affiliates of such members, please see "Certain Relationships and Related Party Transactions."

Risks Related to Compensation Practices and Policies

The Compensation Committee maintains a pay-for-performance compensation philosophy, but also recognizes that providing certain types of compensation incentives may inadvertently motivate individuals to act in ways that could be detrimental to our company as a whole in order to maximize personal compensation. To minimize such risk, the Compensation Committee reviews at least annually the overall structure and components of our compensation program. The Compensation Committee also performs an annual evaluation to ensure that salary levels, equity awards and other elements of compensation are benchmarked against appropriate standards and that incentives provided for achievement of target goals are balanced between short-term rewards and longer-term enhancement of shareholder value. The Compensation Committee has reviewed and evaluated the philosophy and standards on which our compensation plans have been developed and implemented across Acceleron. It is our belief that our compensation

program does not encourage inappropriate actions or risk taking by our executive officers. We do not believe that any risks arising from our employee compensation policies and practices are reasonably likely to have a material adverse effect on our business. In addition, we do not believe that the mix and design of the components of our executive compensation program encourage management to assume excessive risks. We believe that our current business process and planning cycle fosters the behaviors and controls that would mitigate the potential for adverse risk caused by the action of our executives, including the following:

13

Table of Contents

the establishment of base salaries consistent with our executive officers' responsibilities and market comparables to ensure that our executive officers would not be motivated to take excessive risks to achieve a reasonable level of financial security;

annual establishment of corporate objectives for our performance-based cash incentive program for our executive officers that are consistent with our annual operating and strategic plans, that are designed to achieve the proper risk/reward balance, and that should not require excessive risk taking to achieve;

the mix between fixed and variable, annual and long-term and cash and equity compensation is designed to encourage strategies and actions that balance our short-term and long-term best interests;

stock option awards vest over a period of time, which we believe encourages executives to take a long-term view of our business; and

the discretion available to our Compensation Committee not to apply fixed formulae in assessing our company performance, which allows the Compensation Committee to, among other things, (a) eliminate the potential incentive for management to conduct activities that are included in our annual corporate goals, but which may not, due to new data or other developments, ultimately prove to be in the best interest of our stockholders, and (b) reward management for making decisions that are in the long-term best interest of our therapeutic candidate development programs, even when those decisions result in the failure to meet short-term objectives.

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. Our code of business conduct and ethics is available on our website. We intend to disclose any amendments to the code, or any waivers of its requirements, on our website.

EXECUTIVE OFFICERS

Below is a list of the names, ages as of March 31, 2016 and positions, and a brief account of the business experience of the individuals who serve as our executive officers.

Name	Age	Position
John L. Knopf, Ph.D.	63	Chief Executive Officer and President; Director (Class II)
Kevin F. McLaughlin	59	Senior Vice President, Chief Financial Officer and Treasurer
Steven D. Ertel	46	Executive Vice President and Chief Operating Officer
Matthew L. Sherman, M.D.	60	Executive Vice President and Chief Medical Officer
John D. Quisel, J.D., Ph.D.	44	Senior Vice President, General Counsel and Secretary
Ravindra Kumar, Ph.D.	56	Senior Vice President and Chief Scientific Officer(1)

(1) We promoted Dr. Kumar effective as of January 1, 2016 from the position of Vice President and Chief Scientific Officer to Senior Vice President and Chief Scientific Officer.

EXECUTIVE OFFICER BIOGRAPHIES

Kevin F. McLaughlin joined Acceleron in November 2010 and is our Senior Vice President, Chief Financial Officer and Treasurer. Since January 2015, Mr. McLaughlin has served on the board of directors of Vericel Corporation. He also recently served, from 2009 through 2010, as Senior Vice President and Chief Financial Officer of Qteros, Inc. He was a co-founder of Aptius Education, Inc. and from 2007 through 2009 he worked as the Chief Operating Officer and a director. From 1996 through 2007, Mr. McLaughlin held several executive positions with PRAECIS Pharmaceuticals, Inc. He joined PRAECIS as their first Chief Financial Officer where he had responsibility for private financings, partnership financings, the company's initial public offering and subsequent stock offering. Later, Mr. McLaughlin became COO, and then President and CEO, and he served as a member of the board of directors. In this capacity he was responsible for negotiating the sale of the company to GlaxoSmithKline. He began his career in senior financial roles at Prime Computer and Computervision Corporation. Mr. McLaughlin received a BS in business from Northeastern University and an MBA from Babson College.

Steven D. Ertel joined Acceleron in January 2006 and is our Executive Vice President and Chief Operating Officer. Mr. Ertel established our business development function and currently leads our business development, commercial strategy, program management, manufacturing, quality, and corporate communications functions. Mr. Ertel has over

20 years of experience in the biotechnology industry at Vivus, Inc., Genentech, Inc., Biogen Idec, Inc., and Synta Pharmaceuticals Corp. His responsibilities at these companies included program management for preclinical and clinical stage programs, commercial strategy for clinical stage programs, market launch of a novel biologic agent, and business development. Mr. Ertel began his

14

Table of Contents

career in the venture capital industry at Oxford Bioscience Partners. Mr. Ertel received a BSE in biomedical engineering from Duke University and an MBA from the Wharton School at the University of Pennsylvania. Matthew L. Sherman, M.D. joined Acceleron in May 2006 and is our Executive Vice President and Chief Medical Officer. Previously, he served as Senior Vice President and Chief Medical Officer at Synta Pharmaceuticals Corp. where he was responsible for clinical research, clinical operations, biostatistics, data management, regulatory affairs, quality assurance and program management. Prior to that, Dr. Sherman worked at Genetics Institute and Wyeth Pharmaceuticals in various capacities including Therapeutic Area Director for Oncology. While at Wyeth, Dr. Sherman provided senior oncology and hematology leadership for worldwide clinical development for both small molecule and biologic therapeutics, including the submission and approval of Mylotarg® by the FDA. He has published numerous papers and book chapters in the field of oncology and clinical development and is named as an inventor of several patents. Dr. Sherman is board certified in Medical Oncology and Internal Medicine and held various clinical positions at Harvard Medical School with corresponding hospital appointments at the Dana-Farber Cancer Institute and Brigham and Women's Hospital. Dr. Sherman received an SB in chemistry from the Massachusetts Institute of Technology and an MD from Dartmouth Medical School.

John D. Quisel, J.D., Ph.D. joined Acceleron in October 2006 and is currently our Senior Vice President, General Counsel and Secretary. Prior to joining us, Dr. Quisel worked at the Boston office of Ropes & Gray LLP and, prior to that, the Boston office of Foley Hoag LLP. In his work at law firms, Dr. Quisel has, through strategic in-licensing and protection of internal research programs, assembled and licensed product and platform focused intellectual property portfolios for numerous biotechnology ventures. Over his entire career, Dr. Quisel's experience spans many aspects of biotechnology law, including the negotiation of intellectual property licenses and product development collaborations, patent prosecution and litigation. Dr. Quisel received an AB in biology from Harvard University, an MS in biology from Stanford University, a Ph.D. in biology from the Massachusetts Institute of Technology and a J.D. from Harvard Law School.

Ravindra Kumar, Ph.D. joined Acceleron in March 2004 and is currently our Senior Vice President and Chief Scientific Officer. Dr. Kumar established and currently leads our discovery research. Previously, Dr. Kumar worked for 12 years at Genetics Institute and Wyeth Pharmaceuticals. At Genetics Institute, Dr. Kumar was a key member of the Small Molecule Drug Discovery group and was responsible for cell biology. Following the integration of discovery functions from Genetics Institute and Wyeth Pharmaceuticals, Dr. Kumar served as Senior Scientist in the Biological Chemistry group. Dr. Kumar is the author of several key scientific manuscripts in the area of protein glycosylation and is named as an inventor of several patents. Dr. Kumar received his BS in chemistry from Rohilkhand University, his MS in chemistry from Meerut University, his Ph.D. from University of New Brunswick and he completed his post-doctoral fellowship at Albert Einstein College of Medicine, in Bronx, NY.

Table of Contents

COMPENSATION DISCUSSION AND ANALYSIS

Executive Summary

This Compensation Discussion and Analysis, or CD&A, describes the actions taken by the Compensation Committee with respect to compensation awarded or paid to our named executive officers for fiscal year 2015 and the policies and principles underlying those decisions. Our named executive officers for fiscal year 2015 were:

Name	Position
John L. Knopf, Ph.D.	Chief Executive Officer and President
Kevin F. McLaughlin	Senior Vice President, Chief Financial Officer and Treasurer
Steven D. Ertel	Executive Vice President and Chief Operating Officer
Matthew L. Sherman, M.D.	Executive Vice President and Chief Medical Officer
John D. Quisel, J.D., Ph.D.	Senior Vice President, General Counsel and Secretary

The Compensation Committee applied the following policies and principles in making its compensation determinations for our named executive officers in fiscal year 2015:

- Base salaries should be consistent with similar positions at similar companies;
- Incentive pay should be directly connected to company performance and the achievement of corporate goals;
- Equity compensation should be used to align the interests of our named executive officers with those of our stockholders;
- Benefits provided to our named executive officers should be modest and generally the same as those provided to our other employees; and
- Total compensation opportunities should attract, motivate and retain talented executives in a competitive environment.

As described in more detail below under "Executive Compensation Philosophies and Objectives," the basic principal of our compensation philosophy is to pay for performance. Our executive compensation program is designed to motivate, attract and retain a highly skilled team of key executives and to appropriately reward them for their contributions to our business. Our framework for measuring performance consists of a combination of strategic, operational and financial performance goals, taking into consideration each individual executive's contribution to those goals. A significant portion of total executive compensation is variable and tied to the achievement of annual and longer-term company performance goals. In combination, these elements provide a balanced view of performance and are the basis for the Compensation Committee's executive compensation decisions.

We have several governance practices that we believe reinforce the soundness of our compensation programs.

- **Director Independence.** The Compensation Committee is made up entirely of independent directors.
- **Independent Compensation Consultant.** The Compensation Committee retains an independent compensation consultant to advise on our executive compensation programs and practices. The compensation consultant works exclusively for the Compensation Committee and does not perform any other work for us.
- **No Excessive Perquisites.** Other than participation in benefit plans offered to all of our employees, we offer no other perquisites to our executive officers, including our named executive officers.
 - **No Hedging or Pledging.** We do not allow any of our executive officers, including our named executive officers, or our directors, to enter into any hedging-type transactions in our stock or to pledge our stock.
- **Equity Ownership Guidelines.** In 2015, we adopted equity ownership guidelines that apply to our executive officers, requiring them to hold equity interests with a value of a pre-determined multiple of base salary.
- **No Section 280G Gross-ups.** As of September 2015, none of our executive officers are entitled to a Section 280G gross-up.
- **Double-Trigger Vesting Acceleration.** All stock options granted to our named executive officers since entering into their amended and restated employment agreements in August 2013 or January 2014, as applicable, are subject to double-trigger vesting acceleration.

Table of Contents

Executive Compensation Philosophy and Objectives

Our executive compensation program and pay decisions are based on the philosophy that pay should be competitive and reward our executives for company performance. To maintain pay at competitive levels, the Compensation Committee's general philosophy is to target base salaries and total compensation (base salaries, target annual incentives and long-term incentives) at levels that approximate the 50th percentile of the market which reflects both our peer companies and broader market compensation data.

For information on our peer companies and use of market data, please see the discussion under "Market Benchmarks and Competitive Analysis." To tie executive compensation to performance, annual incentives are tied to previously established corporate goals and take into consideration overall company performance for the year. The Compensation Committee also considers company performance when setting levels of long-term incentive awards.

The primary objectives of our executive compensation program are to:

- attract, motivate and retain a highly skilled team of key executives;
- align the interests of our executives with the interests of our stockholders by tying compensation to the achievement of short- and long-term strategic goals of the Company, which serves to enhance short- and long-term value creation for our stockholders;

- promote the achievement of key strategic, research and development, operational and financial performance goals by linking compensation to the achievement of measurable performance goals; and

- provide for levels of compensation that are competitive with the market place.

To achieve these objectives, the Compensation Committee evaluates our executive compensation program annually to maintain a design that furthers these objectives. We provide competitive pay by taking into consideration comparable pay at our peer companies within the broader market as well as the job scope, responsibilities and individual performance and experience of each executive. We award equity-based compensation in the form of stock options that vest over time, which we believe aligns the interests of our executives with the interests of our stockholders by allowing them to participate in our longer-term success as reflected in the appreciation of our stock price and helps to retain our executives. Starting in 2015, we also began awarding performance-based restricted stock units to our executive officers, including our named executive officers. The Compensation Committee introduced performance-based restricted stock units in 2015 to further promote the achievement of key company goals, including goals that may only be capable of being achieved over a time period of longer than a year. We promote the achievement of our corporate goals and objectives by tying short-term and long-term incentives to the achievement of such goals.

Market Benchmarks and Competitive Analysis

Each year, the Compensation Committee considers a variety of factors in assessing the competitiveness of our executive compensation program and the individual compensation of each of our executives, including our named executive officers. These factors include our performance against our internal strategic, operational and financial corporate goals, the mix of short-term cash and long-term equity compensation we provide, a thorough review of compensation paid at peer companies and within the broader market (consisting of compensation survey data for a broad set of companies in the biopharmaceutical industry) compared to the compensation we pay our executive officers.

The Compensation Committee has engaged Radford, an Aon Hewitt Company - a division of Aon Corporation, as its independent compensation consultant. Radford assists the Compensation Committee in the development of a list of our peer companies and collects, analyzes and compares compensation data of such peer companies to the levels and components of our executive compensation program. In determining our peer companies, we select companies that are publicly traded, that operate in our industry, that are of comparable size in terms of market capitalization and number of employees and that are at a similar scientific stage of development. In late 2014, the Compensation Committee, taking into consideration information provided by Radford, determined that our peer companies for the 2015 fiscal year were the companies listed below. When making its determinations on stock options granted at the beginning of 2015 and cash compensation opportunities for 2015, the Compensation Committee considered equity-based and cash compensation awarded or paid by these peer companies as well as broader market survey data consisting of publicly traded biopharmaceutical companies with a market capitalization between \$300M to \$3.0B and with between 30 and

300 employees.

17

Table of Contents

Achillion Pharmaceuticals, Inc.
 Agios Pharmaceuticals, Inc.
 Array BioPharma Inc.
 bluebird bio, Inc.
 Celldex Therapeutics
 Chimerix, Inc.
 Clovis Oncology, Inc.
 Epizyme, Inc.
 Exelixis, Inc.
 Idenix Pharmaceuticals, Inc.

Infinity Pharmaceuticals, Inc.
 Karyopharm Therapeutics Inc.
 MacroGenics, Inc.
 Merrimack Pharmaceuticals, Inc.
 Neurocrine Biosciences, Inc.
 NewLink Genetics Corporation
 Receptos, Inc.
 Sangamo BioSciences, Inc.
 Synageva Biopharma Corp.
 Tesaro, Inc.

In mid-2015, the Compensation Committee, with Radford's input, evaluated this peer group and revised the list of peer companies given changes in the Company's and individual peer companies' profiles, including market capitalization, employee population and scientific stage of development. As a result of this evaluation, bluebird bio, Inc., Idenix Pharmaceuticals, Inc., Receptos, Inc., and Synageva Biopharma Corp were removed from our peer group and Kite Pharma, Inc., OncoMed Pharmaceuticals, Inc., and Portola Pharmaceuticals, Inc. were added to our peer group. The new list of peer companies in combination with broader market survey data was used as the basis for stock option grants made in early 2016 and cash compensation opportunities for 2016.

The broader market survey data considered by the Compensation Committee consists of compensation data from Radford's Global Life Sciences Survey consisting of publicly traded companies operating in the biopharmaceutical industry and of comparable size in terms of market capitalization and number of employees. The survey data considered in late-2014 consisted of biopharmaceutical companies with a market capitalization of between \$300M to \$3.0B and with between 30 and 300 employees. In mid-2015, the survey data was updated to reflect Acceleron's growth and included biopharmaceutical companies with a market capitalization of between \$350M to \$3.2B and with between 40 and 360 employees. Using the peer group data provided by Radford and Radford's Global Life Sciences compensation survey data, the Compensation Committee determines compensation of our executive officers with a philosophy of setting base salaries and total target compensation at a level consistent with approximately the 50th percentile of our peer companies. The Compensation Committee evaluates and considers compensation data from our peer companies as well as broader market survey data for each element of compensation to ensure the competitiveness of the compensation packages we provide to our executive officers.

Equity Ownership Guidelines

In September 2015, the Compensation Committee adopted Executive Officer Equity Ownership Guidelines, or the Guidelines, requiring our executive officers to acquire and maintain a specified value of equity interests with respect to our common stock. The Guidelines are designed to further align the interests of the executive officers with those of our stockholders by ensuring that our executive officers have a meaningful financial stake in the Company's long-term success. All shares directly or beneficially owned by the executive officer, including the net exercisable value of outstanding vested stock options (where the market price of our common shares exceeds the exercise price of such option) are included in determining the value of equity owned under the Guidelines.

Pursuant to the Guidelines, our Chief Executive Officer is required to hold equity interests with a value equal to at least three times his annual base salary, our Chief Operating Officer is required to hold equity interests with a value of at least one-and-a-half times his annual base salary, and our other executive officers are required to hold equity interests with a value at least equal to the executive officer's annual base salary. Each executive officer is required to achieve the applicable level of equity interest by the later of the date that is five years after his or her designation as an executive officer or five years after the adoption of the Guidelines.

Annual compliance with the Guidelines is assessed on January 1 of each year and is determined based on each executive officer's salary then in effect. Until the required ownership level is reached, executive officers are required to retain at least 50% of shares of our common stock, net of applicable tax withholding and the payment of any exercise or purchase price (if applicable), received upon the vesting or settlement of equity awards or the exercise of stock options. Once the requisite level has been achieved, ownership of the guideline amount must be maintained for as long

as the individual is subject to the Guidelines.

As of January 1, 2016, all of our executive officer's satisfied the ownership requirements under the Guidelines.

Elements of Executive Compensation

The compensation of our executive officers for fiscal year 2015 consisted of the following elements:

18

Table of Contents

Compensation Element	Purpose	Features
Base salary	To attract and retain highly skilled executives	Fixed component of pay to provide financial stability, based on responsibilities, experience, individual contributions and peer company data
Annual cash bonuses	To promote and reward the achievement of key short-term strategic and business goals of the Company as well as individual performance; to motivate executives	Variable component of pay based on previously-established annual company goals
Long-term incentives	To encourage executives to focus on long-term Company performance; to promote retention of executives; to reward outstanding Company and individual performance	Equity component of pay that aligns executive interests with those of our stockholders and rewards stockholder value creation over the long-term; consists of both time- and performance-based restricted stock unit awards that vest upon achievement of certain performance goals and also based on time, and time-based stock option awards that generally vest in equal installments quarterly over a four-year period

Base Salaries. The Compensation Committee annually evaluates and determines base salaries for our named executive officers, taking into consideration a number of factors, including the scope of each executive's responsibilities, each executive's respective experience and individual contributions to the Company as well as base salaries paid for comparable positions at our peer companies and within the broader market provided by Radford through its survey data. The Compensation Committee also considers company performance as a whole and general industry conditions. In addition, the Compensation Committee considers Dr. Knopf's assessment of individual base salary levels for our executive officers, other than himself. Dr. Knopf regularly discusses compensation-related matters with the Chair of the Compensation Committee and meets with the Compensation Committee to discuss these matters. Dr. Knopf also provides the Compensation Committee and Board of Directors with his evaluation of the performance of the executive officers other than himself. In determining the annual base salaries of each of our named executive officers, the Compensation Committee considers all of the foregoing factors, but does not assign any specific weighting to any factor.

In January 2015, the Compensation Committee evaluated the base salaries of our executive officers, including our named executive officers, for fiscal year 2015, after its evaluation of the factors described above. The amount of the salary increases, including Dr. Knopf's 15.8% base salary increase, were determined, in large part, based on base salaries paid to executives holding comparable positions at our peer companies and within the broader market and our philosophy of targeting base salary and total compensation at approximately the 50th percentile of our peer companies.

Base salary increases for our named executive officers approved by the Compensation Committee, effective January 1, 2015, were:

Name	2014 Base Salary	2015 Base Salary	Percent Increase	
John L. Knopf, Ph.D.	\$460,000	\$532,680	15.8	%
Kevin F. McLaughlin	\$325,000	\$353,275	8.7	%
Steven D. Ertel	\$335,000	\$352,755	5.3	%
Matthew L. Sherman, M.D.	\$392,000	\$403,760	3.0	%
John D. Quisel, J.D., Ph.D.	\$335,000	\$345,050	3.0	%

In March 2015, in connection with Mr. Ertel's promotion to Executive Vice President and Chief Operating Officer and Dr. Sherman's promotion to Executive Vice President and Chief Medical Officer, each of Mr. Ertel's and Dr. Sherman's annual base salaries were increased to \$415,000. To determine the appropriate salaries for Mr. Ertel and Dr.

Sherman in connection with their promotions, the Compensation Committee considered the base salaries paid to executives holding comparable positions at our peer companies and within the broader market as provided by Radford's compensation survey data.

Annual Cash Bonuses. Our annual cash bonus program for our named executive officers and other executive officers and key employees is administered by the Compensation Committee through the Acceleron Pharma Inc. Cash Incentive Plan, or the Cash Incentive Plan. The Cash Incentive Plan promotes and rewards the achievement of key strategic and business goals. For fiscal year 2015, the target annual bonuses as a percentage of base salary for our named executive officers under the Cash Incentive Plan were 60% for Dr. Knopf, 39.2% for Mr. Ertel and Dr. Sherman (prorated to reflect promotions in March 2015 and an increase from 35% to 40%), and 35% for Mr. McLaughlin and Dr. Quisel.

Table of Contents

Based upon the recommendation of the Compensation Committee, our Board of Directors establishes specific performance criteria under the Cash Incentive Plan annually that are based on our corporate goals. The Compensation Committee then compares company performance for the prior year against our corporate goals and makes a recommendation to our Board of Directors on the percentage of the corporate goals that were achieved for such year. The independent members of our Board of Directors then make a final determination on the level of achievement of such goals.

The amount actually paid in cash bonuses to each of our named executive officers, excluding our Chief Executive Officer, is determined by the Compensation Committee, and this determination is based primarily on the achievement of our corporate goals, subject to adjustment for individual performance. In its sole discretion, the Compensation Committee may, consistent with our stated compensation philosophy and objectives, award bonuses above or below these amounts on a case-by-case basis or may decide to not award bonus payments at all, notwithstanding the achievement of particular goals or individual contributions. The Compensation Committee's discretion is limited to the annual bonus payout range determined by our Board of Directors, which for fiscal year 2015 allowed bonus payments of up to 125% of the named executive officers' target bonuses.

For our Chief Executive Officer, Dr. Knopf, the Compensation Committee reviews and evaluates his performance based on the Company's achievement of the corporate goals for the year and recommends to our Board of Directors the annual cash bonus amount to be paid to Dr. Knopf. The independent members of our Board of Directors review the recommendation and evaluation of the Compensation Committee, as well as the Company's achievement of corporate goals for such year, and determine Dr. Knopf's cash bonus.

Payment of the annual cash bonus to all of our executives, including our Chief Executive Officer, is conditioned on the executive remaining employed by us at the time the award is actually paid.

Each of our corporate goals has a designated weighting. The corporate goals are comprised of key operational and financial goals relating to research, clinical development, process development and manufacturing, and the achievement of financial objectives. The performance bonuses for fiscal year 2015 were based on our performance relative to the following performance objectives:

Goals for the advancement of the luspatercept and sotatercept development programs in collaboration with our partner, Celgene Corp., were assigned an aggregate 45% weighting. Goals for our lead therapeutic candidate, luspatercept, included the following: working with Celgene to initiate a phase 3 clinical trial with luspatercept in patients with beta-thalassemia, and to initiate a clinical trial that would enable a phase 3 clinical trial with luspatercept in patients with myelodysplastic syndrome. Goals for sotatercept included initiating part 2 of the phase 2b clinical trial in patients with chronic kidney disease.

Goals for the advancement of the dalantercept clinical development programs in oncology were assigned an aggregate 25% weighting and included the following: completion of a one-year safety and efficacy analysis from the dose escalation stage of the phase 2 clinical trial in patients with renal cell carcinoma (the DART trial); achieving 75% enrollment by year end in the randomized, placebo-controlled part 2 of the DART trial; and initiating the expansion cohort in the clinical trial of dalantercept in patients with advanced hepatocellular carcinoma.

Goals for the advancement of the ACE-083 clinical development program for the treatment of focal muscle disorders were assigned an aggregate 15% weighting and included the following: completion of the phase 1 clinical trial in healthy volunteers and initiation of a phase 2 clinical trial in a patient population.

Goals for the discovery and advancement of new development candidates were assigned a 10% weighting and included the addition of a new candidate for clinical development through internal research.

Financial goals were assigned a 5% weighting and included meeting the 2015 budget objectives.

The Compensation Committee determined that in the event that less than 50% of the goals were achieved, there would be no performance bonus payout to executive officers. In the event that at least 50% of the goals were achieved, the Committee determined that it would award, in its discretion, between 50% and 125% of the performance bonus otherwise earned based on the achievement of the goals described above, emerging clinical and preclinical data, and overall performance of the Company in view of changing market conditions.

In January 2016, the Compensation Committee met and evaluated our performance against the corporate goals for fiscal year 2015 previously established by the Compensation Committee. The Compensation Committee determined

that the Company satisfied 87% of the corporate goals based on the following achievements:

• Initiation by Celgene of the MEDALIST study, a phase 3 clinical trial of luspatercept in patients with lower risk MDS.

Table of Contents

• Initiation by Celgene of the BELIEVE study, a phase 3 clinical trial of luspatercept in regularly transfused patients with beta-thalassemia.

• Completion of a one-year safety and efficacy analysis from the dose escalation stage of the DART trial, showing encouraging effects of the combination of dalantercept plus axitinib in renal cell carcinoma patients.

• Achievement of substantial patient enrollment in the part 2 of the DART trial.

• Initiation of the expansion cohort in the clinical trial of dalantercept in patients with advanced hepatocellular carcinoma.

• Completion of the ACE-083 phase 1 clinical trial in healthy volunteers as contemplated by the original protocol.

• The nomination of ACE-2494, an internally discovered therapeutic candidate, for clinical development.

• The successful maintenance of budgetary discipline, meeting all financial objectives for the year.

Certain pre-established goals for 2015 were not completed. The Company and Celgene elected to refocus the development of sotatercept on pre-dialysis patients with chronic kidney disease. Therefore, Celgene did not initiate part 2 of the phase 2b clinical trial of sotatercept in patients on dialysis with end stage renal disease. With respect to dalantercept, enrollment in part 2 of the DART trial did not fully meet the enrollment goal set for 2015. Finally, a phase 2 clinical trial for ACE-083 was not initiated in 2015. Collectively the goals that were not achieved accounted for 13% of the 2015 goals. Accordingly, the achievement level of the 2015 goals was determined by the Compensation Committee to be 87%.

Because at least 50% of the 2015 goals were met, the Compensation Committee was authorized to exercise its discretion to fund bonuses at a level of 50% to 125% of the achievement level, with the adjustment to be made in view of changing corporate conditions and emerging data. The Compensation Committee noted several key achievements beyond the stated goals for 2015. In particular, Celgene and Acceleron initiated a phase 3 clinical trial with luspatercept in myelodysplastic syndrome, whereas the predetermined goal was to initiate a clinical trial that would enable a phase 3 trial. This achievement resulted in a substantial acceleration of the luspatercept program for the treatment of myelodysplastic syndrome. Additionally, the Compensation Committee noted the introduction of the IntelliTrap™ platform and the selection of the first therapeutic candidate, ACE-2494, from this platform to move forward into clinical development in 2016. Lastly, the Compensation Committee noted the highly positive evidence of activity from the phase 1 clinical trial in ACE-083. In recognition of these additional achievements, the Compensation Committee recommended that a multiplier of 115% be applied to the 87% achievement level of the corporate goals in calculating annual bonuses under the Cash Incentive Plan for members of our management team, including our named executive officers. This resulted in the payment of annual cash bonuses at 100% of the target levels. This recommendation by the Compensation Committee was adopted by the independent members of our Board of Directors in March 2016.

Individual performance for our executive officers, other than Dr. Knopf, was evaluated by Dr. Knopf and the Compensation Committee and determined primarily based on the achievement of corporate goals, with the opportunity for adjustment based on each individual's contribution to our corporate goals. Dr. Knopf's individual performance was evaluated by the Compensation Committee and determined based on the achievement of our corporate goals.

Accordingly, our named executive officers received the following annual cash bonuses for 2015:

Name	2015 Target Bonus (%)	2015 Bonus Awarded (%)	2015 Bonus Awarded (\$)
John L. Knopf, Ph.D.	60	60	319,608
Kevin F. McLaughlin	35	35	123,646
Steven D. Ertel	35	39.2	(1) 158,911
Matthew L. Sherman, M.D.	35	39.2	(1) 161,886
John D. Quisel, J.D., Ph.D.	35	35	120,768

(1) Prorated to reflect promotions in March 2015 and an increase from 35% to 40%.

Table of Contents

Long-Term Incentives.

Stock Options

Long-term incentives are awarded to our named executive officers in the form of stock options granted under our 2013 Equity Incentive Plan. Stock options have traditionally been used to deliver long-term incentive compensation because they directly align executive pay with the creation of stockholder value since the value of stock options depends on stock price appreciation after the grant date. Stock options also encourage retention when subject to time-based vesting. Awards that are subject to time-based vesting generally are subject to continued employment and either vest in quarterly installments over four years for grants to existing employees, or vest as to 25% of the shares subject to the option after one year and thereafter continue to vest in quarterly installments over the following three years for grants to new hires. Pursuant to agreements with certain members of senior management, including our named executive officers, a portion of the executive's stock option will vest automatically as of the date of a change of control and all or a portion of the executive's stock options may vest upon certain terminations of employment. The exercise price of all stock options is equal to the fair market value of our common stock on the grant date, measured as the closing price of our common stock on such date as reported by the NASDAQ Stock Market.

In establishing long-term incentive award levels for our executive officers other than our Chief Executive Officer, and in formulating a recommendation to our Board of Directors on the long-term incentive award to be granted to our Chief Executive Officer, the Compensation Committee takes into account long-term incentives awarded by our peer companies as well as the broader market survey data provided by Radford, described above. Our Compensation Committee and Board of Directors also evaluate overall Company performance over the fiscal year for which the awards are granted.

The Compensation Committee granted long-term incentive awards to our named executive officers in January 2015 for performance in fiscal year 2014, which were primarily based on the Compensation Committee's evaluation of long-term incentive awards granted to executives holding comparable positions at our peer companies as well as the broader market survey data provided by Radford. The table below reflects the long-term incentive awards granted in January 2015, in the form of stock options, to each of our named executive officers:

Name	Grant Date	Stock Options Awarded (#)	Stock Options Value (\$)
John L. Knopf, Ph.D.	January 8, 2015	151,000	3,796,684
Kevin F. McLaughlin	January 8, 2015	41,000	1,030,888
Steven D. Ertel	January 8, 2015	41,000	1,030,888
Matthew L. Sherman, M.D.	January 8, 2015	41,000	1,030,888
John D. Quisel, J.D., Ph.D.	January 8, 2015	41,000	1,030,888

In addition to long-term incentive awards granted in January 2015, on March 4, 2015, the Compensation Committee granted Mr. Ertel an option to purchase 30,000 shares of our common stock in connection with his promotion from Senior Vice President and Chief Business Officer to Executive Vice President and Chief Operating Officer. The Compensation Committee also granted Dr. Sherman an option to purchase 15,000 shares of our common stock in connection with his promotion from Senior Vice President and Chief Medical Officer to Executive Vice President and Chief Medical Officer. These stock option awards vest in equal, quarterly installments over four years, generally subject to the executive's continued employment.

Restricted Stock Units

Although we have historically provided long-term incentive awards primarily through the issuance of stock options, in conjunction with the adoption of our Equity Ownership Guidelines in September 2015, the Board of Directors began utilizing grants of performance accelerated restricted stock units, or RSUs, for the purpose of rewarding our executive officers. Grants of RSUs encourage executive ownership of Acceleron shares, provide balance to stock option grants, which only have value if the stock appreciates, and align the incentives of our executives with the interests of our stockholders. These awards also provide executives with some certainty regarding the value of the compensation they are receiving during periods of stock market volatility, which furthers our fundamental goal of awarding compensation that helps attract and retain highly skilled employees. When awarding performance accelerated RSUs, the Compensation Committee considers the extent to which including full-value shares in the long-term portion of

total compensation is consistent with the compensation practices of our peer group.

In furtherance of our pay for performance compensation philosophy and to enable key members of the executive team to share in the potential growth in the company's value and to encourage such growth, the Compensation Committee developed a one-time performance accelerated RSU award tied to the achievement of the performance goals over a period of several years,

22

Table of Contents

as described below. The Compensation Committee granted these performance accelerated RSU awards to our named executive officers under the Acceleron Pharma Inc. 2013 Equity Incentive Plan on September 9, 2015, as follows:

Name	Number of Shares of	
	Common Stock Underlying Restricted Stock Units	Restricted Stock Units Value (\$)
John L. Knopf, Ph.D.	89,000	2,767,010
Kevin F. McLaughlin	40,000	1,243,600
Steven D. Ertel	62,000	1,927,580
Matthew L. Sherman, M.D.	46,000	1,430,140
John D. Quisel, J.D., Ph.D.	40,000	1,243,600

The RSUs are subject to both performance- and time-based vesting conditions. A portion of the award will be eligible to vest on the second anniversary of the grant date based on and to the extent of the Company's achievement of certain specified performance goals, as certified by the Compensation Committee, relating to expanding and advancing the Company's pipeline of clinical stage therapeutic candidates, as described below. Thereafter, the award will continue to vest at such time as the applicable performance goals are achieved, as certified by the Compensation Committee, with the award vesting in full on the fourth anniversary of the grant date. Vesting of an award is subject to the executive's continued employment on such vesting date, except in the case of certain terminations of employment. In the event that a named executive officer's employment is terminated by the Company without cause or if the named executive officer terminates his or her employment for good reason before the second anniversary of the grant date, any RSUs that have been earned as of such date of termination based on the achievement of the applicable performance goals, as certified by the Compensation Committee, will vest upon such termination.

The performance goals and corresponding vesting percentages underlying the RSUs are as follows:

• Advance Celgene-partnered programs through phase 3 clinical trials and into biological license application submissions.

10% – last patient dosed in a first phase 3 clinical trial

15% – first biological license application submission

10% – last patient dosed in a second phase 3 clinical trial

15% – second biological license application submission

• Advance wholly-owned programs.

10% – last patient dosed in a phase 2 clinical trial for a wholly-owned program

10% – first patient dosed in a phase 2 clinical trial for a wholly-owned program (other than dalantercept)

• Expand clinical pipeline with three new wholly-owned programs in clinical trials.

30% – first patient dosed in a phase 1 clinical trial (10% for each new therapeutic candidate)

If a change of control occurs and the RSU award is not continued, assumed or substituted, then all outstanding and unvested RSUs will vest immediately upon the change of control. If a change of control occurs and the RSU award is continued, assumed or substituted, and if within one year following the date of the change of control the executive's employment is terminated by the Company without cause or if the named executive officer terminates his or her employment for good reason, then all unvested RSUs outstanding immediately prior to such termination will vest immediately upon such termination.

Benefits. Our named executive officers receive broad-based benefits that are provided to all employees, including medical insurance, dental insurance, vision insurance, group life insurance, accidental death and dismemberment insurance, long and short term disability insurance, flexible spending accounts and matching contributions in our 401(k) plan. Our executive officers are eligible to participate in all of our employee benefit plans on the same basis as other employees.

Pursuant to our 401(k) plan, employees' elective deferrals are immediately fully vested and non-forfeitable. We may, but are not required to, make discretionary matching contributions and other employer contributions on behalf of eligible

Table of Contents

employees under this plan. For fiscal year 2015, we matched a portion of eligible employee contributions up to \$5,000 pursuant to our 401(k) plan's matching formula.

In addition, we maintain our tax-qualified 2013 Employee Stock Purchase Plan, or the ESPP, in which all our employees, including our named executive officers, may participate, subject to the eligibility criteria set forth in the ESPP, consistent with the applicable tax regulations. The purpose of the ESPP is to encourage employees, including our named executive officers, to become our stockholders and better align their interests with those of our other stockholders. None of our named executive officers purchased shares of our common stock under the ESPP in fiscal year 2015.

Employment Agreements

We have entered into employment agreements with each of our named executive officers, which provide for initial base salaries, eligibility to participate in the Company's annual bonus plan, and payments and benefits in connection with certain terminations of employment, including in connection with a change in control. We believe that change of control arrangements provide our executives with security that will likely reduce any reluctance they may have to pursue a change of control transaction that could be in the best interests of our stockholders. We also believe that reasonable severance and change of control benefits are necessary to attract and retain high-quality executive officers. These agreements are discussed in more detail below under "Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table—Employment Agreements" and "Potential Payments Upon Termination or Change of Control."

Tax and Accounting Considerations

Section 162(m) of the Internal Revenue Code disallows a tax deduction for any publicly-held corporation for individual compensation exceeding \$1 million in any taxable year for a company's named executive officers, other than its chief financial officer, unless compensation qualifies as performance-based under such section. At such time as we are subject to the deduction limitations of Section 162(m), we expect that the Compensation Committee will take into consideration the potential deductibility of the compensation payable under our programs as one of the factors to be considered when establishing these programs. We are asking our shareholders to approve the material terms of the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan, consistent with Section 162(m).

However, the Compensation Committee believes that its primary responsibility is to provide a compensation program that attracts, retains and rewards the executives necessary for our success. Accordingly, the Compensation Committee may, in its judgment, authorize compensation payments that do not comply with the exemptions, in whole or in part, under Section 162(m) or that may otherwise be limited as to tax deductibility.

The Compensation Committee regularly considers the accounting implications of significant compensation decisions, especially in connection with decisions that relate to our equity incentive award plans and programs. If accounting standards change, we may revise certain programs to appropriately align accounting expenses of our equity awards with our overall executive compensation philosophy and objectives.

Table of Contents

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Summary Compensation Table

The following table summarizes the total compensation earned by or paid to our named executive officers for fiscal years 2013 through 2015, including the 2015 grant of a one-time performance accelerated RSU award tied to the achievement of the performance goals over a period of several years, as described above.

Name and Principal Position	Year	Salary (\$)	Stock Awards (\$) (1)	Option Awards (\$) (2)	Non-Equity		Total (\$)
					Incentive Plan Compensation (\$) (3)	All Other Compensation	
John L. Knopf, Ph.D.	2015	532,680	2,767,010	3,796,384	319,608	5,000	(4) 7,420,682
Chief Executive Officer and President	2014	460,000	—	—	276,000	2,500	(4) 738,500
	2013	400,000	—	1,696,442	300,000	237,461	(5) 2,633,903
Kevin F. McLaughlin Senior Vice President, Chief Financial Officer and Treasurer	2015	353,275	1,243,600	1,030,888	123,646	5,000	(4) 2,756,409
	2014	325,000	—	—	113,750	2,500	(4) 441,250
Steven D. Ertel Executive Vice President and Chief Operating Officer	2013	307,491	—	447,244	138,375	—	893,110
	2015	404,107	1,927,580	1,783,327	158,911	5,000	(4) 4,278,925
	2014	335,000	—	—	117,250	2,500	(4) 454,750
Matthew L. Sherman, M.D. Executive Vice President and Chief Medical Officer	2013	313,500	—	447,244	141,075	—	901,819
	2015	413,033	1,430,140	1,407,107	161,886	5,000	(4) 3,417,166
John D. Quisel, J.D., Ph.D. Senior Vice President, General Counsel and Secretary	2014	392,000	—	—	137,200	2,500	(4) 531,700
	2013	380,662	—	447,239	171,315	—	999,216
John D. Quisel, J.D., Ph.D. Senior Vice President, General Counsel and Secretary	2015	345,050	1,243,600	1,030,888	120,768	5,000	(4) 2,745,306
	2014	335,000	—	216,507	117,250	2,500	(4) 671,257
General Counsel and Secretary	2013	319,300	—	447,239	143,680	—	910,219

Amounts shown reflect the grant date fair value of restricted stock units awarded during 2015 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718,

(1) Compensation—Stock Compensation. These amounts exclude the value of estimated forfeitures. See Note 11 to our consolidated financial statements for the year ended December 31, 2015 filed with our Annual Report on Form 10-K filed with the SEC on February 25, 2016 for details on the assumptions made in the valuation of these awards.

Amounts shown reflect the grant date fair value of options awarded during each of fiscal year 2013, 2014 and 2015 determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation—Stock Compensation. These amounts exclude the value of estimated forfeitures. With (2) respect to the performance-based option granted to Dr. Knopf in 2013, the amount included in the table assumes the highest level of performance is achieved. See Note 11 to our consolidated financial statements for the years ended December 31, 2015, 2014 and 2013 filed with our Annual Report on Form 10-K filed with the SEC on February 25, 2016 for details on the assumptions made in the valuation of these awards.

(3) Amounts shown reflect the annual cash bonus award paid to the named executive officer for each of fiscal 2013, 2014 and 2015 that was earned based on company performance.

(4) Represents matching contributions made under our 401(k) plan.

(5) Represents income imputed to Dr. Knopf upon the forgiveness of the entire principal amount of a promissory note entered into by him and the Company, plus accrued interest. We and Dr. Knopf were parties to a Secured Promissory Note dated January 28, 2008 and amended on November 13, 2012, pursuant to which we made a loan to Dr. Knopf with a principal balance of \$200,000 and an interest rate of 3.11% per annum. The outstanding

balance of \$237,461, including principal and accrued and unpaid interest on the note, was forgiven immediately prior to the public filing of the registration statement in connection with our initial public offering in August 2013.

2015 Fiscal Year Grants of Plan-Based Awards

The following table shows information regarding cash incentive and equity awards granted to our named executive officers during the fiscal year ended December 31, 2015.

25

Table of Contents

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1)			All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards(2)
		Threshold (\$)	Target (\$)	Maximum (\$)				
John L. Knopf, Ph.D.	01/08/2015	—	—	—	—	151,000	41.20	3,796,384
	09/09/2015	—	—	—	89,000	—	—	2,767,010
	n/a	159,804	319,608	399,510	—	—	—	—
Kevin F. McLaughlin	01/08/2015	—	—	—	—	41,000	41.20	1,030,888
	09/09/2015	—	—	—	40,000	—	—	1,243,600
	n/a	61,823	123,646	154,558	—	—	—	—
	01/08/2015	—	—	—	—	41,000	41.20	1,030,888
Steven D. Ertel	03/04/2015	—	—	—	—	30,000	41.01	752,439
	09/09/2015	—	—	—	62,000	—	—	1,927,580
	n/a	79,456	158,911	198,639	—	—	—	—
	01/08/2015	—	—	—	—	41,000	41.20	1,030,888
Matthew L. Sherman, M.D.	03/04/2015	—	—	—	—	15,000	41.01	376,220
	09/09/2015	—	—	—	46,000	—	—	1,430,140
	n/a	80,943	161,886	202,358	—	—	—	—
John D. Quisel, J.D., Ph.D.	01/08/2015	—	—	—	—	41,000	41.20	1,030,888
	09/09/2015	—	—	—	40,000	—	—	1,243,600
	n/a	60,384	120,768	150,960	—	—	—	—

(1) Represents the threshold, target and maximum award amounts applicable to 2015 performance-based annual cash bonus awards for each named executive officer. Cash bonus award targets for Mr. Ertel and Dr. Sherman were prorated at 39.2% of their annual base salaries due to their promotions to Executive Vice Presidents in March 2015, which increased their annual cash bonus award targets from 35% to 40% of their annual base salary.

(2) Represents the aggregate fair value amount computed as of the grant date of the awards granted in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation-Stock Compensation, excluding the value of estimated forfeitures. See Note 11 to our consolidated financial statements for the year ended December 31, 2015 filed with our Annual Report on Form 10-K filed with the SEC on February 25, 2016 for details on the assumptions made in the valuation of these awards.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Employment Agreements

We have entered into employment agreements with each of our named executive officers, which provide for initial base salaries, eligibility to participate in the Company's annual bonus plan, and payments and benefits in connection with certain terminations of employment, including in connection with a change in control. Payments and benefits that may be payable in connection with certain terminations of employment are described in more detail under "Potential Payments Upon Termination or Change of Control."

John L. Knopf, Ph.D. We entered into an amended and restated employment agreement with Dr. Knopf effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Knopf as our Chief Executive Officer and President. Dr. Knopf's employment agreement will continue until the agreement is terminated by us or Dr. Knopf under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary

for such year as established by the Compensation Committee or Board of Directors, which amount is to be based on the achievement of performance goals established by the Board of Directors each fiscal year.

Kevin F. McLaughlin. We entered into an amended and restated employment agreement with Mr. McLaughlin effective as of January 31, 2014, and amended the agreement on September 9, 2015, pursuant to which we agreed to continue to employ Mr. McLaughlin as our Senior Vice President and Chief Financial Officer. Mr. McLaughlin's employment agreement will continue until the agreement is terminated by us or Mr. McLaughlin under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an

Table of Contents

amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee or Board of Directors, which amount is to be based on the achievement of performance goals established by the Board of Directors each fiscal year.

Steven D. Ertel. We entered into an amended and restated employment agreement with Mr. Ertel effective as of January 31, 2014, and amended the agreement on September 9, 2015, pursuant to which we agreed to continue to employ Mr. Ertel as our Senior Vice President and Chief Business Officer. In March 2015, we promoted Mr. Ertel to Executive Vice President and Chief Operating Officer. Mr. Ertel's employment agreement will continue until the agreement is terminated by us or Mr. Ertel under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee or Board of Directors, which amount is to be based on the achievement of performance goals established by the Board of Directors each fiscal year.

Matthew L. Sherman, M.D. We entered into an amended and restated employment agreement with Dr. Sherman effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Sherman as our Senior Vice President and Chief Medical Officer. In March 2015, we promoted Dr. Sherman to Executive Vice President and Chief Medical Officer. Dr. Sherman's employment agreement will continue until the agreement is terminated by us or Dr. Sherman under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee or Board of Directors, which amount is to be based on the achievement of performance goals established by the Board of Directors each fiscal year.

John D. Quisel, J.D., Ph.D. We entered into an amended and restated employment agreement with Dr. Quisel effective as of August 26, 2013, pursuant to which we agreed to continue to employ Dr. Quisel as our Vice President and General Counsel. In June 2014, we promoted Dr. Quisel to Senior Vice President and General Counsel. Dr. Quisel's employment agreement will continue until the agreement is terminated by us or Dr. Quisel under the terms of the agreement. Under his employment agreement, he is eligible to receive a performance-based cash bonus each year under our 2013 Cash Incentive Plan in an amount equal to a percentage of his annual base salary for such year as established by the Compensation Committee or Board of Directors, which amount is to be based on the achievement of performance goals established by the Board of Directors each fiscal year.

The amended and restated employment agreements with our named executive officers also contain severance and change of control benefits. For a description and quantification of benefits payable to the executive officers in connection with a termination of employment or a change of control pursuant to these arrangements, see "—Potential Payments Upon Termination or Change of Control."

Equity Awards

In 2015, we granted our named executive officers stock options to purchase our common stock and performance accelerated restricted stock units. For a description of these equity awards, see the discussion above in "Compensation Discussion and Analysis—Long-Term Incentives."

Table of Contents

Outstanding Equity Awards at 2015 Fiscal Year-End

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2015:

Name	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)(6)	Option Expiration Date (7)	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
John L. Knopf, Ph.D.	—	—	—	—	89,000	(8) 4,339,640
	95,000	(1) —	1.80	1/31/2017	—	—
	202,133	(1) —	5.08	3/27/2018	—	—
	50,000	(1) —	5.88	2/4/2020	—	—
	27,867	(1) —	3.88	12/2/2020	—	—
	50,000	(1) —	(1) 5.28	12/16/2021	—	—
	111,719	(1) 25,781	(1) 5.28	11/13/2022	—	—
	21,875	(2) 15,625	(2) 5.28	11/13/2022	—	—
	—	37,500	(5) 5.28	11/13/2022	—	—
	28,125	(3) 9,375	(3) 5.28	11/13/2022	—	—
	55,000	(1) 55,000	(1) 24.11	12/5/2023	—	—
	28,313	(1) 122,687	(1) 41.20	1/8/2025	—	—
Kevin F. McLaughlin	—	—	—	—	40,000	(8) 1,950,400
	21,251	(4) —	3.88	12/2/2020	—	—
	25,000	(1) —	(1) 5.28	12/16/2021	—	—
	14,061	(1) 4,689	(1) 7.12	12/12/2022	—	—
	14,500	(1) 14,500	(1) 24.11	12/5/2023	—	—
	7,688	(1) 33,312	(1) 41.20	1/8/2025	—	—
Steven D. Ertel	—	—	—	—	62,000	(8) 3,023,120
	2,344	(1) —	5.08	3/27/2018	—	—
	23,693	(1) —	3.88	12/2/2020	—	—
	32,307	(1) —	5.28	12/16/2021	—	—
	18,750	(1) 6,250	(1) 7.12	12/12/2022	—	—
	14,500	(1) 14,500	(1) 24.11	12/5/2023	—	—
	7,688	(1) 33,312	(1) 41.20	1/8/2025	—	—
	5,625	(1) 24,375	(1) 41.01	3/4/2025	—	—
Matthew L. Sherman, M.D.	—	—	—	—	46,000	(8) 2,242,960
	19,896	(1) —	5.08	3/27/2018	—	—
	3,500	(1) —	3.88	12/2/2020	—	—
	12,500	(1) —	5.28	12/16/2021	—	—
	18,750	(1) 6,250	(1) 7.12	12/12/2022	—	—
	14,500	(1) 14,500	(1) 24.11	12/5/2023	—	—
	7,688	(1) 33,312	(1) 41.20	1/8/2025	—	—
	2,813	(1) 12,187	(1) 41.01	3/4/2025	—	—
John D. Quisel, J.D., Ph.D.	—	—	—	—	40,000	(8) 1,950,400
	22,000	(1) —	3.88	12/2/2020	—	—

Table of Contents

2,346	(1)	—		5.28	12/16/2021	—	—
3,125	(1)	3,125	(1)	5.28	6/7/2022	—	—
3,906	(1)	3,125	(1)	7.12	12/12/2022	—	—
14,500	(1)	14,500	(1)	24.11	12/5/2023	—	—
3,125	(1)	6,875	(1)	34.05	7/1/2024	—	—
7,688	(1)	33,312	(1)	41.20	1/8/2025	—	—

(1) Reflects time-based options to purchase shares of our common stock that vest in equal quarterly installments over four years generally subject to the executive's continued employment.

(2) Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related to a financial goal and that continue to vest thereafter on a quarterly basis over three years on each three-month anniversary of the initial vesting date. On January 8, 2015, our Compensation Committee affirmed that the performance goal had been met as of January 28, 2014. As a result, 1/12th of the shares subject to the stock option vested on January 28, 2014, and the remainder of the shares will vest on each of the subsequent eleven three-month anniversaries of such date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.

(3) Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related to a financial goal and that continue to vest thereafter on a quarterly basis over three years on each three-month anniversary of the initial vesting date. On December 5, 2013, our Board of Directors determined that the performance goal had been met on September 24, 2013. As a result, 1/12th of the shares subject to the stock option vested on December 24, 2013, and the remainder of the shares will vest on each of the subsequent eleven three-month anniversaries of such date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.

(4) Reflects time-based options to purchase shares of our common stock that vested as to 25% of the shares subject to the option on the first anniversary of the vesting commencement date and thereafter vested in equal quarterly installments over the following three years, subject to the executive's continued employment.

(5) Reflects time- and performance-based options granted to Dr. Knopf to purchase shares of our common stock that vest as to 1/12th of the shares subject to the option on the date that is three months from the date on which the company achieves a specified performance condition related either to a financial goal or clinical study milestone and that continue to vest thereafter on a quarterly basis over three years on each three-month anniversary of the initial vesting date. To the extent unvested, the option will fully vest on September 6, 2016, generally subject to Dr. Knopf's continued employment.

(6) The exercise price of the stock options was not less than the fair market value of a share of our common stock on the date of grant, as determined by our Board of Directors based, in part, on an independent third party valuation with respect to the period prior to our initial public offering. Stock options granted subsequent to us becoming a public company were granted with an exercise price equal to the closing price of a share of our common stock on the date the stock option was granted.

(7) All stock options have a 10-year term measured from the date of grant.

(8) Reflects performance accelerated restricted stock units. For a description of the performance- and time-based vesting conditions of these awards, see the discussion above in "Compensation Discussion and Analysis—Restricted Stock Units."

Option Exercises and Stock Vested in 2015

The table below sets forth the number of shares acquired and the value realized upon the exercise of stock options during fiscal year 2015 by each of our named executive officers:

Table of Contents

Name	Option Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)(1)
John L. Knopf, Ph.D.	150,000	4,064,332
Kevin F. McLaughlin	89,500	2,667,023
Steven D. Ertel	34,000	1,090,506
Matthew L. Sherman, M.D.	73,600	2,246,344
John D. Quisel, J.D., Ph.D.	77,123	2,253,254

(1) The value realized upon exercise is the difference between the fair value of our common stock at the time of exercise and the exercise price, multiplied by the number of shares acquired on exercise.

Pension Benefits

We do not have any qualified or non-qualified defined benefit plans.

Nonqualified Deferred Compensation

We do not have any non-qualified defined contribution plans or other deferred compensation plans.

Potential Payments Upon Termination or Change of Control

Pursuant to the amended and restated employment agreements between the Company and each of our named executive officers, each named executive officer is entitled to payments and benefits upon certain terminations of the executive's employment and a change of control, as described below. We believe that change of control arrangements provide our executives with security that will likely reduce any reluctance they may have to pursue a change of control transaction that could be in the best interests of our stockholders. We also believe that reasonable severance and change of control benefits are necessary in order to attract and retain high-quality executive officers.

The table below reflects, as applicable, cash severance, option acceleration, RSU acceleration, continuation of health benefits, and accrued vacation benefits payable to each of our named executive officers in connection with (1) a change of control of the Company, (2) the termination of the executive's employment without cause or for good reason following a change of control, (3) the termination of the executive's employment without cause or for good reason, (4) the termination of the executive's employment due to his death or disability, or (5) the termination the executive's employment for any other reason, in each case, assuming that the triggering event took place on December 31, 2015:

Name and Benefit	Change of Control (\$)	Termination Without Cause or for Good Reason Following a Change of Control (\$)	Termination Without Cause or for Good Reason (\$)	Termination Due to Death or Disability (\$)	Other Termination (\$)
John L. Knopf, Ph.D.					
Cash Severance	—	1,278,432	799,020	213,072	(2) —
Option Acceleration	1,919,229	6,121,722	3,838,458	3,838,458	—
RSU Acceleration	4,339,640 (1)	4,339,640	—	—	—
Health Benefits	—	34,351	34,351	—	—
Accrued Vacation	25,610	25,610	25,610	25,610	25,610
Kevin F. McLaughlin					
Cash Severance	—	476,921	353,275	141,310	(2) —
Option Acceleration	138,169	804,514	186,919	552,675	—
RSU Acceleration	1,950,400 (1)	1,950,400	—	—	—
Health Benefits	—	22,901	22,901	—	—
Accrued Vacation	27,569	27,569	27,569	27,569	27,569

Steven D. Ertel Cash Severance	—	573,911	415,000	166,000	(2)	—
-----------------------------------	---	---------	---------	---------	-----	---

30

Table of Contents

Option Acceleration	154,419	1,058,420	329,255	617,675	—
RSU Acceleration	3,023,120 (1)	3,023,120	—	—	—
Health Benefits	—	22,901	22,901	—	—
Accrued Vacation	29,345	29,345	29,345	29,345	29,345
Matthew L. Sherman, M.D.					
Cash Severance	—	576,886	415,000	166,000 (2)	—
Option Acceleration	65,063	963,963	195,208	260,250	—
RSU Acceleration	2,242,960 (1)	2,242,960	—	—	—
Health Benefits	—	1,916	1,916	—	—
Accrued Vacation	38,573	38,573	38,573	38,573	38,573
John D. Quisel, J.D., Ph.D.					
Cash Severance	—	465,818	345,050	138,020 (2)	—
Option Acceleration	66,500	976,395	200,958	266,000	—
RSU Acceleration	1,950,400 (1)	1,950,400	—	—	—
Health Benefits	—	22,742	22,742	—	—
Accrued Vacation	22,665	22,665	22,665	22,665	22,665

(1) Assumes the restricted stock units are not continued, assumed or substituted upon a change of control.

Cash severance represents 40% of the executive's salary paid by the Company in addition to 60% of the executive's (2) salary that is paid pursuant to the Company's long term disability insurance. This cash severance is paid by the Company only in the event of an executive's disability, and not in the event of an executive's death.

Change of Control. For stock options granted to our named executive officers prior to each named executive officer entering into his amended and restated employment agreement in August 2013 or January 2014, as applicable, which we refer to as the effective date of the employment agreement, immediately upon a change of control, 50% of any unvested stock options then held by Dr. Knopf and 25% of any unvested stock options then held by Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel will vest. All stock options granted to each named executive officer after the effective date of his employment agreement are subject to double-trigger vesting acceleration, as described below under "Termination of Employment Without Cause or for Good Reason Following a Change of Control."

In addition, if the performance-based restricted stock units granted in September 2015 to our named executive officers, which we refer to as the performance-based RSUs, are continued or assumed in connection with a change in control, they will be subject to accelerated vesting if the executive's employment is terminated without cause or for good reason within the one-year period following the change in control. If these awards are not continued or assumed, then all outstanding and unvested performance-based RSUs will vest immediately upon the change of control.

Change of control is defined under the executives' employment agreements and performance-based RSU award agreements generally as (i) the acquisition of beneficial ownership, directly or indirectly by any person, of our securities representing a majority or more of the combined voting power of our then outstanding securities, other than an acquisition of securities for investment purposes pursuant to a bona fide financing; (ii) a merger or consolidation with any other corporation in which our holders of voting securities prior to the merger or consolidation do not own more than 50% of the total voting securities of the surviving corporation; or (iii) the sale or disposition of all or substantially all of our assets.

Termination of Employment Without Cause or for Good Reason Following a Change of Control. If, within one year after the consummation of a change of control, the executive's employment is terminated by us (or our successor) other than for cause or the executive terminates his employment for good reason (as such terms are defined in the executive's employment agreement): (1) we will pay the executive a lump sum payment equal to the product of 1.5 times, in the case of Dr. Knopf, or one times, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, the sum of (x) executive's then-current annual base salary plus (y) 100% of the executive's target bonus for the year in which the termination occurs, (2) 100% of any unvested equity and equity-based awards (including any RSUs) held by the executive at the time of such termination will fully vest, and (3) if the executive elects under COBRA or any successor law to continue participation in our group health and/or dental plans in which the executive was

participating prior to such termination, we will pay or, at our option reimburse the executive for, the full premium cost of that participation for 18 months, in the case of Dr. Knopf, or 12 months, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, following the date the executive's employment terminates or, if

Table of Contents

earlier, until the date the executive becomes eligible to enroll in such plans of a new employer. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Termination of Employment Without Cause or for Good Reason. If the executive's employment is terminated by us other than for cause or the executive terminates his employment for good reason (as such terms are defined in the executive's employment agreement) under circumstances other than as described in the preceding paragraph: (1) we will continue to pay the executive his base salary for a period of 18 months, in the case of Dr. Knopf, or 12 months, in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel, in accordance with our payroll policy, (2) any unvested stock option awards the executive holds at the time of such termination of employment that are subject to time-based vesting and that were granted on or prior to the effective date of the employment agreement will vest to the extent such stock option awards would have otherwise vested over the next 12 months in the case of each of Dr. Knopf, nine months in the case of Dr. Sherman and Mr. Ertel, or six months in the case of Dr. Quisel and Mr. McLaughlin, following such termination of employment, (3) prior to the second anniversary of the grant date of the performance-based RSUs, any performance-based RSUs that have been earned as of such date of termination based on the achievement of the applicable performance goals, as certified by our Compensation Committee, will vest upon such termination, and (4) if the executive elects under COBRA or any successor law to continue participation in our group health and/or dental plans in which the executive was participating prior to such termination, we will pay or, at our option reimburse the executive for, the full premium cost of that participation for 18 months in the case of Dr. Knopf, or 12 months in the case of Drs. Sherman and Quisel and Messrs. McLaughlin and Ertel. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Termination of Employment Due to Death or Disability. If the executive's employment terminates due to the executive's death or disability, then (1) all unvested stock options then held by the executive that were granted on or prior to the effective date of the employment agreement will vest as of the date of termination, and (2) prior to the second anniversary of the grant date of the performance-based RSUs, any performance-based RSUs that have been earned as of such date of termination based on the achievement of the applicable performance goals, as certified by our Compensation Committee, will vest upon such termination. In the event of such a termination of employment due to disability, to the extent we do not maintain a disability plan providing for continuation of the executive's base salary for one year following the date of such termination, during this period we will pay the executive, at the time the executive's base salary would otherwise have been paid, an amount equal to the excess of 100% of the executive's base salary over the disability insurance benefits, if any, actually paid to the executive. We will also pay the executive any base salary earned but not paid and any vacation time accrued but not used, in each case as of the termination date.

Other Termination of Employment. If the executive's employment is terminated for any reason other than by us without cause, by the executive for good reason, or due to the executive's death or disability, the executive will only be entitled to receive earned but unpaid base salary and any accrued but not used vacation as of the termination date.

Severance Subject to Release of Claims and Compliance With Restrictive Covenants. Our obligation to provide the executive with any severance payments or other benefits under the employment agreement is conditioned on the executive signing an effective release of claims in our favor and the executive's continued full performance of his obligations under the Employee Confidentiality, Non-Competition and Proprietary Information Agreement relating to confidentiality, non-competition and non-solicitation.

Section 280G. As of September 9, 2015, the employment agreements with our executives no longer provide for the right to a gross-up payment for excise taxes owed in connection with an "excess parachute payment" in the event of a change in ownership or control of the company under Section 280G of the Internal Revenue Code of 1986, as amended, or the Code. The employment agreements with our executives do provide, however, that if a change in ownership or control occurs and any portion of the payments made pursuant to the employment agreement or otherwise constitutes an excess parachute payment under Section 280G of the Code, then the executive will be entitled to receive an amount of such payments reduced so that no portion of the payments would constitute an excess parachute payment, or the amount otherwise payable to the executive under the employment agreement or otherwise

reduced by all applicable taxes, including the excise tax, whichever amount results in the greater amount payable to the executive.

Director Compensation

Our non-employee director compensation policy is designed to provide a total compensation package that enables us to attract and retain, on a long-term basis, high caliber non-employee directors. Under the policy, all non-employee directors are paid cash compensation as set forth below:

32

Table of Contents

	Annual Retainer
Board of Directors:	
All non-employee members	\$ 35,000
Additional retainer for Chair of the Board of Directors	\$ 35,000
Additional retainer for Lead Independent Director	\$ 15,000
Audit Committee:	
Chair	\$ 15,000
Non-Chair members	\$ 7,500
Compensation Committee:	
Chair	\$ 10,000
Non-Chair members	\$ 5,000
Nominating and Corporate Governance Committee:	
Chair	\$ 7,500
Non-Chair members	\$ 3,750

Under our non-employee director compensation policy, each person who is initially appointed or elected to our Board of Directors is eligible to receive a grant of stock options to purchase 20,000 shares of our common stock under our 2013 Equity Incentive Plan on the date he or she first becomes a non-employee director, which will vest quarterly in equal installments over a three-year period. In addition, each continuing non-employee director is eligible to receive an annual option grant to purchase 10,000 shares of our common stock, which will vest in full on the first anniversary of the grant date. The annual option grant is prorated when granted to any non-employee director who becomes a non-employee director during the fiscal year, based on the portion of the fiscal year that the director served on our Board of Directors. A person initially appointed as the Chair of our Board of Directors is eligible to receive an option grant to purchase 10,000 shares of our common stock, which will vest quarterly over three years after the date of grant. All options granted to members of our Board of Directors are granted with an exercise price equal to the fair market value of a share of our common stock on the date of grant. We also reimburse each member of our Board of Directors who is not an employee for reasonable travel and other expenses in connection with attending meetings of our Board of Directors.

In January 2015, pursuant to our non-employee director compensation policy, each of our non-employee directors, other than Mr. Kearney and Dr. Nader, received an option to purchase 10,000 shares of our common stock. Due to joining the Board of Directors during fiscal year 2014, Mr. Kearney and Dr. Nader received a prorated grant of options to purchase 4,665 and 576 shares of our common stock, respectively, for their annual stock option grant. These stock options will vest in full on the first anniversary of the grant date. In April 2015, in connection with Dr. Nader's appointment as Chair of our Board of Directors and pursuant to our non-employee director compensation policy, we granted Dr. Nader an option to purchase 10,000 shares of our common stock. This stock option vests quarterly over the three years after the date of grant.

The annual stock options to purchase 10,000 shares of our common stock granted in January 2015 to members of our Board of Directors, other than Mr. Kearney and Dr. Nader, each had a grant date fair value of \$237,366, and the stock options granted to Mr. Kearney and Dr. Nader in January 2015 had a grant date fair value of \$110,731 and \$13,672, respectively. These values were determined in accordance with the Financial Accounting Standards Board, Accounting Standards Codification Topic 718, Compensation-Stock Compensation.

The following table sets forth information concerning the cash compensation earned by our directors during 2015 and equity granted in 2015. Dr. Knopf, as an employee-director, and Dr. Golumbeski, pursuant to policy of Celgene Corporation, each receive no additional compensation for service as a director, and, consequently, are not included in this table. The compensation received by Dr. Knopf as an employee during 2015 is included in the "Summary Compensation Table" under "Executive Officer and Director Compensation" included in this proxy statement.

Table of Contents

Name	Fees Paid in Cash \$(1)	Option Awards \$(2)(3)	Total (\$)
Jean M. George	50,000	237,366	287,366
Edwin M. Kania, Jr.(4)	42,130	237,366	279,496
Terrence C. Kearney	50,000	110,731	(5) 160,731
Tom Maniatis, Ph.D.	40,000	237,366	277,366
Terrance G. McGuire	38,750	237,366	276,116
Francois Nader, M.D.	64,312	220,650	(5) 284,962
Richard F. Pops	37,153	237,366	274,519
Joseph S. Zakrzewski	50,370	237,366	287,736

(1) Amounts represent annual cash compensation for services rendered by each member of our Board of Directors.

(2) See table below.

Amounts shown reflect the grant date fair value of options awarded during fiscal 2015 for services performed in 2014 determined in accordance with the Financial Accounting Standards Board, Accounting Standards

(3) Codification Topic 718, Compensation—Stock Compensation. These amounts exclude the value of estimated forfeitures. See Note 11 to our consolidated financial statements for the year ended December 31, 2015 filed with our Annual Report on Form 10-K filed with the SEC on February 25, 2016 for details on the assumptions made in the valuation of these awards.

(4) Mr. Kania resigned from our Board of Directors effective as of December 14, 2015. All options that were unvested as of Mr. Kania's resignation date were terminated upon his resignation.

(5) Stock options granted in January 2015 were prorated to reflect the period of service on the Board of Directors in 2014.

The following table sets forth the aggregate number of exercisable and unexercisable option awards outstanding held by our non-employee directors as of December 31, 2015:

Name	Option Awards	
	Exercisable (#)	Unexercisable (#)
Jean M. George	15,000	15,000
George Golumbeski	—	—
Edwin M. Kania, Jr.(1)	13,333	—
Terrence C. Kearney	8,333	16,332
Tom Maniatis, Ph.D.	42,500	15,000
Terrance G. McGuire	15,000	15,000
Francois Nader, M.D.	8,334	22,242
Richard F. Pops	65,000	15,000
Joseph S. Zakrzewski	33,750	15,000

(1) Mr. Kania resigned from our Board of Directors effective as of December 14, 2015. All options that were unvested as of Mr. Kania's resignation date were terminated upon his resignation.

Equity Compensation Plan Information

The following table provides certain aggregate information with respect to all of our equity compensation plans in effect as of December 31, 2015:

Table of Contents

Plan category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights (2)	(b) Weighted-average exercise price of outstanding options, warrants and rights (3)	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))	
Equity compensation plans approved by security holders (1)	3,712,221	\$18.85	2,140,943	(4)
Equity compensation plans not approved by security holders	—	—	—	
Total	3,712,221	\$18.85	2,140,943	

These plans consist of our 2013 Equity Incentive Plan, or our 2013 Plan, our 2003 Stock Option and Restricted Stock Plan, or our 2003 Plan, and our 2013 Employee Stock Purchase Plan. Our 2013 Plan was adopted in (1) September 2013 and our 2003 Plan expired in December 2013, and thereafter no further stock options were granted under the 2003 Plan. All outstanding stock options granted under the 2003 Plan as of the 2003 Plan expiration date remained outstanding and subject to their terms and the terms of the 2003 Plan.

(2) Represents shares underlying outstanding stock options and restricted stock units.

(3) Restricted stock units have no exercise price and, therefore, the weighted average exercise price does not take these awards into account.

Represents 1,889,730 shares of common stock available for future issuance under our 2013 Plan and 251,213 shares of common stock available for future issuance under our 2013 Employee Stock Purchase Plan. Our 2013 Plan contains an "evergreen provision" which allows for an annual increase in the number of shares available for (4) issuance under the plan on the first day of each of our fiscal years during the period beginning on January 1, 2014 and ending on the January 1, 2023. The annual increase in the number of shares shall be equal to the lowest of (i) 3,150,000 shares; (ii) 4% of our outstanding shares on the first day of the fiscal year; and (iii) an amount determined by our Board of Directors.

Table of Contents

COMPENSATION COMMITTEE REPORT

The Compensation Committee of our Board of Directors has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K, which appears elsewhere in this proxy statement, with our management. Based on this review and discussion, the Compensation Committee has recommended to the Board of Directors that the Compensation Discussion and Analysis be included in our proxy statement and incorporated by reference into our Annual Report on Form 10-K for the year ended December 31, 2015.

Members of the Acceleron Pharma Inc. Compensation Committee

Joseph S. Zakrzewski, Chair

Tom Maniatis, Ph.D.

Terrance G. McGuire

Table of Contents

AUDIT COMMITTEE REPORT

The Audit Committee has reviewed the audited consolidated financial statements of Acceleron for the year ended December 31, 2015 and has discussed these statements with management and Ernst & Young LLP, or Ernst & Young, the Company's independent registered public accounting firm. Acceleron management is responsible for the preparation of the Company's financial statements and for maintaining an adequate system of disclosure controls and procedures and internal control over financial reporting for that purpose. The independent registered public accounting firm audits the annual consolidated financial statements prepared by management, expresses an opinion as to whether those consolidated financial statements present fairly the consolidated financial position, results of operations and cash flows of Acceleron Pharma Inc. in conformity with U.S. generally accepted accounting principles and discusses any issues they believe should be raised with us. The Audit Committee is responsible for providing independent, objective oversight of the Company's accounting functions and internal controls. The Audit Committee also reviewed management's report on its assessment of the effectiveness of the Company's internal control over financial reporting and the independent registered public accounting firm's report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2015.

The Audit Committee also received from, and discussed with, Ernst & Young the written disclosures and other communications that the Company's independent registered public accounting firm is required to provide to the Audit Committee, including the matters required to be discussed by Statement on Auditing Standards No. 61, as amended (Communication with Audit Committees), as adopted by the Public Company Accounting Oversight Board, or PCAOB, in Rule 3200T, which we refer to as SAS 61.

Ernst & Young also provided the Audit Committee with the written disclosures and the letter required by Rule 3526 of the PCAOB. PCAOB Rule 3526 requires independent registered public accounting firms annually to disclose in writing all relationships that in their professional opinion may reasonably be thought to bear on independence, to confirm their perceived independence and engage in a discussion of independence. The Audit Committee has reviewed this disclosure and has discussed with Ernst & Young their independence from Acceleron.

Based on its discussions with management and our independent registered public accounting firm, and its review of the representations and information provided by management and our independent registered public accounting firm, the Audit Committee recommended to the Board of Directors that the audited consolidated financial statements be included in the Acceleron Annual Report on Form 10-K for the year ended December 31, 2015, for filing with the Securities and Exchange Commission.

Members of the Acceleron Pharma Inc. Audit Committee

Terrence C. Kearney, Chair

Jean M. George

Joseph S. Zakrzewski

Table of Contents

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our executive officers and directors and persons who own more than 10% of a registered class of our equity securities to file initial reports of ownership and reports of changes in ownership with the SEC. Such persons are required by regulation of the SEC to furnish us with copies of all Section 16(a) forms they file. Based solely on our review of the copies of such forms or written representations from certain reporting persons received by us with respect to fiscal year 2015, we believe that our executive officers and directors and persons who own more than 10% of a registered class of our equity securities have complied with all applicable filing requirements.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Except as described below, there have been no transactions since January 1, 2015 in which we were a party, the amount involved exceeded or will exceed \$120,000, and in which any related person had a direct or indirect material interest.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and executive officers. These agreements will require us to indemnify these individuals and, in certain cases, affiliates of such individuals, to the fullest extent permissible under Delaware law against liabilities that may arise by reason of their service to us or at our direction, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified.

Registration Rights Agreement

In connection with our Series F preferred stock financing, on December 22, 2011, we entered into an amended and restated registration rights agreement with the holders of all of our then-outstanding shares of preferred stock including entities with which certain of our directors are affiliated. These entities that are parties to the agreement consist of Polaris Venture Partners IV, L.P. (affiliated with Terrance G. McGuire), Advanced Technology Ventures and related funds (affiliated with Jean M. George), and Celgene Corporation (affiliated with George Golumbeski). The agreement provides that these holders, for so long as they may hold registrable securities, as defined in the agreement, have the right to demand that we file a registration statement with respect to the common stock issued upon conversion of our preferred stock. These holders may also request that shares of common stock held by them be included in certain registration statements that we are otherwise filing.

Related Party Transactions Policy

We have adopted a related party transactions policy that governs the review and approval of related party transactions. Pursuant to this policy, if we want to enter into a transaction with a related party or an affiliate of a related party, our General Counsel will review the proposed transaction to determine, based on applicable NASDAQ and SEC rules, if such transaction requires pre-approval by the Audit Committee and/or Board of Directors. If pre-approval is required, such matters will be reviewed at the next regular or special Audit Committee and/or Board of Directors meeting. We may not enter into a related party transaction unless our General Counsel has either specifically confirmed that no further reviews are necessary or that all requisite corporate reviews have been obtained.

Table of Contents

PROPOSAL NO. 1—ELECTION OF DIRECTORS

In accordance with the Company's certificate of incorporation and bylaws, the Board of Directors is divided into three classes of approximately equal size. The members of each class are elected to serve a three-year term with the term of office of each class ending in successive years. Tom Maniatis, Ph.D., Richard F. Pops and Joseph S. Zakrzewski are the Class III directors whose terms expire at the Company's 2016 Annual Meeting of stockholders. Each of Dr. Maniatis and Messrs. Pops and Zakrzewski has been nominated for and has agreed to stand for re-election to the Board of Directors to serve as a Class III director of the Company for three years and until their successors are duly elected and qualified or until their earlier death, resignation or removal.

The three nominees for director with the highest number of affirmative votes will be elected as directors. It is intended that, unless you give contrary instructions, shares represented by proxies will be voted for the election of the three nominees listed above as director nominees. Acceleron has no reason to believe that any nominee will be unable to serve. In the event that one or more nominees is unexpectedly not available to serve, proxies may be voted for another person nominated as a substitute by the Board of Directors, or the Board of Directors may reduce the number of directors to be elected at the Annual Meeting. Information relating to each nominee for election as director and for each continuing director, including his or her period of service as a director of Acceleron, principal occupation and other biographical material is shown earlier in this proxy statement.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" EACH OF THESE NOMINEES FOR CLASS III DIRECTOR, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR THEREOF UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.
(PROPOSAL 1 ON YOUR PROXY CARD)**

Table of Contents

PROPOSAL NO. 2—ADVISORY VOTE ON EXECUTIVE COMPENSATION

We are seeking your advisory vote as required by Section 14A of the Securities Exchange Act of 1934, as amended, on the approval of the compensation of our named executive officers as described in the Compensation Discussion and Analysis, the compensation tables and related material contained in this proxy statement. Because your vote is advisory, it will not be binding on our Compensation Committee or our Board of Directors. However, the Compensation Committee and the Board will review the voting results and take them into consideration when making future decisions regarding executive compensation.

Our compensation philosophy is designed to align each executive's compensation with our short-term and long-term performance and to provide the compensation and incentives needed to attract, motivate and retain key executives who are critical to our long-term success. Consistent with this philosophy, a significant portion of the total compensation opportunity for each of our executives is directly related to performance factors that measure our progress against the goals of our strategic and operating plans, as well as our performance against that of our peer companies.

Stockholders are urged to read the Compensation Discussion and Analysis section of this proxy statement, which discusses how our compensation policies and procedures implement our compensation philosophy. The Compensation Committee and the Board of Directors believe that these policies and procedures are effective in implementing our compensation philosophy and in achieving our goals.

For the reasons discussed above, the Board of Directors unanimously recommends that stockholders vote in favor of the following resolution:

“RESOLVED, that the compensation paid to the named executive officers of Acceleron Pharma Inc., as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the Compensation Discussion and Analysis, the compensation tables and the related material disclosed in this proxy statement, is hereby APPROVED.”

Although the say-on-pay vote we are asking you to cast is non-binding, our Board of Directors and the Compensation Committee value the views of our stockholders and will consider the outcome of the vote when determining future compensation arrangements for our named executive officers. The affirmative vote of a majority of the shares cast affirmatively or negatively for this proposal is required to approve, on an advisory basis, the compensation of our named executive officers as described in this proxy statement. This vote is non-binding, and we currently hold our say-on-pay vote every year.

**THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" APPROVAL, ON AN ADVISORY BASIS, OF THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH APPROVAL UNLESS A STOCKHOLDER INDICATES OTHERWISE ON THE PROXY.
(PROPOSAL 2 ON YOUR PROXY CARD)**

Table of Contents

PROPOSAL NO. 3—APPROVAL OF SHORT-TERM INCENTIVE COMPENSATION PLAN

On March 3, 2016, on the recommendation of our Compensation Committee, our Board of Directors adopted, subject to stockholder approval, the Acceleron Pharma Inc. Short-Term Incentive Compensation Plan, or the STIP. Under the STIP, executive officers and other key employees of the Company and its subsidiaries may receive annual cash incentive compensation determined by the satisfaction of pre-established performance goals.

Performance-based compensation is a key element of our executive compensation program. Our Compensation Committee and our Board of Directors believe that the ability to grant awards under the STIP will enable us to attract, retain and incentivize eligible executives and other key employees to achieve objectives that are tied to the Company's business plan and strategy, which will enhance stockholder value and will further the Company's commitment to pay for performance. In addition, stockholder approval of the STIP would allow our Compensation Committee to grant cash incentive awards that are intended to qualify as "qualified performance-based compensation" under Section 162(m) of the Internal Revenue Code of 1986, as amended, or Section 162(m). Generally, Section 162(m) does not permit publicly held corporations to deduct compensation paid to the chief executive officer or any of the other three most highly paid named executive officers (other than the chief financial officer) to the extent the compensation exceeds \$1 million per executive officer in any fiscal year. However, an exception to this deduction limitation applies in the case of certain performance-based compensation that meets certain requirements, including the requirement that the material terms of the related performance goals be disclosed to and approved by the corporation's stockholders not less frequently than every five years. Under Section 162(m), the material terms include the class of eligible employees, a description of the business criteria on which the performance goals may be based and the maximum amount that can be paid to any participant for a specified period.

A vote to approve this proposal no. 3 will constitute a vote to approve the material terms of the performance goals under the STIP. Although stockholder approval is one of the requirements for the exception to the deduction limitation under Section 162(m), even with stockholder approval, there can be no guarantee that compensation will be treated as deductible qualified performance-based compensation under Section 162(m). In addition, as described above under "Compensation Discussion and Analysis—Tax and Accounting Considerations," our Compensation Committee has and will continue to have authority to award or approve compensation that is not deductible under Section 162(m) in order to provide compensation at competitive levels that will attract, incentivize and retain our executive officers and other key employees.

Since our initial public offering in 2013, certain compensation payable to our named executive officers covered by Section 162(m) has not been subject to the deduction limitation under Section 162(m) due to a special transition rule for corporations that become publicly held through an initial public offering. However, the reliance period under this transition rule will expire as of the date of next year's annual meeting of stockholders and the relief afforded by the transition rule will soon cease to be available to us. After such time, compensation in excess of \$1 million paid to a covered employee generally will not be deductible unless such amounts satisfy the exception for qualified performance-based compensation under Section 162(m).

The principal features of the STIP are described below. Stockholders should read the STIP, which is attached in full to this proxy statement at Annex A, for a full statement of its terms and conditions.

Administration. The STIP will be administered by our Compensation Committee. Our Compensation Committee has authority to interpret the STIP and any awards under the STIP, and any interpretation or decision by our Compensation Committee with regard to any questions arising under the STIP will be final and conclusive on all participants. As the administrator of the STIP, our Compensation Committee also has the authority to determine eligibility for awards and the terms and conditions of awards and generally to do all things necessary to administer the plan.

Eligibility. Executive officers and other key employees of the Company and our subsidiaries will be selected from time to time by our Compensation Committee to participate in the STIP. As of March 3, 2016, the date the STIP was approved by our Board of Directors, approximately 101 employees, including named executive officers, would be eligible to participate in the STIP.

Awards. Award opportunities under the STIP will be granted by our Compensation Committee with respect to a specified performance period consisting of the Company's fiscal year or such other performance period selected by our

Compensation Committee. Our Compensation Committee will establish the performance criteria applicable to the award, the amount or amounts payable if the performance criteria are achieved, and such other terms and conditions as our Compensation Committee deems appropriate. The STIP permits the grant of awards that are intended to satisfy the requirements of the exception for qualified performance-based compensation under Section 162(m), or Section 162(m) awards, as well as awards that are not intended to so qualify. Any Section 162(m) awards will be administered in accordance with the requirements of Section 162(m).

Performance Criteria. Awards under the STIP will be made based on, and subject to achieving, "performance criteria" established by our Compensation Committee. Performance criteria for Section 162(m) awards are limited to the objectively

Table of Contents

determinable measures of performance relating to any or any combination of the following (measured either absolutely or comparatively (including, without limitation, by reference to an index or indices or a specified peer group or a select group of companies) and determined either on a consolidated basis or, as the context permits, on a divisional, subsidiary, line of business, project or geographical basis or in combinations thereof and subject to adjustments, if any, as the Committee specifies, consistent with the requirements of Section 162(m)): sales; revenues; assets; expenses; earnings before or after deduction for all or any portion of interest, taxes, depreciation, amortization or equity expense, whether or not on a continuing operations or an aggregate or per share basis; return on equity, investment, capital, capital employed or assets; one or more operating ratios; operating income or profit, including on an after-tax basis; net income; borrowing levels, leverage ratios or credit rating; market share; capital expenditures; cash flow; cash reserves, stock price; stockholder return; sales of particular products or services; customer acquisition or retention; acquisitions and divestitures (in whole or in part); joint ventures, strategic alliances, licenses or collaborations; spin-offs, split-ups and the like; reorganizations; recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings; manufacturing or process development; or achievement of clinical trial or research objectives, regulatory or other filings or approvals or other product development milestones.

Provided that our Compensation Committee has specified at least one performance criterion intended to qualify an award as performance-based under Section 162(m), our Compensation Committee may specify other performance goals or criteria as a basis for its exercise of negative discretion with respect to the award. To the extent consistent with the requirements of Section 162(m), our Compensation Committee may establish that, in the case of any Section 162(m) award, one or more of the performance criteria applicable to such award be adjusted in an objectively determinable manner to reflect events (for example, the impact of charges for restructurings, discontinued operations, mergers, acquisitions, and other unusual or infrequently occurring items, and the cumulative effects of tax on accounting changes, each as defined by U.S. generally accepted accounting principles) occurring during the performance period of such award that affect the applicable performance criteria. With respect to awards other than Section 162(m) awards, our Compensation Committee may provide that such award, and any related performance criteria, will be adjusted in any manner prescribed by our Compensation Committee in its sole discretion.

Payment. A participant will be entitled to payment under an award only if all conditions to payment have been satisfied in accordance with the STIP and the terms of the award. Following the close of the performance period, our Compensation Committee will determine (and, to the extent required by Section 162(m), certify) whether and to what extent the applicable performance criteria have been satisfied. Our Compensation Committee will then determine the actual payment, if any, under each award. Our Compensation Committee has the sole and absolute discretion to reduce (including to zero) the actual payment to be made under any award. Our Compensation Committee will determine the payment dates for awards under the STIP. Generally, all payments under the STIP will be made, if at all, no later than March 15 of the calendar year following the calendar year in which the performance period ends, provided that our Compensation Committee may permit a participant to defer payment of an award.

Payment Limits. The maximum payment to any participant under a Section 162(m) award in any fiscal year will in no event exceed \$2 million.

Recovery of Compensation. Awards under the STIP will be subject to forfeiture, termination and rescission, and a participant who receives a payment pursuant to the STIP will be obligated to return to us such payment, to the extent provided by our Compensation Committee in connection with a breach by the participant of an award agreement or the STIP or any non-competition, non-solicitation or similar covenant or agreement with the Company or its affiliates, or an overpayment to the participant of incentive compensation due to inaccurate financial data. Our Compensation Committee may also recover awards pursuant to any applicable Company clawback or recoupment policy, or as otherwise required by law or applicable stock exchange listing standards.

Amendment and Termination. Our Compensation Committee may amend the STIP at any time, provided that any amendment will be approved by our stockholders if required by Section 162(m). Our Compensation Committee may terminate the STIP at any time.

New Plan Benefits. If approved, the STIP will become effective for performance periods beginning on or after January 1, 2017. As a result, no awards have been or will be granted under the STIP prior to its approval by our stockholders. Our Compensation Committee has full discretion to determine the amount of the awards to be made to participants

under the STIP, subject to the limits described above under "Payment Limits". Therefore, the future benefits or amounts that would be received by any person or group of persons under the STIP are not determinable at this time. Amounts paid to our named executive officers under our current Acceleron Pharma Inc. Cash Incentive Plan are set forth under "Non-Equity Incentive Plan Compensation" in the Summary Compensation Table in this proxy statement under "Executive Officer and Director Compensation."

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" APPROVAL OF THE ACCELERON PHARMA INC. SHORT-TERM INCENTIVE COMPENSATION PLAN, AND PROXIES SOLICITED

Table of Contents

BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH APPROVAL UNLESS A STOCKHOLDER
INDICATES OTHERWISE ON THE PROXY
(PROPOSAL 3 ON YOUR PROXY CARD)

43

Table of Contents**PROPOSAL NO. 4—RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We are asking our stockholders to ratify the Audit Committee's selection of Ernst & Young LLP, or Ernst & Young, as our independent registered public accounting firm for the fiscal year ending December 31, 2016. Ernst & Young has served as our independent registered public accounting firm since 2006.

The Audit Committee annually reviews the independent registered public accounting firm's independence, including reviewing all relationships between the independent registered public accounting firm and us and any disclosed relationships or services that may impact the objectivity and independence of the independent registered public accounting firm, and the independent registered public accounting firm's performance. Although ratification is not required by our bylaws or otherwise, the Board of Directors is submitting the selection of Ernst & Young to our stockholders for ratification as a matter of good corporate practice. If the selection is not ratified, the Audit Committee will consider whether it is appropriate to select another independent registered public accounting firm. Even if the selection is ratified, the Audit Committee in its discretion may select a different registered public accounting firm at any time during the year if the committee determines that such a change would be in the best interests of the Company and our stockholders.

We expect that a representative of Ernst & Young will attend the Annual Meeting and the representative will have an opportunity to make a statement if he or she so chooses. The representative will also be available to respond to appropriate questions from stockholders.

Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Registered Public Accounting Firm

The Audit Committee pre-approves all auditing services, internal control related services and permitted non-audit services (including the fees and terms thereof) to be performed by Ernst & Young, subject to the de minimis exception for non-audit services that are approved by the Audit Committee prior to the completion of an audit. The Audit Committee may delegate pre-approval authority to one or more members of the Audit Committee consistent with applicable law and listing standards, provided that the decisions of such Audit Committee member or members must be presented to the full Audit Committee at its next scheduled meeting.

Principal Accountant Fees and Services

We regularly review the services and fees of our independent registered public accounting firm. These services and fees are also reviewed by the Audit Committee on an annual basis. The aggregate fees billed for the fiscal years ended December 31, 2014 and 2015 for each of the following categories of services are as follows (in thousands):

Fee Category	2014	2015
Audit Fees	\$837	\$733
Audit-Related Fees	\$—	\$—
Tax Fees	\$81	\$51
All Other Fees	\$—	\$—
Total Fees	\$918	\$784

Audit Fees. Consist of aggregate fees for professional services provided in connection with the annual audit of our consolidated financial statements and the effectiveness of our internal control over financial reporting, the review of our quarterly condensed consolidated financial statements, consultations on accounting matters directly related to the audit, and comfort letters, consents and assistance with and review of documents filed with the SEC.

Audit-Related Fees. Consist of aggregate fees for accounting consultations and other services that were reasonably related to the performance of audits or reviews of our consolidated financial statements and were not reported above under "Audit Fees."

Tax Fees. Consist of aggregate fees for tax compliance, tax advice and tax planning services including the review and preparation of our federal and state income tax returns.

All Other Fees. Consist of aggregate fees billed for products and services provided by the independent registered public accounting firm other than those disclosed above.

The Audit Committee pre-approved all services performed since the pre-approval policy was adopted.

Table of Contents

THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT YOU VOTE "FOR" THE RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG LLP AS THE COMPANY'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM, AND PROXIES SOLICITED BY THE BOARD WILL BE VOTED IN FAVOR OF SUCH RATIFICATION UNLESS A STOCKHOLDER HAS INDICATED OTHERWISE ON THE PROXY.

(PROPOSAL 4 ON YOUR PROXY CARD)

Table of Contents

GENERAL MATTERS

Code of Business Conduct and Ethics and Corporate Governance Guidelines

We have adopted a Code of Business Conduct and Ethics for our directors, officers and employees, including our Chief Executive Officer and President and our Chief Financial Officer. A copy of our Code of Business Conduct and Ethics may be accessed free of charge by visiting our website at www.acceleronpharma.com and going to the "Investors & Media—Corporate Governance" section, or by requesting a copy in writing from our Secretary at our Cambridge, Massachusetts office. We intend to post on our website any amendment to, or waiver under, a provision of the Code of Business Conduct and Ethics that applies to our directors and certain of our executive officers within four business days following the date of such amendment or waiver.

A copy of the Corporate Governance Guidelines may also be accessed free of charge by visiting the website at www.acceleronpharma.com and going to the "Investors & Media—Corporate Governance" section, or by requesting a copy in writing from our Secretary at our Cambridge, Massachusetts office.

Availability of Certain Documents

A copy of our 2015 Annual Report on Form 10-K has been posted on the Internet along with this proxy statement. Upon written request, we will mail, without charge, a copy of our 2015 Annual Report on Form 10-K excluding exhibits. Please send a written request to our Corporate Secretary at:

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139
Attention: Secretary

SEC rules concerning the delivery of annual disclosure documents allow us or your broker to send a single Notice or, if applicable, a single set of our proxy materials to any household at which two or more of our stockholders reside, if we or your broker believe that the stockholders are members of the same family, unless we have received contrary instructions from one or more of the stockholders. This practice, referred to as "householding," benefits both you and us. It reduces the volume of duplicate information received at your household and helps to reduce our expenses. The rule applies to our Notices, annual reports, proxy statements and information statements.

We will undertake to deliver promptly, upon written or oral request, a separate copy to a stockholder at a shared address to which a single copy of the Notice or proxy materials was delivered. You may make a written or oral request by sending a written notification to our Secretary at the address above, providing your name, your shared address, and the address to which we should direct the additional copy of the Notice or proxy materials. Multiple stockholders sharing an address who have received one copy of a mailing and would prefer us to mail each stockholder a separate copy of future mailings should contact us at our principal executive offices. Additionally, if current stockholders with a shared address received multiple copies of a mailing and would prefer us to mail one copy of future mailings to stockholders at the shared address, notification of that request may also be made through our principal executive offices. Stockholders who participate in householding will continue to have access to and utilize separate proxy voting instructions.

Stockholder Proposals and Nominations

Requirements for Stockholder Proposals to be Considered for Inclusion in our Proxy Materials. To be considered for inclusion in next year's proxy statement, stockholder proposals must be received by our Secretary at our principal executive offices no later than the close of business on December 17, 2016, which is 120 days prior to the date that is one year from this year's mailing date of April 15, 2016.

Requirements for Stockholder Proposals to be Brought Before an Annual Meeting. Our bylaws provide that, for stockholder nominations to the Board of Directors or other proposals to be considered at an annual meeting, the stockholder must have given timely notice thereof in writing to the Secretary at Acceleron Pharma Inc., 128 Sidney Street, Cambridge, MA 02139. To be timely for the 2017 annual meeting, although not included in the proxy statement, the stockholder's notice must be delivered to or mailed and received by us not earlier than the close of business on the 120th day nor later than the close of business on the 90th day prior to the anniversary date of the prior year's annual meeting, except that if the annual meeting is set for a date that is not within 30 days before or after such anniversary date, we must receive the notice not later than the close of business on the tenth day following the day on

which we first provide notice or public disclosure of the date of the meeting. Assuming the date of our 2016 annual meeting is not so advanced or delayed, stockholders who wish to make a proposal at the 2016 annual meeting must notify us no earlier than February 2, 2017 and no later than March 4, 2017. Such notice must provide the information required by our bylaws with respect to each matter the stockholder proposes to bring before the 2017 annual meeting.

Table of Contents

Contacting the Board of Directors

Stockholders wishing to communicate with our Board of Directors may do so by writing to the Board or to the non-employee members of the Board as a group, at:

Acceleron Pharma Inc.
128 Sidney Street
Cambridge, MA 02139
Attention: Secretary

The communication must prominently display the legend "BOARD COMMUNICATION" in order to indicate to the Secretary that it is a communication for the Board. Upon receiving such a communication, the Secretary will promptly forward the communication to the relevant individual or group to which it is addressed. Certain items that are unrelated to the Board's duties and responsibilities may be excluded, such as spam, junk mail and mass mailings, resumes and other forms of job inquiries, surveys and business solicitations or advertisements. The Secretary will not forward any communication determined in his good faith belief to be frivolous, unduly hostile, threatening, illegal or similarly unsuitable.

Other Matters

As of the date of this proxy statement, the Board of Directors does not intend to present any matters other than those described herein at the Annual Meeting and is unaware of any matters to be presented by other parties. If other matters are properly brought before the meeting for action by the stockholders, proxies will be voted in accordance with the recommendation of the Board or, in the absence of such a recommendation, in accordance with the judgment of the proxy holder.

Directions to Annual Meeting

Directions to the 2016 Annual Meeting of Stockholders, to be held at Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, MA 02199 are set forth below:

From North of Boston: From Route 93 take exit 26, Leverett Connector/Storrow Drive, and follow to the Copley Square exit on the left. Take a right onto Beacon Street and follow to Exeter Street. Take a left onto Exeter Street and follow 11 blocks. Take a right on Huntington Avenue. The Prudential Center Garage will be on the right.

From West of Boston: Follow the Mass Pike eastbound into Boston (the Mass Pike is accessible from Route 128/I-95). Get off at exit 22, Copley Square/Prudential Center. Follow signs for Prudential Center. This will take you directly to the Prudential Center Garage entrance, which will be on your right.

From South of Boston: From Route 93 take exit 18, Massachusetts Avenue. Follow sign to Massachusetts Avenue and turn right. Follow Massachusetts Avenue for about 2 miles to Huntington Avenue. Take a right on Huntington Avenue. Take a left on Belvidere Street. The Prudential Center garage entrance will be on your right before Sovereign Bank.

From Logan Airport: Access Boston via the Sumner Tunnel and exit onto Route 93 North. Take exit 26, Leverett Connector/Storrow Drive, and follow to the Copley Square exit on the left. Take a right onto Beacon Street and follow to Exeter Street. Take a left onto Exeter Street and follow 11 blocks. Take a right on Huntington Avenue. The Prudential Center Garage will be on the right.

Parking: The Prudential Tower is best accessed via the South Garage, which has two entrances on Huntington Avenue, one on Dalton Street and one on Belvedere Street. The Red and Yellow levels are both part of the South Garage. Attendant parking is available on both levels at no additional charge.

By Order of the Board of Directors

John L. Knopf, Ph.D.
Chief Executive Officer, President and Director
April 15, 2016

Table of Contents

ACCELERON PHARMA INC.

SHORT-TERM INCENTIVE COMPENSATION PLAN

This Short-Term Incentive Compensation Plan (the “Plan”) has been established to advance the interests of Acceleron Pharma Inc. (the “Company”) by providing for the grant of short-term incentive compensation awards to eligible employees of the Company and its subsidiaries. The Plan is intended to comply with the requirements for tax deductibility imposed by Section 162(m) of the Internal Revenue Code of 1986, as amended (the “Code”) (Section 162(m) of the Code, together with the regulations thereunder, “Section 162(m)”), to the extent applicable.

I. ADMINISTRATION

The Plan will be administered by the Compensation Committee of the Board of Directors of the Company (the “Committee”). In the case of any Award (as defined in Section III below) intended to qualify as exempt performance-based compensation under Section 162(m), as determined by the Committee (a “Section 162(m) Award”), (i) if any member of the Compensation Committee is not an “outside director” (as defined in Section 162(m)), the “Committee” for purposes of the Plan will consist of a subcommittee consisting solely of those Committee members who are “outside directors” as so defined (and where applicable, references in the Plan to the Committee shall be deemed to be references to such subcommittee) and (ii) the Committee may delegate to other persons administrative functions that do not involve discretion. In the case of Awards other than Section 162(m) Awards, the Committee may delegate to other persons such duties, powers and responsibilities as it deems appropriate. To the extent of any such delegation, references herein to the “Committee” shall be deemed to refer to the person or persons to whom such authority has been delegated.

The Committee shall have the authority to interpret the Plan and Awards, to determine eligibility for Awards, to determine the terms of and the conditions applicable to any Award, and generally to do all things necessary to administer the Plan. Any interpretation or decision by the Committee with respect to the Plan or any Award will be final and conclusive as to all parties.

II. ELIGIBILITY; PARTICIPANTS

Executive officers and other key employees of the Company and its subsidiaries shall be eligible to participate in the Plan. The Committee will select, from among those eligible, the persons who will from time to time participate in the Plan (each, a “Participant”). Participation with respect to one Award under the Plan will not entitle an individual to participate with respect to a subsequent Award or Awards, if any.

III. GRANT OF AWARDS

The term “Award” as used in the Plan means an award opportunity that is granted to a Participant with respect to a specified performance period consisting of the Company’s fiscal year or such other period as the Committee may determine (each such period, a “Performance Period”). A Participant who is granted an Award will be entitled to a payment, if any, under the Award only if all conditions to payment have been satisfied in accordance with the Plan and the terms of the Award. By accepting (or, under such rules as the Committee may prescribe, being deemed to have accepted) an Award, the Participant agrees (or will be deemed to have agreed) to the terms of the Award and the Plan. For each Award, the Committee shall establish the following:

- (a) the Performance Criteria (as defined in Section IV below) applicable to the Award;
- (b) the amount or amounts that will be payable (subject to adjustment in accordance with Section V) if the Performance Criteria are achieved; and
- (c) such other terms and conditions as the Committee deems appropriate with respect to the Award.

For Section 162(m) Awards, (i) such terms shall be established by the Committee not later than (A) the ninetieth (90th) day after the beginning of the Performance Period, in the case of a Performance Period of 360 days or longer, or (B) the end of the period constituting the first quarter of the Performance Period, in the case of a Performance Period of less than 360 days, and (ii) once the Committee has established the terms of such Award in accordance with the foregoing, it shall not thereafter adjust such terms, except to reduce payments, if any, under the Award in accordance with Section V or as otherwise permitted in accordance with the requirements of Section 162(m).

IV. PERFORMANCE CRITERIA

As used in the Plan, “Performance Criteria” means specified criteria, other than the mere continuation of employment or the mere passage of time, the satisfaction of which is a condition for the vesting, payment or full enjoyment of an

Award. A Performance Criterion and any targets with respect thereto determined by the Committee need not be based upon an increase, a positive or improved result or avoidance of loss and may be applied to a Participant individually, or to a business unit or

A-1

Table of Contents

division or the Company as a whole. For Section 162(m) Awards, a Performance Criterion will mean an objectively determinable measure or objectively determinable measures of performance relating to any or any combination of the following (measured either absolutely or comparatively (including, without limitation, by reference to an index or indices or a specified peer group or a select group of companies) and determined either on a consolidated basis or, as the context permits, on a divisional, subsidiary, line of business, project or geographical basis or in combinations thereof and subject to such adjustments, if any, as the Committee specifies, consistent with the requirements of Section 162(m)): sales; revenues; assets; expenses; earnings before or after deduction for all or any portion of interest, taxes, depreciation, amortization or equity expense, whether or not on a continuing operations or an aggregate or per share basis; return on equity, investment, capital, capital employed or assets; one or more operating ratios; operating income or profit, including on an after-tax basis; net income; borrowing levels, leverage ratios or credit rating; market share; capital expenditures; cash flow; cash reserves; stock price; stockholder return; sales of particular products or services; customer acquisition or retention; acquisitions and divestitures (in whole or in part); joint ventures, strategic alliances, licenses or collaborations; spin-offs, split-ups and the like; reorganizations; recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings; manufacturing or process development; or achievement of clinical trial or research objectives, regulatory or other filings or approvals or other product development milestones. Provided that the Committee has specified at least one Performance Criterion under this Section IV intended to qualify the Award as performance-based under Section 162(m), the Committee may specify other performance goals or criteria (whether or not noted in this Section IV) as a basis for its exercise of negative discretion with respect to the Award. To the extent consistent with the requirements of Section 162(m), the Committee may establish that, in the case of a Section 162(m) Award, one or more of the Performance Criteria applicable to such Award will be adjusted in an objectively determinable manner to reflect events (for example, the impact of charges for restructurings, discontinued operations, mergers, acquisitions, and other unusual or infrequently occurring items, and the cumulative effects of tax or accounting changes, each as defined by U.S. generally accepted accounting principles) occurring during the Performance Period that affect the applicable Performance Criterion or Criteria. With respect to Awards other than Section 162(m) Awards, the Committee may provide that such Award, and any related Performance Criterion or Criteria, will be adjusted in any manner prescribed by the Committee in its sole discretion.

V. CERTIFICATION OF PERFORMANCE; AMOUNT PAYABLE UNDER AWARDS

As soon as practicable after the close of a Performance Period, the Committee will determine whether and to what extent, if at all, the Performance Criterion or Criteria applicable to each Award granted for the Performance Period have been satisfied and, in the case of Section 162(m) Awards, will take such steps as it determines to be sufficient to satisfy the certification requirement under Section 162(m) as to such performance results. The Committee shall then determine the actual payment, if any, under each Award. No amount may be paid under a Section 162(m) Award unless the Performance Criterion or Criteria applicable to the payment of such amount have been certified as having been satisfied as set forth above. The Committee may, in its sole and absolute discretion and with or without specifying its reasons for doing so, after determining the amount that would otherwise be payable under any Award for a Performance Period, reduce (including to zero) the actual payment, if any, to be made under such Award. The Committee may exercise the discretion described in the immediately preceding sentence either in individual cases or in ways that affect more than one Participant. In each case the Committee's discretionary determination, which may affect different Awards differently, will be binding on all parties.

VI. PAYMENT UNDER AWARDS

Except as otherwise determined by the Committee or as otherwise provided in this Section VI, all payments under the Plan will be made, if at all, no later than March 15 of the calendar year following the calendar year in which the Performance Period ends; provided, that the Committee may authorize elective deferrals of any Award payments in accordance with the deferral rules of Section 409A of the Code and the regulations thereunder ("Section 409A"). Except as provided otherwise by the Committee, an Award payment will not be made unless the Participant has remained employed with the Company and its subsidiaries through the date of payment. Any deferrals with respect to a Section 162(m) Award will be subject to adjustment for notional interest or other notional earnings in a manner consistent with (as determined by the Committee) the requirements of Section 162(m). Awards under the Plan are intended either to qualify for exemption from, or to comply with the requirements of, Section 409A, but neither the

Company nor any affiliate, nor the Committee, nor any person acting on behalf of the Company, any affiliate, or the Committee, will be liable for any adverse tax or other consequences to any Participant or to the estate or beneficiary of any Participant or to any other holder of an Award, including, but not limited to, by reason of the application of Section X below or any acceleration of income, or any additional tax (including any interest and penalties), asserted by reason of the failure of an Award to satisfy the requirements of Section 409A or by reason of Section 4999 of the Code.

A-2

Table of Contents

VII. PAYMENT LIMITS

The maximum amount payable to any Participant in any fiscal year of the Company under Section 162(m) Awards will be \$2,000,000, which limitation, with respect to any such Awards for which payment is deferred in accordance with Section VI above, shall be applied without regard to such deferral.

VIII. TAX WITHHOLDING

All payments under the Plan will be subject to reduction for applicable tax and other legally or contractually required withholdings.

IX. AMENDMENT AND TERMINATION

The Committee may amend the Plan at any time and from time to time; provided, that, with respect to Section 162(m) Awards, no amendment for which Section 162(m) would require shareholder approval in order to preserve the eligibility of such Awards as exempt performance-based compensation shall be effective unless approved by the shareholders of the Company in a manner consistent with the requirements of Section 162(m). The Committee may at any time terminate the Plan.

X. MISCELLANEOUS

Awards held by a Participant are subject to forfeiture, termination and rescission, and a Participant will be obligated to return to the Company payments received with respect to Awards, in each case to the extent provided by the Committee in connection with (i) a breach by the Participant of an Award agreement or the Plan, or any non-competition, non-solicitation, confidentiality or similar covenant or agreement with the Company or any of its affiliates or (ii) an overpayment to the Participant of incentive compensation due to inaccurate financial data. Without limiting the generality of the foregoing, the Committee may recover Awards and payments under any Award in accordance with any applicable Company clawback or recoupment policy, as such policy may be amended and in effect from time to time, or as otherwise required by law, regulation or applicable stock exchange listing standards, including, without limitation, Section 10D of the Securities Exchange Act of 1934, as amended. Each Participant, by accepting an Award pursuant to the Plan, agrees to return the full amount required under this Section X at such time and in such manner as the Committee shall determine in its sole discretion, consistent with applicable law.

No person shall have any claim or right to be granted an Award, nor shall the selection for participation in the Plan for any Performance Period be construed as giving a Participant the right to be retained in the employ or service of the Company or its affiliates for that Performance Period or for any other period. The loss of an Award will not constitute an element of damages in the event of termination of employment for any reason, even if the termination is in violation of an obligation of the Company or any affiliate to the Participant.

Section 162(m) Awards under the Plan shall be construed and administered in a manner consistent with the exemption of Award payments as exempt performance-based compensation under Section 162(m). Subject to the foregoing, the Committee shall have complete discretion to construe the Plan and all matters arising under the Plan.

The Plan shall be governed by the laws of the Commonwealth of Massachusetts without giving effect to any choice of law provisions that might otherwise refer construction or interpretation of the Plan to the substantive laws of another jurisdiction. The Plan shall be effective for Performance Periods beginning on or after January 1, 2017 (to the extent the material terms hereof have been approved by the Company's shareholders prior to such date).

