

# ARROWHEAD PHARMACEUTICALS, INC.

## FORM DEF 14A (Proxy Statement (definitive))

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A  
(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the  
Securities Exchange Act of 1934

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 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant To §240.14a-12

**ARROWHEAD PHARMACEUTICALS, 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:
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  - (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:
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- Fee paid previously with preliminary materials.
- Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by 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.:
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  - (4) Date filed:



ARROWHEAD PHARMACEUTICALS, INC.  
225 SOUTH LAKE AVENUE, SUITE 1050  
PASADENA, CALIFORNIA 91101

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**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS  
TO BE HELD ON FRIDAY, MARCH 16, 2018**

TO THE STOCKHOLDERS OF ARROWHEAD PHARMACEUTICALS, INC.:

NOTICE IS HEREBY GIVEN that the 2018 Annual Meeting of Stockholders of Arrowhead Pharmaceuticals, Inc., a Delaware corporation (the “Company”), will be held on Friday, March 16, 2018, at 10:00 a.m., Pacific time (the “Annual Meeting”). This year’s meeting will be a completely “virtual” meeting of stockholders. You can attend the Annual Meeting online, vote your shares electronically, and submit your questions during the Annual Meeting by visiting [www.virtualshareholdermeeting.com/ARWR2018](http://www.virtualshareholdermeeting.com/ARWR2018). Prior to the Annual Meeting, you will be able to vote at [www.proxyvote.com](http://www.proxyvote.com) for the purpose of considering and voting upon the following proposals:

1. To elect the six directors named in the Proxy Statement to serve as members of the Company’s Board of Directors until the next Annual Meeting or until their successors are elected;
2. To conduct an advisory (non-binding) vote to approve executive compensation; and
3. To ratify the selection of Rose, Snyder & Jacobs LLP as independent auditors of the Company for the fiscal year ending September 30, 2018;

The foregoing items of business are more fully described in the Proxy Statement accompanying this Notice. Proposal No. 1 relates solely to the election of the six directors nominated by the Board of Directors and does not include any other matters relating to the election of directors, including, without limitation, the election of directors nominated by any stockholder of the Company.

All stockholders of record are cordially invited to attend the Annual Meeting by visiting [www.virtualshareholdermeeting.com/ARWR2018](http://www.virtualshareholdermeeting.com/ARWR2018). We anticipate that on or about February 2, 2018, we will mail our stockholders a Notice Regarding the Availability of Proxy Materials (the “Notice of Internet Availability”) containing instructions on how to access our 2018 Proxy Statement and 2017 Annual Report on Form 10-K and to vote online. You will need to have your 16-digit Control Number included on your Notice of Internet Availability or your proxy card (if you received a printed copy of the proxy materials) to join the Annual Meeting.

If you prefer to receive paper copies of our proxy materials, please follow the instructions included in the Notice of Internet Availability. To ensure your representation at the meeting, you are urged to vote via the Internet or telephone as instructed in the Notice of Internet Availability, or to mark, sign, date and return the proxy card as promptly as possible in the postage-prepaid envelope enclosed for that purpose. Any stockholder of record attending the Annual Meeting may vote at the Annual Meeting even if such stockholder has previously returned a proxy. Each stockholder may appoint only one proxy holder to attend the Annual Meeting on his or her behalf. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

/s/ Jane Davidson

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Jane Davidson  
Secretary

Pasadena, California  
January 25, 2018

**Your vote is important, whether or not you expect to attend the Annual Meeting of Stockholders. Stockholders of record are urged to vote via the Internet or telephone as instructed, or if you are voting by mail, to mark, sign and date and promptly return the proxy in the postage-prepaid return envelope provided.**

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**Voting promptly will help avoid the additional expense of further solicitation to assure a quorum at the meeting.**

**Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.**

**Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to be Held on Friday, March 16, 2018:**

You may access the following proxy materials at [www.virtualshareholdermeeting.com/ARWR2018](http://www.virtualshareholdermeeting.com/ARWR2018)

Notice of the 2018 Annual Meeting of Stockholders;  
Company's 2018 Proxy Statement;  
Company's Annual Report on Form 10-K for the year ended September 30, 2017; and  
Form of Proxy Card

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**ARROWHEAD PHARMACEUTICALS, INC.**  
**225 South Lake Avenue, Suite 1050**  
**Pasadena, California 91101**  
**(626) 304-3400**

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**PROXY STATEMENT FOR ANNUAL MEETING OF STOCKHOLDERS**  
**TO BE HELD ON FRIDAY, MARCH 16, 2018**

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**GENERAL INFORMATION CONCERNING SOLICITATION AND VOTING**

The enclosed Proxy is solicited on behalf of Arrowhead Pharmaceuticals, Inc. (the “**Company**” or “**Arrowhead**”) for use at the 2018 Annual Meeting of Stockholders (the “**Annual Meeting**”) to be held on Friday, March 16, 2018 at 10:00 a.m., Pacific time, and at any adjournment(s) thereof, for the purposes set forth herein and in the accompanying Notice of Annual Meeting of Stockholders (the “**Notice**”). This year’s meeting will be a completely “virtual” meeting of stockholders. You can attend the Annual Meeting online, vote your shares electronically, and submit your questions during the Annual Meeting, by visiting [www.virtualshareholdermeeting.com/ARWR2018](http://www.virtualshareholdermeeting.com/ARWR2018). You will need to have your 16-digit Control Number included on your Notice Regarding the Availability of Proxy Materials (“the Notice of Internet Availability”) or your proxy card (if you received a printed copy of the proxy materials) to join the Annual Meeting.

The Company anticipates that the Notice of Internet Availability in connection with these proxy solicitation materials will first be mailed on or about February 2, 2018 to all stockholders entitled to vote at the Annual Meeting and we will post our proxy materials on the website referenced in the Notice of Internet Availability. As more fully described in the Notice of Internet Availability, all stockholders may choose to access our proxy materials on the website referred to in the Notice of Internet Availability or may request to receive a printed set of our proxy materials.

**Record Date**

Only holders of record of our common stock at the close of business on January 23, 2018 (the “**Record Date**”) are entitled to notice of the Annual Meeting and to vote at the Annual Meeting. On that date, the Company had outstanding 86,787,566 shares of common stock (“**Common Stock**”).

**Revocability of Proxies**

Any proxy given by a stockholder of record pursuant to this solicitation may be revoked by the person giving it at any time before its use by delivering to the Secretary of the Company, at or before the taking of the vote at the Annual Meeting, a written notice of revocation or a duly executed proxy bearing a later date or by attending the Annual Meeting and voting in person. Stockholders may also revoke their proxy by entering a new vote over the Internet or by telephone.

**Voting and Solicitation**

Each share of the Company’s Common Stock is entitled to one vote on all matters presented at the Annual Meeting. Stockholders do not have the right to cumulate their votes in the election of directors. Shares of Common Stock represented by properly executed proxies will, unless such proxies have been previously revoked, be voted in accordance with the instructions indicated thereon. In the absence of specific instructions to the contrary, properly executed proxies will be voted FOR all matters submitted to a vote of stockholders at the Annual Meeting pursuant to this proxy statement. No business other than that set forth in the accompanying Notice of Annual Meeting of Stockholders is expected to come before the Annual Meeting. Should any other matter requiring a vote of stockholders properly arise, the persons named in the enclosed form of proxy will vote such proxy in accordance with the recommendation of the Board of Directors (the “**Board**”).

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If you will not be able to attend the Annual Meeting to vote in person, you may vote your shares via the Internet or by telephone or by mail as set forth in the Notice.

The Company has engaged a proxy solicitor, Alliance Advisors, LLC, to encourage voting by our stockholders. It is estimated that the total cost for the solicitation campaign will be approximately \$10,000. Proxies may also be solicited by certain of the directors, officers and employees of the Company, without additional compensation. The Company will bear the costs of solicitation. In addition, the Company expects to reimburse brokerage firms and other persons representing beneficial owners of shares for their expenses in forwarding solicitation materials to such beneficial owners.

If your shares are held in street name, the voting instruction form sent to you by your broker, bank or other nominee should indicate whether the institution has a process for beneficial holders to provide voting instructions over the Internet or by telephone. A number of banks and brokerage firms participate in a program that also permits stockholders whose shares are held in street name to direct their vote over the Internet or by telephone. If your bank or brokerage firm gives you this opportunity, the voting instructions from the bank or brokerage firm that accompany this proxy statement will tell you how to use the Internet or telephone to direct the vote of shares held in your account. If your voting instruction form does not include Internet or telephone information, please complete and return the voting instruction form in the self-addressed, postage-paid envelope provided by your broker. Stockholders who vote by proxy over the Internet or by telephone need not return a proxy card or voting instruction form by mail.

#### **Quorum; Abstentions; Broker Non-Votes**

The required quorum for the transaction of business at the Annual Meeting is a majority of the votes eligible to be cast by holders of shares of Common Stock issued and outstanding on the Record Date. Shares that are voted "FOR," "AGAINST" or "ABSTAIN" on a matter are treated as being present at the meeting for purposes of establishing a quorum with respect to such matter. For certain proposals, brokers may not have discretionary authority to vote on a particular matter if they have not received specific instructions from the beneficial owner of the shares (" **broker non-votes** "). In accordance with the rules of Nasdaq, banks, brokerage firms and other nominees who hold Arrowhead shares in street name for their customers have authority to vote on "routine" proposals when they have not received instructions from beneficial owners. However, banks, brokerage firms and other nominees are precluded from exercising their voting discretion with respect to non-routine matters, such as Proposal Nos. 1 and 2 described in this proxy statement. Absent instruction from you, however, your broker can, using its voting discretion, vote on the proposal to ratify the selection of Rose, Snyder & Jacobs LLP as Arrowhead's independent auditor for the fiscal year ending September 30, 2018. Shares subject to a broker non-vote will be counted as present for the purpose of determining the presence or absence of a quorum for the transaction of business at the Annual Meeting; the effect of abstentions and broker non-votes on the proposals presented herein is discussed below.

With regard to the election of directors, votes may be cast in favor of a director nominee or withheld. Because directors are elected by plurality, abstentions from voting and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome. If a quorum is present at the meeting, the nominees receiving the greatest number of votes, up to six directors, will be elected. Because Proposal Nos. 2 and 3 must be approved by the affirmative vote of a majority of the shares of Common Stock entitled to vote thereon and present in person or by proxy at the Annual Meeting (the "Required Vote"), abstentions will be counted in tabulations of the votes cast on each such proposal and will have the same effect as a vote against the proposal, whereas broker non-votes (with respect to Proposal No. 2) will be excluded from the vote and will have no effect on its outcome.

#### **Deadline for Receipt of Stockholder Proposals**

Any stockholder who meets the requirements of the proxy rules under the Securities Exchange Act of 1934, as amended (the " **Exchange Act** "), who intends to present a proposal at the Company's 2019 Annual Meeting of Stockholders must ensure that the proposal is received by the Corporate Secretary at Arrowhead Pharmaceuticals, Inc., 225 South Lake Avenue, Suite 1050, Pasadena, CA 91101, not later than October 5, 2018, in order to be considered for inclusion in our proxy materials for that meeting; provided, however, that if the Company's 2019

Annual Meeting of Stockholders is held before February 20, 2019 or after April 15, 2019, you must provide specified information to us a reasonable time before we begin to print and send our proxy statement for our 2019 Annual Meeting. Proposals received after the specified dates may be excluded from the Company’s proxy statement.

Additionally, our Bylaws provide for notice procedures to recommend a person for nomination as a director or to propose business to be considered by stockholders at a meeting. To be considered timely under these provisions, the stockholder’s notice must be received by the Corporate Secretary at our principal executive offices at the address set forth above between 90 and 120 days prior to the one-year anniversary of the date of the 2018 Annual Meeting; *provided, however*, that if the 2019 Annual Meeting date is advanced by more than 30 days before or delayed by more than 60 days after the anniversary date of the 2018 Annual Meeting, then stockholders must provide notice within time periods specified in our Bylaws. Our Bylaws also specify requirements as to the form and content of a stockholder’s notice.

**PROPOSAL ONE  
ELECTION OF DIRECTORS**

The Board has nominated the following six persons as directors to serve until the 2019 Annual Meeting and until their successors have been duly elected. Each of the nominees is currently a director of Arrowhead. Except as set forth in the biographical information below, none of the nominees is related by blood, marriage or adoption to any other nominee or any executive officer of the Company. The six nominees receiving the greatest numbers of votes at the Annual Meeting will be elected to the six director positions. Unless otherwise instructed, the proxy holders will vote the proxies received by them for the six nominees named below. If any nominee is unable or declines to serve as director at the time of the Annual Meeting, the proxies will be voted for any nominee who is designated by our present Board to fill the vacancy. The table below sets forth, with respect to each nominee for election, his age and current position with Arrowhead.

**Nominees for Election as Directors.** The Board unanimously adopted a resolution proposing the nominees set forth below for election as Directors of the Company for the next year.

**OUR BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” EACH OF THE NOMINEES LISTED BELOW.**

<b>Douglass Given, MD Chairman</b>	<b>Experience and Expertise</b>
Age: 65 Director since: 2010	<p>Dr. Given is Chief Executive Officer and Director of Health 2047, Inc., a San Francisco, CA based health information start up and is founder and Managing Partner of G5 Partners, LLC, a Menlo Park, CA based consulting firm that provides strategic advisory services, corporate development, and venture investment in innovative healthcare companies. Dr. Given is an internist and infectious diseases doctor with a PhD in virology, a serial entrepreneur and a venture capitalist. Over the course of his career, he has developed deep expertise in biotechnology, biopharmaceuticals, specialty medical products and healthcare innovation. Dr. Given has directly participated in the development of more than 15 top-selling drugs, biologics, diagnostics, imaging agents and medical devices. He was involved in R&amp;D portfolio management at Lilly, was responsible for integrating the Searle acquisition at Monsanto, chaired one of six therapeutic area development teams at Schering Plough and led Mallinckrodt’s corporate research and venture LP investments. Immediately prior to taking the leadership role at Health2047, from 2000 to 2014</p> <p>Dr. Given was a partner at life sciences investor Bay City Capital. Dr. Given was a Clinical and Research Fellow in Internal Medicine and Infectious Diseases at Massachusetts General Hospital and Harvard Medical School. He is also a noted philanthropist and mentor, advising and</p>

sponsoring entrepreneurial programs and innovation funds at leading institutions like the University of Chicago, Wharton, Johns Hopkins, USC, the University of Texas and Houston Methodist Research Institute. Additionally, he assists leading universities on the public health front and serves as an advisor to the Harvard School of Public Health, the Stanford Medicine Community Council and the Johns Hopkins Bloomberg School of Public Health. Dr. Given is the brother of Dr. Bruce Given, the Company's Chief Operating Officer.

#### **Qualifications**

Dr. Given's qualifications to serve on the Board include his extensive experience as a physician scientist, in finance and business transactions, particularly investments in the life sciences industry, as well as directorship roles in biopharmaceutical companies. Dr. Given also has had significant leadership roles, including CEO of several biotech companies and Senior Vice President, at several large pharmaceutical companies.

#### **Michael S. Perry, DVM Independent Lead Director**

Age: 58

Director since: 2011

Serves on:

- Audit Committee
- Compensation Committee (Chair)
- Nominating Committee (Chair)

Other Public Company Boards:

- Avita Medical, Inc.
- Amplphi Bioscience Corp.

#### **Experience and Expertise**

Dr. Perry is currently the Chief Executive Officer and President of Avita Medical Ltd., a regenerative medicine company based in Valencia, CA (ASX: AVH and OTCQX: AVMXY) and Managing Director of Bioscience Managers, a global Venture Capital firm. From 2014 – 2017, Dr. Perry served as Chief Scientific Officer of Novartis' Cell and Gene Therapy Unit, and from 2012 – 2014 he served as Vice President and Global Head of Stem Cell Therapy for Novartis Pharmaceuticals Corp, a US affiliate of Switzerland-based Novartis AG, a global pharmaceutical company. Dr. Perry has previously served as the Global Head of R&D at Baxter Healthcare, President and CEO of Cell & Gene Therapy at Novartis affiliates Systemix Inc. and Genetic Therapy, Inc., VP Regulatory Affairs at Sandoz Pharmaceuticals Corp., Director of Regulatory Affairs at Schering-Plough Corporation, and Chairman, CEO or CMO at several early stage biotech companies. He also previously served as a Venture Partner with Bay City Capital, LLC, based in San Francisco, California. Dr. Perry holds a Doctor of Veterinary Medicine, a PhD in Biomedical Pharmacology, and a B.Sc. in Physics from the University of Guelph, Ontario, Canada. He is a graduate of the International Advanced Management Program at Harvard Business School.

#### **Qualifications**

Dr. Perry's qualifications to serve on the board include his medical expertise and his extensive experience in preclinical and clinical drug development, including executive level leadership roles and directorships in several publicly held biotech companies.

#### **Christopher Anzalone, PhD Chief Executive Officer, President & Director**

Age: 48

Director since: 2007

#### **Experience & Expertise**

Dr. Anzalone has been President, Chief Executive Officer and Director of the Company since December 1, 2007 and has led the Company's business and technical development since then. Prior to joining Arrowhead, Dr. Anzalone formed and served as CEO of the Benet Group LLC, a private equity firm focused on creating and building new nano-biotechnology companies from university-generated science. Prior to his tenure at the Benet Group, from 1999 until 2003, he was a partner at the Washington, DC-based



private equity firm Galway Partners, LLC, where he was responsible for sourcing, structuring and building new business ventures. Dr. Anzalone holds a Ph.D. in Biology from UCLA and a B.A. in Government from Lawrence University.

#### **Qualifications**

Dr. Anzalone's qualifications to serve on the Board include his deep understanding of the business through his role as Chief Executive Officer; in addition, Dr. Anzalone has extensive experience in business development, biotechnology, drug development, company-building and venture capital.

#### **Mauro Ferrari, PhD Independent Director**

Age: 58

Director since: 2010

Serves on:

- Audit Committee
- Compensation Committee
- Nominating Committee

#### **Experience & Expertise**

Since 2010, Dr. Ferrari has been the President and CEO of The Houston Methodist Hospital Research Institute (TMHRI), Executive Vice President of Houston Methodist Hospital and Senior Associate Dean of Weill Cornell Medical College in New York. He is also the President of The Alliance for NanoHealth. Dr. Ferrari is an internationally recognized expert in nanomedicine and biomedical nanotechnology. Prior to assuming leadership of TMHRI, Dr. Ferrari was Professor and Chairman of The Department of NanoMedicine and Biomedical Engineering at The University of Texas Health Science Center at Houston, Professor of Experimental Therapeutics at the MD Anderson Cancer Center, Adjunct Professor of Bioengineering at Rice University and Adjunct Professor of Biomedical Engineering at the University of Texas in Austin. His previous academic appointments include tenured professorships at UC Berkeley and The Ohio State University.

#### **Qualifications:**

We believe Dr. Ferrari's qualifications to serve on the Board include his extensive training and experience in the fields of nanotechnology, biotechnology and biomedical applications. Dr. Ferrari has significant technical training, several academic appointments, over 300 published articles, over 30 issued patents and is the recipient of most prestigious academic awards in nanomedicine and drug delivery technology. Additionally, Dr. Ferrari has extensive experience in developmental stage organizations having founded several startup companies.

#### **Edward W. Frykman Independent Director**

Age: 81

Director since: 2004

Serves on:

- Audit Committee (Chair)
- Compensation Committee
- Nominating Committee

Other Public Company Boards:  
Acacia Research Corporation

#### **Experience & Expertise**

Mr. Frykman retired from Crowell, Weedon & Co. in 2008 as an account representative, a position he held since 1992. Before his service at Crowell, Weedon & Co., Mr. Frykman served as Senior Vice President of L.H. Friend & Co. Both Crowell Weedon & Co. and L.H. Friend & Co. are investment brokerage firms located in Southern California. In addition, Mr. Frykman was a Senior Account Executive with Shearson Lehman Hutton, where he served as the Manager of the Los Angeles Regional Retail Office of E. F. Hutton & Co. Mr. Frykman is also a director of Acacia Research Corporation, a publicly-held corporation based in Newport Beach, California.

#### **Qualifications**

Mr. Frykman's qualifications to serve on the Board include his long tenure as a member of the Board, which has enabled Mr. Frykman to gain a deep

understanding of the company's operations, strategy and finances. Mr. Frykman has over 20 years of Audit Committee leadership in his roles of Audit Committee Chairman at both Acacia and Arrowhead and an extensive knowledge and experience in financial statement analysis gained in his career in finance and management.

**William Waddill**  
**Independent Director**

Age: 60

Director since: January 2018

Serves on:  
Audit Committee

Other Public Company Boards:  
Protagonist Therapeutics, Inc.

**Experience & Expertise**

William Waddill began his career 30 years ago in commercial banking and public accounting and has been in the biotechnology industry for over 25 years. Since 2016, he has served on the board of Protagonist Therapeutics, a Newark, CA clinical stage biopharmaceutical company and most recently was Senior Vice President and CFO of Calithera Bioscience, a South San Francisco clinical stage pharmaceutical company. Prior to Calithera, Mr. Waddill was Senior Vice President and CFO at OncoMed Pharmaceuticals from 2007 to 2014. Mr. Waddill served as the Senior Vice President and CFO of Ilypsa, Inc., a biotechnology company that was acquired in 2007 by Amgen, Inc. Before joining Ilypsa, he served as the founder and principal at Square One Finance, a financial consulting business, and Mr. Waddill served as Senior Director of Finance and Administration at Exelixis, Inc., a biotechnology company. Mr. Waddill received a BS in accounting from the University of Illinois, Chicago, and certification as a public accountant (inactive) after working at PriceWaterhouseCoopers and Deloitte in Boston.

**Qualifications**

Mr. Waddill's qualifications to serve on the Board include his extensive background in the biopharma industry, his financial expertise, executive leadership roles and experience as a director of other public companies.

**Board Composition and Nominating Process**

The Nominating Committee of the Board of Directors annually considers the size, composition and needs of the Board and, as appropriate, recommends the nominees for directors to the Board for approval. The Committee considers and evaluates suggestions from many sources regarding possible candidates for directors. Below are general criteria for the evaluation of current and proposed directors:

- The highest ethical character and shared values with our Code of Corporate Conduct
- Reputation, both personal and professional, consistent with our image and reputation
- Accomplishment within candidate's field, with superior credentials and recognition
- Relevant expertise and experience and the ability to offer advice and guidance to the CEO based on that expertise and experience
- Independence, without the appearance of any conflict in serving as a Director, and independence of any particular constituency with the ability to represent all shareholders
- Ability to exercise sound business judgment
- Diversity, reflecting differences in skills, regional and industry experience, background, and other unique characteristics

Additionally, the Committee considers the mix of skills and experience among current and prospective directors with a goal of assembling a Board with complementary skills for the benefit of the Company. Listed below are the relevant contributions of each current board member.

<u>Expertise</u>	<u>Given</u>	<u>Perry</u>	<u>Anzalone</u>	<u>Ferrari</u>	<u>Frykman</u>	<u>Waddill</u>
<b>Biopharma Research &amp; Development</b>	X	X	X	X		
<b>Healthcare</b>	X	X		X		
<b>Drug Development</b>	X	X	X	X		
<b>Executive Leadership</b>	X	X	X	X	X	X
<b>Public Company Governance</b>	X	X	X		X	X
<b>Financial/Audit</b>					X	X
<b>Venture Capital</b>	X	X	X			

### Corporate Governance Policies and Practices

The following is a summary of our corporate governance policies and practices:

- The positions of Chairman of the Board and Chief Executive Officer are separated, which allows our Chief Executive Officer to focus on strategic planning and execution as well as our day-to-day business operations, while allowing the Chairman of the Board to lead the Board in its fundamental role of providing advice to and oversight of management. While our Bylaws do not require that our Chairman and Chief Executive Officer positions be separate, our Board believes that having separate positions is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance.
- A majority of the members of the Board are independent directors, as defined by Nasdaq Marketplace Rules. The Board has determined that all of the Company's directors are independent, except Dr. Anzalone, due to his employment relationship with the Company, and Dr. Given, who is the brother of Bruce Given, the Company's Chief Operating Officer. Non-employee directors do not receive consulting or other fees from the Company, other than Board and Committee compensation.
- The Board has appointed an independent Lead Director. The Lead Director is tasked with assuring that the Board committees and other relevant issues have independent leadership.
- The Board has overall responsibility for the oversight of the Company's risk management process, which is designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term organizational performance and enhance stockholder value. Risk management includes not only understanding company-specific risks and the steps management implements to manage those risks, but also what level of risk is acceptable and appropriate for the Company. Management is responsible for establishing our business strategy, identifying and assessing the related risks and implementing appropriate risk management practices. The Board regularly reviews our business strategy and management's assessment of the related risk, and discusses with management the appropriate level of risk for the Company.
- All of the Company's employees, officers and directors are subject to the Company's Code of Business Conduct and Ethics Policy, which is available on the Company's website at [www.arrowheadpharma.com](http://www.arrowheadpharma.com). The ethics policy meets the requirements of Nasdaq Marketplace Rules, as well as the code of ethics requirements of the SEC.
- The Audit, Compensation and Nomination Committees consist entirely of independent directors.

- The independent directors meet separately in executive session on a regular basis to discuss matters relating to the Company and the Board, without members of the management team present.
- The Board reviews at least annually the Company's business initiatives, capital projects and budget matters.
- The Audit Committee reviews and approves all related-party transactions or, if the size and nature of the transaction warrants, a special committee of non-related Board members is formed to negotiate and approve the transaction.

### **Stockholder Communications with Directors**

Stockholders who wish to communicate with the Board or any individual director can write to: Jane Davidson, Corporate Secretary, Arrowhead Pharmaceuticals, Inc., 225 South Lake Avenue, Suite 1050, Pasadena, CA 91101. Your letter should indicate that you are an Arrowhead stockholder. Depending on the subject matter, management will:

- Forward the communication to the director or directors to whom it is addressed;
- Forward the communication to the Chairman of the Board, if addressed to the board of directors; or
- If not addressed to any director or directors, attempt to handle the inquiry directly (for example, requests for information or stock-related matters).

### **Board Meetings and Committees**

The Board held a total of six meetings during the fiscal year ended September 30, 2017. The Board has three standing committees: an Audit Committee, a Compensation Committee and a Nomination Committee.

The functions of the Audit Committee are to select independent public accountants, to review the scope and results of the year-end audit with management and the independent auditors, to review the Company's accounting principles and its system of internal accounting controls, to review the Company's annual and quarterly reports before filing with the Securities and Exchange Commission and to review any related-party transactions. The Audit Committee met three times during fiscal 2017. The current members of the Audit Committee are Edward W. Frykman, Chairman, William Waddill, Mauro Ferrari and Michael S. Perry. The Board has determined that all members of the Audit Committee are independent directors under the Rules of the SEC and the listing standards of Nasdaq Marketplace Rules and are financially literate. The Board has determined that Mr. Frykman and Mr. Waddill are "audit committee financial experts" in accordance with the applicable regulations, based on their experience as noted above. The Audit Committee Charter is available on the Company's website at [www.arrowheadpharma.com](http://www.arrowheadpharma.com).

The functions of the Compensation Committee are to review the goals and achievements of the Company and the Chief Executive Officer for the prior year and approve the goals of the Company and the Chief Executive Officer for the next year, to review and approve salaries, bonuses and other benefits payable to the Company's executive officers and to administer the Company's 2004 Equity Incentive Plan and 2013 Incentive Plan. The Compensation Committee is specifically responsible for determining the compensation of the Chief Executive Officer and the other executive officers. The Compensation Committee reviews compensation recommendations made by the Chief Executive Officer for other senior executives of the Company at least annually; the Chief Executive Officer is not present during discussions or deliberations regarding his compensation. In fiscal 2017, the Compensation Committee engaged Streeter Wyatt LLC, a compensation consulting firm, to provide advice and guidance with regard to compensation for our named executive officers. The decision to engage the consultant was not made or recommended by management and the Committee has the sole discretion to engage or change the consultant. The Compensation Committee met two times during fiscal 2017. The current members of the Compensation Committee are Michael S. Perry, Chairman, Edward Frykman and Mauro Ferrari. The Board has determined that all members of the Compensation Committee are independent directors under the listing rules of Nasdaq Marketplace Rules. The Compensation Committee's charter is available on the Company's website at [www.arrowheadpharma.com](http://www.arrowheadpharma.com). The Committee has not delegated any of its responsibilities or authorities granted under its charter.

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The Nomination Committee is responsible for proposing a slate of directors for election by the stockholders at each Annual Stockholders Meeting and for proposing candidates to fill any vacancies. The Nomination Committee met once during fiscal 2017. The current members of the Nomination Committee are Michael S. Perry, Chairman, Edward Frykman and Mauro Ferrari. The Nomination Committee's charter is available on the Company's website at [www.arrowheadpharma.com](http://www.arrowheadpharma.com). The Nomination Committee manages the process for evaluating current Board members at the time they are considered for re-nomination. After considering the appropriate skills and characteristics required on the Board, the current makeup of the Board, the results of the evaluations and the wishes of the Board members to be re-nominated, the Nomination Committee recommends to the Board whether those individuals should be re-nominated.

On at least an annual basis, the Nomination Committee reviews with the Board whether it believes the Board would benefit from adding new members and, if so, the appropriate skills and characteristics required for any new members. If the Board determines that a new member would be beneficial, the Nomination Committee solicits and receives recommendations for candidates and manages the process for evaluating candidates. All potential candidates, regardless of their source, are reviewed under the same process. The Nomination Committee (or its chairman) screens the available information about the potential candidate(s). Based on the results of the initial screening, interviews with candidates are scheduled with Nomination Committee members, other members of the Board and senior members of management. Upon completion of these interviews and other due diligence, the Nomination Committee may nominate a candidate to the Board for election.

Candidates for independent Board member positions are identified through recommendations from directors or others associated with the Company, as well as through a formal search process managed by an executive recruiter. Arrowhead stockholders may also recommend candidates by sending the candidate's name and resume to the Nomination Committee pursuant to the procedures, set forth above, for communication with the Board. As described above, our Bylaws also provide for separate notice procedures to recommend a person for nomination as a director to be considered by stockholders at a meeting, including requirements as to the timing, form and content of a stockholder's notice.

The Nomination Committee has no predefined minimum criteria for selecting Board nominees, although it believes that all directors should share qualities such as governance and business experience at the corporate level, relevant non-competitive experience and strong communication and analytical skills. Independent directors must meet the criteria for independence set forth by Nasdaq and the SEC. In any given search, the Nomination Committee may also define particular characteristics for candidates to balance the overall skills and characteristics of the Board and the needs of the Company. During any search, the Nomination Committee reserves the right to modify its stated search criteria for exceptional candidates. While the Board does not have a policy with regard to consideration of diversity for selecting candidates, the Nomination Committee may consider diversity, including diversity with respect to experience, skill set, age, areas of expertise and professional background, as well as race, gender, national origin and any other criteria deemed appropriate by the Nomination Committee.

No incumbent director attended fewer than 75% of the aggregate of (i) the total number of meetings of the Board held during fiscal 2017, and (ii) the total number of meetings held by all committees of the Board during fiscal 2017 on which such person served.

In addition, two of the directors attended the 2017 Annual Meeting of Stockholders. It is the Company's policy to encourage, but not require, that all directors attend our annual stockholder meetings.

## DIRECTOR COMPENSATION

Directors who are also employees of the Company receive no separate compensation from the Company for their service as members of the Board. The below table sets forth compensation levels for each of our outside directors for calendar 2017 and 2018.

<u>Name &amp; Position</u>	<u>2018 Annual Fee (1)</u> (effective 1/1/18)	<u>2018 Stock Award (2)</u>	<u>2018 Grant Date Value</u>	<u>2017 Annual Fee (1)</u> (effective 1/1/17)	<u>2017 Stock Award (2)</u>	<u>2017 Grant Date Value</u>
Douglass Given Chairman	\$ 78,750	30,000	\$ 110,400	\$ 78,750	80,000	\$ 124,000
Michael S. Perry Lead Director	\$ 68,250	30,000	\$ 110,400	\$ 68,250	80,000	\$ 124,000
Edward Frykman Director	\$ 52,500	25,000	\$ 92,000	\$ 52,500	50,000	\$ 77,500
Mauro Ferrari Director	\$ 52,500	25,000	\$ 92,000	\$ 52,500	50,000	\$ 77,500
William Waddill Director (3)	\$ 52,500	25,000	\$ 92,000	\$ N/A	N/A	\$ N/A

- (1) The annual fee for service as a Company director for 2018 and 2017 is \$52,500. An additional fee of \$26,250 is paid for the service of the Chairman and an additional \$15,750 for the service of the lead director.
- (2) For services in 2018, each non-employee director received a grant of 25,000 restricted stock units (“RSUs”). Additional grants of 5,000 RSUs were awarded for the service of the Chairman and the lead director. RSU grants to non-employee directors vest on the one-year anniversary of the date of grant. In 2017, the grant for each director was 50,000 RSUs with an additional grant to the Chairman of 30,000 RSUs and to the lead director of 30,000 RSUs. The number of RSUs granted to employees and non-employee directors was increased in fiscal 2017 to address the Company’s retention needs after a decision was made to terminate the Company’s clinical trials. In 2018, the number of RSUs granted was decreased from 2017 to amounts closer to historical levels.
- (3) Mr. Waddill became a director effective 1/1/2018 and received no compensation in fiscal 2017.

The following table sets forth the total compensation paid to our non-employee directors in fiscal 2017. Dr. Anzalone’s compensation is set forth in the discussion of Executive Compensation and in the Summary Compensation Table.

<u>Name</u>	<u>Fee Earned or Paid in Cash (1)</u> (2)	<u>Stock Awards (\$) (1) (2)</u>	<u>Total (\$)</u>
Douglass Given	\$ 77,813	\$ 124,000	\$ 201,813
Michael S. Perry	\$ 67,438	\$ 124,000	\$ 191,438
Edward Frykman	\$ 51,875	\$ 77,500	\$ 129,375
Mauro Ferrari	\$ 51,875	\$ 77,500	\$ 129,375
William Waddill (3)	N/A	N/A	N/A

- (1) This column represents the total grant date fair value, computed in accordance with ASC 718, of restricted stock units granted during fiscal year 2017 for each director.
- (2) RSUs to non-employee directors vest one year from date of grant.
- (3) Mr. Waddill became a director effective 1/1/2018 and received no compensation in fiscal 2017.

As of the last day of fiscal year 2017, the directors held the following outstanding stock option and restricted stock unit grants in the aggregate: Douglass Given – 65,000 stock options and 80,000 restricted stock units; Michael S. Perry – 77,000 stock options and 80,000 restricted stock units; Edward Frykman – 76,500 stock options and 50,000 restricted stock units; and Mauro Ferrari – 25,469 stock options and

50,000 restricted stock units. Mr. Waddill became a director effective 1/1/2018 and did not hold any stock options or restricted stock units as of the last day of fiscal year 2017.

**Vote Required; Recommendation of the Board**

The six nominees receiving the greatest numbers of votes at the meeting, assuming a quorum is present, will be elected to the six director positions to serve until their terms expire or until their successors have been duly elected and qualified. Because directors are elected by plurality, abstentions from voting and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

**THE BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” EACH OF THE NOMINEES  
FOR DIRECTOR IN PROPOSAL ONE.**

**PROPOSAL TWO  
ADVISORY VOTE TO APPROVE EXECUTIVE COMPENSATION**

The compensation paid to our Named Executive Officers (“NEOs”) is described below in the Compensation Discussion and Analysis on pages 11 through 31 of this proxy statement for the year ended September 30, 2017. The Board of Directors is asking stockholders to cast a non-binding, advisory vote FOR the following resolution:

“RESOLVED, that the compensation paid to the Company’s named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, as set forth in the compensation tables and narrative discussion, is hereby APPROVED.”

Although the vote we are asking you to cast is non-binding, the Compensation Committee and the Board 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 Board has adopted a policy providing for annual advisory votes to approve executive compensation. Unless the Board modifies its policy on the frequency of holding advisory votes to approve executive compensation, the next such advisory vote will occur in 2019.

**Vote Required; Recommendation of the Board**

Proposal Two must be approved by the Required Vote, assuming a quorum is present. For this purpose, abstentions will be counted as a vote against the proposal, while broker non-votes will have no effect on the outcome of the vote.

**THE BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” PROPOSAL TWO.**

**EXECUTIVE COMPENSATION**

**COMPENSATION DISCUSSION AND ANALYSIS**

*The following compensation discussion and analysis contains statements regarding future individual and Company performance targets and goals. These targets and goals are disclosed in the limited context of Arrowhead’s compensation programs and should not be understood to be statements of management’s expectations or guidance. Arrowhead cautions investors not to apply these statements to other contexts. Fiscal years are denoted as fiscal years, all other year references refer to calendar years.*

This Compensation Discussion and Analysis describes the compensation program for our Named Executive Officers. During 2017, these individuals were:

- Christopher Anzalone, our President and Chief Executive Officer (our “CEO”);

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- Bruce D. Given, our Chief Operating Officer (our “COO”);
  - Kenneth Myszkowski, our Chief Financial Officer (our “CFO”);
  - Patrick O’Brien, our General Counsel; and
  - Peter Leone, our Vice President, Strategic Business Initiatives.

This Compensation Discussion and Analysis describes the material elements of our executive compensation program during 2017. It also provides an overview of our executive compensation philosophy and objectives, and summarizes our executive compensation policies and practices. Finally, it analyzes how and why the Compensation Committee of our Board of Directors (the “Compensation Committee”) arrived at the specific compensation decisions for our executive officers, including our Named Executive Officers for 2017 including the key factors that the Compensation Committee considered in determining their compensation.

## **Our Company**

We develop medicines that treat intractable diseases by silencing the genes that cause them. Using a broad portfolio of RNA chemistries and efficient modes of delivery, our therapies trigger the RNA interference mechanism to induce rapid, deep, and durable knockdown of target genes. RNA interference, or RNAi, is a mechanism present in living cells that inhibits the expression of a specific gene, thereby affecting the production of a specific protein. Deemed to be one of the most important recent discoveries in life science with the potential to transform medicine, the discoverers of RNAi were awarded a Nobel Prize in 2006 for their work. Our RNAi-based therapeutics leverage this natural pathway of gene silencing.

In 2017, we refocused our resources on therapeutics that exclusively utilize our Targeted RNAi Molecule (TRiM™) platform technology. Therapeutics built on the TRiM™ platform have demonstrated high levels of pharmacologic activity in multiple animal models spanning several therapeutic areas. TRiM™ enabled therapeutics offer several potential advantages over prior generation and competing technologies, including: simplified manufacturing and reduced costs; multiple routes of administration including subcutaneous injection and inhaled administration; ability to target multiple tissue types including liver, lung, and tumors; and the potential for improved safety and reduced risk of intracellular buildup, because there are less metabolites from smaller, simpler molecules.

## **2017 Business Highlights**

### ***Pipeline Overview***

We are focused on developing innovative drugs for diseases with a genetic basis, typically characterized by the overproduction of one or more proteins. The depth and versatility of our RNAi technologies enable us to address conditions in virtually any therapeutic area and pursue disease targets that are not otherwise addressable by small molecules and biologics. The timing of our planned and already filed clinical trial applications (CTA) discussed below are based on calendar quarters, not fiscal quarters.

- ARO-AAT is an RNAi therapeutic candidate for the treatment of liver disease associated with alpha-1 antitrypsin deficiency. ARO-AAT is designed to knock down the Alpha-1 antitrypsin (AAT) gene transcript and reduce the hepatic production of the mutant AAT protein. ARO-AAT is a next-generation subcutaneously administered compound that follows a previous generation AAT compound ARC-AAT. A CTA was filed in the fourth quarter of 2017.
- ARO-HBV is an RNAi therapeutic candidate for the treatment of chronic hepatitis B infection with the goal of achieving a functional cure. ARO-HBV is a next-generation subcutaneously administered compound that follows previous generation HBV compounds ARC-520 and ARC-521. A CTA was filed in the fourth quarter of 2017.



- ARO-APOC3 is designed to reduce production of Apolipoprotein C-III (apoC-III), a component of triglyceride rich lipoproteins (TRLs) including VLDL and chylomicrons and a key regulator of triglyceride metabolism. The company believes that knocking down the hepatic production of apoC-III may result in reduced VLDL synthesis and assembly, enhanced breakdown of TRLs, and better clearance of VLDL and chylomicron remnants. A CTA is planned for the fourth quarter of 2018.
- ARO-ANG3 is designed to reduce production of angiopoietin-like protein 3 (ANGPTL3), a liver synthesized inhibitor of lipoprotein lipase and endothelial lipase. ANGPTL3 inhibition has been shown to lower serum LDL, serum and liver triglyceride and has genetic validation as a novel target for cardiovascular disease. A CTA is planned for the fourth quarter of 2018.
- ARO-LUNG1 is Arrowhead's first therapeutic candidate to utilize the TRiM™ platform to target an undisclosed disease of the lung. A CTA is planned for the fourth quarter of 2018.
- ARO-HIF2 is being developed for the treatment of clear cell renal cell carcinoma (ccRCC). ARO-HIF2 is designed to inhibit the production of HIF-2  $\alpha$ , which has been linked to tumor progression and metastasis in ccRCC. Arrowhead believes it is an attractive target for intervention because over 90% of ccRCC tumors express a mutant form of the Von Hippel-Landau protein that is unable to degrade HIF-2  $\alpha$ , leading to its accumulation during tumor hypoxia and promoting tumor growth. It is the first drug candidate to utilize the TRiM™ platform to target tumors. A CTA is planned for 2019.
- ARO-LPA (AMG 890) is designed to reduce production of apolipoprotein A, a key component of lipoprotein(a), which has been genetically linked with increased risk of cardiovascular diseases, independent of cholesterol and LDL levels. Amgen, Inc. acquired a worldwide, exclusive license in September 2016 to develop and commercialize ARO-LPA (AMG 890).
- ARO-AMG1 is being developed against an undisclosed genetically-validated cardiovascular target under a license and collaboration agreement with Amgen, Inc.

During 2017, we continued to make progress on our long-term strategic objectives, including the following specific accomplishments:

- Unveiled our Targeted RNAi Molecule platform, or TRiM™, which utilizes ligand-mediated delivery and is designed to enable tissue-specific targeting, while being structurally simple.
- Filed a Clinical Trial Application (CTA) for ARO-AAT, our second generation subcutaneously administered clinical candidate for the treatment of alpha-1 antitrypsin deficiency liver disease.
- Filed a Clinical Trial Application (CTA) for ARO-HBV, our third generation subcutaneously administered clinical candidate for the treatment of chronic hepatitis B virus infection.
- Expanded our cardiometabolic pipeline, which now includes ARO-APOC3, targeting apolipoprotein C-III, and ARO-ANG3, targeting angiopoietin-like protein 3 (ANGPTL3) with CTA filings planned around the end of 2018.
- Provided data highlighting the TRiM™ platform's ability to target extra-hepatic tissues, including lung and tumor, represented by the following programs:
  - ARO-Lung1, our first candidate against an undisclosed gene target in the lung, which achieved almost 90% target knockdown following inhaled administration in rodents

- ARO-HIF2, our candidate targeting renal cell carcinoma, which achieved 85% target gene knockdown in a rodent tumor model
- CTA filings are planned in the fourth quarter of 2018 and in 2019 for ARO-Lung1 and ARO-HIF2, respectively
- Presented new clinical data at HEP DART 2017 demonstrating up to 5.0 log10 reduction in HBV s-antigen and a Sustained Host Response in 50% of hepatitis B patients following RNAi therapy, ARC-520, in the 2001 open label extension study, and
- Made continued progress on our two product cardiovascular collaboration with Amgen, in which one that was previously called ARO-LPA against the target lipoprotein(a) has been formally nominated as a clinical candidate and which is now referred to as AMG890 by Amgen.

In addition, we recorded the following financial results in fiscal 2017:

- **Revenue** – Generated revenue of approximately \$31.4 million, up from our revenue of approximately \$0.2 million in 2016;
- **Net Loss** – Recorded a net loss of approximately \$34.4 million down from a net loss of approximately \$81.7 million in 2016; and
- **Net Loss Per Share** – Recorded a net loss per share (basic and diluted) of \$0.47, compared to a net loss per share of \$1.34 in 2016.

#### *Executive Compensation Highlights*

Based on our overall operating environment and these results, the Compensation Committee took the following key actions with respect to the compensation of our Named Executive Officers for 2017:

- **Base Salary** – Approved base salary increases of 4% for each of our NEOs for 2017.
- **Annual Incentive Compensation** – Approved annual cash bonuses for 2017 ranging from 90% to 115% of target annual incentive compensation opportunities, including an annual cash bonus for our CEO in the amount of \$715,357, equal to 115% of his target annual incentive compensation opportunity.
- **Equity Compensation** – Granted our CEO a long-term incentive compensation opportunity in the form of a performance-based restricted stock unit (“PRSU”) with a grant date value of \$1,613,700 vesting upon the achievement of six equally weighted, pre-established and rigorous performance milestones and granted our other Named Executive Officers long-term incentive compensation opportunities in the form of time-based restricted stock unit (“RSU”) awards that may be settled for shares of our common stock with grant date values ranging from \$139,500 to \$589,000.
- **Clawback Policy** – Established a clawback policy allowing the Company to recover compensation from any executive officer should the Board of Directors determine that a material misstatement of the Company’s financial statements was due to fraud, negligence, or intentional misconduct by any executive officer of the Company.
- **Instituted “Double Trigger” Feature for Acceleration of Equity Awards** – Amended the agreements for outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a “double-trigger” arrangement).

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*Advisory Vote to Approve Named Executive Officer Compensation*

At our 2017 Annual Meeting of Stockholders in March 2017, we conducted a non-binding stockholder advisory vote on the compensation of our Named Executive Officers (commonly known as a “Say-on-Pay” vote). Our stockholders approved the Say-on-Pay proposal with approximately 51% of the votes cast in favor of the proposal. While this result represented a majority of the shares of our common stock entitled to vote thereon and present in person or by proxy at the Annual Meeting, it does not meet our goal for support for our Say-on-Pay proposal, as 53% of the votes cast were voted in favor of our Named Executive Officer’s compensation in 2016 and 58% of the votes cast were voted in favor of their compensation in 2015. In 2015, 2016 and 2017, respectively, the “No” votes represented approximately 16%, 17% and 15% of the outstanding shares of our stock entitled to vote at the Annual Meeting.

While we have received the support of a majority of the votes cast on our Say-on-Pay proposal in each of the last three years, we recognize that the recent level of support indicates a concern on the part of some of our stockholders and their advisors about our executive compensation program. As a result, in each of the past three years, the Compensation Committee, in consultation with our Board of Directors, has undertaken to better understand and respond to the concerns and views of our stockholders and communicate the rationale underlying our compensation decisions:

- In 2015, we solicited feedback from institutional stockholders that beneficially own approximately 25% of our outstanding common stock and reviewed the policies and feedback from Institutional Shareholder Services, Inc. (“ISS”) and Glass Lewis & Co. (“Glass Lewis”) to better understand their relevant policies, as well as to supplement our stockholders’ perspectives. Based on this feedback, the Compensation Committee:
  - Shifted our CEO’s annual equity award from time-based awards to wholly performance-based awards that were to be earned (if at all) based on the achievement of performance objectives tied to the continued successful technical and clinical development of our drug products and/or follow-on candidates and the successful completion of a significant corporate transaction that would validate the credibility of our platform technology and resulting products and provide a revenue source for continued growth;
  - Imposed a minimum three-year vesting requirement on the time-based equity awards granted to our executive officers; and
  - Adopted stock ownership guidelines of six times his annual base salary for our CEO and twice their annual base salary for our COO and CFO.
- In 2016, we continued our engagement activities with our stockholders, soliciting feedback from stockholders beneficially owning approximately 28% of our outstanding common stock and met with ISS to discuss the design of our executive compensation program and our actions to strengthen the link between our performance and our executive officers’ compensation. We believe the decrease in the number of shares that we were able to reach out to reflects the decrease in institutional ownership year over year. Using this information, the Compensation Committee:
  - Continued to grant our CEO a large majority of his long-term equity opportunity in the form of performance-based equity awards, in the form of a performance-based restricted stock unit (“PRSU”) award that may be settled for shares of our common stock upon the achievement of pre-established and rigorous performance milestones and an option to purchase shares of our common stock. The PRSU award comprised approximately 90% of the long-term incentive compensation opportunity granted to our CEO in fiscal 2016 and, when combined with his annual incentive compensation opportunity, resulted in approximately 77% of his target total direct compensation opportunity for fiscal 2016 being performance-based.
- In 2017, we continued our stockholder engagement program, reaching out to our top 20 institutional stockholders beneficially owning approximately 20% of our outstanding common stock to solicit their views and concerns and reviewed the feedback and policies of ISS. Based on

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this review, as well as our commitment to good corporate governance, the Compensation Committee:

- Granted our CEO a long-term incentive compensation opportunity for fiscal 2017 that is entirely performance-based;
- Established a clawback policy allowing the Company to recover compensation should the Board of Directors determine that a material misstatement of the Company's financial statements was due to fraud, negligence, or intentional misconduct by any executive officer of the Company.
- Amended the agreements for outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a so-called "double-trigger" arrangement).

We value the opinions of our stockholders and will continue to consider the outcome of future Say-on-Pay votes, as well as feedback received throughout the year, when making compensation decisions for our executive officers. The Compensation Committee is committed to being responsive to stockholder feedback regarding our executive compensation program, policies, and practices, including concerns expressed through the Say-on-Pay vote.

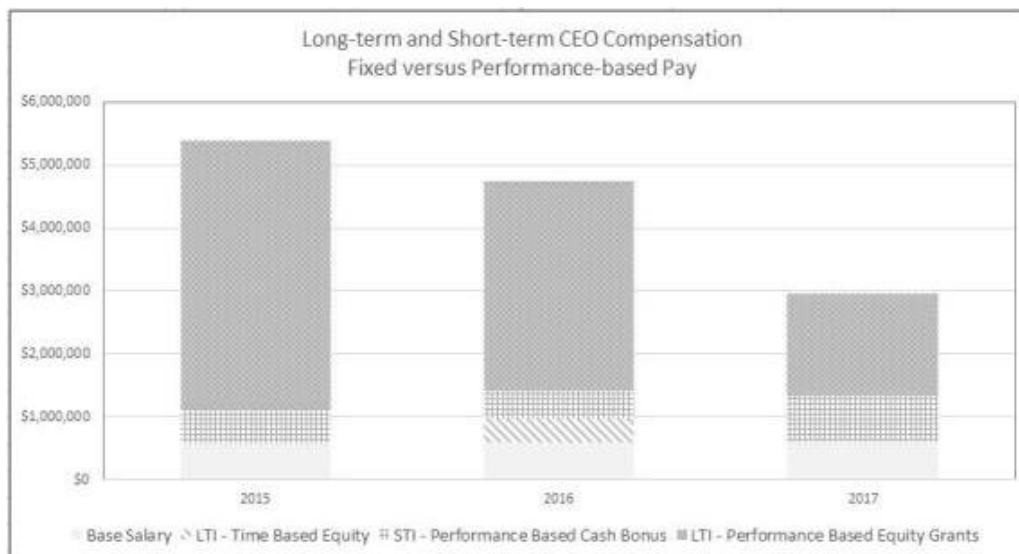
#### *Pay-for-Performance Analysis*

We believe our executive compensation program is reasonable, competitive, and appropriately balances the goals of attracting, motivating, rewarding, and retaining our executive officers with the goal of aligning their interests with those of our stockholders. To ensure this alignment and to motivate and reward individual initiative and effort, a significant portion of our executive officers' target annual total direct compensation opportunity is both performance-based and "at-risk."

We emphasize performance-based compensation that appropriately rewards our executive officers, including our Named Executive Officers, through two separate compensation elements:

- First, we provide the opportunity to participate in our annual incentive compensation plan which provides cash payments if they produce short-term financial, operational, and strategic results that meet or exceed the objectives set forth in each year in our annual operating plan .
- In addition, we grant equity awards as long-term incentive compensation. For our CEO in fiscal 2017, the grants are based entirely on the achievement of pre-established corporate performance objectives which are both challenging and designed to drive our financial and operational performance and long-term growth, and, in the case of our other executive officers, are either dependent on the future appreciation in value of our common stock or are subject to the risk of fluctuations in the value of our common stock and, therefore, are "at risk."

The pay mix for our CEO for each of the last three fiscal years illustrates the ongoing emphasis on our performance-based compensation philosophy :



We believe that, ultimately, the creation of sustainable long-term stockholder value will depend on our ability to successfully bring to market the products we develop or to partner with strategic collaborators to bring them to market. Consequently, the Compensation Committee strives to incent our executive officers to create that value through a robust and attractive pipeline of drug candidates. As a result, our executive compensation program is designed to provide incentives that facilitate these efforts, in particular, for our CEO, milestone based performance grants directly linked to goals that promote the development of our pipeline and other related business and market-based objectives. The Compensation Committee closely tracks the progress against these objectives to monitor our success over each product’s development period and evaluates our executive officers primarily on that progress.

To ensure that we remain faithful to our compensation philosophy, the Compensation Committee regularly evaluates the relationship between the reported values of the equity awards granted to our executive officers, the amount of compensation realizable (and, ultimately, realized) from such awards in subsequent years and our total stockholder return over this period.

*Executive Compensation Policies and Practices*

We endeavor to maintain sound governance standards consistent with our executive compensation policies and practices. The Compensation Committee evaluates our executive compensation program on a regular basis to ensure that it is consistent with our short-term and long-term goals given the dynamic nature of our business and the market in which we compete for executive talent. The following summarizes our executive compensation and related policies and practices:

**WHAT WE DO**

- Maintain an Independent Compensation Committee.** The Compensation Committee consists solely of independent directors.
- Retain an Independent Compensation Advisor.** The Compensation Committee engaged its own compensation advisor to provide information and analysis with its 2017 compensation review, and other advice on executive compensation independent of management. This consultant performed no consulting or other services for us in 2017.

**WHAT WE DON'T DO**

- No Executive Retirement Plans .** We do not offer pension arrangements or retirement plans or arrangements to our executive officers that are different from or in addition to those offered to our other employees.
- No Perquisites .** Currently, we do not provide perquisites or other personal benefits to our executive officers.

**Annual Executive Compensation Review**. The Compensation Committee conducts an annual review and approval of our compensation strategy, including a review and determination of our compensation peer group used for comparative purposes and a review of our compensation-related risk profile to ensure that our compensation programs do not encourage excessive or inappropriate risk-taking and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on us.

**Compensation At-Risk**. Our executive compensation program is designed so that a significant portion of compensation is “at risk” based on our performance, as well as short-term cash and long-term equity incentives to align the interests of our executive officers and stockholders.

**Stock Ownership Policy**. We maintain a stock ownership policy that requires our CEO, COO, and CFO to maintain a minimum ownership level of our common stock.

**Compensation Recovery (“Clawback”) Policy**. We established a clawback policy allowing the Company to recover compensation should the Board of Directors determine that a material misstatement of the Company’s financial statements was due to fraud, negligence, or intentional misconduct by any executive officer of the Company.

**Conduct an Annual Stockholder Advisory Vote on NEO Compensation**. We conduct an annual stockholder advisory vote on the compensation of our Named Executive Officers.

**Use a Pay-for-Performance Philosophy**. The majority of our CEO’s compensation is directly linked to corporate performance; we also structure his target total direct compensation opportunities with a significant long-term equity component, thereby making a substantial portion of each executive officer’s target total direct compensation dependent upon our stock price and/or total stockholder return.

### **Executive Compensation Philosophy**

Our executive compensation philosophy reflects our two fundamental objectives:

- to attract, motivate, and retain a highly skilled team of executives; and
- to align our executive officers’ interests with those of our stockholders by rewarding short-term and long-term performance and aligning compensation to increases in stockholder value.

**No Special Welfare or Health Benefits**. Our executive officers participate in broad-based Company-sponsored health and welfare benefits programs on the same basis as our other full-time, salaried employees, except for a premium for life insurance for our CEO.

**No Post-Employment Tax Payment Reimbursement**. We do not provide any tax reimbursement payments (including “gross-ups”) on any severance or change-in-control payments or benefits.

**No Hedging or Pledging of Our Equity Securities**. We prohibit our executive officers and the non-employee members of our Board of Directors from hedging our equity securities.

**No Dividends or Dividend Equivalents Payable on Unvested Equity Awards**. We do not pay dividends or dividend equivalents on unvested RSU awards or PRSU awards.

**No Stock Option Re-pricing**. Our employee stock plan does not permit options to purchase shares of our common stock to be repriced to a lower exercise or strike price without the approval of our stockholders.

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We believe that the compensation of our executive officers should be directly linked to the achievement of specific objectives that are expected to increase stockholder value. In furtherance of this goal, the Compensation Committee has established the following guidelines as a foundation for compensation decisions:

- provide a competitive total compensation package that enables us to attract, retain, and motivate highly-qualified executives with the skills and experience required for the achievement of business goals;
- promote the achievement of key strategic and financial performance measures by linking short-term and long-term compensation to the achievement of measurable goals;
- reward significant achievements outside of pre-established goals;
- recognize that pharmaceutical research, development, and commercialization require sustained and focused effort over many years, and involve a high degree of risk and therefore balance incentives for short-term and long-term compensation;
- employ outside compensation expertise and market data from industry peers to help assure that our compensation policies and practices are consistent with industry practice and meet our goals for our compensation program;
- consider our cash resources and cost of capital to balance cash and equity compensation; and
- align our executive officers' incentives with the creation of stockholder value.

### **Executive Compensation Program Design**

Our practice is to combine a mixture of compensation elements that balance achievement of our short-term goals with our longer-term performance. Currently, our executive compensation program consists of three principal elements:

- base salary;
- an annual incentive compensation opportunity; and
- long-term incentive compensation in the form of equity awards.

We believe that cash compensation in the form of base salary and an annual incentive compensation opportunity provides our executive officers with short-term rewards for success in operations, and that long-term incentive compensation in the form of RSU and PRSU awards that may be settled for shares of our common stock, and options to purchase shares of our common stock align the objectives of our executive officers with those of our stockholders with respect to long-term performance and success.

The Compensation Committee takes into consideration, among other things, our financial and working capital condition when approving performance objectives and making compensation decisions for our executive officers. Since we seek to preserve cash and currently do not operate at a profit, overall target total direct compensation opportunities are weighted more heavily toward long-term incentive compensation in the form of equity awards. Thus, a significant portion of each executive officer's target total direct compensation is "at risk," and dependent on the increase in the value of our common stock. The Compensation Committee periodically reassesses the appropriate weighting of cash and equity compensation.

In the case of long-term incentive compensation, typically the Compensation Committee designs these awards to vest, or be earned, over a multi-year period, meaning that long-term value creation, contrasted with short-term gain, presents the best opportunity for our executive officers to benefit from their awards.

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We do not maintain a specific policy on the percentage allocation between short-term and long-term incentive compensation elements.

## **Governance of Executive Compensation Program**

### *Role of the Compensation Committee*

The Compensation Committee discharges many of the responsibilities of our Board of Directors relating to the compensation of our executive officers, including our Named Executive Officers, and the non-employee members of our Board of Directors. The Compensation Committee has overall responsibility for overseeing our compensation and benefits philosophy and policies generally, overseeing and evaluating the compensation plans, policies, and practices applicable to our CEO and our other executive officers, and ensuring that the target total direct compensation opportunities of our executive officers, including our Named Executive Officers, are consistent with our compensation philosophy, policies, and objectives.

The members of the Compensation Committee are appointed by our Board of Directors, and each member is an independent director (as “independence” is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards). Currently, the members of the Compensation Committee are Michael S. Perry (Chairman), Mauro Ferrari, and Edward Frykman.

The Compensation Committee reviews our executive compensation program annually on a calendar year basis, generally in December. The Compensation Committee draws on a number of resources to assist in the evaluation of the various components of our executive compensation program including, but not limited to, input from our CEO, the advice of an external compensation consultant (as identified below) retained by the Compensation Committee, information provided in the public filings of industry peers and industry data compiled yearly by Radford in its Global Life Sciences Survey, which represents a nationally-based assessment of executive compensation widely used within the pharmaceutical and biotechnology industry sectors.

The Compensation Committee relies upon the judgment of its members in making compensation decisions. In addition, the Compensation Committee incorporates judgment in the assessment process to respond to and adjust for the evolving business environment. The members of the Compensation Committee have extensive experience in executive management, as well as compensation practices and policies.

### *Compensation-Setting Process*

The Compensation Committee develops recommendations for the target total direct compensation opportunities for our executive officers, including our Named Executive Officers. The Compensation Committee does not use a single method or measure in making its compensation decisions, nor does it position compensation levels based upon a specific or target level relative to a peer group or other companies. Nonetheless, the pay practices at other companies are an important factor that the Compensation Committee considers in assessing the reasonableness of compensation and ensuring that our compensation practices are competitive in the marketplace.

Generally, the Compensation Committee evaluates the compensation of our executive officers relative to the median of the competitive market. However, as discussed hereafter, various other factors are taken into consideration in determining our executive officers’ compensation and the Compensation Committee does not target compensation at any specific level relative to the competitive market. When reviewing our current executive compensation arrangements and approving each compensation element and the target total direct compensation opportunity for our executive officers, the Compensation Committee considers the following factors:

- Our performance against the financial and operational objectives established by the Compensation Committee and our Board of Directors;
- Each individual executive officer’s skills, experience, and qualifications relative to other similarly-situated executives at the companies in our compensation peer group;



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- The scope of each executive officer’s role compared to other similarly-situated executives at the companies in our compensation peer group;
  - The performance of each individual executive officer, based on a subjective assessment of his or her contributions to our overall performance, ability to lead his or her business unit or function and work as part of a team, all of which reflect our core values;
  - The compensation practices of our compensation peer group and the positioning of each executive officer’s compensation in a ranking of peer company compensation levels; and
  - The recommendations provided by our CEO with respect to the compensation of our other executive officers.

These factors provide the framework for compensation decision-making and final decisions regarding the compensation opportunity for each executive officer. No single factor is determinative in setting pay levels, nor was the impact of any factor on the determination of pay levels quantifiable.

#### *Role of Chief Executive Officer*

In discharging its responsibilities, the Compensation Committee works with members of our management, including our CEO. Our management assists the Compensation Committee by providing information on corporate and individual performance, market compensation data, and management’s perspective on compensation matters. The Compensation Committee solicits and reviews our CEO’s recommendations with respect to the compensation levels for individual executive officers other than himself based on the performance evaluation conducted by each executive officer’s manager and his own evaluation of the executive officer’s performance.

The Compensation Committee reviews and discusses these recommendations and proposals with our CEO and considers them as one factor in formulating the recommendations for the compensation for our executive officers, including our other Named Executive Officers. Our CEO recuses himself from all discussions and recommendations regarding his own compensation.

#### *Role of Compensation Consultant*

The Compensation Committee engages an external compensation consultant to assist it by providing information, analysis, and other advice relating to our executive compensation program and the decisions resulting from its annual executive compensation review. The Compensation Committee has the final authority to engage and terminate the engagement of any compensation consultant that it retains.

For the period from October 2016 through September 2017, the Compensation Committee engaged StreeterWyatt LLC, a national compensation consulting firm, as its external compensation consultant (“StreeterWyatt”). StreeterWyatt assisted the Compensation Committee in its review of executive and non-employee director compensation practices for 2017, including the competitiveness of compensation levels, executive compensation design, comparisons with our industry peers, and other technical considerations.

Beginning in October 2017, the Compensation Committee engaged Compensia, Inc., a national compensation consulting firm (“Compensia”), as its compensation consultant to advise on executive compensation matters, including competitive market pay practices for our executive officers, and to assist with data analysis and the selection of the compensation peer group. During 2017, the scope of Compensia’s engagement included:

- Review and updating of our compensation peer group;
- Review and analysis of the compensation arrangements for our executive officers, including our Named Executive Officers;
- Review and analysis of the compensation arrangements for the non-employee members of our Board of Directors;

- Review and updating of the Compensation Discussion and Analysis section of our proxy statement for our 2018 Annual Meeting of Stockholders; and
- Support on other *ad hoc* matters.

The terms of Compensia's engagement include reporting directly to the Compensation Committee and to the Compensation Committee chair.

In 2017, neither StreeterWyatt nor Compensia provided any other services to us. The Compensation Committee has evaluated StreeterWyatt's and Compensia's independence pursuant to the listing standards of the NASDAQ and the relevant SEC rules and has determined that no conflict of interest has arisen as a result of the work performed by either StreeterWyatt or Compensia.

#### *Competitive Positioning*

For each of the past five years, the Compensation Committee has directed its external compensation consultant to conduct a comparative study and report on compensation levels and practices relative to industry peers, including a competitive assessment of our executive compensation program as compared to the market data for base salaries, target total cash compensation, long-term incentive compensation, and target total direct compensation. Typically, the findings of this study are presented to the Compensation Committee by the compensation consultant in conjunction with the Compensation Committee's annual review of our executive compensation program.

Because the biotechnology sector is dynamic, the comparator group used by the Compensation Committee to assess the competitive positioning of the compensation of our executive officers is updated annually to ensure that peer companies continue to meet the established criteria. For purposes of its review of our executive compensation program in fiscal 2017, the Compensation Committee directed StreeterWyatt to update its compensation peer group reflecting the competitive market for executive talent based on following criteria:

- Publicly-held, pre-commercial U.S. biotechnology companies;
- Companies with market capitalizations between 0.5x to 2.0x our market capitalization at the time of the peer selection; and
- Companies with between 50 to 500 employees.

The compensation peer group was selected in such a manner that our market capitalization was very near the median for all peer companies. Consideration was also given to the frequency or infrequency with which a company was identified as a peer with other peer companies.

For 2017, the compensation peer group consisted of the following companies:

Anthera Pharmaceuticals, Inc.	Immumedics, Inc.
Array BioPharma, Inc.	Infinity Pharmaceuticals, Inc.
BioCryst, Inc.	Omeros Therapeutics, Inc.
BioTime, Inc.	Orexigen Therapeutics, Inc.
ChemoCentryx, Inc.	Osiris Therapeutics, Inc.
Corcept Therapeutics, Inc.	Peregrine Pharmaceuticals, Inc.
CTI Biopharma Corp.	Progenics Pharmaceuticals, Inc.
Curis, Inc.	Regulus Therapeutics, Inc.
CytRx Corporation	Rigel Pharmaceuticals, Inc.
Dicerna Pharmaceuticals, Inc.	Sangamo Biosciences, Inc.
DURECT Corporation	Threshold Pharmaceuticals, Inc.
Geron Corporation	Zogenix, Inc.
Idera Pharmaceuticals, Inc.	

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The compensation study prepared by StreeterWyatt and presented in December 2016 provided an assessment of our compensation practices as compared to industry peers. Compensation levels for our executive officers, in the aggregate, were determined to be within the range of compensation provided to similarly placed executives and consistent with our compensation philosophy.

### **Individual Compensation Elements**

In 2017, the principal elements of our executive compensation program were as follows:

- base salary;
- an annual incentive compensation opportunity;
- long-term incentive compensation in the form of equity awards;
- welfare and health benefits; and
- post-employment compensation arrangements.

#### *Base Salary*

Base salary represents the fixed portion of the compensation of our executive officers, including our Named Executive Officers, and is an important element of compensation intended to attract and retain highly-talented individuals.

The initial base salaries for our executive officers are negotiated on an individual basis at the time of hire. Thereafter, using the competitive market data provided by its compensation consultant, the Compensation Committee reviews and determines adjustments to the base salaries for each of our executive officers, including our Named Executive Officers, as part of its annual executive compensation review. In addition, the base salaries of our executive officers may be adjusted by the Compensation Committee in the event of a promotion or significant change in responsibilities. Generally, the Compensation Committee sets base salaries with reference to the competitive range of the market median of our compensation peer group and applicable executive compensation survey data, as well as its assessment of the factors described in “Governance of Executive Compensation Program – Compensation-Setting Process” above.

In December 2016, consistent with the recommendation of our CEO, the Compensation Committee determined to increase the base salaries of our executive officers, including our Named Executive Officers. In making these decisions, the Compensation Committee considered the current risks and challenges facing us, as well as the factors described in “Governance of Executive Compensation Program – Compensation-Setting Process” above.

The base salaries of our Named Executive Officers for 2016 and 2017 were as follows:

<u>Named Executive Officer</u>	<u>2016 Base Salary</u>	<u>2017 Base Salary</u>	<u>Percentage Adjustment</u>
Christopher Anzalone President & CEO	\$ 598,125	\$ 622,050	4%
Bruce Given Chief Operating Officer	\$ 419,661	\$ 436,477	4%
Kenneth Myszkowski Chief Financial Officer	\$ 326,310	\$ 339,363	4%
Patrick O'Brien General Counsel	\$ 379,600	\$ 394,784	4%
Peter Leone Vice President Strategic Business Initiatives	\$ 254,176	\$ 264,343	4%

The actual base salaries paid to our Named Executive Officers in fiscal 2017 are set forth in the "Fiscal 2017 Summary Compensation Table" below.

#### *Annual Incentive Compensation*

We provide our executive officers, including our Named Executive Officers, with the opportunity to earn performance-based annual incentive awards, payable in cash, which are designed to reward them for our overall corporate performance as well as their individual performance. Generally, our executive officers are evaluated each year for eligibility to receive an annual incentive compensation opportunity. Through a collaborative planning process involving our Board of Directors and management, corporate performance objectives are established at the beginning of each year and evaluated regularly by our Board of Directors for their continued relevance to our status.

#### Target Annual Cash Bonus Opportunities

For purposes of the 2017 performance-based incentive awards, each executive officer, including each of our Named Executive Officers, was assigned a target annual incentive award opportunity based upon a percentage of his or her base salary. The target annual incentive award opportunities for our executive officers, including our Named Executive Officers, were recommended by our CEO (except with respect to his own target annual incentive award opportunity) based on each executive officer's accountability, scope of responsibilities, and potential impact on our performance, and approved by the Compensation Committee. The determination of target annual incentive award opportunities was based on the factors described in "Governance of Executive Compensation Program – Compensation-Setting Process" above. Based on higher levels of control and accountability for our overall performance, a higher percentage of each executive officer's total target cash compensation was dependent on his or her performance-based annual incentive awards.

For 2017, the Compensation Committee increased the target annual incentive award opportunity for each of our Named Executive Officers, except for our CEO. The increase reflected the increased leadership responsibilities for each position as the Company grows and market-based adjustments.

The target annual incentive award opportunities for our Named Executive Officers were as follows:

Named Executive Officer	2016 Target Annual Incentive Award Opportunity (as a percentage of base salary)	2017 Target Annual Incentive Award Opportunity (as a percentage of base salary)
Dr. Anzalone	100%	100%
Dr. Given	60%	70%
Mr. Myszkowski	40%	40%
Mr. O'Brien	40%	40%
Mr. Leone	30%	30%

Potential annual incentive awards for our CEO could range from zero to 200% of his target annual incentive award opportunity. There is no set minimum or maximum for annual incentive awards for our other Named Executive Officers.

#### Performance Objectives

In determining the amount of the annual incentive award for each of our executive officers, including each of our Named Executive Officers, the Compensation Committee evaluated the corporate performance objectives that had been established at the beginning of the calendar year (as set forth below) as well as other corporate and individual achievements and performance throughout the year. These performance objectives addressed milestones for our lead products, research and development milestones for our drug pipeline, business development objectives, and infrastructure enhancements. In December 2017, the Compensation Committee determined that we had largely achieved or exceeded our primary business objectives set for calendar 2017, as described below.

In determining our CEO's annual incentive award for 2017, the preclinical development and Amgen collaboration goals were weighted most heavily, followed by financial and manufacturing objectives with organizational development goals least heavily, in that order.

Goal	Achievement
<p><b>Business Development</b></p> <p><i>Meet certain delivery goals with regard to the Company's pharma collaboration</i></p>	<p>Largely achieved</p> <p>The Compensation Committee set aggressive goals that exceeded the Company's obligations for progress in its collaboration with a large pharma company. Although one of the goals was not met, progress on the collaboration overall, including the unachieved goal, was determined by the Compensation Committee to be excellent.</p>
<p><b>Preclinical Development</b></p> <p><i>Selection of subcutaneous candidates for HBV, AAT, and thrombosis</i></p> <p><i>Advance additional preclinical candidates for oncology, cardiometabolic and extrahepatic targets</i></p>	<p>Exceeded</p> <p>Not only did the Company select and progress its subcutaneous candidates for HBV, AAT and Factor 12, the Company filed to begin clinical trials for ARO-HBV and ARO-AAT before the end of 2017—beating guidance by several months in each case.</p> <p>The Company announced two additional preclinical targets for cardiometabolic disease and one additional target for an undisclosed lung target. The Company continued to optimize its oncology program.</p>

<p><b>Finance</b></p> <p><i>End FY2017 with 4 quarters of cash</i></p> <p><i>Reach \$200 million market capitalization</i></p> <p><i>Beat Biotech index performance</i></p> <p><i>Increase institutional ownership</i></p>	<p>Exceeded, except for institutional ownership</p> <p>The Company ended fiscal 2017 with \$65 million in cash and short-term investments which is equivalent to more than a year's worth of cash at the Company's current run rate.</p> <p>At December 31, 2017, the Company's market capitalization was approximately \$275 million.</p> <p>The Company's stock price was up by 137% vs. the Nasdaq Biotech Index (NBI) which was up 21% year over year</p> <p>The Company's institutional ownership had decreased during the year by the end of fiscal 2017, although measurement at December 31, 2017 is pending ownership filings due in February.</p>
<p><b>Manufacturing</b></p> <p><i>Establish GLP manufacturing capabilities</i></p> <p><i>Develop plan for GMP manufacturing capabilities</i></p>	<p>Achieved</p> <p>The Company brought inhouse kilo scale RNA trigger manufacturing capability online during the year and is proceeding with qualifying its inhouse GMP manufacturing capabilities.</p>
<p><b>Clinical Development</b></p> <p><i>Close the Company's discontinued clinical trials by March 31, 2017</i></p>	<p>Achieved</p> <p>The Company discontinued enrollment in its DPC-based clinical studies in November 2016 and concluded the studies in early 2017. The Company has continued to follow certain of the HBV patients and has reported promising results post-trial.</p>
<p><b>Organizational Development</b></p> <p><i>Enhance organizational processes for vetting business and technical opportunities and strategic planning.</i></p>	<p>Achieved</p> <p>The Company continued to develop and implement structured processes for vetting opportunities and internal reporting.</p>

## Annual Incentive Award Payments

The actual annual incentive award payments earned by our Named Executive Officers ranged from 90% to 115% of their target annual incentive award opportunities. The awards are recommended by our CEO and approved by the Compensation Committee based on the overall achievement of the Company's goals, their contributions to the goals, and the overall performance of each officer during the year. The following table sets forth the target annual incentive award opportunities, the actual award payment as a percentage of each Named Executive Officer's base salary, and the actual award payment made in cash to each of our Named Executive Officers based on their performance in 2017:

<u>Named Executive Officer</u>	<u>Target Annual Incentive Award Opportunity (as a percentage of base salary)</u>	<u>Actual Annual Incentive Award (as a percentage of base salary)</u>	<u>Actual Annual Incentive Award (\$)</u>
Dr. Anzalone	100%	115%	\$ 715,357
Dr. Given	70%	81%	\$ 351,340
Mr. Myszkowski	40%	45%	\$ 152,713
Mr. O'Brien	40%	45%	\$ 177,653
Mr. Leone	30%	27%	\$ 71,373

The annual incentive award payments made to our Named Executive Officers for fiscal 2017 are set forth in the "Fiscal 2017 Summary Compensation Table" below.

### *Long-Term Incentive Compensation*

We view long-term incentive compensation in the form of equity awards as a critical element of our executive compensation program. The realizable value of these equity awards over time bears a direct relationship to our stock price, and, therefore, these awards are an incentive for our executive officers, including our Named Executive Officers, to create value for our stockholders. Equity awards also help us retain qualified executive officers in a competitive market.

Long-term incentive compensation opportunities in the form of equity awards are granted to our executive officers by the Compensation Committee. The amount and forms of such equity awards are determined by the Compensation Committee after considering the factors described in "Governance of Executive Compensation Program – Compensation-Setting Process" above.

## 2017 LTI Awards

### Performance-Based RSU Award for Chief Executive Officer

In December 2016, the Compensation Committee determined that the annual equity awards to be granted to our executive officers should be solely in the form of restricted stock unit ("RSU") awards that may be settled for shares of our common stock. In the case of our CEO, the Compensation determined that his award was to be entirely performance-based and granted PSUs. Dr. Anzalone was granted a performance-based RSU of 978,000 shares to be vested in six equal installments on the achievement of the following milestones:

- Achieve market capitalization of \$200 million and hold for six consecutive weeks
- Execute a significant business development transaction
- File a CTA or IND on a SubQ candidate
- Trigger a milestone payment for ARO-LPA or trigger ARO-AMG1 option payment for collaborations with Amgen
- Initiate GLP tox for two SubQ programs
- Nominate a lead for an unannounced program

The milestones must be achieved by April 12, 2019 or the grants will expire.

In December 2016, the Committee certified achievement of the performance milestones and the vesting of the following previously granted performance-based restricted stock unit awards and option awards.

<u>Performance Goal</u>	<u>Achievement</u>	<u>No. of Shares Certified as Vested</u>	<u>Enhancement</u>
Enter a partnership to develop a novel therapeutic with a pharmaceutical or biotech company	Amgen Collaboration—ARO-AMG1  Achieved	180,000 shares pursuant to an RSU award	None
File 2 new INDs	ARC-AAT ARC-521	Option on 100,000 shares  120,000 shares pursuant to an RSU award	Upsized by 20% from 83,333 shares and 100,000 RSUs based on market performance
Enroll first patient in a Phase 2 or later study (excluding ARC-520)	Deemed to be met, Phase 2 for ARC-AAT launched, no patients enrolled for reasons outside of the CEO's reasonable control	Option on 100,000 shares  120,000 shares pursuant to an RSU award	Upsized by 20% from 83,333 shares and 100,000 RSUs based on market performance
Achieve a significant corporate event (i.e. a significant M&A transaction)	Amgen Collaboration & License for ARO-LPA	Option on 100,000 shares  120,000 shares pursuant to an RSU award	Upsized by 20% from 83,333 shares and 100,000 RSUs based on market performance

#### Equity Grants to Other Named Executive Officers

The Compensation Committee approved the following aggregate equity awards for our Named Executive Officers for 2017:

<u>Named Executive Officer</u>	<u>Restricted Stock Unit Awards (number of shares)</u>	<u>Restricted Stock Unit Awards (\$)</u>
Mr. Given	380,000	\$ 589,000
Mr. Myszkowski	145,000	\$ 224,750
Mr. O'Brien	145,000	\$ 224,750
Mr. Leone	90,000	\$ 139,500

In view of the discontinuation of our intravenous clinical programs and to satisfy our retention objectives, the Compensation Committee determined the time-based RSU awards granted to our executive officers, including our other Named Executive Officers in fiscal 2017 should have a lengthier initial vesting date, and a shorter overall vesting period. Thus, the time-based RSU awards granted to our executive officers vest on the second anniversary of the date of grant, contingent upon an executive officer remaining employed by us on that date.

The equity awards granted to our Named Executive Officers in fiscal 2017 are set forth in the "Fiscal 2017 Summary Compensation Table" and the "Fiscal 2017 Grants of Plan-Based Awards Table" below.



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### *Welfare and Health Benefits*

Our executive officers, including our Named Executive Officers, are eligible to participate in all of our employee benefit plans, including medical, dental, vision, life, and disability insurance, in each case on the same basis as our other employees, subject to applicable law. In addition, we provide additional life insurance for our CEO for the benefit of his heirs. We also provide vacation and other paid holidays to all our employees, including our executive officers, all of which we believe to be comparable to those provided at peer companies. These benefit programs are designed to enable us to attract and retain our workforce in a competitive marketplace. Our health, welfare, and vacation benefits are designed to ensure that we have a productive and focused workforce through reliable and competitive health and other benefits.

Our retirement savings plan (“401(k) plan”) is a tax-qualified retirement savings plan, pursuant to which qualified employees, including our Named Executive Officers, are able to contribute certain amounts of their annual compensation, subject to limits prescribed by the Internal Revenue Service. Historically, we have made matching contributions of 100% of the first 3% of base salary and of 50% of the next 2% of base salary contributed to the plan. The value of these benefits for each of our Named Executive Officers is reflected in the “All Other Compensation” column of the “Summary Compensation Table” below.

### *Perquisites and Other Personal Benefits*

Currently, we do not view perquisites or other personal benefits as a significant component of our executive compensation program. Accordingly, we do not provide significant perquisites or other personal benefits to our executive officers, including our Named Executive Officers, except as generally made available to our employees, or in situations where we believe it is appropriate to assist an individual in the performance of his or her duties, to make our executive officers more efficient and effective and for recruitment and retention purposes.

In the future, we may provide perquisites or other personal benefits in limited circumstances, such as those described in the preceding paragraph. All future practices with respect to perquisites or other personal benefits will be approved and subject to periodic review by the Compensation Committee.

### **Employment Arrangements**

We have entered into a written employment agreement with our CEO and have written employment offer letters with our other executive officers. In filling each of our executive positions, we recognized the need to develop competitive compensation packages to attract qualified candidates in a dynamic labor market. At the same time, in formulating these compensation packages, we were sensitive to the need to integrate new executive officers into the executive compensation structure that we were seeking to develop, balancing both competitive and internal equity considerations. Each of these arrangements provides for “at will” employment.

For detailed descriptions of the employment arrangements we maintained with our Named Executive Officers for 2017, see “Termination Benefits – Potential Payments Upon Termination or Change in Control” below.

### **Post-Employment Compensation Arrangements**

We have entered into an employment agreement with our CEO, and we also have agreements with our CFO and General Counsel that provide for certain payments and benefits in the event of certain involuntary terminations of employment. We believe that having in place reasonable and competitive post-employment compensation arrangements are essential to attracting and retaining highly-qualified executive officers. These agreements are designed to provide reasonable compensation to executive officers who leave our employ under certain circumstances to facilitate their transition to new employment. Further, in some instances we seek to mitigate any potential employer liability and avoid future disputes or litigation by requiring a departing executive officer to sign a separation and release agreement acceptable to us as a condition to receiving post-employment compensation payments or benefits.

The Compensation Committee does not consider the specific amounts payable under these agreements when establishing annual compensation. We do believe, however, that these arrangements are necessary to offer compensation packages that are competitive.

In addition, our 2013 Incentive Plan provides for the acceleration of vesting of outstanding and unvested equity awards in the event of a change in control of the Company, as defined in the plan, except as otherwise determined by our Board of Directors. The Company has amended the agreements for outstanding equity awards granted to our CEO pursuant to our 2004 Equity Incentive Plan and 2013 Incentive Plan to provide that, upon a change in control of the Company, the vesting of such awards will accelerate only in the event of a subsequent involuntary termination of employment (a “double-trigger” arrangement).

For detailed descriptions of the post-employment compensation arrangements we maintained with our Named Executive Officers for 2017, as well as an estimate of the potential payments and benefits payable under these arrangements, see “Termination Benefits – Potential Payments Upon Termination or Change in Control” below.

## **Other Compensation Policies and Practices**

### *Equity Awards Grant Policy*

We do not have any program, plan, or obligation that requires us to grant equity awards on specified dates, although historically we have granted such awards to our existing executive officers and employees at least annually and to newly-hired employees on the commencement of their employment. We do not have any program, plan, or practice to grant options to purchase shares of our common stock to our executive officers in coordination with the release of material nonpublic information. Equity awards may occasionally be granted following a significant change in job responsibilities or to meet other special retention or performance objectives.

Authority to grant equity awards to our employees rests with the Compensation Committee, although the Compensation Committee has delegated authority to our CEO to grant equity awards to non-executive employees within prescribed limits set by the Compensation Committee. With respect to our executive officers, except for our CEO, recommendations for equity awards are made by our CEO and reviewed and approved by the Compensation Committee.

Under the terms of our 2013 Incentive Plan, pursuant to which new equity awards are granted, the exercise price of any option to purchase shares of our common stock awarded under the plan must be equal to at least 100% of the fair market value of our common stock (which is determined based on the closing sales price of our common stock on the NASDAQ Global Market) on the date of grant.

### *Stock Ownership Policy*

We maintain a stock ownership policy for our CEO, COO, and CFO to further align their respective interests with the interests of our stockholders, and to further promote our commitment to sound corporate governance. This policy requires our CEO to own a minimum number of shares of our common stock equal to a value of six times his annualized base salary and our COO and CFO to own a minimum number of shares of our common stock equal to a value of twice their annualized base salary. Each of these executive officers has achieved the required ownership.

### *Compensation Recovery (“Clawback”) Policy*

In December 2017, our Board of Directors adopted a clawback policy as follows:

“If Arrowhead Pharmaceuticals, Inc. (the “Company”) is required to materially restate any of its financial statements, the Board of Directors (the “Board”) shall assess the degree to which any fraud, negligence, or intentional misconduct by any executive officer of the Company was responsible for such restatement. If the Board determines that any executive officer was responsible for causing such restatement, the Board shall, in addition to any other lawful remedies the Board or the Company may take, seek recovery of all or a portion of the incentive compensation awarded to the executive officer for the performance period

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covered by the restated financial statement, provided that such recovery shall not extend to payments made more than three years prior to the date the financial record was restated. In addition, the Board may, in its absolute discretion, revoke any of the responsible executive officer's unpaid or unvested incentive compensation outstanding as of the date of the Board's determination of the executive officer's responsibility for the financial restatement."

In addition, our 2013 Incentive Plan provides for the recovery of awards made under the plan in accordance with any applicable compensation recovery or recoupment policy, including as required by law, regulation, or national securities exchange rule.

#### *Policy Prohibiting Hedging and Pledging*

Our Insider Trading Policy prohibits our employees, including our executive officers, and the non-employee members of our Board of Directors from short-term trading, options trading, trading on margin, pledging our common stock as collateral, and all hedging transactions with respect to our securities.

### **Tax and Accounting Considerations**

#### *Deductibility of Executive Compensation*

Generally, Section 162(m) of the Code disallows public companies a tax deduction for federal income tax purposes of remuneration in excess of \$1 million paid to their chief executive officer and each of the three other most highly-compensated executive officers (other than the chief financial officer) whose compensation is required to be disclosed to our stockholders under the Exchange Act in any taxable year. Remuneration in excess of \$1 million may only be deducted if it is "performance-based compensation" within the meaning of Section 162(m) or qualifies for one of the other exemptions from the deduction limit. In making compensation recommendations, the Compensation Committee considers the potential effects of Section 162(m) on the compensation paid to our Named Executive Officers.

Where reasonably practicable, the Compensation Committee seeks to qualify the performance-based incentive compensation paid or awarded to our Named Executive Officers for the "performance-based compensation" exemption from the deduction limit of Section 162(m). As such, in approving the amount and form of compensation for our Named Executive Officers, the Compensation Committee considers all elements of our cost of providing such compensation, including the potential impact of Section 162(m). To maintain flexibility in compensating our Named Executive Officers in a manner designed to promote varying corporate goals, however, the Compensation Committee has not adopted a policy that all compensation payable to our Named Executive Officers that is subject to Section 162(m) must be deductible for federal income tax purposes. From time to time, the Compensation Committee may, in its judgment, recommend and our Board of Directors may approve compensation for our Named Executive Officers that does not comply with an exemption from the deduction limit when it believes that such compensation is in the best interests of the Company and our stockholders.

The exemption from Section 162(m)'s deduction limit for performance-based compensation has been repealed, effective for taxable years beginning after December 31, 2017, such that compensation paid to our Named Executive Officers in excess of \$1 million will not be deductible unless it qualifies for transition relief applicable to certain arrangements in place as of November 2, 2017.

#### *Accounting for Stock-Based Compensation*

We follow the Financial Accounting Standard Board's Accounting Standards Codification Topic 718 ("FASB ASC Topic 718") for our stock-based compensation awards. FASB ASC Topic 718 requires us to measure the compensation expense for all share-based payment awards made to our employees and non-employee members of our Board of Directors, including options to purchase shares of our common stock and other stock awards, based on the grant date "fair value" of these awards. This calculation is performed for accounting purposes and reported in the executive compensation tables required by the federal securities laws, even though the recipient of the awards may never realize any value from their awards.

## COMPENSATION RISK ASSESSMENT

In reviewing our various compensation programs, the Compensation Committee considers how our compensation policies and practices may affect our risk profile and whether such policies and practices may encourage undue risk-taking by our employees. More specifically, the Compensation Committee considers the general design philosophy of our policies and practices for our employees whose conduct would be most affected by incentives established pursuant to these compensation policies. In considering these issues, the Compensation Committee concluded that the use of performance-based annual incentive compensation plan and long-term incentive compensation opportunities in the form of equity awards did not appear to create undue risks for us or encourage excessive risk-taking behavior on the part of our Named Executive Officers.

With respect to the annual incentive awards for our executive officers, the amount of an individual's award depends principally on overall Company performance, as determined by the Compensation Committee, which reduces the ability and incentive for an individual to take undue risks at the expense of our performance in an effort to increase the amount of his or her annual incentive award. Our performance objectives are reviewed regularly by the Compensation Committee and our Board of Directors and are considered to be generally of the nature that promote the steady progression of our development programs and would not encourage or reward excessive risk-taking. In addition, our Board of Directors has the ability to intervene in instances where actions by our executive officers vis-à-vis Company performance objective attainment would be considered unduly risky to prevent or penalize such actions.

### *Compensation Committee Report*

The Compensation Committee of the Company has reviewed and discussed with management the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K. Based on this review and discussion, the Compensation Committee recommended to the Board that the foregoing Compensation Discussion and Analysis be included in this proxy statement.

Submitted by the Compensation  
Committee of the Board of Directors

Michael S. Perry, Chairman  
Mauro Ferrari  
Edward W. Frykman

### Compensation Committee Interlocks and Insider Participation

During 2017, Dr. Perry, Dr. Ferrari and Mr. Frykman served on the Compensation Committee. During fiscal year 2017, there were no compensation committee interlocks between the Company and other entities involving the Company's executive officers and directors.

### Summary Compensation

The following table summarizes compensation earned for services rendered during fiscal 2017, 2016, and 2015 by our Chief Executive Officer, our Chief Financial Officer, our Chief Operating Officer, our General Counsel and our Vice President, Strategic Business Operations, collectively our "Named Executive Officers":

#### Summary Compensation Table

Name and Principal Position	Year	Salary (1)(S)	Bonus (2)(S)	Stock Awards (3)(S)	Option Awards (3) (S)	Non-Equity Incentive Plan Compensation (4)(S)**	All Other Compensation (5)(S)	Total
Christopher Anzalone President and Chief Executive Officer	2017	616,068	—	537,900(6)	—	715,357	1,889	1,871,214
	2016	592,373	—	— (7)	368,797	448,594	1,889	1,411,653
	2015	564,911	—	751,000(8)	426,840(8)	575,120	1,889	2,319,760
Kenneth Myszkowski Chief Financial Officer	2017	336,099	—	224,750	—	152,713	11,809	725,371
	2016	321,692	—	307,500	184,383	130,524	12,431	956,530
	2015	302,375	—	375,500	260,123	123,136	12,967	1,074,101
Bruce D. Given Chief Operating Officer	2017	432,250	—	589,000	—	351,340	11,599	1,384,189
	2016	415,625	—	922,500	276,575	251,796	11,399	1,877,895
	2015	396,357	—	1,126,500	312,147	282,464	11,399	2,128,867
Patrick O'Brien (9) General Counsel	2017	390,988	—	224,750	—	177,653	11,599	804,990
	2016	375,949	—	—	276,575	170,820	11,399	834,743
	2015	286,385	125,000	156,600	314,970	146,000	11,961	1,040,916
Peter Leone Vice President, Strategic Business Initiatives	2017	261,801	—	139,500	—	71,373	10,481	483,155
	2016	251,732	—	—	230,479	88,962	10,485	581,658
	2015	240,062	—	—	442,208	85,540	10,460	778,270

- (1) Amounts reported in the 2016 base salary for each NEO have been restated to correct the amounts listed in the Company's 2017 Proxy Statement. Due to a clerical error, the 2016 amounts were over stated for each NEO by approximately \$15,000 to \$25,000.
- (2) This bonus amount represents a signing bonus and relocation allowance for Patrick O'Brien, who was hired on December 2, 2014.
- (3) These columns represent the total grant date fair value, computed in accordance with ASC 718, of stock options and restricted stock units granted during fiscal year 2017, 2016 and 2015. The assumptions used to calculate the value of the stock underlying the option and restricted stock unit awards are set forth in Note 8 of the Notes to the Consolidated Financial Statements included with the Company's Annual Report on 10-K.
- (4) These bonus amounts represent the amounts earned for performance under the Company's Annual Bonus Incentive Plan during calendar year 2017, 2016 and 2015 and paid in fiscal year 2018, 2017 and 2016, respectively. The Annual Bonuses are described in more detail in the "Bonus Incentive" section.
- (5) Amounts consist of 401(k) matching contribution, as well as life insurance premiums for the benefit of each executive officer.
- (6) The amounts reported for Christopher Anzalone in the Stock Awards column reflect the grant date fair value of an April 2017 restricted stock unit award that is subject to vesting upon the achievement of specific performance conditions, as described above in the Compensation Discussion and Analysis. We determined the performance conditions that were probable and not probable of being achieved as of the grant date, as defined

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under applicable accounting guidance, and assigned a grant date fair value of \$537,900 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance conditions would be achieved, we would have assigned a grant date fair value of \$1,613,700 for the restricted stock units. The amounts reported in the Summary Compensation Table for these awards may not represent the amounts that Christopher Anzalone will actually realize from the awards. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.

- (7) The amount reported for Christopher Anzalone in the Stock Awards column reflects the grant date fair value of a January 2016 restricted stock unit award that is subject to vesting upon the achievement of specific performance-based conditions. We determined the performance conditions were not probable of being achieved as of the grant date, as defined under applicable accounting guidance, and assigned a grant date fair value of \$0 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance-based conditions would be achieved, we would have assigned a grant date fair value of \$3,321,000 for the restricted stock units. The amount reported in the Summary Compensation Table for this award may not represent the amount that Christopher Anzalone will actually realize from the award. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.
- (8) The amounts reported for Christopher Anzalone in the Stock Awards and Option Awards column reflect the grant date fair value of a March 2015 restricted stock unit and stock option award that is subject to vesting upon the achievement of specific performance and market-based conditions. We determined the performance conditions that were probable and not probable of being achieved as of the grant date, as defined under applicable accounting guidance, and assigned a grant date fair value based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance and market-based conditions would be achieved, we would have assigned a grant date fair value of \$2,703,600 for the restricted stock units and \$1,536,624 for the stock options. The amounts reported in the Summary Compensation Table for these awards may not represent the amounts that Christopher Anzalone will actually realize from the awards. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and the named executive officer's continued employment.
- (9) Patrick O'Brien was hired on December 2, 2014 and thus compensation reflected in 2015 is for a partial year of approximately ten months.

## Grants of Plan-Based Awards

The following table sets forth cash bonus and equity grants made to the named executive officers in fiscal 2017:

**Grants of Plan Based Awards Table**

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards (1)		Estimated Future Payouts Under Equity Incentive Plan Awards (2)		All Other Stock Awards: Number of Shares of Stock or Units (#) (3)	All Other Option Awards: Number of Securities Underlying Options (#) (3)	Option Exercise Price (\$)	Grant Date Fair Value
		Minimum	Target	Maximum	Target				
<b>Christopher Anzalone</b>									
Cash Bonus		—	\$ 622,050	\$ 1,244,100	—	—	—	—	—
RSUs	4/12/2017	—	—	—	163,000	—	—	—	\$268,950
RSUs	4/12/2017	—	—	—	163,000	—	—	—	\$268,950
RSUs (4)	4/12/2017	—	—	—	163,000	—	—	—	—
RSUs (4)	4/12/2017	—	—	—	163,000	—	—	—	—
RSUs (4)	4/12/2017	—	—	—	163,000	—	—	—	—
RSUs (4)	4/12/2017	—	—	—	163,000	—	—	—	—
<b>Kenneth Myszkowski</b>									
Cash Bonus		—	\$ 135,745	N/A	—	—	—	—	—
RSUs	1/1/2017	—	—	—	—	145,000	—	—	\$224,750
<b>Bruce D. Given</b>									
Cash Bonus		—	\$ 305,513	N/A	—	—	—	—	—
RSUs	1/1/2017	—	—	—	—	380,000	—	—	\$589,000
<b>Patrick O'Brien</b>									
Cash Bonus		—	\$ 157,914	N/A	—	—	—	—	—
RSUs	1/1/2017	—	—	—	—	145,000	—	—	\$224,750
<b>Peter Leone</b>									
Cash Bonus		—	\$ 79,303	N/A	—	—	—	—	—
RSUs	1/1/2017	—	—	—	—	90,000	—	—	\$139,500

- (1) Amounts listed represent cash awards granted to our named executive officers in 2017 and paid in fiscal 2018.
- (2) These restricted stock unit awards are described above in the “Compensation Discussion and Analysis” under the heading “Equity Compensation”.
- (3) Options are priced at the market closing price on the date of grant. Options have various vesting parameters, but generally vest within 48 months or less after the award is granted. Restricted stock units have various vesting parameters. The restricted stock units granted in 2017 vest two years from the grant date.
- (4) We determined that as of the date of the grant it was not probable as defined under applicable accounting guidance that any of the performance vesting conditions for these restricted stock unit awards would be achieved and assigned a grant date fair value of \$0 based on this evaluation.

## Outstanding Equity Awards at Fiscal Year-End

The following table provides information, with respect to the Named Executive Officers, concerning the outstanding equity awards covering shares of the Company's common stock as of September 30, 2017.

### Outstanding Equity Awards at Fiscal Year End Table

Name	Grant Date	Option Awards					Stock Awards			
		Number of Securities Underlying Unexercised Options (# Exercisable) (1)	Number of Securities Underlying Unexercised Options (# Unexercisable)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (# Unexercisable)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#) (3)	Market Value of Shares or Units of Stock That Have Not Vested (\$)	Equity Incentive Plan Awards: Number of Shares or Units of Stock That Have Not Vested (#) (2)	Equity Incentive Plan Awards: Market Value of Shares or Units of Stock That Have Not Vested (\$)
Christopher Anzalone	6/11/2008	2,500	—	—	21.30	6/11/2018	—	—	—	—
	10/8/2009	112,650	—	—	5.10	10/8/2019	—	—	—	—
	3/4/2010	56,325	—	—	5.20	3/4/2020	—	—	—	—
	8/16/2010	50,000	—	—	9.90	3/16/2020	—	—	—	—
	10/21/2011	15,000	—	—	4.60	10/21/2021	—	—	—	—
	2/16/2012	170,000	—	—	5.19	2/16/2022	—	—	—	—
	9/28/2012	50,000	—	—	2.62	9/28/2022	—	—	—	—
	5/6/2013	200,000	—	—	2.01	5/6/2023	—	—	—	—
	9/21/2013	69,991	—	—	4.75	9/21/2023	—	—	—	—
	2/6/2014	53,749	6,251	—	14.54	2/6/2024	—	—	—	—
	3/6/2015	300,000	—	—	7.75	3/6/2025	—	—	—	—
	1/1/2016	33,333	46,667	—	6.15	1/1/2026	—	—	—	—
	1/1/2016	—	—	—	—	—	—	—	360,000	1,558,800
	4/12/2017	—	—	—	—	—	—	—	978,000	4,234,740
Kenneth Myszkowski	3/4/2010	8,000	—	—	5.20	3/4/2020	—	—	—	—
	8/16/2010	12,000	—	—	9.90	3/16/2020	—	—	—	—
	10/21/2011	15,000	—	—	4.60	10/21/2021	—	—	—	—
	2/16/2012	68,000	—	—	5.19	2/16/2022	—	—	—	—
	9/28/2012	25,000	—	—	2.62	9/28/2022	—	—	—	—
	5/6/2013	54,000	—	—	2.01	5/6/2023	—	—	—	—
	9/21/2013	20,000	—	—	4.75	9/21/2023	—	—	—	—
	2/6/2014	44,790	5,210	—	14.54	2/6/2024	—	—	—	—
	3/6/2015	31,250	18,750	—	7.75	3/6/2025	—	—	—	—
	3/6/2015	—	—	—	—	—	16,666	72,164	—	—
	1/1/2016	16,666	23,334	—	6.15	46,023	—	—	—	—
1/1/2016	—	—	—	—	—	33,334	144,336	—	—	
1/1/2017	—	—	—	—	—	145,000	627,850	—	—	
Bruce D. Given	9/28/2009	1,000	—	—	6.20	9/28/2019	—	—	—	—
	10/26/2011	30,000	—	—	5.20	10/26/2021	—	—	—	—
	2/16/2012	110,000	—	—	5.19	2/16/2022	—	—	—	—
	9/28/2012	35,000	—	—	2.62	9/28/2022	—	—	—	—
	5/6/2013	170,000	—	—	2.01	5/6/2023	—	—	—	—
	9/21/2013	40,000	—	—	4.75	9/21/2023	—	—	—	—
	2/6/2014	44,790	5,210	—	14.54	2/6/2024	—	—	—	—
	3/6/2015	37,500	22,500	—	7.75	3/6/2025	—	—	—	—
	3/6/2015	—	—	—	—	—	50,000	216,500	—	—
	1/1/2016	25,000	35,000	—	6.15	1/1/2026	—	—	—	—
	1/1/2016	—	—	—	—	—	100,000	433,000	—	—
1/1/2017	—	—	—	—	—	380,000	1,645,400	—	—	
Patrick O'Brien	12/2/2014	61,875	28,125	—	5.22	12/2/2024	—	—	—	—
	12/2/2014	—	—	—	—	—	10,000	43,300	—	—
	1/1/2016	25,000	35,000	—	6.15	1/1/2026	—	—	—	—
	1/1/2017	—	—	—	—	—	145,000	627,850	—	—
Peter Leone	7/20/2013	30,000	—	—	2.79	7/20/2023	—	—	—	—
	9/21/2013	10,000	—	—	4.75	9/21/2023	—	—	—	—
	2/6/2014	40,311	4,689	—	14.54	2/6/2024	—	—	—	—
	3/6/2015	53,125	31,875	—	7.75	3/6/2025	—	—	—	—
	1/1/2016	20,833	29,167	—	6.15	1/1/2026	—	—	—	—
	1/1/2017	—	—	—	—	—	90,000	389,700	—	—

- (1) Options are priced at the market closing price on the date of grant. Options have various vesting parameters, but generally vest within 48 months after the award is granted except for the grants made on 10/8/2009 and 3/4/2010 which vested over 24 months.
- (2) The amounts reported for Christopher Anzalone in this column reflect the January 2016 and April 2017 awards that contain performance-based vesting conditions. These awards and their vesting conditions are described above in the "Compensation Discussion and Analysis" under the heading "Equity Compensation".
- (3) Restricted stock units have various vesting parameters. The restricted stock units granted in 2017 vest two years from the grant date.
- (4) Value is based on the Company's Common Stock closing price of \$4.33 on September 30, 2017.



## Options Exercised and Stock Vested Table

The following table provides information, with respect to the Named Executive Officers, concerning options exercised or restricted stock units vested during fiscal 2017.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise	Value Realized on Exercise (1)	Number of Shares Acquired on Vesting	Value Realized on Vesting (2)
Christopher Anzalone	—	—	540,000	\$ 685,800
Kenneth Myszkowski	—	—	33,333	\$ 62,833
Bruce D. Given	—	—	100,000	\$ 188,500
Patrick O'Brien	—	—	10,000	\$ 14,400
Peter Leone	—	—	—	—

- (1) Value is calculated as the price of the Company's Common Stock upon exercise, less the exercise price, multiplied by the number of shares exercised.  
(2) Value is calculated as the price of the Company's Common Stock upon vesting, multiplied by the number of shares vested.

### *Termination Benefits - Potential Payments Upon Termination or Change in Control*

The Company has the following severance or change of control arrangements with its Named Executive Officers:

Dr. Anzalone's employment agreement with the Company provides that, if the Company terminates Dr. Anzalone's employment without Cause or if Dr. Anzalone terminates his employment for Good Reason, on his date of termination, Dr. Anzalone will receive a one-time lump sum payment equal to the sum of: (i) one month of base salary and (ii) premiums for thirty (30) days of medical and dental benefits. To receive such payments Dr. Anzalone is required to execute a general release in favor of the Company.

For purposes of Dr. Anzalone's employment agreement:

“**Cause**” means (i) the conviction (by trial or upon a plea of nolo contendere) of a felony or other crime involving moral turpitude or the commission of any other material act or omission involving dishonesty, disloyalty or fraud with respect to the Company or any of its subsidiaries or any of their customers or suppliers, (ii) reporting to work under the influence of alcohol or illegal drugs, the use of illegal drugs (whether or not at the workplace) or other repeated conduct causing the Company or any of its subsidiaries substantial public disgrace or disrepute or economic harm, (iii) the engaging of gross misconduct and the failure to cease such conduct and rectify any harm to the Company resulting therefrom within 30 days after written demand therefor by the Company identifying with reasonable particularity such conduct and harm, or (iv) any other material breach of the employment agreement by Executive and the failure to cease such breach and rectify any harm to the Company within 30 days after written demand by the Company identifying with reasonable particularity such breach and harm; and

“**Good Reason**” means (i) Executive's duties, responsibilities, titles or offices are diminished as compared to those described in the employment agreement without Executive's written consent, and the Company fails to reinstate such duties, responsibilities, titles or offices within 30 days after written demand by Executive identifying with reasonable particularity the diminishment, (ii) the relocation of Executive's base office to an office that is more than thirty (30) highway miles from Pasadena, CA, (iii) the failure of the Company to obtain a satisfactory agreement from any successor to assume and agree to perform the obligations under the employment agreement and (iv) any other material breach of this employment agreement by the Company and the failure to cease such breach and rectify any harm to Executive resulting within 30 days after written demand by Executive identifying with reasonable particularity the breach and harm.

Pursuant to his offer of employment by the Company, Mr. Myszkowski is entitled to severance pay equal to three months' base salary plus an amount equal to the premiums on his medical and dental benefits for the same period upon termination of his employment without cause.

Pursuant to his offer of employment by the Company, Mr. O'Brien is entitled to severance pay equal to six months' base salary upon termination of his employment without cause only upon change of control as defined in the Company's 2013 Incentive Plan.

The Company has not entered into a severance arrangement with Dr. Given or Mr. Leone.

Additionally, pursuant to the 2004 Equity Incentive Plan and the 2013 Incentive Plan, any unvested awards held by plan participants, including the Named Executive Officers, become fully vested upon a change of control, except as otherwise determined by the Board and except with respect to the outstanding awards held by the CEO whose awards will only accelerate upon a qualifying termination of employment following a change of control.

The following tables set forth information regarding potential termination and change of control arrangements with our executive officers had their employment been terminated on September 30, 2017:

#### Termination Payments

Triggering Event	Salary (\$)	Benefits (\$)	Stock Awards (1) (\$)	Option Awards (1) (\$)	Total
<b>Termination by Employer without Cause</b>					
Christopher Anzalone (2)	51,838	1,651	—	—	53,489
Kenneth Myszkowski	84,841	6,021	—	—	90,862
Bruce D. Given	—	—	—	—	—
Patrick O'Brien	—	—	—	—	—
Peter Leone	—	—	—	—	—
<b>Change in Control</b>					
Christopher Anzalone	—	—	—	—	—
Kenneth Myszkowski	84,841	6,021	844,350	—	935,212
Bruce D. Given	—	—	2,294,900	—	2,294,900
Patrick O'Brien	197,392	—	671,150	—	868,542
Peter Leone	—	—	389,700	—	389,700
<b>Involuntary Termination Following a Change in Control</b>					
Christopher Anzalone	51,838	1,651	5,793,540	—	5,847,029

(1) For stock awards the value is calculated as the number of unvested shares multiplied by the Company's closing stock price at September 30, 2017 of \$4.33. For option awards the value is calculated as the number of shares issuable upon unvested options multiplied by difference between the Company's closing stock price at September 30, 2017 of \$4.33 less the applicable exercise price.

(2) Dr. Anzalone's employment contract also provides for payment of the values set forth above upon his resignation for "good reason" as defined in his employment agreement.

#### PROPOSAL THREE RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS

Our Audit Committee, with the ratification of our Board, selected the accounting firm of Rose, Snyder & Jacobs, LLP ("RS&J") as the Company's independent auditors for the fiscal year ending September 30, 2018, and that selection is now being submitted to the stockholders.

A representative of RS&J will be available at the Annual Meeting to respond to appropriate questions or make any other statements such representative deems appropriate.

Stockholders are not required to ratify the appointment of RS&J as our independent auditor. However, we are submitting the appointment for ratification as a matter of good corporate practice. If stockholders fail to ratify the appointment, the Audit Committee will consider whether or not to retain RS&J. Even if the appointment is ratified, the Audit Committee may direct the appointment of a different independent auditor at any time during the year if it determines that such a change would be in the best interests of the Company and our stockholders.

#### Vote Required; Recommendation of the Board

In order to be ratified, Proposal Three must be approved by a majority of Required Vote, assuming a quorum is present. For this purpose, abstentions will be counted as a vote against the proposal.

**THE BOARD UNANIMOUSLY RECOMMENDS A VOTE “FOR” PROPOSAL THREE.**

**AUDIT FEES**

The Audit Committee regularly reviews and determines whether specific projects or expenditures with our independent auditors, Rose, Snyder & Jacobs, LLP may potentially affect their independence. The Audit Committee’s policy is to pre-approve all audit and permissible non-audit services provided by RS&J. Pre-approval is generally provided by the Audit Committee for up to one year, detailed to the particular service or category of services to be rendered and is generally subject to a specific budget. The Audit Committee may also pre-approve additional services of specific engagements on a case-by-case basis. All engagements of our independent registered public accounting firm in 2017 and 2016 were pre-approved by the audit committee.

The following table sets forth the aggregate fees invoiced by RS&J for the fiscal years ended September 30, 2017 and September 30, 2016:

	<u>Year Ended September 30,</u>	
	<u>2017</u>	<u>2016</u>
Audit fees (1)	\$ 195,000	\$ 185,500
Audit-related fees (2)	13,500	8,500
Tax Fees	—	—
All other fees	—	—
<b>Total</b>	<u>\$ 208,500</u>	<u>\$ 194,000</u>

- (1) Fees invoiced by RS&J include year-end audit and periodic reviews of Forms 10-Q and 10-K.
- (2) Fees invoiced by RS&J related to Comfort Letters and Consents for financings and registration statements, and other agreed-upon procedures.

**REPORT OF THE AUDIT COMMITTEE**

The following is the report of the Audit Committee with respect to the Company’s audited financial statements for fiscal 2017, which include the consolidated balance sheets of the Company as of September 30, 2017 and September 30, 2016, and the related consolidated statements of operations, stockholders’ equity and cash flows for the fiscal years ended September 30, 2017, September 30, 2016 and September 30, 2015, and the notes thereto.

**Composition.** At September 30, 2017, The Audit Committee of the Board was comprised of three directors and operates under a written charter adopted by the Board. The members of the Audit Committee were Edward W. Frykman, Michael S. Perry and Mauro Ferrari. All members of the Audit Committee were “independent,” as defined in Rule 10A-3 under the Exchange Act and Rule 5605(c) of the Nasdaq Marketplace Rules, and are financially literate.

**Responsibilities.** The responsibilities of the Audit Committee include engaging an accounting firm as the Company’s independent registered public accounting firm. Management has primary responsibility for the Company’s internal controls and financial reporting process. The independent registered public accounting firm is responsible for performing an independent audit of the Company’s consolidated financial statements in accordance with generally accepted auditing standards and for issuing a report thereon. The Audit Committee’s responsibility is to oversee these processes.

**Review with Management and independent registered public accounting firm.** On December 8, 2017, the Audit Committee consisted of Edward W. Frykman, Michael S. Perry and Mauro Ferrari. On that date, the Audit Committee met separately to review the Company’s consolidated audited financial statements and held discussions with management and RS&J. Management represented to the Audit Committee that the Company’s consolidated financial statements were prepared in accordance with generally accepted accounting principles. The members of the Audit Committee discussed with RS&J matters required to be discussed under the applicable standards of the Public Company Accounting Oversight Board. The Company’s independent registered public accounting firm also provided to the Audit Committee the written disclosures and the letter required by the Public Company Accounting Oversight Board regarding the independent registered public accounting firm’s communications with the Audit Committee concerning independence and the Audit Committee discussed the firm’s independence with RS&J.

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**Conclusion.** Based upon the Audit Committee's review of the financial statements and discussions with management and RS&J, the Audit Committee's review of the representations of management and the report of RS&J to the Audit Committee, the Audit Committee recommended that the Board include the audited consolidated financial statements in the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2017, as filed with the SEC.

This report is submitted by the Audit Committee of the Board.

Edward W. Frykman, Chairman

Mauro Ferrari

Michael S. Perry

## VOTING SECURITIES OF PRINCIPAL STOCKHOLDERS AND MANAGEMENT

The following table sets forth the beneficial ownership of the Company's Common Stock as of January 19, 2018, by (i) each of the named executive officers named in the table under "Executive Compensation and Related Information," (ii) each director, (iii) all current directors and executive officers as a group, and (iv) the holders of greater than 5% of our total shares outstanding known to us. Unless otherwise specified in the footnotes to the table below, the persons and entities named in the table have sole voting and investment power with respect to all shares beneficially owned, subject to community property laws, where applicable, and the address of each stockholder is c/o Arrowhead Pharmaceuticals, Inc., 225 South Lake Avenue, Suite 1050, Pasadena, California 91101 unless otherwise indicated.

	Number and Percentage of Shares Beneficially Owned (1)	
	Shares	Percentage
<b><u>5% Beneficial Owners</u></b>		
<b><u>Executive Officers and Directors</u></b>		
Christopher Anzalone (2)	1,596,588	1.8%
Kenneth Myszkowski (3)	404,772	*
Bruce D. Given (4)	851,856	*
Patrick O'Brien (5)	154,375	*
Peter Leone (6)	192,708	*
Zhen Li (7)	149,783	*
Douglass Given (8)	215,000	*
Edward Frykman (9)	200,352	*
Michael S. Perry (10)	232,000	*
Mauro Ferrari (11)	87,613	*
William Waddill	—	*
All Executive Officers and Directors as a group (11 persons) (12)	4,085,047	4.6%

\* Less than 1%

- (1) Based on 86,787,566 shares of Common Stock issued and outstanding as of January 19, 2018. Shares not outstanding but deemed beneficially owned by virtue of the right of a person to acquire them as of January 19, 2018, or within sixty days of such date are treated as outstanding only when determining the percentage owned by such individual and when determining the percentage owned by a group.
- (2) Includes 1,139,799 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (3) Includes 322,416 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018 and 16,666 restricted stock units that vest within 60 days of January 19, 2018.
- (4) Includes 528,500 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018 and 50,000 restricted stock units that vest within 60 days of January 19, 2018.
- (5) Includes 124,375 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (6) Includes 192,708 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (7) Includes 137,083 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (8) Includes 65,000 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (9) Includes 76,500 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.

- (10) Includes 77,000 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (11) Includes 24,845 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018.
- (12) Includes 2,688,226 shares issuable upon the exercise of stock options that are exercisable within 60 days of January 19, 2018 and 66,666 restricted stock units that vest within 60 days of January 19, 2018.

### EQUITY COMPENSATION PLAN INFORMATION

The following table provides information as of September 30, 2017 with respect to shares of our Common Stock that may be issued under our equity compensation plans.

	<u>Equity Compensation Plan Information</u>		
	<u>Number of Shares to be Issued upon exercise of outstanding options, warrants and rights</u>	<u>Weighted average exercise price of outstanding options, warrants and rights</u>	<u>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (3)</u>
Equity compensation plans approved by security holders (1)	8,203,493	\$ 5.89	244,873
Equity compensation plans not approved by security holders (2)	454,050	\$ 7.30	—
<b>Total</b>	<b>8,657,543</b>	<b>\$ 6.00</b>	<b>244,873</b>

- (1) Includes options outstanding representing 2,119,286 and 2,986,207 shares of Common Stock under the 2004 Equity Incentive Plan and the 2013 Incentive Plan, respectively. Also includes 3,098,000 restricted stock units subject to the 2013 Incentive Plan.
- (2) Includes 444,050 inducement option grants and 10,000 inducement restricted stock unit grants issued to newly hired employees.

## Current Executive Officers of the Registrant

The names, ages and positions of our current executive officers serving as of January 19, 2018 are provided below. Biographical information regarding these officers is set forth under the following table, except for Dr. Anzalone, whose biography is set forth above with our other directors.

Name	Age	Position with Arrowhead
Christopher Anzalone	48	Chief Executive Officer & President and Director
Kenneth A. Myszkowski	51	Chief Financial Officer
Bruce Given	63	Chief Operating Officer
Patrick O'Brien	54	General Counsel
Zhen Li	57	Senior Vice President, Chemistry & Manufacturing

**Kenneth A. Myszkowski**, Chief Financial Officer, joined Arrowhead in 2009. Prior to joining Arrowhead, Mr. Myszkowski served as the corporate controller for Broadwind Energy, a public energy company which provides products and services to the wind energy industry. Previous to his position at Broadwind, Mr. Myszkowski was controller for Epcor USA, the U.S. headquarters for Epcor Utilities, Inc., a public energy company. Prior to Epcor, Mr. Myszkowski was controller for two start-up ventures: NanoInk, specializing in Dip Pen Nanolithography, a nanofabrication technology, and Delphion, which provided on-line tools for intellectual property research. Mr. Myszkowski also held several corporate roles at FMC Corporation and Premark International, both Fortune 500 conglomerates. He began his career in the audit practice of Arthur Andersen & Co. in Chicago, Illinois. Mr. Myszkowski received his undergraduate degree from the University of Illinois, and his MBA from the University of Chicago Booth School of Business. He is a certified public accountant.

**Dr. Bruce Given**, Chief Operating Officer, joined Arrowhead in 2011. Dr. Given was a member of the Board of Directors for ICON, plc. from 2004 until his retirement in 2013 and Chairman of its Board of Directors from 2010 to 2013. Dr. Given served as the President and Chief Executive Officer, and as a member of the Board of Directors of Encysive Pharmaceuticals, an R&D-based commercial pharmaceutical company, roles he held from 2002 through 2007. Subsequent to his tenure at Encysive until 2011, Dr. Given was President of Bruce Given Consulting, a firm that provides consulting services to biotech companies. Since October 1, 2009, Dr. Given has been a director of Calando Pharmaceuticals, Inc., and from February 2010 until its dissolution in October 2014, Dr. Given was the Chief Executive Officer of Leonardo Biosystems, Inc., in which Arrowhead held a minority equity interest. Prior to his tenure at Encysive, Dr. Given held several senior executive roles at Johnson and Johnson, Sandoz Pharmaceuticals and Schering-Plough. Dr. Given obtained his bachelor of sciences degree from Colorado State University, graduating Phi Beta Kappa. He received his M.D. degree with honors from the University of Chicago, Pritzker School of Medicine and completed his medical training at the University of Chicago and at Brigham and Women's Hospital in Boston, where he was a Clinical Fellow at Harvard Medical School. He is board certified in internal medicine and endocrinology and metabolism and has authored 33 scientific publications. Dr. Bruce Given is a brother of Dr. Douglass Given, a director of the company.

**Patrick C. O'Brien**, General Counsel, joined the Company in December 2014. Mr. O'Brien has practiced in the healthcare legal field for over 20 years. Before joining the Company, from 2012 to 2014, Mr. O'Brien was with Shire, as global pharmaceutical company, where he was Group Vice President, Law. Immediately prior to working with Shire he was a partner with the international law firm of Holland & Knight LLP in its Washington, DC office. In 2010, Mr. O'Brien co-founded the law firm O'Brien Gould PLLC which joined Holland & Knight in 2011. From 2009 – 2010, Mr. O'Brien was a partner in Burke O'Neil LLC. From 2001—2009 Mr. O'Brien served in several legal roles with Johnson & Johnson, including serving as Vice President of Law for J&J's Centocor Ortho-Biotech unit. Mr. O'Brien previously served as Regulatory Counsel with the United States Food & Drug Administration. Mr. O'Brien was awarded a BS in Pharmacy and a PharmD from the University of Arizona before completing a residency in Clinical Pharmacy with the University of Illinois at Chicago Hospital. He was also awarded his JD from the University of Arizona.

**Dr. Zhen Li**, Senior Vice President, Chemistry & Manufacturing, joined the Company in March 2014. Prior to joining Arrowhead Pharmaceuticals, she was Director of Chemistry, RNAi therapeutics, Process Chemistry at Merck, a global pharmaceutical company, from 2009 to 2013. Prior to her tenure at Merck, she held leadership positions at Schering-Plough and Novartis, and led teams in drug discovery and process development in small

molecule pharmaceuticals as well as RNAi therapeutics covering a range of disease areas. Dr. Zhen Li was Director of Chemistry at Merck Research Laboratory and led a team in research and development in the field of siRNA. She led multiple development programs from early to late stage at Schering-Plough. Dr. Zhen Li served as the Head of Process and Analytical Research & Development at Novartis Chuangshu. She began her pharmaceutical career at Merck where she did research in medicinal chemistry and process development. Dr. Zhen Li received her bachelor of science degree from Peking University and her Ph.D. from Harvard University.

### **Section 16(a) Beneficial Ownership Reporting Compliance**

Under Section 16(a) of the Securities Exchange Act of 1934, the Company's directors and officers and its significant stockholders (defined by statute as stockholders beneficially owning more than ten percent (10%) of the Common Stock) are required to file with the SEC and the Company reports of ownership, and changes in ownership, of Common Stock. Based solely on a review of the reports received by it, the Company believes that, during the fiscal year ended September 30, 2017, all of its officers, directors and significant stockholders complied with all applicable filing requirements under Section 16(a).

### **REVIEW AND APPROVAL OF RELATED-PARTY TRANSACTIONS**

Our Board has adopted policies and procedures for the review and approval of related-party transactions and has delegated to the Audit Committee the authority to review and approve the material terms of any proposed related-party transactions. To the extent that a proposed related-party transaction may involve a non-employee director or nominee for election as a director and may be material to a consideration of that person's independence, the matter may also be considered by the other disinterested directors.

Pursuant to our Code of Business Conduct and Ethics and our Corporate Governance Committee Charter, each of our officers, directors and employees must disclose related-party transactions to our Board of Directors. In order to avoid conflicts of interest, our executive officers and directors may not acquire any ownership interest in any supplier, customer or competitor (other than nominal amounts of stock in publicly traded companies), enter into any consulting or employment relationship with any customer, supplier or competitor, or engage in any outside business activity that is competitive with any of our businesses, without first disclosing the proposed transaction. After the proposed transaction has been disclosed, a determination will be made by our Board or Audit Committee as to what course to follow, depending on the nature or extent of the conflict. Furthermore, our executive officers and directors may not serve on any board of directors of any customer, supplier or competitor unless such board service has been disclosed to us and approved by our Board.

In determining whether to approve or ratify a related-party transaction, the Board and/or Committee may consider, among other factors it deems appropriate, the potential benefits to us, the impact on a director's or nominee's independence or an executive officer's relationship with or service to us, whether the related-party transaction is on terms no less favorable than terms generally available to an unaffiliated third party under the same or similar circumstances and the extent of the related party's interest in the transaction. In deciding to approve a transaction, the Board or Audit Committee may, in its sole discretion, impose such conditions as it deems appropriate on us or the related party in connection with its approval of any transaction. Any transactions involving the compensation of executive officers, however, are reviewed and approved by the Compensation Committee. If a related-party transaction will be ongoing, the Audit Committee may establish guidelines to be followed in our ongoing dealings with the related party. Thereafter, the Audit Committee reviews and assesses the ongoing relationship with each related party to see that it is in compliance with the committee's guidelines and that the related-party transaction remains appropriate.

### **CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE**

As of September 30, 2017, a majority of the members of the Board are independent directors, as defined by the Nasdaq Marketplace Rules. The Board has determined that all of the Company's directors are independent, except Dr. Anzalone, the Company's Chief Executive Officer, and Dr. Douglass Given, the brother of the Company's Chief Operating Officer. Non-employee directors do not receive consulting, legal or other fees from the Company, other than Board compensation.

Vincent Anzalone is the Company's Vice President, Investor Relations and the brother of Christopher Anzalone, the Company's Chief Executive Officer. Vincent Anzalone earned base salary and bonus of \$228,461



during fiscal 2016 and \$64,167 thus far in fiscal 2018. His current base salary is \$220,000. In January 2016, Mr. Anzalone was awarded options to purchase 40,000 shares of the Company's Common Stock at \$6.15 for performance in 2015 which vest over four years from the date of grant. The exercise price is equal to the fair market value of the shares on the date of grant. The grant date fair value of the option is \$184,383. In January 2017, Mr. Anzalone was awarded 65,000 restricted stock units for performance in 2016, and this award vests two years from the anniversary date of the grant. The grant date fair value of this award is \$100,750. In January 2018, Mr. Anzalone was awarded 35,000 restricted stock units for performance in 2017, and this award vests in four annual tranches from the grant date. The grant date fair value of this award is \$128,800.

#### **Annual report on Form 10-K**

The Company will mail, without charge to any stockholder upon written request, a copy of the Company's Annual Report on Form 10-K for the year ended September 30, 2017 including the financial statements, schedules and a list of exhibits. Requests should be sent to Arrowhead Pharmaceuticals, Inc., 225 S. Lake Avenue, Suite 1050, Pasadena, CA 91101, Attn: Corporate Secretary, Phone (626) 304-3400.

#### **Stockholders Sharing the Same Address**

We may satisfy SEC rules regarding delivery of proxy statements including the proxy statement, annual report and Notice, by delivering a single Notice and, if applicable, a single set of proxy materials to an address shared by two or more of our stockholders. This delivery method can result in meaningful cost savings for us. To take advantage of this opportunity, we may deliver only one Notice, and if applicable, a single set of proxy materials to multiple stockholders who share an address, unless contrary instructions are received prior to the mailing date. Similarly, if you share an address with another stockholder and have received multiple copies of our Notice and/or other proxy materials, you may write or call us at the address and phone number below to request delivery of a single copy of these materials in the future. We undertake to deliver promptly upon written or oral request a separate copy of the Notice and/or other proxy materials to a stockholder at a shared address to which a single copy of these documents was delivered. If you hold stock as a record stockholder and prefer to receive separate copies of a Notice, and if applicable, other proxy materials either now or in the future, please contact us at the address provided below. If your stock is held through a brokerage firm or bank and you prefer to receive separate copies of a Notice and, if applicable, other proxy materials either now or in the future, please contact your brokerage firm or bank.

Arrowhead Pharmaceuticals, Inc.  
225 S. Lake Avenue, Suite 1050  
Pasadena CA 91101  
Attn: Corporate Secretary  
Phone (626) 304-3400

#### **Other Matters**

The Company knows of no other matters to be submitted at the Annual Meeting. If any other matters properly come before the meeting, it is the intention of the persons named in the proxy card to vote the shares they represent as the Board may recommend.

BY ORDER OF THE BOARD OF DIRECTORS

/s/ Jane Davidson

\_\_\_\_\_  
Jane Davidson,  
Secretary

Pasadena, California  
January 25, 2018

**ARROWHEAD PHARMACEUTICALS, INC.**  
**225 SOUTH LAKE AVENUE, SUITE 1050**  
**PASADENA, CA 91101**

**VOTE BY INTERNET**

Before The Meeting - Go to [www.proxyvote.com](http://www.proxyvote.com)

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

During The Meeting - Go to [www.virtualshareholdermeeting.com/ARWR2018](http://www.virtualshareholdermeeting.com/ARWR2018)

You may attend the meeting via the Internet and vote during the meeting. Have the information that is printed in the box marked by the arrow available and follow the instructions.

**VOTE BY PHONE - 1-800-690-6903**

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

**VOTE BY MAIL**


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

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

E35946-P00586

KEEP THIS PORTION FOR YOUR RECORDS  
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

<b>ARROWHEAD PHARMACEUTICALS, INC.</b>		<b>For All</b>	<b>Withhold All</b>	<b>For All Except</b>	To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the number(s) of the nominee(s) on the line below.	
The Board of Directors recommends you vote FOR the following:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	
1. Election of Directors						
<b>Nominees:</b>						
01) Christopher Anzalone						
02) Mauro Ferrari						
03) Edward W. Frykman						
04) Douglass Given						
05) Michael S. Perry						
06) William Waddill						
<b>The Board of Directors recommends you vote FOR the following proposals:</b>						
2. To approve the compensation paid to the Company's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the compensation tables and narrative discussion.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. To ratify the selection of Rose, Snyder & Jacobs LLP as independent auditors of the Company for the fiscal year ending September 30, 2018.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<b>NOTE:</b> Such other business as may properly come before the meeting or any adjournment thereof.						
Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.						
<input type="text"/>		<input type="text"/>		<input type="text"/>		
Signature (PLEASE SIGN WITHIN BOX)		Date		Signature (Joint Owners)		Date

**Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:**  
The Notice and Proxy Statement and Form 10-K are available at [www.proxyvote.com](http://www.proxyvote.com).

E35947-P00586

**ARROWHEAD PHARMACEUTICALS, INC.  
Annual Meeting of Stockholders  
March 16, 2018 10:00 AM PT  
This proxy is solicited by the Board of Directors**

The stockholder(s) hereby appoint(s) Christopher Anzalone and Jane Davidson, or either of them, as proxies, each with the power to appoint (his/her) substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of Common Stock of ARROWHEAD PHARMACEUTICALS, INC. that the Stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 10:00 AM, PT on March 16, 2018, online at [WWW.VirtualShareholderMeeting.com/ARWR2018](http://WWW.VirtualShareholderMeeting.com/ARWR2018), and any adjournment or postponement thereof.

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

Continued and to be signed on reverse side