

Mast Therapeutics, Inc.
Form DEF 14A
April 28, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the

Securities Exchange Act of 1934

(Amendment No.)

Filed by the Registrant

Filed by a party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant to §240.14a-12

MAST THERAPEUTICS, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

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

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials.

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

(1) Amount Previously Paid:

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

(3) Filing Party:

(4) Date Filed:

MAST THERAPEUTICS, INC.

3611 Valley Centre Drive, Suite 500

San Diego, CA 92130

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held June 15, 2016

The 2016 Annual Meeting of Stockholders of Mast Therapeutics, Inc. will be held on June 15, 2016 at 9:00 a.m. Pacific Time at the DoubleTree by Hilton Hotel located at 11915 El Camino Real, San Diego, California 92130. The meeting is being held for the following purposes, as more fully described in the proxy statement accompanying this notice:

1. To elect five directors to hold office until the next annual meeting of stockholders and until their respective successors are elected and qualified or until their earlier resignation or removal;
2. To ratify the appointment of Mayer Hoffman McCann P.C. as our independent registered public accounting firm for the fiscal year ending December 31, 2016;
3. To approve, on an advisory basis, the compensation of our named executive officers, as disclosed in the proxy statement accompanying this notice; and
4. To transact such other business as may properly come before the meeting and any adjournment or postponement thereof.

Only stockholders of record at the close of business on April 19, 2016 will be entitled to notice of, and to vote at, the meeting and any adjournment or postponement thereof. A list of stockholders entitled to vote at the meeting will be available for inspection by any stockholder for any purpose relating to the meeting during ordinary business hours at our corporate offices located at 3611 Valley Centre Drive, Suite 500, San Diego, California 92130 for ten days prior to the meeting, and will also be available for inspection at the meeting. To obtain directions to the location of the meeting, please contact us at (858) 552-0866.

Your vote is important. Whether or not you plan to attend the meeting, and no matter how many shares you own, please vote as promptly as possible. This will help to ensure the presence of a quorum at the meeting and save us additional proxy solicitation costs.

All stockholders are cordially invited to attend the meeting.

By Order of the Board of Directors,
Brian M. Culley
Chief Executive Officer

San Diego, California

April 28, 2016

Important Notice Regarding the Availability of Proxy Materials for the Stockholders' Meeting To Be Held on June 15, 2016. This notice of meeting, the proxy statement for the meeting and our annual report for the fiscal year ended December 31, 2015 are available at <https://materials.proxyvote.com/576314>.

TABLE OF CONTENTS

<u>GENERAL INFORMATION ABOUT THE MEETING</u>	1
<u>BOARD OF DIRECTORS</u>	6
<u>NOMINEES FOR ELECTION TO THE BOARD</u>	6
<u>CORPORATE GOVERNANCE</u>	9
<u>DIRECTOR NOMINATIONS</u>	13
<u>COMMUNICATIONS WITH DIRECTORS</u>	15
<u>EXECUTIVE OFFICERS AND KEY EMPLOYEES</u>	15
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	18
<u>CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS</u>	20
<u>SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</u>	21
<u>EQUITY COMPENSATION PLAN INFORMATION</u>	22
<u>EXECUTIVE OFFICER COMPENSATION</u>	23
<u>DIRECTOR COMPENSATION</u>	36
<u>AUDIT COMMITTEE REPORT</u>	39
<u>PRINCIPAL ACCOUNTANT FEES AND SERVICES</u>	40
<u>PROPOSAL 1 — ELECTION OF DIRECTORS</u>	42
<u>PROPOSAL 2 — RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM</u>	42
<u>PROPOSAL 3 —ADVISORY VOTE ON THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS</u>	43
<u>OTHER MATTERS</u>	44
<u>STOCKHOLDER PROPOSALS FOR 2017 ANNUAL MEETING</u>	44

Mast Therapeutics, Inc.

3611 Valley Centre Drive, Suite 500

San Diego, CA 92130

(858) 552-0866

PROXY STATEMENT

2016 ANNUAL MEETING OF STOCKHOLDERS

To Be Held June 15, 2016

GENERAL INFORMATION ABOUT THE MEETING

Mast Therapeutics, Inc., a Delaware corporation (“Mast Therapeutics,” “we,” “us,” “our,” or “our company”), is making proxy materials, including this proxy statement, available to our stockholders via the Internet in connection with the solicitation of proxies by our board of directors for use at our 2016 Annual Meeting of Stockholders to be held on June 15, 2016 at 9:00 a.m. Pacific Time at the DoubleTree by Hilton Hotel located at 11915 El Camino Real, San Diego, California 92130 (the “Annual Meeting”), and at any adjournment or postponement thereof.

This proxy statement, the attached notice of the Annual Meeting, a proxy card and our annual report on Form 10-K for the fiscal year ended December 31, 2015 are collectively referred to as the “proxy materials.” The proxy materials are first being made available to our stockholders on or about April 28, 2016.

Notice of Internet Availability of Proxy Materials

All stockholders have the ability to access the proxy materials on the website referred to in the attached notice of the Annual Meeting. Pursuant to rules adopted by the U.S. Securities and Exchange Commission (the “SEC”), we have elected to send a Notice of Internet Availability of Proxy Materials (the “Notice”) to our stockholders instead of mailing printed copies of the proxy materials, unless you have previously elected to receive printed materials. The Notice provides instructions on how to access the proxy materials via the Internet and how to request a printed set of the proxy materials at no charge. In addition, stockholders can elect to receive future proxy materials electronically by email or in printed form by mail, and any such election will remain in effect until terminated by the stockholder. We encourage all stockholders to take advantage of the availability of the proxy materials on the Internet to help reduce the cost and environmental impact of our annual meetings.

Purposes of the Annual Meeting

The Annual Meeting is being held for the following purposes:

Edgar Filing: Mast Therapeutics, Inc. - Form DEF 14A

1. To elect five directors to hold office until the next annual meeting of stockholders and until their respective successors are elected and qualified or until their earlier resignation or removal;
2. To ratify the appointment of Mayer Hoffman McCann P.C. as our independent registered public accounting firm for the fiscal year ending December 31, 2016;
3. To approve, on an advisory basis, the compensation of our named executive officers, as disclosed in this proxy statement in accordance with SEC rules in the section entitled "Executive Officer Compensation;" and
4. To transact such other business as may properly come before the meeting and any adjournment or postponement thereof.

1

Record Date; Shares Outstanding and Entitled to Vote

Our board of directors has fixed April 19, 2016 as the record date for the determination of holders of our common stock entitled to notice of, and to vote at, the Annual Meeting and any adjournment or postponement thereof. At the close of business on the record date, we had 192,836,367 shares of common stock issued and outstanding. Each stockholder of record as of the record date is entitled to one vote at the Annual Meeting for each share of common stock held by such stockholder on the record date. Stockholders do not have cumulative voting rights. We had no other class of capital stock outstanding as of the record date. No other shares are entitled to notice of, or to vote at, the Annual Meeting.

How to Vote Your Shares

If you hold your shares in your own name as the stockholder of record: You may vote your shares by proxy over the Internet or by telephone by following the instructions provided in the Notice, or, if you requested to receive printed proxy materials, you may vote by marking, dating and signing the enclosed proxy card and returning it in the postage-paid envelope provided or you may vote over the Internet or by telephone pursuant to the instructions provided in the proxy card. Additionally, you may vote your shares in person at the Annual Meeting. Stockholders voting by Internet or telephone should understand that, while we and the party providing the service through which you may vote by Internet or by telephone do not charge any fees to our stockholders for voting by Internet or telephone, there may still be costs, such as usage charges from Internet access providers and telephone companies, for which you are responsible.

If your shares are held in the name of a broker or other nominee (that is, in “street name”): You will receive instructions from the holder of record that you must follow for your shares to be voted. The availability of telephonic or Internet voting will depend on your broker’s (or other nominee’s) voting process. Please check with your broker or other nominee and follow the voting procedure your broker or other nominee provides to vote your shares. If you wish to vote in person at the Annual Meeting, you must request a legal proxy from your broker or other nominee that holds your shares and present that proxy and proof of identification at the Annual Meeting.

By casting your vote by proxy, you are authorizing the holders of the proxies solicited by this proxy statement to vote your shares in accordance with your instructions.

YOUR VOTE IS VERY IMPORTANT. We encourage you to submit your vote by proxy even if you plan to attend the Annual Meeting and vote in person.

How to Change Your Vote

If you hold your shares in your own name: You may revoke your proxy and change your vote at any time before your proxy is exercised by:

- Delivering to our corporate secretary a written notice of revocation, dated later than the proxy you wish to revoke, before voting begins at the Annual Meeting;
- Delivering to our corporate secretary a duly executed proxy bearing a date later than the proxy you wish to revoke, before voting begins at the Annual Meeting;
- Voting again on a later date via the Internet or by telephone before 11:59 p.m. Eastern Time on June 14, 2016 (in which case only your latest Internet or telephone proxy submitted will be counted); or
- Attending the Annual Meeting and voting in person (your attendance at the Annual Meeting, in and of itself, will not revoke your proxy).

Any written notice of revocation or later dated proxy should be delivered before the close of business on June 14, 2016 to:

Mast Therapeutics, Inc.
3611 Valley Centre Drive, Suite 500
San Diego, CA 92130
Attention: Corporate Secretary

Alternatively, you may hand deliver a written revocation notice or a later dated proxy to our corporate secretary at the Annual Meeting before voting begins.

If your shares are held in street name: You must follow the instructions provided by the broker or other nominee if you wish to change your vote.

Proxies

If you provide specific voting instructions on your proxy card or when voting via the Internet or by telephone, your shares will be voted at the Annual Meeting in accordance with your instructions. If you hold shares in your name and execute a proxy (either by submitting it via the Internet or telephone or signing and returning a proxy card) without making individual selections, your shares will be voted in accordance with the recommendations of our board of directors, which are:

- “For” election of each of the nominees to our board of directors listed in the proxy materials;
- “For” ratification of the appointment of Mayer Hoffman McCann P.C. as our independent registered public accounting firm for the fiscal year ending December 31, 2016; and
- “For” approval, on an advisory basis, of the compensation of our named executive officers, as disclosed in this proxy statement.

At this time, we are unaware of any matters, other than those set forth above, that may properly come before the Annual Meeting. If any other matters properly come before the Annual Meeting or any adjournment or postponement thereof, the holders of proxies solicited by this proxy statement, or their duly constituted substitutes acting at the Annual Meeting and any adjournment or postponement thereof, will be deemed authorized to vote or otherwise act on such matters in accordance with their judgment.

The holders of proxies solicited by this proxy statement, or their duly constituted substitutes acting at the Annual Meeting and any adjournment or postponement thereof, may propose and vote for one or more adjournments or postponements of the Annual Meeting, including adjournments or postponements, to permit further solicitations of proxies. Proxies solicited may be voted only at the Annual Meeting and any adjournment or postponement thereof and will not be used for any other meeting of our stockholders.

Broker Non-Votes

A “broker non-vote” occurs when a nominee (typically a broker or bank) holding shares for a beneficial owner (typically referred to as shares being held in “street name”) submits a proxy for those shares, but indicates on the proxy that it does not have authority to vote those shares on particular proposals because it has not received specific voting instructions from the beneficial owner for those proposals. Under the rules of the New York Stock Exchange, or NYSE, brokers and other nominees have discretion to vote shares held in street name on “routine” matters but lack such discretion with regard to “non-routine” matters. The ratification of the appointment of Mayer Hoffman McCann P.C. as our independent registered public accounting firm for fiscal year 2016 is considered a routine matter and, as such, brokers and other nominees may vote on that proposal in the absence of specific instructions from the beneficial owner. Each of the

other proposals described in this proxy statement is considered a non-routine matter and brokers and other nominees do not have discretionary authority to vote on those proposals.

3

Quorum and Required Votes

A majority of the aggregate number of shares of our common stock issued and outstanding and entitled to vote at the Annual Meeting must be present in person or by proxy in order for there to be a quorum at the Annual Meeting and for any action to be taken at the Annual Meeting. If you submit a properly executed proxy via the Internet or by telephone or mail, regardless of whether you abstain from voting on one or more matters, your shares will be counted as present at the Annual Meeting for the purpose of determining a quorum. Broker non-votes will also be counted as present for the purpose of determining the presence of a quorum at the Annual Meeting.

Proposal 1: If a quorum exists at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting is required for the election of each director nominee. This majority voting standard means that a director nominee will be elected if the number of shares voted “For” that director nominee exceeds the aggregate number of shares voted “Against” and that “Abstain” from voting with respect to that director nominee. As a result, an abstention will have the same effect as a negative vote. Broker non-votes will not be counted toward the vote total and therefore will have no effect on the outcome of this proposal. In accordance with our corporate governance guidelines, each of our incumbent directors tendered his resignation in advance of being nominated for election at the Annual Meeting, with the effectiveness of such resignation subject to and contingent upon (a) the director’s failure to receive a sufficient number of votes for re-election at the Annual Meeting and (b) our board of directors’ acceptance of the resignation. Accordingly, the continued service on our board of directors by any director who is not re-elected because he does not receive the requisite affirmative votes at the Annual Meeting will be subject to our board of directors’ determination as to whether to accept or reject his resignation. Our board of directors will take into account and consider the voting results at the Annual Meeting, but has sole discretion to determine whether or not to accept the resignation.

Proposal 2: If a quorum exists at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting is required to ratify the appointment of Mayer Hoffman McCann P.C. An abstention will have the same effect as a negative vote. Brokers and other nominees generally will have discretionary authority to vote on this proposal because it is considered a routine matter under NYSE rules; therefore, we do not expect broker non-votes with respect to this proposal.

Proposal 3: If a quorum exists at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting is required to approve the compensation of our named executive officers as disclosed in this proxy statement in accordance with SEC rules in the section entitled “Executive Officer Compensation.” An abstention will have the same effect as a negative vote. Broker non-votes will not be counted toward the vote total and therefore will have no effect on the outcome of this proposal.

Voting Agreements

In connection with our acquisition of SynthRx, Inc. in 2011, we and each of the former principal stockholders of SynthRx entered into a stockholders’ voting and transfer restriction agreement (the “SynthRx Voting Agreement”), pursuant to which each stockholder party agreed, with respect to every action or approval by written consent of our stockholders, to vote all shares of our common stock beneficially owned by that stockholder that were issued pursuant to our merger agreement with SynthRx (the “SynthRx Subject Shares”) in such manner as we direct. In addition, each stockholder party granted an irrevocable proxy to us for the term of the SynthRx Voting Agreement, which authorizes our executive officers to vote, or instruct nominees or record holders to vote, as applicable, all SynthRx Subject Shares in such manner as we direct. The SynthRx Voting Agreement terminates upon the transfer, in accordance with that agreement, of all the SynthRx Subject Shares by the stockholder parties and their affiliates to non-affiliates.

In connection with our acquisition of Aires Pharmaceuticals, Inc. in February 2014, we and each of the former principal stockholders of Aires entered into a stockholder agreement (the “Aires Voting Agreements” and, collectively with the SynthRx Voting Agreement, the “Voting Agreements”), pursuant to which each stockholder party executed and delivered an irrevocable proxy appointing our officers, or other designees, as the

4

sole and exclusive attorneys and proxies to vote and exercise all voting and related rights with respect to each meeting or action by written consent of our stockholders from the effective time of our acquisition of Aires through the 30-month anniversary of the acquisition, or August 2016, covering all of the shares of our common stock issued to the former Aires stockholders in consideration for our acquisition of Aires (the “Aires Subject Shares” and, collectively with the SynthRx Subject Shares, the “Subject Shares”).

As of the record date for the Annual Meeting, 3,732,183 outstanding shares of our common stock are Subject Shares, which represent approximately 1.9% of the shares entitled to vote at the Annual Meeting. While the Voting Agreements are in effect, they provide us with voting control over the Subject Shares. All of the Subject Shares will be voted in accordance with the recommendation of our board of directors with respect to each of the proposals described in this proxy statement. See “— Proxies” above, for a discussion regarding the recommendation of our board of directors with respect to each such proposal.

Solicitation of Proxies

We are soliciting proxies from our stockholders on behalf of our board of directors and will pay for all costs incurred in connection with the solicitation. In addition to solicitation by mail, our directors, officers and employees may solicit proxies from our stockholders in person or by telephone, facsimile, email or other electronic methods without additional compensation other than reimbursement for their actual expenses.

We may retain a proxy solicitation firm to assist us in the solicitation of proxies for the Annual Meeting. We would pay such firm, if any, customary fees, which we do not expect would exceed \$20,000, and would reimburse the firm for its reasonable out-of-pocket expenses.

Arrangements also will be made with brokerage firms and other custodians, nominees and fiduciaries for the forwarding of solicitation material to the beneficial owners of stock held of record by such persons, and we will reimburse such custodians, nominees and fiduciaries for their reasonable out-of-pocket expenses in connection therewith.

If You Receive More Than One Proxy Card

If you receive more than one proxy card, it means you hold shares that are registered in more than one account. To ensure that all of your shares are voted, please mark your votes and date, sign and return each proxy card, or vote your proxy via Internet or by telephone as instructed on each proxy card.

Householding Information

The SEC has adopted rules that permit brokers, banks and other nominees to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single copy of such document addressed to those stockholders. This process, which is commonly referred to as “householding,” potentially means extra convenience for stockholders and cost savings for companies.

A number of brokers and other nominees with account holders who are our stockholders may be “householding” the proxy materials. This means that only one copy of this proxy statement and our annual report may have been sent to multiple stockholders in a household. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement and annual report from the other stockholder(s) sharing your address, please (i) notify your broker or other nominee, (ii) direct your written request to Mast Therapeutics, Inc., 3611 Valley Centre Drive, Suite 500, San Diego, California 92130, Attn: Corporate Secretary or (iii) contact us by phone at (858) 552-0866. We undertake to deliver promptly, upon any such oral or written request, a separate copy of the proxy

Edgar Filing: Mast Therapeutics, Inc. - Form DEF 14A

materials to a stockholder at a shared address to which a single copy of these documents was delivered. Stockholders who currently receive multiple copies of the proxy materials at their address and would like to request householding of their communications should notify their broker or other nominee, or contact our corporate secretary at the above address or phone number.

If you have any questions about voting your shares, please contact us at (858) 552-0866.

5

BOARD OF DIRECTORS

The current members of our board of directors, their ages as of April 19, 2016, their committee assignments, and the month and year in which they commenced service on our board, are as follows:

Name	Age	Committee Membership	Director Since
Brian M. Culley	44	None	December 2011
Howard C. Dittrich	63	· Compensation Committee (Chair)	June 2014
		· Nominating & Governance Committee (Chair)	
Peter Greenleaf	46	· Audit Committee	November 2015
		· Compensation Committee	
Matthew Pauls	45	· Audit Committee	October 2015
		· Compensation Committee	
		· Nominating & Governance Committee	
David A. Ramsay	51	· Audit Committee (Chair)	June 2011
		· Nominating & Governance Committee	

Our certificate of incorporation and bylaws, provide that each director elected or appointed to our board of directors shall hold office until the next annual meeting of stockholders following such election or appointment and until the director's successor is elected and qualified, or until the director's earlier resignation or removal. Our bylaws provide that vacancies on our board of directors, including those resulting from an increase in the authorized number of directors, may be filled by a majority of the remaining directors, even if less than a quorum, or by a sole remaining director. Any director appointed as a result of a vacancy holds office until the next annual meeting of stockholders and until a successor is elected and qualified. Pursuant to our bylaws, the authorized number of directors may be not less than three nor more than nine, with the exact number, which currently is six, to be fixed by resolutions adopted from time to time by our board of directors. Lewis Shuster resigned from our board effective March 10, 2016, resulting in one vacancy on our board. The board has not nominated an individual to fill the vacancy. At the Annual Meeting, proxies cannot be voted for a greater number of individuals than the five nominees named in this proxy statement.

NOMINEES FOR ELECTION TO THE BOARD

Each of our current directors has been nominated for election to our board of directors. The paragraphs below provide information about each director that includes each director's principal occupation and business experience during at least the past five years, the names of other publicly held companies at which he currently serves as a director or has served as a director during the past five years, information regarding involvement in certain legal or administrative proceedings during the past ten years, if applicable, and the experience, qualifications, attributes or skills that led the nominating and governance committee and our board of directors to determine that the person should serve on our board of directors. In 2015, the nominating and governance committee engaged a third-party search firm to assist it in identifying, evaluating, and recruiting qualified director candidates. The third-party search firm identified, prescreened, and recruited director candidates for evaluation by the nominating and governance committee on the basis of criteria provided by the committee. Messrs. Pauls and Greenleaf, who were appointed to our board of directors in October 2015 and November 2015, respectively, were each recommended to our nominating and governance committee by the third-party search firm and our nominating and governance committee recommended

their appointment to our board of directors. There are no family relationships among any of our directors and executive officers.

6

Brian M. Culley. Mr. Culley has served as our Chief Executive Officer since February 2010 and as a member of our board of directors since December 2011. He has served as our principal executive officer since February 2009. Previously, from January 2007 to February 2010, he served as our Chief Business Officer and Senior Vice President, from February 2006 to January 2007, he served as our Senior Vice President, Business Development, and, from December 2004 to February 2006, he served as our Vice President, Business Development. From 2002 until 2004, Mr. Culley managed all strategic collaborations and licensing agreements for Immusol, Inc. in San Diego, where his most recent title was Director of Business Development and Marketing. From 1999 until 2000, he was a licensing and marketing associate at the University of California, San Diego, department of technology transfer & intellectual property services and from 1996 to 1999, he was a research associate for Neurocrine Biosciences, Inc. Mr. Culley has more than 20 years of experience in the life science industry. He received a B.S. in biology from Boston College, a masters in biochemistry from the University of California, Santa Barbara and an M.B.A. from The Johnson School of Business at Cornell University. Mr. Culley's extensive experience with our company and our board of directors' belief that our Chief Executive Officer should serve on the board of directors, as well as Mr. Culley's substantial business experience, leadership skills and scientific background, led our board of directors to conclude that Mr. Culley should serve as a director for our company.

Howard C. Dittrich. Dr. Dittrich has served as a director since June 2014. A cardiologist with more than 20 years of experience in cardiac therapeutic research and clinical development, Dr. Dittrich joined Frazier Healthcare Partners in January 2016 as an Entrepreneur-in-Residence and also began serving as Chief Medical Officer of Hawkeye Therapeutics, a biotechnology company formed by Frazier. In addition, he currently serves as President and a member of the board of directors of Advanced Endovascular Therapeutics, Inc., a privately-held biotechnology company that he co-founded in August 2015, and as Chief Medical Advisor of Leading Biosciences, Inc., a privately-held biopharmaceutical company. Additionally, Dr. Dittrich co-founded and from March 2014 until February 2016 served as Chairman of the board of directors of IOWA Approach Inc., a privately-held company developing atrial fibrillation ablation technology. He also is an Adjunct Professor of Medicine at the University of Iowa Carver College of Medicine and, since January 2012, has served as Chair of the board of directors of the François M. Abboud Cardiovascular Research Center at the University of Iowa Carver College of Medicine. He also serves as a consultant to other privately-held life science companies. From November 2011 to November 2015, Dr. Dittrich served as Chief Medical Officer of Laguna Pharmaceuticals, a privately-held biopharmaceutical company, first as a consultant and, beginning in February 2015, as an employee. From April 2012 to July 2014, he served as Chief Medical Officer of Sorbent Therapeutics, a privately-held biopharmaceutical company that commenced liquidation proceedings through an assignment for the benefit of creditors under California law in July 2014. Previously, from 2003 until it was acquired by Merck & Co., Inc. in September 2007, Dr. Dittrich served as Chief Medical Officer and Senior Vice President of Clinical and Regulatory Affairs of NovaCardia, Inc., a clinical-stage pharmaceutical company focused on cardiovascular diseases, and, from September 2007 to June 2011, he co-founded and served as Chief Medical Officer of Sequel Pharmaceuticals, Inc., a privately-held pharmaceutical company spun out from NovaCardia following its acquisition by Merck. Prior to NovaCardia, from 1996 to 2002, Dr. Dittrich held executive positions overseeing clinical development and regulatory affairs at Molecular Biosystems, Inc. and Alliance Pharmaceutical Corp. From 1984 to 1996, he was a full-time faculty member of the Department of Medicine at the University of California, San Diego (UCSD) and, from 1996 to 2011, he served part-time as clinical professor of medicine at UCSD. Dr. Dittrich holds a B.S. degree from the University of Iowa and an M.D. from the University of Iowa Carver College of Medicine. He completed his residency in internal medicine and clinical fellowship in cardiology at UCSD. Dr. Dittrich's extensive medical and pharmaceutical development expertise, including his background in the clinical practice of medicine, clinical research and development, and regulatory affairs and his experience with the successful development of medicinal products, are among the attributes that led our board of directors to conclude that he should serve as a member of our board.

Peter Greenleaf. Mr. Greenleaf joined our board of directors in November 2015. Mr. Greenleaf currently serves as Chief Executive Officer and as a member of the board of directors of Sucampo Pharmaceuticals, Inc. (NASDAQ:

SCMP), positions he has held since March 2014. Sucampo is focused on the development and commercialization of medicines to meet major unmet medical needs of patients worldwide. Prior to joining Sucampo, from June 2013 to February 2014, Mr. Greenleaf served as Chief Executive Officer and a member of the board of directors of Histogenics Corporation, a regenerative medicine company. Prior to joining Histogenics, from 2006 to 2013, Mr. Greenleaf was employed by MedImmune LLC, the global biologics arm of AstraZeneca, where he most recently served as President. From January 2010 to June 2013, Mr. Greenleaf also served as President of MedImmune Ventures, a wholly owned venture capital fund within the AstraZeneca Group. Prior to serving as

7

President of MedImmune, Mr. Greenleaf was Senior Vice President, Commercial Operations of the company, responsible for its commercial, corporate development and strategy functions. Mr. Greenleaf has also held senior commercial roles at Centocor Biotech, Inc. (now Jansen Biotechnology, Johnson & Johnson) from 1998 to 2006, and at Boehringer Mannheim G.m.b.H. (now Roche Holdings) from 1996 to 1998. Mr. Greenleaf currently serves as a member of the board of directors of Mirna Therapeutics, Inc., a clinical-stage biopharmaceutical company developing oncology therapeutics, and as a member of the board of directors of the Biotechnology Industry Organization (BIO), where he serves on the Governing Boards of the Emerging Companies and Health Sections. Mr. Greenleaf also chairs the Maryland Venture Fund Authority, whose vision is to oversee implementation of InvestMaryland, a public-private partnership to spur venture capital investment in the state. Mr. Greenleaf earned a M.B.A. degree from St. Joseph's University and a B.S. degree from Western Connecticut State University. Mr. Greenleaf's leadership experience and extensive commercialization, strategic planning, and drug development experience in the biopharmaceutical industry are among the characteristics that led our board of directors to determine that he should serve as a director for our company.

Matthew Pauls. Mr. Pauls joined our board of directors in October 2015. Mr. Pauls currently serves as President and Chief Executive Officer of Strongbridge Biopharma plc (NASDAQ: SBBP), a biopharmaceutical company focused on therapies that target rare diseases, a position he has held since August 2014. He also has served as a member of the board of directors of Strongbridge since September 2015. Prior to Strongbridge, from April 2013 to August 2014, Mr. Pauls was Chief Commercial Officer of Insmed, Inc., a publicly traded global biopharmaceutical company focused on rare diseases. Prior to Insmed, Mr. Pauls worked at Shire Pharmaceuticals, a global specialty biopharmaceutical company, from 2007 to April 2013, most recently as Senior Vice President, Head of Global Commercial Operations from May 2012 to April 2013. Earlier in his career, from 1997 to 2007, Mr. Pauls held senior positions at Bristol-Myers Squibb in Brand Management and Payor Marketing and at Johnson & Johnson in various U.S. and global commercial roles. Mr. Pauls holds B.S. and M.B.A. degrees from Central Michigan University and a J.D. from Michigan State University College of Law. Mr. Pauls' leadership experience and extensive commercialization, strategic planning and operations experience in the biopharmaceutical industry and particularly with therapies for rare diseases are among the qualifications that led our board of directors to conclude that Mr. Pauls should serve as a member of our board.

David A. Ramsay. Mr. Ramsay has served as a director since June 2011. Mr. Ramsay served as Chief Financial Officer of Halozyme Therapeutics, Inc. (NASDAQ: HALO), a biotechnology company developing and commercializing novel oncology therapies, from May 2013 until his retirement in July 2015 and from 2003 to May 2009. He also served as Halozyme's Vice President, Corporate Development from May 2009 to May 2013. From 2000 to 2003, Mr. Ramsay was Vice President, Chief Financial Officer of Lathian Systems, Inc., a provider of technology-based sales solutions for the life science industry. From 1998 to 2000, he was with Valeant Pharmaceuticals International, Inc. (formerly ICN Pharmaceuticals, Inc.), a multinational specialty pharmaceutical company, where he served as Vice President, Treasurer and Director, Corporate Finance. Mr. Ramsay began his career at Deloitte & Touche, where he obtained his CPA license. Mr. Ramsay holds a B.S. in business administration from the University of California, Berkeley and a M.B.A. with a dual major in finance and strategic management from The Wharton School at the University of Pennsylvania. Mr. Ramsay's significant experience as chief financial officer of life science companies, particularly his experiences at Halozyme during its successful development and its commercialization of its first products, and at a large audit and financial advisory firm, are among the qualifications that led are our board of directors to determine that Mr. Ramsay should serve as a director for our company.

CORPORATE GOVERNANCE

Director Independence

Our board of directors has determined that each of Dr. Dittrich and Messrs. Greenleaf, Pauls and Ramsay, is an “independent director” as such term is defined in Section 803(A)(2) of the NYSE MKT LLC Company Guide.

Board Committees

Our board of directors currently has a standing audit committee, compensation committee and nominating and governance committee.

Audit Committee. The audit committee currently consists of Mr. Ramsay (chair), Mr. Greenleaf and Mr. Pauls. Mr. Ramsay served on the audit committee throughout 2015. Mr. Greenleaf was appointed to the audit committee in December 2015 and Mr. Pauls was appointed to the audit committee in March 2016. Jack Lief and Lewis Shuster served on the audit committee during 2015 until their resignations from our board of directors in August 2015 and March 2016, respectively. Our board of directors determined that each director who served on the audit committee during 2015 and who currently is a member of the audit committee is an independent director under Section 803(A)(2) of the NYSE MKT LLC Company Guide and meets the applicable additional eligibility standards for audit committee service under Section 803(B)(2) of the NYSE MKT LLC Company Guide. In addition, our board of directors has determined that Mr. Ramsay qualifies as an “audit committee financial expert” as defined in Item 407(d)(5) of Regulation S-K under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). The primary purpose of the audit committee is to oversee our accounting and financial reporting processes, including our internal controls system, and audits of our financial statements. The audit committee’s responsibilities include: appointing and providing for the compensation of the independent registered public accounting firm to be engaged to prepare and issue an audit report and perform other audit, review or attest services for our company; approving any other permissible non-audit services to be provided to us by the independent auditor; overseeing the work and evaluating the performance of the independent auditor, and, if so determined by the audit committee, terminating and replacing the independent auditor; reviewing and discussing, including with management and the independent auditor, our annual and quarterly financial statements; reviewing any proposed significant changes to our accounting principles and practices; reviewing any material changes to our system of internal control over financial reporting; reviewing management’s report on effectiveness of our internal control over financial reporting and, if applicable, our independent auditor’s audit of the effectiveness of our internal control over financial reporting; establishing a procedure for receipt, retention and treatment of any complaints or concerns received by us about our accounting, internal accounting controls or auditing matters; reviewing, approving and overseeing any related party transaction that would require disclosure pursuant to Item 404 of Regulation S-K; overseeing the implementation and enforcement of our insider trading policy; and reviewing and evaluating any significant financial risk exposures facing our company and the steps our management has taken to control and monitor such exposures. The audit committee is governed by a written charter approved by our board of directors.

Compensation Committee. The compensation committee currently consists of Dr. Dittrich (chair), Mr. Greenleaf and Mr. Pauls. Dr. Dittrich was appointed to the compensation committee and designated chair of the committee in August 2015. Messrs. Greenleaf and Pauls were appointed to the compensation committee in December 2015. Mr. Lief served on the compensation committee during 2015 until his resignation from our board. Mr. Shuster served on the compensation committee until December 2015. Our board of directors determined that each director who served on the compensation committee during 2015 and who currently is a member of the compensation committee is an independent director under Sections 803(A)(2) and 805(c)(1) of the NYSE MKT LLC Company Guide. The purpose of the compensation committee is to assist our board of directors in the discharge of its responsibilities with respect to the compensation of our officers and non employee directors and with the administration of our equity-based

compensation plans. To that end, the compensation committee reviews and recommends to our board of directors for its determination and approval the amount, form and terms of compensation of our Chief Executive Officer and other “officers” (as such term is defined under the listing standards of the national securities exchange on which our common stock is then principally listed). The compensation committee’s other responsibilities include reviewing and making recommendations to our board of directors regarding our overall compensation strategy and policies as well as our equity and/or cash incentive plans and other benefit plans. To the extent as may be permitted or required under such

plans, the committee has the power and authority to administer the plans, establishes guidelines, interpret plan documents, select participants, and approve grants and awards thereunder. The committee's powers and authority include the power and authority to grant equity awards to non-officer employees and consultants in accordance with the terms of our equity incentive plan and to establish compensation policies and practices applicable to non-officer employees. The compensation committee also evaluates the relationship between executive officer compensation policies and practices and corporate risk management to confirm those policies and practices do not incentivize excessive risk-taking, and evaluates and makes recommendations to our board of directors regarding the compensation of our non-employee directors. The compensation committee does not have power or authority to determine or approve compensation arrangements for our officers or directors. The compensation committee may, in its sole discretion, select, retain, obtain the advice of, engage, compensate and terminate compensation consultants, legal counsel and such other advisors as it deems necessary and advisable to assist it in carrying out its responsibilities and functions. The compensation committee is directly responsible for the appointment, compensation and oversight of the work of any of its compensation consultants, legal counsel and other advisors. We are required to provide for appropriate funding, as determined by the compensation committee, for payment of reasonable compensation to any compensation consultant, legal counsel and other advisor retained by the compensation committee. To the extent required by the listing standards of the national securities exchange on which our common stock is then principally listed, before selecting or receiving advice from any compensation consultant, legal counsel or other advisor, the compensation committee must conduct an independence assessment in accordance with the rules of such national securities exchange. In addition, with regard to any compensation consultant identified in response to Item 407(e)(3)(iii) of Regulation S-K, the compensation committee must assess whether the work of such compensation consultant has raised any conflict of interest, taking into consideration all relevant factors, including the factors listed in Rule 10C-1(b)(4)(i) through (vi) under the Exchange Act. The compensation committee is governed by a written charter approved by our board of directors.

Nominating and Governance Committee. The nominating and governance committee currently consists of Dr. Dittrich (chair), Mr. Pauls and Mr. Ramsay. Dr. Dittrich was appointed to the committee in August 2015 and was appointed chair of the committee in March 2016. Mr. Ramsay served on the committee during 2015, but was rotated off the committee in December 2015. He was re-appointed to the committee in March 2016. Mr. Pauls was appointed to the committee in December 2015. Mr. Lief and Mr. Shuster served on the committee during 2015 until their respective resignations from our board of directors. Our board of directors determined that each director who served on the nominating and governance committee during 2015 and who currently is a member of the committee is an independent director under Section 803(A)(2) of the NYSE MKT LLC Company Guide. The nominating and governance committee's responsibilities include identifying, evaluating and recommending to our board of directors nominees for possible election to our board of directors, evaluating and making recommendations to our board of directors regarding its size, composition and leadership structure, reviewing and assessing our corporate governance guidelines and recommending any proposed changes thereto to our board of directors, reviewing and making recommendations to our board of directors regarding issues of executive officer succession planning and providing oversight with respect to corporate governance matters. The nominating and governance committee is governed by a written charter approved by our board of directors.

Charters for the audit committee, the compensation committee and the nominating and governance committee, as well as our corporate governance guidelines, are posted on our corporate website at: www.masttherapeutics.com.

Meetings of the Board and its Committees

As required under NYSE MKT listing standards and our corporate governance guidelines, our board of directors meets on a regular basis as often as necessary to fulfill its responsibilities, including at least once each quarter, and our independent directors meet at least annually in executive session outside the presence of non-independent directors and management. During 2015, our board of directors met seven times, the audit committee met four times, the

compensation committee met four times and the nominating and governance committee met six times. Each member of our board of directors nominated for election at the Annual Meeting who served on our board during all or part of 2015 attended 75% or more of the aggregate of (i) the total number of board meetings held during the period of such member's service and (ii) the total number of meetings of committees on which such member served during the period of such member's service.

Procedures for Determining Executive and Director Compensation

In accordance with its charter, our board's compensation committee assists the board in the discharge of its responsibilities with respect to compensation of our officers (as such term is defined under the listing standards of the NYSE MKT LLC) and non-employee directors. Until its charter was amended in June 2015, the compensation committee had the power and authority to determine the amount, form, and terms of compensation of our Chief Executive Officer and other officers. In June 2015, our board of directors amended the committee's charter such that the committee's authority to determine compensation was limited to non-officer employees, unless specifically permitted or required under the terms of an equity or cash incentive plan or other benefit plan (including stock purchase plans, pension and profit sharing plans, deferred compensation plans, and similar programs). The terms of our equity incentive plan do not and the terms of our 2015 performance-based executive incentive plan did not permit or require the compensation committee to administer, interpret plan documents, approve grants and awards, or exercise such other power and authority under such plans, except with respect to awards to non-officer employees under the equity incentive plan. The committee's specific responsibilities still include reviewing, at least annually, the performance of our Chief Executive Officer and other officers and making recommendations to our board as to the amount, form, and terms of their compensation. The compensation committee is also responsible for periodically reviewing and making recommendations to our board of directors as to the amount, form, and terms of non-employee director compensation. Our board of directors as a whole, taking the compensation committee's recommendations into consideration, sets the amount, form, and terms of compensation of our Chief Executive Officer, our other officers, and our non-employee directors.

For 2015, the base salaries and first semi-annual stock option awards for our Chief Executive Officer and other officers were determined by the compensation committee. The terms of the 2015 performance-based executive incentive plan, the performance objectives under that plan, and the actual cash awards paid pursuant to that plan were determined by our board of directors as a whole after taking into account the compensation committee's recommendations. The second semi-annual stock option awards for our Chief Executive Officer and other officers (granted in June 2015) were also determined by our board of directors. For details regarding the compensation of our Chief Executive Officer and other named executive officers, see "Executive Officer Compensation" below.

In recommending the compensation of our officers, the compensation committee takes into consideration our Chief Executive Officer's assessment of the performance of our company and of our other officers for the preceding year, including against pre-established corporate goals, and his recommendations regarding officer compensation packages. Our Chief Executive Officer also presents proposals regarding the terms of long-term equity incentive plans, in which all of our employees and directors are eligible to participate, and regarding the goals under our short-term performance-based executive incentive plans. From time to time, other officers, including our Chief Financial Officer, are invited to make presentations or provide financial or other information to the compensation committee and/or the board of directors to assist it in assessing the achievement of corporate goals and reviewing other aspects of executive compensation. The compensation committee typically meets in executive session following presentations by management to deliberate regarding executive compensation. When the full board of directors is making executive compensation decisions, the independent directors meet in executive session to deliberate and make determinations outside of our Chief Executive Officer's presence. Our Chief Executive Officer may not be present during the deliberation or determination of his compensation, but he may be present during the deliberation and determination of other officers' compensation by the compensation committee or the board, as applicable.

In August 2015, the compensation committee engaged Barney & Barney, a Marsh & McLennan Agency LLC Company, as its compensation consultant. The compensation committee did not engage any other advisor in 2015. Barney & Barney was engaged to provide information and independent advice regarding the compensation of our Chief Executive Officer and our other officers. Specifically, the compensation committee asked Barney & Barney to assist it in identifying a peer group of companies to be used in the compensation setting process for 2016 and to

conduct a total direct compensation assessment for our senior management and make recommendations as to the structure of our executive compensation program. Since its engagement, at the compensation committee's request, a Barney & Barney representative has periodically attended compensation committee meetings.

Pursuant to its charter, the compensation committee has the exclusive right to select, retain and terminate Barney & Barney as well as to approve any fees, terms or other conditions of its compensation advisory services.

The compensation committee will review Barney & Barney's performance and its need for a compensation consultant on at least an annual basis and will determine whether to continue the engagement and the scope of the engagement. In connection with engaging Barney & Barney, the compensation committee conducted a conflict of interest assessment, which included taking into consideration the factors set forth in Rule 10C-1(b)(4) under the Exchange Act, and assessed Barney & Barney's independence, which included taking into consideration the following factors specified in the NYSE MKT Company Guide: (a) the provision of other services by Barney & Barney to us, (b) the amount of fees received from us by Barney & Barney as a percentage of Barney & Barney's total revenue, (c) Barney & Barney's policies and procedures that are designed to prevent conflicts of interest, (d) any business or personal relationship of Barney & Barney with a member of the compensation committee, (e) any of our stock owned by Barney & Barney and (f) any business or personal relationship of Barney & Barney with any of our executive officers. The compensation committee concluded that Barney & Barney's work has not raised any conflict of interest and that Barney & Barney is independent.

Board Leadership Structure and Role in Risk Oversight

Our leadership is structured such that the chair of our board of directors and chief executive officer positions are separated and the chair of our board is an independent director. We believe having an independent chair with extensive executive experience in the life science industry has provided experienced and independent leadership that enhances the effectiveness of our board of directors as a whole. Mr. Pauls was appointed chair of our board in March 2016. Mr. Lief served as board chair from May 2007 to August 2015 and Mr. Shuster served as board chair from August 2015 to March 2016. Our corporate governance guidelines do not require our board of directors to choose an independent chair or to separate the roles of chair and chief executive officer, but our board of directors believes this leadership structure is the appropriate structure for our company at this time. Pursuant to our corporate governance guidelines, our board of directors may choose its chair in any manner that it deems to be in the best interests of our company. If, in the future, the chair of our board of directors is not an independent director, our board of directors may designate an independent director to serve as a lead independent director, with the responsibilities specified in our corporate governance guidelines.

Our board of directors is responsible for oversight of risks facing our company, while our management is responsible for day-to-day management of risk. Our board of directors as a whole directly administers its risk oversight function. In addition, the risk oversight function is also administered through the standing committees of our board of directors, which oversee risks inherent in their respective areas of responsibility, reporting to our board of directors regularly and involving the board as necessary. For example, the audit committee oversees our financial exposure and financial reporting related risks, and the compensation committee reviews risks related to our compensation programs and practices and makes recommendations to our board regarding oversight of such risks. Our board of directors as a whole directly oversees our strategic and business risk, including product development risk, through regular interactions with our management and, from time-to-time, input from independent advisors. We believe our board's leadership structure supports its role in risk oversight, with our executive officers responsible for assessing and managing risks facing our company on a day-to-day basis and the chair and other members of our board of directors providing oversight of such risk management.

Director Resignation Policy

Under Delaware law, an incumbent director may remain in office notwithstanding the failure to receive the required vote for re-election until the director's successor is duly elected. To address this "holdover rule," our corporate governance guidelines include a director resignation policy whereby our board of directors will nominate for re-election only those directors who tender an irrevocable, contingent resignation in writing to the chair of our board. The resignation becomes effective only if (a) the director fails to receive a sufficient number of votes for re-election at a meeting of stockholders at which director elections are held and (b) our board of directors accepts the resignation. If

a director fails to receive the required vote for re-election, the nominating and governance committee, or such other committee designated by our board of directors, which we refer to as the “reviewing committee,” will act promptly to consider the director’s resignation and recommend to the full board of directors whether to accept or reject the resignation, or whether other action should be taken. Our board of directors expects the director whose resignation is under consideration to abstain from participating in any decision regarding that resignation. In considering whether to accept or reject a director’s resignation, each of the reviewing committee and our board of directors may consider any factors it deems relevant. Within 90 days after the date of the certification

of the election results for the applicable stockholders' meeting, our board of directors will act on the resignation, taking into account the reviewing committee's recommendation, and publicly disclose its decision.

Prohibition on Hedging and Speculative Transactions Involving our Securities

As part of our insider trading policy, our directors and employees (including our executive officers) and designated consultants, advisors and contractors to our company are prohibited from engaging in speculative transactions involving our securities, including short sales, "sales against the box" or any equivalent transaction involving our securities (or the securities of any of our customers, vendors, suppliers or other business partners). In addition, as part of our insider trading policy, our directors, officers and other specified employees of and consultants, advisors and contractors to our company are prohibited from engaging in hedging or derivative transactions involving our securities, such as "cashless" collars, forward sales, equity swaps and other similar or related transactions, and all other employees and persons subject to the policy are discouraged from engaging in such transactions and required to pre-clear any such proposed transaction with the compliance officer for our insider trading policy. Further, our insider trading policy states that we recommend that our directors and employees (including our executive officers) and other persons subject to the policy not hypothecate or pledge our securities to secure a loan and that they not purchase our securities "on margin" (that is, borrow funds to purchase securities, including in connection with exercising any stock options), and requires that our directors, officers and other specified employees of and consultants, advisors and contractors to our company pre-clear any proposed margin transaction involving our securities with the compliance officer for our insider trading policy.

DIRECTOR NOMINATIONS

Criteria for Board Membership

In recommending candidates for appointment or election to our board of directors, the nominating and governance committee considers the appropriate balance of experience, skills and characteristics required of our board of directors, and seeks to insure that at least a majority of the directors are independent under NYSE MKT listing standards and that its standing committees, including its audit and compensation committees, will be comprised of directors who meet applicable NYSE MKT listing standards and SEC rules regarding qualification to serve on such committees. Nominees for director are selected on the basis of their depth and breadth of experience, wisdom, integrity, ability to make independent analytical inquiries, understanding of our business environment, willingness to devote adequate time to board duties, the interplay of the nominee's experience and skills with those of other directors and the extent to which the nominee would be a desirable addition to our board of directors and any of its committees. Directors generally will not be nominated for re-election at any annual or special meeting held after their 75th birthday. In addition, our corporate governance guidelines require that our directors limit their service on boards of directors of public companies to a total of four (including service on our board of directors). Other than the foregoing, there are no stated minimum criteria for director nominees, although the nominating and governance committee may also consider such other factors as it may deem are in the best interests of our company and our stockholders. The nominating and governance committee does not have a policy regarding board diversity, but it takes diversity of professional experience and perspective within the pharmaceutical and biotechnology industries into account in identifying and selecting director nominees.

Stockholder Recommendations

The nominating and governance committee will consider qualified candidates for director suggested by stockholders by applying the criteria for board membership described above. Stockholders wishing to suggest a qualified director candidate for review and consideration by the nominating and governance committee must provide a written statement to our corporate secretary that includes the following information: a statement that the proposing stockholder is

recommending a candidate for consideration by the nominating and governance committee; the name, age, business address and residence address of the proposed nominee; a statement of the proposed nominee's business experience and educational background; the proposed nominee's principal occupation or employment; the class and number of shares of our capital stock beneficially owned by the proposed nominee; a detailed description of all relationships, arrangements or understandings between the proposing stockholder and the proposed nominee and any other person or persons (naming such person or persons) pursuant to which such proposed nomination is being made by the stockholder; a detailed description of all relationships, arrangements or

understandings between the proposed nominee and any service-provider or supplier to, or competitor of, our company; information regarding each of the criteria for board membership described above in sufficient detail to allow the nominating and governance committee to evaluate the proposed nominee; and a statement from the proposed nominee that he or she is willing to be considered and willing to serve as a director if nominated and elected. The proposing stockholder must also include the following information with respect to such stockholder: documentation supporting that the proposing stockholder is a stockholder of our company; the proposing stockholder's name and address, as they appear on our books; and the class and number of shares of our capital stock beneficially owned by the proposing stockholder. If a stockholder submits a director recommendation in compliance with the procedure described above, the nominating and governance committee will conduct an initial evaluation of the proposed nominee and, if it determines the proposed nominee may be a qualified candidate, the nominating and governance committee and one or more members of our management team will interview the proposed nominee to determine whether he or she might be suitable to be a director. If the nominating and governance committee determines the proposed nominee would be a valuable addition to our board of directors, based on the criteria for board membership described above and our board of directors' specific needs at the time, it will recommend to our board of directors such person's nomination. In connection with its evaluation, the nominating and governance committee may request additional information from the proposed nominee and/or the proposing stockholder.

Separately, our bylaws contain provisions that address the process by which a stockholder may nominate an individual to stand for election to our board of directors at our annual meeting of stockholders. Such nominations may be made only if the stockholder has given timely written notice to our corporate secretary containing the information required by our bylaws. To be timely, such notice must be received at our principal executive offices not earlier than the 120th day, nor later than the close of business on the 90th day, prior to the first anniversary of the date of the preceding year's annual meeting as first specified in our notice of meeting (without regard to any postponements or adjournments of such meeting after such notice was first sent), except that if no annual meeting was held in the previous year or the date of the annual meeting is more than 30 days earlier or later than such anniversary date, such notice must be received not earlier than the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or the 10th day following the date on which we first publicly announce the date of such meeting.

Process for Identifying and Evaluating Nominees

Each year before recommending to our board of directors a slate of nominees for director, the nominating and governance committee considers each incumbent director's performance on our board of directors and whether the incumbent director's nomination would be consistent with the criteria for board membership described above and other guidelines included in our corporate governance guidelines, including ensuring that the composition of our board of directors is such that it maintains an openness to new ideas and a willingness to critically re-examine the status quo. In the ordinary course, absent special circumstances or a material change in the criteria for board membership, the nominating and governance committee will recommend for nomination incumbent directors with skills and experience that are relevant to our business and who are willing to continue in service. If an incumbent director is not willing to stand for re-election, or if a vacancy on our board of directors occurs between annual stockholder meetings and our board of directors determines to fill such vacancy, the nominating and governance committee will identify the desired skills and experience of a new nominee based on the criteria for board membership described above and any specific needs of our board of directors at the time. The nominating and governance committee will seek suggestions from other members of our board of directors and our management team as to individuals meeting such criteria. Potential nominees will be selected based on input from our directors, our management team and, if the nominating and governance committee deems appropriate, a third-party search firm. The nominating and governance committee will evaluate each potential nominee's qualifications and check relevant references. In addition, such individuals will be interviewed by at least one member of the nominating and governance committee. Following this process, the nominating and governance committee will determine whether to recommend to our board of directors that a potential

nominee be presented as a nominee for election by the stockholders or appointed to fill a vacancy on our board of directors, as the case may be. Historically, our board of directors nominates for election at our annual stockholder meetings the individuals recommended by the nominating and governance committee.

COMMUNICATIONS WITH DIRECTORS

Stockholders who wish to communicate with our board of directors or an individual director may do so by sending a written communication addressed to the board or an individual director to: Mast Therapeutics, Inc., Attn: Investor Relations, 3611 Valley Centre Drive, Suite 500, San Diego, California 92130. Submitting stockholders should indicate they are a stockholder of our company. Depending on the subject matter, investor relations will: forward the inquiry to the chair of our board of directors, who may forward the inquiry to a particular director if the inquiry is addressed to a particular director; forward the inquiry to the appropriate personnel within our company (for instance, if it is primarily commercial in nature); attempt to handle the inquiry directly (for instance, if it is a request for information about our company or a stock-related matter); or not forward the inquiry, if it relates to an improper or inappropriate topic or is otherwise irrelevant.

Any stockholder who wishes to communicate with our board of directors to report complaints or concerns related to accounting, internal accounting controls or auditing may submit a report telephonically or through a web-based system via the toll-free telephone number or the internet address provided in our Code of Business Conduct and Ethics, which is available on our corporate website at www.masttherapeutics.com.

We encourage all of our directors to attend our annual meetings of stockholders. All of the directors serving on our board at the time of our 2015 annual meeting of stockholders attended the meeting.

EXECUTIVE OFFICERS AND KEY EMPLOYEES

Our executive officers and key employees, their ages and positions held as of April 19, 2016, are as follows:

Name	Age	Title
Brian M. Culley	44	Chief Executive Officer and Director
Edwin L. Parsley	55	Chief Medical Officer and Senior Vice President
Brandi L. Roberts	42	Chief Financial Officer and Senior Vice President
R. Martin Emanuele	61	Senior Vice President, Development
Gregory D. Gorgas	53	Senior Vice President, Commercial
Shana Hood	40	General Counsel and Vice President
Mark A. Longer	58	Vice President, Regulatory Affairs and Quality Assurance

Biographical Information

Brian M. Culley, M.A., M.B.A. For biographical information regarding Mr. Culley, see “Nominees for Election to the Board” above.

Edwin L. Parsley, D.O. Dr. Parsley has served as our Chief Medical Officer and Senior Vice President since October 2014. He served as our interim Chief Medical Officer in September 2014 and has served as Chief Medical Officer of our wholly-owned subsidiary, Aires Pharmaceuticals, Inc., since we acquired Aires in February 2014. Prior to the acquisition, he had served as Chief Medical Officer of Aires since April 2011. Dr. Parsley joined Aires from Pfizer where he oversaw clinical trials for Revatio® (sildenafil) and consulted across molecules in Pfizer’s pulmonary vascular disease portfolio on clinical trial design, conduct and data interpretation from January 2010 to April 2011. Prior to Pfizer, from January 2009 to September 2009, Dr. Parsley worked at CSL Biotherapies as its pulmonary hypertension medical science specialist and, from 2006 to December 2008, at Encysive Pharmaceuticals, Inc. where he most recently served as its Executive Director for Global Medical Affairs and Drug Safety, developing endothelin receptor antagonists for pulmonary hypertension, heart failure, renal failure and resistant hypertension. Dr. Parsley is a

practicing physician and certified by the American Board of Internal Medicine in internal medicine, pulmonary disease, critical care medicine and sleep medicine. He earned his D.O. from Oklahoma State University College of Osteopathic Medicine and a B.S. Pharmacy from Southwestern Oklahoma State University. Prior to joining industry, Dr. Parsley was an Assistant Professor of Medicine at the University of Texas Medical School at Houston and a Medical Director of Medical Intensive Care and Respiratory Therapy Services at Memorial Hermann Hospital in Houston, where he had an active inpatient care and office practice with focus on pulmonary hypertension and fibrosis research. He also worked in the emergency department at Lyndon B. Johnson Hospital, a Harris County

Hospital District facility in Houston. In the course of his practice, Dr. Parsley treated patients with a range of acute care needs, including patients with sickle cell disease, heart failure and stroke.

Brandi L. Roberts, C.P.A., M.B.A. Ms. Roberts joined our company in March 2011 and currently serves as our Chief Financial Officer and Senior Vice President. She previously served as our Vice President, Finance from March 2011 to January 2013 and from June 2008 to January 2009. From January 2009 to March 2011, Ms. Roberts served as Vice President, Accounting and Corporate Controller of Alphatec Spine, Inc., the wholly-owned operating subsidiary of Alphatec Holdings, Inc., a medical technology company listed on the NASDAQ Global Select Market where she was responsible for managing all accounting activities, including SEC reporting and compliance with Sarbanes-Oxley Act requirements. From June 2007 to June 2008, Ms. Roberts served as Executive Director, Corporate Controller of Artes Medical, Inc., a publicly traded medical technology company, and from September 2005 to June 2007, she served as Director, Finance of Stratagene Corporation, a publicly traded life science company acquired by Agilent Technologies, Inc. in June 2007. Ms. Roberts' experience also includes seven years at Pfizer's laboratories in La Jolla, California (formerly Agouron), most recently as Director, Finance, and three years with the public accounting firm of PricewaterhouseCoopers LLP. She is a certified public accountant with the State of California. Ms. Roberts received a B.S. in Business Administration from the University of Arizona and an M.B.A. from the University of San Diego.

R. Martin Emanuele, Ph.D., M.B.A. Dr. Emanuele has served as our Senior Vice President, Development since he joined our company in April 2011 following our acquisition of SynthRx, Inc., which he co-founded. Previously, from April 2010 to April 2011, Dr. Emanuele was Vice President, Pharmaceutical Strategy at DaVita, Inc., a FORTUNE 500® company and leading provider of kidney care in the United States. Dr. Emanuele's responsibilities while at DaVita focused on evaluating business opportunities related to emerging renal therapeutics, biomarkers and diagnostics. Prior to DaVita, from June 2008 to April 2010, Dr. Emanuele provided consulting services to a range of life science companies regarding corporate partnering and business development. From November 2006 to May 2008, Dr. Emanuele was Senior Vice President, Business Development at Kemia, Inc., a venture-backed privately-held company focused on discovering and developing small molecule therapeutics. From 2002 to 2006, Dr. Emanuele held various senior-level positions with Avanir Pharmaceuticals, Inc., most recently as Vice President, Business Development and Portfolio Management, and from 1988 to 2002, Dr. Emanuele held positions of increasing responsibility at CytRx Corporation, most recently as Vice President, Research and Business Development. He earned a Ph.D. in pharmacology and experimental therapeutics from Loyola University of Chicago, Stritch School of Medicine and a B.S. in biology from Colorado State University. He also holds an M.B.A. with an emphasis in healthcare and pharmaceutical management from the University of Colorado.

Gregory D. Gorgas, M.B.A. Mr. Gorgas joined our company in July 2011 as our Senior Vice President, Commercial. He has more than 29 years of commercial experience in the life science industry, including more than 10 years at IDEC Pharmaceuticals and its successor, Biogen Idec, Inc. Prior to joining our company, from November 2009 to July 2011, Mr. Gorgas was Managing Director at Theragen, Inc., a privately-held company he co-founded, that applies proprietary computational intelligence to analyze clinical data. From November 2008 to July 2011, Mr. Gorgas also served as an independent consultant, providing commercial and business development consulting services to pharmaceutical, biotechnology and medical device companies. From 1997 to October 2008, Mr. Gorgas held positions of increasing responsibility with Biogen Idec Inc., a publicly held biotechnology company that develops therapies for the treatment of neurodegenerative diseases, hemophilia and autoimmune disorders. Most recently, from March 2006 to October 2008, Mr. Gorgas served as Senior Director, Global and U.S. Marketing at Biogen Idec, where he was responsible for the strategic vision and operational commercialization of the company's worldwide cancer business, and, prior to such time, he had responsibilities in sales, commercial operations and project team and alliance management. Prior to Biogen Idec, he held sales and manager positions with Chiron Corporation, Cetus Corporation and The Upjohn Company. Mr. Gorgas holds an M.B.A. from the University of Phoenix and a B.A. in economics from California State University, Northridge.

Shana Hood, J.D. Ms. Hood has served as our General Counsel and Vice President since January 2016 and as our Secretary since June 2015. Ms. Hood joined our company as Associate General Counsel in February 2010 and was promoted to Vice President, Legal in March 2015 and to her current position in January 2016. Before joining our company, Ms. Hood was associated with the law firms of DLA Piper LLP (US) from May 2008 to February 2010, Heller Ehrman LLP from February 2003 to April 2008, and Brobeck, Phleger & Harrison LLP, from October 2002 to February 2003, where she specialized in public and private financing transactions, mergers and acquisitions,

SEC reporting, and general corporate governance and compliance matters. Ms. Hood is a member of the State Bar of California. She holds a B.S. in commerce from Santa Clara University and a J.D. from the University of San Diego School of Law.

Mark A. Longer, Ph.D. Dr. Longer has served as our Vice President, Regulatory Affairs and Quality Assurance since he joined our company in March 2015. Previously, from February 2013 to February 2015, Dr. Longer was Executive Director, Regulatory Affairs at Ardea Biosciences, a member of the AstraZeneca Group. Dr. Longer's responsibilities at Ardea were focused on regulatory strategy for development of ZURAMPIC® (lesinurad), which was approved for use in combination with a xanthine oxidase inhibitor for treatment of gout. Prior to Ardea, from September 2007 to January 2013, Dr. Longer was Senior Director, Regulatory Affairs at Amylin Pharmaceuticals, Inc. until its acquisition by Bristol-Myers Squibb. While at Amylin, Dr. Longer was involved in regulatory activities leading to commercialization of a number of metabolism and endocrinology products, including BYETTA® (exenatide), SYMLIN® (pramlintide), BYDUREON® and BYDUREON Pen (exenatide once-weekly), and MYALEPT® (metreleptin). From October 2006 to August 2007, Dr. Longer served as Vice President, Program Planning and Management at Napo Pharmaceuticals, Inc. where he supported development of FULYZAQ® (crofelemer) for the treatment of diarrhea in HIV/AIDS patients. Dr. Longer's experience also includes twelve years at Pfizer's laboratories in La Jolla, California (formerly Agouron) in regulatory and pharmaceutical development where he supported development and commercialization of products in oncology SUTENT® (sunitinib), ophthalmology MACUGEN® (pegaptanib), and virology VIRACEPT® (nelfinavir). He earned a Ph.D. in pharmaceuticals from the University of Wisconsin and a B.A. in chemistry from The College of Wooster. Prior to joining industry, Dr. Longer was a post-doctoral research fellow in the Department of Biological Sciences at the University of Keele (England) and an assistant professor at the University of Florida College of Pharmacy.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information regarding beneficial ownership of our common stock as of April 19, 2016 (the "Evaluation Date"), or an earlier date for information based on filings with the SEC, by (a) each person known to us to beneficially own more than 5% of the outstanding shares of our common stock, (b) each director and nominee for director, (c) each of the named executive officers listed in the compensation tables included in this proxy statement, and (d) all of our current directors and executive officers as a group. The information in this table is based solely on statements in filings with the SEC or other reliable information. Percent of beneficial ownership is based on 192,836,367 shares of our common stock outstanding as of the Evaluation Date.

Name and Address of Beneficial Owner (1)	Shares		
	Owned	Beneficially	Percent of Outstanding
Principal Stockholders:			
Sabby Management, LLC (3) 10 Mountainview Road, Suite 205 Upper Saddle River, NJ 07458	19,251,250	9.98	%
Directors and Named Executive Officers:			
Brian M. Culley (4)	3,756,286	1.91	%
Howard C. Dittrich (5)	159,349	*	
Peter Greenleaf (6)	50,392	*	
Matthew Pauls (7)	50,392	*	
David A. Ramsay (8)	340,293	*	
Edwin L. Parsley (9)	717,947	*	
Brandi L. Roberts (10)	1,196,537	*	
Patrick L. Keran (11)	2,985,879	1.52	%
All directors and executive officers as a group			
(10 persons) (12)	8,551,431	4.26	%

*Less than 1%

- (1) Unless otherwise indicated, the address of each of the listed persons is c/o Mast Therapeutics, Inc., 3611 Valley Centre Drive, Suite 500, San Diego, California 92130.
- (2) Beneficial ownership of shares is determined in accordance with SEC rules and generally includes any shares over which a person exercises sole or shared voting or investment power, or of which a person has the right to acquire ownership within 60 days of the Evaluation Date. Except as otherwise noted, (a) each person or entity has sole voting and investment power with respect to the shares shown and (b) none of the shares shown as beneficially owned on this table are subject to pledge. In calculating the percentage ownership of each person identified in the table, shares underlying options, warrants or other rights to acquire shares of our common stock held by that person that are either currently exercisable or exercisable within 60 days of the Evaluation Date are deemed outstanding. These shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other individual or entity. Percentage ownership for each person is based on the number of shares of our common stock outstanding as of the Evaluation Date, together with the applicable number of shares of common stock

subject to options, warrants or other rights to acquire shares of our common stock currently exercisable or exercisable within 60 days of the Evaluation Date for that person or group of persons. The information in this table reflects the proportionate adjustments made to stock options exercisable for our common stock that we issued prior to the 1-for-25 reverse split of our common stock effected on April 23, 2010.

(3) The number of shares listed for Sabby Management, LLC (“Sabby Management”) and the following information in this footnote was obtained from a Schedule 13G jointly filed with the SEC on February 12, 2016 by Sabby Management, Sabby Healthcare Master Fund, Ltd., Sabby Volatility Warrant Master Fund, Ltd, and Hal Mintz. Sabby Management and Mr. Mintz do not directly own any shares, but each has shared power to vote or to direct the vote and shared power to dispose or to direct the disposition of 19,251,250 shares of our common stock, 6.69% of which is owned by Sabby Healthcare Master Fund, Ltd. and 3.30% is

18

owned by Sabby Volatility Warrant Master Fund, Ltd. Sabby Management is the investment manager of Sabby Healthcare Master Fund, Ltd. and Sabby Volatility Warrant Master Fund, Ltd. and Mr. Mintz is manager of Sabby Management. The address of Sabby Healthcare Master Fund, Ltd. and Sabby Volatility Warrant Master Fund, Ltd. is c/o Ogier Fiduciary Services (Cayman) Limited, 89 Nexus Way, Camana Bay, Grand Cayman KY1-9007, Cayman Islands.

- (4) Consists of (a) 3,721,786 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 34,500 shares of common stock held directly by Mr. Culley.
- (5) Consists of 159,349 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (6) Consists of 50,392 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (7) Consists of 50,392 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (8) Consists of (a) 240,293 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 100,000 shares of common stock held directly by Mr. Ramsay.
- (9) Consists of 717,947 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date.
- (10) Consists of (a) 1,158,537 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 38,000 shares of common stock held directly by Ms. Roberts.
- (11) Consists of 2,985,879 shares of common stock subject to options currently exercisable.
- (12) Consists of (a) 8,084,333 shares of common stock subject to options currently exercisable or exercisable within 60 days of the Evaluation Date and (b) 467,098 shares of common stock. Of the 467,098 shares of common stock, 294,598 shares are owned by Dr. Emanuele and were issued to him in his capacity as a former stockholder of SynthRx, Inc. pursuant to our merger agreement with SynthRx, Inc., which we acquired in April 2011. These shares are subject to the SynthRx Voting Agreement and will be voted consistent with the recommendation of our board of directors with respect to each proposal described in this proxy statement. See “General Information About the Meeting – Voting Agreements” above.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Our audit committee's charter requires that it reviews and approves any proposed related-party transaction that would require disclosure pursuant to Item 404(a) of Regulation S-K. If the audit committee approves a related-party transaction, it will regularly review the status of the transaction and any proposed material change to the previously approved terms or conditions.

Other than the following transactions and the transactions described under "Executive Officer Compensation" and "Director Compensation" below, since January 1, 2014, there has not been, nor currently are there proposed, any transactions or series of similar transactions in which we were or are to be a participant and the amount involved exceeds or will exceed the lesser of \$120,000 or 1% of the average of our total assets as of December 31, 2014 and 2015, which is approximately \$623,585, and in which any of our directors, executive officers, holders of more than 5% of our common stock or any member of the immediate family of any of the foregoing persons, had or will have a direct or indirect material interest.

Consulting and Employment Arrangements between Aires Pharmaceuticals and Edwin Parsley

Immediately prior to completion of our acquisition of Aires Pharmaceuticals, Inc. in February 2014, Dr. Parsley's employment with Aires was terminated. After completion of the acquisition, Aires, then our wholly-owned subsidiary, entered into a consulting agreement with Dr. Parsley whereby he agreed to provide certain services to Aires, including serving as its Chief Medical Officer, through June 2014. Subsequently, on July 1, 2014, Dr. Parsley became a temporary employee of Aires, serving as its Chief Medical Officer. In September 2014, Dr. Parsley was appointed by our board of directors as Mast's interim Chief Medical Officer and, as of October 1, 2014, pursuant to terms approved by our board of directors, Dr. Parsley commenced full-time employment with Mast as our Chief Medical Officer and Senior Vice President.

Pursuant to Aires' post-acquisition consulting agreement with Dr. Parsley, for services rendered from February through June 2014, Dr. Parsley earned an aggregate of \$108,290 in consulting fees and reimbursement for travel and lodging-related expenses. Pursuant to the terms of his temporary employment with Aires, Dr. Parsley earned an aggregate of \$30,058 from July through September 2014, consisting of his salary and reimbursement for certain travel and lodging-related costs incurred in commuting between his home in Houston, Texas and our offices in San Diego, California. In addition, pursuant to his pre-acquisition employment agreement with Aires, from February through September 2014, Dr. Parsley received an aggregate of \$5,456 in reimbursement of costs from Aires to continue his healthcare insurance coverage pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended (COBRA).

SynthRx Acquisition — Issuance of Milestone Shares to an Officer

We acquired SynthRx, Inc. in April 2011. The merger agreement pursuant to which we acquired SynthRx provided that the former stockholders of SynthRx would receive, for no additional consideration, additional shares of our common stock upon achievement of specified development and regulatory milestones related to SynthRx's lead product candidate, which is vepoloxamer (also known as MST-188). The first of the three milestones in the merger agreement was achieved in May 2013 and, as a result, we issued an aggregate of 250,000 shares of our common stock to the former stockholders of SynthRx. Dr. Emanuele, our Senior Vice President, Development, is a former stockholder of SynthRx and we issued 52,543 of such shares to him. We could issue up to an aggregate of 12,478,050 additional shares of our common stock to the former SynthRx stockholders if and when the development of vepoloxamer achieves certain milestones, with 3,839,400 shares issuable upon the U.S. Food and Drug Administration's acceptance for review of a new drug application covering the use of vepoloxamer for the treatment of sickle cell crisis in children, which we refer to as the Second Milestone, and 8,638,650 shares issuable upon approval

of such new drug application by the FDA, which we refer to as the Third Milestone. Dr. Emanuele would receive approximately 21% of the shares issuable in connection with achievement of the Second Milestone and the Third Milestone.

Indemnification of Officers and Directors

Our certificate of incorporation and our bylaws, each as amended, provide that we will indemnify each of our directors and officers to the fullest extent permitted by the Delaware General Corporation Law. Further, we have entered into indemnification agreements with each of our directors and officers, and we have purchased directors' and officers' liability insurance that insures our directors and officers against the cost of defense, settlement or payment of a judgment under certain circumstances.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our officers and directors, and persons who own more than 10% of our common stock, to file reports of securities ownership and changes in such ownership with the SEC. Our officers and directors and persons who own more than 10% of our common stock also are required by rules promulgated by the SEC to furnish us with copies of all Section 16(a) reports they file. Based solely upon a review of the copies of such reports furnished to us and written representations from our directors and executive officers, we believe that all Section 16(a) filing requirements were timely met during the fiscal year ended December 31, 2015.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information as of December 31, 2015 regarding equity compensation plans previously approved by our stockholders. We do not have any equity compensation plans that have not been approved by our stockholders. All share and per share information included in this table reflects retrospective application of the 1-for-25 reverse split of our outstanding common stock effected on April 23, 2010.

Plan Category	Number of Securities Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of
			Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a)) (c)
Equity Compensation Plans Approved by Security Holders: (1)			
2015 Omnibus Incentive Plan	4,405,772	\$ 0.49	21,583,541
2014 Omnibus Incentive Plan	10,929,956	\$ 0.60	—
2013 Omnibus Incentive Plan	4,374,021	\$ 0.49	—
Amended and Restated 2008 Omnibus Incentive Plan	2,640,865	\$ 1.34	—
2008 Omnibus Incentive Plan	516,315	\$ 4.15	—
2005 Equity Incentive Plan	29,799	\$ 44.34	—
Equity Compensation Plans Not Approved by Security Holders:	—	—	—
Total	22,896,728	\$ 0.78	21,583,541

(1) On June 11, 2015, the 2015 Omnibus Incentive Plan (the “2015 Plan”) was approved by our stockholders and became effective. Upon effectiveness, the 2015 Plan amended, renamed and restated in its entirety the 2014 Omnibus Incentive Plan (the “2014 Plan”), and no awards have been or will be granted under the 2014 Plan after the 2015 Plan became effective. Similarly, when each of the 2014 Plan, the 2013 Omnibus Incentive Plan, the Amended and Restated 2008 Omnibus Incentive Plan and the 2008 Omnibus Incentive Plan was approved by our stockholders and became effective, upon effectiveness, such plan amended, renamed and restated in its entirety the plan that was

then in effect, and no awards have since been or will be granted under any plan that was so amended, renamed and restated. In addition, when our stockholders approved the 2008 Omnibus Incentive Plan, the 2005 Equity Incentive Plan was terminated and no awards have since been or will be granted under that plan. Collectively, these prior stockholder-approved plans are referred to as the “Prior Plans.” If any awards granted under the 2015 Plan or under any of the Prior Plans are forfeited, expire or are settled for cash pursuant to the terms of an award, we may use the shares that were subject to the award for new awards under the 2015 Plan to the extent of the forfeiture, expiration or settlement, other than under specified circumstances. The shares will be added to the 2015 Plan as one share for every share of common stock if the shares were subject to a stock option or stock appreciation right, and as 1.34 shares for every share of common stock if the shares were subject to an award other than a stock option or stock appreciation right.

22

EXECUTIVE OFFICER COMPENSATION

We were a “smaller reporting company” during the year ended December 31, 2015 and have elected to comply with the scaled disclosure requirements available to smaller reporting companies under U.S. Securities and Exchange Commission rules. Accordingly, the information provided in this section does not include all of the information required of larger companies. For example, the overview below of our executive compensation program is not intended to meet the compensation discussion and analysis requirements applicable to non-smaller reporting companies.

Overview

Our executive compensation program is intended to enable us to attract and retain qualified executive officers and to align the interests of our executive officers with those of our stockholders by incentivizing and rewarding achievement of business objectives that we believe will enhance the value of our company and by promoting commitment to long-term success. We do not have employment agreements with our executive officers. Their compensation is reviewed at least annually and recommended to our board of directors for determination by our board’s compensation committee, which consists entirely of independent directors. The primary components of our executive compensation program are base salary, annual performance-based cash incentives, and stock option awards.

As a clinical-stage biopharmaceutical company, we are focused on advancing our product candidates through clinical studies and other development activities and on seeking approval from the U.S. Food and Drug Administration and other regulatory authorities to commercialize our product candidates, and we expect to continue to incur substantial operating losses for the next several years. As such, the compensation committee and board of directors evaluate corporate performance primarily based on progress with product development and not on financial metrics. In 2015, our primary focus was advancing our vepoloxamer (also known as MST-188) clinical programs; in particular, vepoloxamer for the treatment for sickle cell crisis. Accordingly, the performance objectives under our annual executive incentive plan were predominantly related to development of vepoloxamer. However, performance objectives also included those related to advancing Phase 2 clinical development of AIR001 in heart failure with preserved ejection fraction (HFpEF).

In setting or recommending to our board of directors the compensation of our executive officers, the compensation committee evaluates whether the compensation program encourages excessive risk-taking and the attributes of our executive compensation policies and practices that mitigate excessive risk-taking. We believe our compensation program is designed with features that mitigate risk without diminishing the incentive nature of the compensation. Our executive officer compensation includes a mix of different types of compensation (base salary, annual performance-based cash incentive awards, and stock option awards), which provides balance between fixed and performance-based compensation and as to the timing of pay realization. We also believe that our compensation program encourages and rewards prudent business judgment and incentivizes executive officers to act consistently with both near- and long-term value creation. We do not believe that our compensation program creates risks that are reasonably likely to have a material adverse impact on our company.

Below we provide compensation information for our “named executive officers,” or NEOs, for the year ended December 31, 2015, consisting of the following persons:

- Brian Culley, our Chief Executive Officer;
- Edwin Parsley, our Chief Medical Officer and Senior Vice President;
- Brandi Roberts, our Chief Financial Officer and Senior Vice President; and
- Patrick Keran, our former President and Chief Operating Officer, whose employment with us ended in February 2015.

Summary Compensation Table

The following table sets forth compensation information for our NEOs for the years ended December 31, 2015 and December 31, 2014:

Summary Compensation Table

Name and Principal Position	Year	Salary	Bonus	Award(s)	Non-Equity		Total
					Option Stock Awards	Incentive Plan Compensation	
Brian M. Culley (4) Chief Executive Officer	2015	\$ 419,175	—	— \$ 1,286,155	\$171,862	\$ 17,490	\$1,894,682
Edwin L. Parsley (5) Chief Medical Officer & Senior Vice President	2014	\$ 405,000	—	— \$ 863,039	\$189,591	\$ 16,440	\$1,474,070
Brandi L. Roberts (7) Chief Financial Officer & Senior Vice President	2015	\$ 353,100	—	— \$ 637,327	\$101,340	\$ 65,916	(6)\$1,157,683
Patrick L. Keran (8) Former President & Chief Operating Officer	2015	\$ 300,000	—	— \$ 494,418	\$73,800	\$ 17,310	\$885,528
	2014	\$ 66,795	—	— \$ 1,039,834 (9)	\$—	\$ 547,313	(10)\$1,653,942
	2014	\$ 399,500	—	— \$ 863,039	\$189,591	\$ 16,440	\$1,468,570

(1) Unless otherwise noted, the amounts in this column represent the aggregate grant date fair value of option awards granted to the named executive officers in 2015 and 2014, respectively, calculated in accordance with the provisions of Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 718, Stock Compensation, except that any estimate of forfeitures was disregarded. For a description of the assumptions used to calculate these amounts, see Note 11 to our audited consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 14, 2016. These option awards were granted under our 2013 Omnibus Incentive Plan, 2014 Omnibus Incentive Plan or 2015 Omnibus Incentive Plan. Pursuant to the plan's terms, the exercise price per share of these option awards cannot be lowered without prior approval of our stockholders, except in the event of a merger, reorganization, consolidation, recapitalization, dividend or distribution (whether in cash, shares or other property, other than a regular cash dividend), stock split, reverse stock split, spin-off or similar transaction or other change in corporate structure affecting our common stock or the value thereof, in each case as our compensation committee may deem equitable or appropriate. The actual value of any option award, if any, will depend on the excess of our stock price over the exercise price on the date the option is exercised. The actual value realized by the officer upon exercise of the option awards may be higher or lower than the value shown in this column.

(2) We paid the amounts set forth in this column pursuant to the terms of our 2015 Executive Incentive Plan and 2014 Executive Incentive Plan, as applicable. The material terms of the 2015 Executive Incentive Plan are described below.

- (3) Unless otherwise noted, the amounts in this column consist of (a) matching contributions made pursuant to our tax-qualified 401(k) plan and (b) premiums paid for life insurance policies for the benefit of the NEO.
- (4) Mr. Culley also serves as a member of our board of directors, but he does not receive any additional compensation for such service.
- (5) Dr. Parsley was not an NEO for the year ended December 31, 2014. Accordingly, this table does not include 2014 compensation information for Dr. Parsley.

- (6) Includes \$45,853 of relocation expense reimbursement and \$2,350 of commuting expense reimbursement prior to Dr. Parsley's relocation to San Diego, all paid pursuant to the terms of Dr. Parsley's employment offer letter, described under "Dr. Parsley's Relocation Benefits" below.
- (7) Ms. Roberts was not an NEO for the year ended December 31, 2014. Accordingly, this table does not include 2014 compensation information for Ms. Roberts.
- (8) Mr. Keran's employment with us concluded in February 2015. The material terms of Mr. Keran's severance arrangements are described under "Mr. Keran's Severance Arrangements" below.
- (9) This amount represents (a) \$953,440 in aggregate grant date fair value of the option award granted to Mr. Keran in January 2015, calculated as described in footnote (1) of this table, and (b) \$86,394 of incremental fair value related to extension of the post-termination exercise period for the vested portions of certain stock options held by Mr. Keran as of his February 2015 termination date, calculated in accordance with FASB ASC Topic 718, as of March 26, 2015, which was the effective date of the amendment that modified the stock options. The material terms of that amendment are described under "Mr. Keran's Severance Arrangements" below.
- (10) Includes severance benefits of \$453,911 and \$89,062 for accrued but unused vacation time paid upon termination of employment. See "Mr. Keran's Severance Arrangements" below for more detail regarding Mr. Keran's severance benefits.

Components of Executive Compensation

Base Salary

The purpose of the base salary component of our executive compensation is to provide a level of income that allows us to attract and retain executive talent and mitigates pressure to focus on stock price performance to the detriment of other important aspects of our business. The base salary represents fixed cash compensation recognizing individual performance, scope of responsibility, leadership skills and experience, and it compensates an executive for performing his or her job responsibilities on a day-to-day basis. Base salaries are evaluated annually by the compensation committee.

In January 2015, the compensation committee approved an approximately 3.5% increase to our NEOs base salaries relative to their 2014 base salaries, which were ordinary cost of living adjustments, except that Ms. Roberts' base salary was increased by approximately 9.1% based on a competitive market assessment and in recognition of her increased level of responsibilities within our company. The actual amounts of base salary earned in 2015 by our NEOs are set forth in the Summary Compensation Table above.

In January 2016, upon recommendation by the compensation committee, our board of directors approved increases of 2.25% to 4.00% to our NEOs' base salaries relative to their 2015 base salaries effective January 1, 2016. Accordingly, the 2016 base salaries of Mr. Culley, Dr. Parsley and Ms. Roberts are \$428,600, \$364,575 and \$312,000, respectively.

Annual Performance-Based Cash Incentives

Our annual performance-based incentive plans, which provide for variable compensation based on performance against annually established objectives, are designed to motivate our executive officers to achieve near-term goals intended to enhance the long-term value of our company without excessive risk taking. In June 2015, our board, upon the recommendation of the compensation committee, approved the 2015 Executive Incentive Plan, pursuant to which executive officers were eligible for incentive awards, generally payable in cash, based on achievement of corporate and, potentially, individual performance objectives. Under the 2015 Executive Incentive Plan, each participant was assigned an incentive target that was expressed as a percentage of his or her annual base salary, and the participant's actual incentive award would be based on the level of achievement of the corporate objectives approved by our board and, if applicable for officers other than our Chief Executive Officer, individual objectives approved by our board. The corporate objectives, which were set by our board at the time it adopted the 2015 Executive Incentive Plan, align

the interests of our executive officers with those of our stockholders and, because the corporate objectives were the same for all participants, they also align the interests of all our executive

25

officers with one another. For 2015, no individual objectives were adopted and awards for all executives were based entirely (100%) on achievement of the corporate objectives. Had individual objectives been adopted for a participant, that participant’s award would have been based 25% on the participant’s achievement of individual objectives and 75% on the corporate objectives.

The following table lists the NEOs and their incentive targets under the 2015 Executive Incentive Plan. Mr. Keran’s employment with us ended before the adoption of the 2015 Executive Incentive Plan and, accordingly, he was not a plan participant.

Named Executive Officer	Incentive Target	(% of base salary)
Brian M. Culley	50	%
Edwin L. Parsley	35	%
Brandi L. Roberts	30	%

Under the 2015 Executive Incentive Plan, our board of directors had discretion to grant an incentive award that was less than the incentive target if it determined performance partially met objectives or was less than acceptable, and to grant an incentive award that exceeded the incentive target if it determined performance exceeded objectives or was excellent in view of prevailing conditions; provided that no award could exceed three times a participant’s base salary.

As discussed above, because we are a clinical-stage biopharmaceutical company, our board has focused on progress with product development in setting corporate objectives and determining actual award amounts under our annual incentive plans. The corporate objectives for the 2015 Executive Incentive Plan primarily related to progressing clinical development of and regulatory affairs activities for our product candidates, specifically, vepoloxamer for the treatment of sickle cell crisis, heart failure, and acute limb ischemia and AIR001 for the treatment of HFpEF. These goals were weighted as 90% of the corporate objectives, with enrollment in our Phase 3 EPIC study of vepoloxamer in patients with sickle cell disease and other research and development and FDA-related activities for vepoloxamer in sickle cell disease accounting for 45% of that weighting. Cash management and intellectual property/product exclusivity goals comprised the remaining 10% of the 2015 corporate objectives.

In determining the amounts of the awards under the 2015 Executive Incentive Plan, our compensation committee and, ultimately, our board of directors considered the weighting associated with each objective, whether the objective had been met within the targeted timeframe, the degree and quality of performance for partially achieved objectives, the level of difficulty of an objective, and the conditions or changes in circumstances that affected the ability to achieve or desirability of achievement of particular objectives. Our board determined to award a corporate achievement level of approximately 82%, which it applied to each NEO’s incentive target amount to determine the amount of each NEO’s award payment, which amounts are set forth in the “Non-Equity Incentive Plan Compensation” column of the Summary Compensation Table above.

Stock Option Awards

We typically grant stock option awards to our employees, including our executive officers, with multi-year, time-based vesting. In 2015 and 2014, all option awards were granted under our stockholder-approved plans that do not permit repricing or exercise prices below the closing sale price of our common stock on the NYSE MKT on the

grant date. Stock options granted to employees who have been employed by us for more than one year as of the grant date generally vest on a monthly basis over a four-year period after the grant date. Stock options granted to new employees generally vest monthly over four years after a one-year anniversary “cliff” vesting of 25% of the shares subject to the option. All option awards typically have a 10-year term.

Because vesting occurs over multiple years and only if the employee continues to be employed with us at the time of vesting and because a stock option becomes valuable only if our stock price is greater at the time an option is exercised than it was at the time the option was granted, our board believes these equity awards promote a long-term perspective on corporate success, directly incentivize our NEOs to build long-term value, and align the interests of

our employees, including the NEOs, with our stockholders. The multi-year vesting feature and 10-year term also foster employee retention.

In determining the size of option awards to be granted to our employees, including our NEOs, the compensation committee and our board has applied what we refer to as a “carried interest framework,” which involves determining an appropriate target ownership level for each employee to achieve over time, applying that target percentage to the number of outstanding shares of our common stock, on an adjusted fully-diluted basis, and allocating the resulting share number over a period of time (generally, four years) for the employee to achieve option awards that, if fully vested, would equate to the target ownership level. We believe this framework was well-suited for our company because it provided a coherent approach to achieving targeted ownership levels for our NEOs following changes in our capitalization that may have otherwise reduced the intended stockholder alignment and employment retention effects of these equity awards. In determining the appropriate target ownership level for each NEO, our board or the compensation committee considered the NEO’s role, responsibilities and past performance, survey data published by the San Diego Biotechnology Employee Development Coalition regarding ownership stakes of executives in similar positions, and the targeted levels for our other executive officers. Although the carried interest framework provided “goal posts” for determining the size of option awards, the compensation committee or our board, as applicable, always retained discretion to make the size of an award smaller than a strict application of the framework may have called for and did so in the past, including with regard to awards granted in 2015 and 2014.

In 2015 and 2014, stock options were granted to our employees, including our NEOs, at the beginning of the year (January) and at the time of our annual meeting of stockholders (June), with the size of each semi-annual award equal to about half of the amount that would have been granted on a once-per-year schedule. We transitioned to a semi-annual grants schedule in 2013 to help improve the retention and motivational purposes of the awards given the volatility of our stock price.

In January 2015, Mr. Culley, Dr. Parsley, Ms. Roberts and Mr. Keran were granted an option to purchase 2,100,550, 938,300, 722,800, and 2,100,550 shares of our common stock, respectively. The options have a 10-year term and an exercise price of \$0.58 per share, which was the closing price of our common stock on the NYSE MKT on the grant date. Mr. Culley’s and Ms. Roberts’ options vest and become exercisable, subject to the officer’s continued service to us, in 48 substantially equal monthly installments. Dr. Parsley’s option vested and became exercisable as to 156,383 shares on October 1, 2015, which was the first anniversary of his employment with our company, and the remaining shares vest and become exercisable in 48 substantially equal monthly installments thereafter such that the option will have fully vested and become exercisable as of October 1, 2019, subject to Dr. Parsley’s continued service. Mr. Keran’s option vested monthly until the termination of his employment in February 2015, at which point the vesting acceleration provisions of his option agreement became applicable, as described below, and the remaining unvested portion of his option expired.

In June 2015, Mr. Culley, Dr. Parsley and Ms. Roberts were granted an option to purchase 888,900, 555,850, and 444,400 shares of our common stock, respectively. The options have a 10-year term and an exercise price of \$0.50 per share, which was the closing price of our common stock on the NYSE MKT on the grant date. Mr. Culley’s and Ms. Roberts’ options vest and become exercisable, subject to the officer’s continued service to us, in 48 substantially equal monthly installments. Dr. Parsley’s option vested and became exercisable as to 34,740 shares on October 1, 2015 and the remaining shares vest and become exercisable in 48 substantially equal monthly installments thereafter such that the option will have fully vested and become exercisable as of October 1, 2019, subject to Dr. Parsley’s continued service.

In the third quarter of 2015, the compensation committee engaged Barney & Barney, a Marsh & McLennan Agency LLC Company, to assist it in taking a fresh look at our executive compensation program, including the equity incentive component. Following this review, the compensation committee determined that stock option awards with

multi-year vesting remained an appropriate component of executive compensation, but that award sizes should be determined based on a percentage of common stock outstanding, with the actual size of an award to be adjusted up or down based on assessment of prior year performance as assessed in the first quarter of the following year. Accordingly, the compensation committee also determined option grants should revert to a once per year grant schedule, with awards granted in the first quarter of the year.

Other Elements of Compensation

Our NEOs, as well as our other regular, full-time employees are eligible for a variety of health and welfare and paid time-off benefits. We believe that these benefits enable us to offer more competitive compensation packages and support employee focus and productivity. In addition, as described below, our NEOs may be entitled to receive additional benefits upon termination of their employment. These arrangements are intended to keep our NEOs focused on corporate interests while employed, including in the face of potential change in control transactions, and, at the time they were implemented, were deemed necessary to attract or retain the employment of the NEOs. Additional advantages of these arrangements to us include our receipt of a release of claims as a precondition to an NEO receiving termination benefits.

401(k) Plan and Company Match. We have a defined contribution savings plan pursuant to Section 401(k) of the Internal Revenue Code of 1986. The plan is for the benefit of all employees and permits voluntary contributions by qualifying employees of up to 100% of eligible compensation, subject to Internal Revenue Service-imposed maximum limits. Under the terms of the plan, we are required to make matching contributions equal to 100% of employee contributions up to 6% of eligible compensation, limited by the IRS-imposed maximum, for all employees. With respect to the NEOs, we incurred total expenses of approximately \$51,900 and \$62,200 in matching contributions in 2015 and 2014, respectively.

Life Insurance Policies. We provide all regular, full-time employees, including the NEOs, with a life insurance policy equal to two times the employee's annual base salary, up to a maximum coverage of \$750,000.

Paid Time-off. Mr. Culley, Dr. Parsley and Ms. Roberts accrue 30, 21 and 24 vacation days per year, respectively, subject to annual adjustment based on the number of years of the officer's employment with us. Prior to the conclusion of his employment, Mr. Keran accrued 28 vacation days per year. Under our policy, the maximum number of vacation days that an employee, including our NEOs, can accrue is two times the employee's annual accrual limit. Upon conclusion of his employment with us in February 2015, we paid Mr. Keran approximately \$89,000 for accrued, but unused vacation time. If the other NEOs' employment with us had terminated as of December 31, 2015, our payment obligations to Mr. Culley, Dr. Parsley and Ms. Roberts for accrued, but unused vacation time would have been approximately \$97,000, \$15,000 and \$55,000, respectively.

Perquisites. As an inducement to accept our offer of employment in 2014, we agreed to reimburse Dr. Parsley for certain relocation and commuting expenses as described under "Dr. Parsley's Relocation Benefits" below. We did not provide any of our other NEOs with perquisites in 2015 that exceeded \$10,000 in the aggregate for any person.

Termination and Change in Control Benefits. The employment of each of our NEOs is at-will and they or we may terminate their employment with us at any time with or without prior notice. However, our NEOs may become entitled to certain benefits in connection with a qualifying termination of employment. For a description of the material terms of the agreements that govern our currently employed NEOs' termination and change in control benefits, see "Executive Severance Agreements" below. For a description of the material terms of Mr. Keran's termination benefits, see "Mr. Keran's Severance Arrangements" below.

Dr. Parsley's Relocation Benefits

Pursuant to the terms of his offer letter, dated September 29, 2014, and in connection with his commencement of employment in October 2014, we agreed to help defray the cost of Dr. Parsley's relocation from Houston, Texas to San Diego by reimbursing him for certain relocation and commute-related expenses prior to his relocation (in each case, less applicable deductions and withholdings) as follows:

- Reimbursement of up to \$100,000 of actual, reasonable costs incurred during the six-month period following the date of the offer letter to relocate his primary residence to San Diego; provided that if Dr. Parsley resigns, other than in connection with an involuntary termination, or if his employment is terminated for cause before October 1, 2016, he must repay all such reimbursement payments advanced to him; and
- Reimbursement of the following to the extent incurred from October 1, 2014 through January 31, 2015: (a) the cost of coach airfare for up to two trips per month between Houston and San Diego, (b) up to \$2,350 per month for actual costs for temporary lodging in San Diego and (c) the actual costs of electricity, cable and internet services related to that temporary lodging.

In the offer letter, "involuntary termination" is defined as: (i) without Dr. Parsley's express written consent, a material reduction or alteration of his duties, position or responsibilities relative to his duties, position or responsibilities in effect immediately prior to such reduction or alteration, or his removal from such position, duties or responsibilities; (ii) without Dr. Parsley's express written consent, a material reduction of his base salary as in effect immediately prior to such reduction; (iii) without Dr. Parsley's express written consent, the relocation of his principal place of employment with the company by more than 50 miles; (iv) any termination of Dr. Parsley's employment by us without cause; or (v) our failure to obtain the assumption of his offer letter agreement by any successor company. In the offer letter, "cause" is defined as (A) any act of personal dishonesty by Dr. Parsley in connection with his hiring process that our board of directors believes has had or will have a material detrimental effect on the reputation or business of our company or an affiliated company; (B) any act of personal dishonesty by Dr. Parsley in connection with his responsibilities as an employee which is intended to result in his substantial personal enrichment; (C) continued willful violations by Dr. Parsley of his obligations to our company or an affiliated company after there has been delivered to him a written demand for performance that describes the basis for our belief that he has not substantially performed his duties; (D) a willful act by Dr. Parsley that constitutes misconduct and is materially injurious to the company or an affiliated company; and (E) his conviction (including any plea of guilty or nolo contendere) of any felony that our board of directors reasonably believes has had or will have a material detrimental effect on the reputation or business of the company or an affiliated company.

Mr. Keran's Severance Arrangements

In July 2009, the compensation committee adopted a retention and severance plan (the "Retention Plan") applicable to each of Messrs. Culley and Keran. The compensation committee determined that this plan was necessary to incentivize and retain Messrs. Culley and Keran, who at the time were our only employees, and reinforce their dedication to us during a period when they would have been likely to seek alternative employment otherwise. Under the Retention Plan, if the officer's employment terminates at any time as a result of an involuntary termination, and he delivers and does not revoke a general release of claims, which confirms any post-termination obligations and/or restrictions applicable to him, he will be entitled to (a) an amount equal to 12 months of his then-current base salary, less applicable withholdings, and (b) an amount equal to the estimated cost of continuing his healthcare coverage and the coverage of his dependents who are covered at the time of the involuntary termination under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, for a period equal to 12 months. These severance benefits were payable in a lump-sum on the date the general release of claims became effective. Mr. Keran's departure in February 2015 was an involuntary termination under the Retention Plan and, as a result, upon effectiveness of his general release of claims, we paid Mr. Keran approximately \$443,411 in accordance with the terms of the Retention Plan. We also paid a third party firm \$10,500 to provide career transition services to Mr. Keran. These amounts are

included in the “All Other Compensation” column of the Summary Compensation Table above as noted in footnote (10) to that table.

The Retention Plan defined “involuntary termination” as (i) without the officer’s express written consent, an action by our board of directors or external events causing or immediately portending a material reduction or

29

alteration of the officer's duties, position or responsibilities relative to the officer's duties, position or responsibilities in effect immediately prior to such reduction or alteration, or the removal of the officer from such position, duties or responsibilities; provided, however, that an involuntary termination will not be deemed to occur with respect to Mr. Culley, if he remains the head of and most senior individual within our company's (or our successor's) business development function, and with respect to Mr. Keran, if he remains the head of and most senior individual within our company's (or our successor's) legal function; (ii) without the officer's express written consent, a material reduction by us of the officer's base salary as in effect immediately prior to such reduction; (iii) without the officer's express written consent, the relocation of the officer's principal place of employment with us by more than 50 miles; (iv) any termination of the officer's employment by us without cause (as defined below), or (v) a material breach of the Retention Plan, including, but not limited to our failure to obtain the assumption of the Retention Plan by any successors, as contemplated in the Retention Plan.

The award agreements for the option awards we granted to Mr. Keran after 2008, which we refer to as the "post-2008 option awards," contained vesting acceleration and exercise period extension provisions triggered by an involuntary termination. Such provisions provided that immediately prior to his involuntary termination, each of his outstanding post-2008 option awards vested and became exercisable with respect to 25% of the total number of shares subject to that award and the exercise period of the then-vested portion of that award (after taking into account the foregoing acceleration) was extended for a period of 12 months following the date of the involuntary termination, but not later than the 10-year term expiration, subject to limited exceptions. Accordingly, in connection with Mr. Keran's involuntary termination in February 2015, the vesting of his outstanding post-2008 option awards was accelerated and the exercise period was extended as described above, such that 1,338,476 additional shares vested and became exercisable through February 2016. Based on the difference between the closing sale price of our common stock on the trading day immediately preceding the date Mr. Keran's employment ended (because his employment ended on a weekend) and the exercise prices of the post-2008 option awards that were less than that closing sale price, the value of this accelerated vesting was approximately \$12,665. Approximately 71% of the shares subject to outstanding post-2008 option awards on the date Mr. Keran's employment ended, or 949,075 shares, were "out-of-the-money" because the applicable exercise price was greater than the closing sale price of our common stock.

Additionally, subject to Mr. Keran's delivery of a general release of claims in a form acceptable to us, the compensation committee approved and, on March 18, 2015, we and Mr. Keran entered into an amendment to the award agreements related to Mr. Keran's outstanding stock option awards that have an exercise price per share equal to \$13.50 or less. Under the terms of this amendment, on its effective date, the post-termination exercise period applicable to the vested portion of the applicable option awards was extended by an additional 8.5 months from February 2016 to November 15, 2016. Mr. Keran delivered the general release of claims to us and the amendment became effective on March 26, 2015. The incremental fair value of this modification to Mr. Keran's option awards is included in the "Option Awards" column of the Summary Compensation Table above as noted in footnote (9) to that table.

Outstanding Equity Awards at Fiscal Year-End 2015

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2015. Share and per share information included in this table for option awards granted before April 23, 2010 reflects retrospective application of the 1-for-25 reverse split of our outstanding common stock effected on April 23, 2010.

Name	Option Awards		Equity Incentive Plan Awards:		
	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date
Brian M. Culley	3,200	—	—	\$118.75	01/30/2016
	5,999	—	—	\$68.75	01/11/2017
	8,000	—	—	\$13.50	03/30/2018
	67,999	—	—	\$3.25	07/20/2019
	63,999	—	—	\$8.00	02/02/2020
	100,000	—	—	\$2.29	02/01/2021
	250,000	—	—	\$3.26	07/05/2021
	416,145 (2)	8,855	(2)	\$0.60	12/07/2021
	101,098 (3)	37,552	(3)	\$0.59	01/02/2023
	567,062 (4)	340,238	(4)	\$0.50	06/19/2023
	311,602 (5)	338,698	(5)	\$0.47	01/02/2024
	417,843 (6)	696,407	(6)	\$0.65	06/19/2024
481,376 (7)	1,619,174	(7)	\$0.58	01/02/2025	
111,112 (8)	777,788	(8)	\$0.50	06/11/2025	
Edwin L. Parsley	175,000 (9)	425,000	(9)	\$0.59	10/01/2024
	188,962 (10)	749,338	(10)	\$0.58	01/02/2025
	56,452 (11)	499,398	(11)	\$0.50	06/11/2025
Brandi L. Roberts	85,000	—	—	\$2.35	06/14/2021
	131,608 (12)	8,392	(12)	\$0.60	12/07/2021

Edgar Filing: Mast Therapeutics, Inc. - Form DEF 14A

	55,234	(3)	20,516	(3)	—	\$0.59	01/02/2023
	188,281	(4)	112,969	(4)	—	\$0.50	06/19/2023
	48,491	(5)	52,709	(5)	—	\$0.47	01/02/2024
	126,225	(6)	210,375	(6)	—	\$0.65	06/19/2024
	165,641	(7)	557,159	(7)	—	\$0.58	01/02/2025
	55,550	(8)	388,850	(8)	—	\$0.50	06/11/2025
Patrick L. Keran (13)	8,000		—		—	\$13.50	11/15/2016
	67,999		—		—	\$3.25	11/15/2016
	63,999		—		—	\$8.00	11/15/2016
	100,000		—		—	\$2.29	11/15/2016
	243,912		—		—	\$3.26	11/15/2016
	418,358		—		—	\$0.60	11/15/2016
	106,876		—		—	\$0.59	11/15/2016
	604,867		—		—	\$0.50	11/15/2016
	338,697		—		—	\$0.47	11/15/2016
	464,271		—		—	\$0.65	11/15/2016
	568,900		—		—	\$0.58	11/15/2016

- (1) The vesting schedules described for each option in this table are subject to the NEO's continued service to our company and to acceleration in connection with a change in control and/or involuntary termination, as described below under "Executive Severance Agreements."
- (2) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on February 1, 2012 and will vest and become exercisable on the first day of each month thereafter.
- (3) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on February 2, 2013 and will vest and become exercisable on the second day of each month thereafter.
- (4) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on July 19, 2013 and will vest and become exercisable on the nineteenth day of each month thereafter.
- (5) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on February 2, 2014 and will vest and become exercisable on the second day of each month thereafter.
- (6) This vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on July 19, 2014 and will vest and become exercisable on the nineteenth day of each month thereafter.
- (7) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on February 2, 2015 and will vest and become exercisable on the second day of each month thereafter.
- (8) This option vests and becomes exercisable in substantially equal monthly installments over four years. Approximately 1/48th of the total underlying shares vested and became exercisable on July 11, 2015 and will vest and become exercisable on the eleventh day of each month thereafter.
- (9) This option vests and becomes exercisable in substantially equal monthly installments over three years after a one-year "cliff" vesting. Approximately 1/4 of the total underlying shares vested and became exercisable on October 1, 2015 and approximately 1/36th of the balance of the underlying shares will vest and become exercisable on the first day of each of the 36 months thereafter.
- (10) This option vests and becomes exercisable in substantially equal monthly installments over four years after a "cliff" vesting on the first anniversary of Dr. Parsley's employment start date. 156,383 of the underlying shares vested and became exercisable on October 1, 2015 and approximately 1/48th of the balance of the underlying shares vests and becomes exercisable on the first day of each month thereafter.
- (11) This option vests and becomes exercisable in substantially equal monthly installments over four years after a "cliff" vesting on the first anniversary of Dr. Parsley's employment start date. 34,740 of the underlying shares vested and became exercisable on October 1, 2015 and approximately 1/48th of the balance of the underlying shares vests and becomes exercisable on the first day of each month thereafter.
- (12) This option vests and becomes exercisable in substantially equal monthly installments over four years after a "cliff" vesting on the first anniversary of Ms. Roberts' employment start date. 5,833 of the underlying shares vested and became exercisable on March 22, 2012 and approximately 1/48th of the balance of the underlying shares vests and becomes exercisable on the twenty-second day of each month thereafter.
- (13) As described under "Summary Compensation Table—Mr. Keran's Severance Arrangements," above, immediately prior to Mr. Keran's involuntary termination in February 2015, a portion of each of Mr. Keran's unvested stock options was subject to accelerated vesting and, upon his termination, the remaining unvested portion of each of his options expired. Pursuant the amendment we entered into with Mr. Keran, effective as of March 26, 2015, the post-termination exercise period for the vested portion of Mr. Keran's outstanding stock option awards with an exercise price equal to \$13.50 per share or less was extended to November 15, 2016, after which date any unexercised options will expire.

Executive Severance Agreements

In the first quarter of 2016, the compensation committee, with the assistance of its independent compensation consultant, Barney & Barney, evaluated the severance arrangements of our executive officers with a goal of ensuring they serve as adequate tools for retaining key talent, particularly during volatile and/or transitional periods for our company, and recommended to our board of directors that the existing severance arrangements be replaced and superseded with new severance agreements. In March 2016, our board approved, and we entered into, new severance agreements with each of our executive officers, including the NEOs, other than Mr. Keran, whose

employment terminated in February 2015. The new severance agreements replaced and superseded each executive officer's existing severance arrangements.

The tables below summarize and compare the material terms of the severance arrangements in effect during the year ended December 31, 2015 and the new severance agreements.

In particular we note the following:

- The payment of severance benefits to any of our NEOs is, in all cases, conditioned upon our receipt of a general release of claims from the NEO that becomes effective.
- Stock option awards have double-trigger change in control provisions, such that if outstanding awards held by our NEOs are assumed by a successor in connection with a change in control of our company, such awards will not automatically vest solely as a result of the change in control; and
- No excise tax gross-ups are provided upon change in control.

Potential Benefits upon Termination without Cause or for Good Reason

Officer		At December 31, 2015	March 2016 Severance Agreement
Brian M. Culley	Cash	•Lump sum payment equal to 12 months of current base salary	•Lump sum payment equal to 24 months of current base salary
	Benefits	•Lump sum payment equal to premiums for continued health insurance coverage for 12 months	•Lump sum payment equal to premiums for continued health insurance coverage for 24 months
	Equity	•Vesting acceleration of 25% of total option shares •Exercise period of 12 months post-termination	•Vesting acceleration of 25% of total option shares •Exercise period of 12 months post-termination
Edwin L. Parsley	Cash	•Lump sum payment equal to 9 months of current base salary	•Lump sum payment equal to 9 months of current base salary
	Benefits	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months
	Equity	•Vesting acceleration of 18.75% of total option shares •Exercise period of 9 months post-termination	•Vesting acceleration of 18.75% of total option shares •Exercise period of 9 months post-termination
Brandi L. Roberts	Cash	•None	•Lump sum payment equal to 9 months of current base salary
	Benefits	•None	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months
	Equity	•None	•Vesting acceleration of 18.75% of total option shares •Exercise period of 9 months post-termination

Potential Benefits upon Change in Control of Our Company

The following table summarizes the benefits for which the NEOs would be eligible in connection with a change in control. Under the March 2016 severance agreements, none of the NEOs would be eligible for any of these benefits unless his or her employment is also terminated without cause or for good reason prior to or within 24 months of the change in control. The “single trigger” option acceleration benefit for Mr. Culley under his prior severance arrangements was superseded by the terms of his March 2016 severance agreement.

Officer		At December 31, 2015	March 2016 Severance Agreement
Brian M. Culley	Cash	•Lump sum payment equal to 12 months of current base salary	•Lump sum payment equal to 24 months of current base salary
	Benefits	•Lump sum payment equal to premiums for continued health insurance coverage for 12 months	•Lump sum payment equal to premiums for continued health insurance coverage for 24 months
	Equity	•Single trigger vesting acceleration: 50% upon change in control (CiC) and 50% on one-year anniversary of CiC •Double trigger benefits: 100% vesting acceleration if terminated in connection with or within 12 months of a CiC and extension of exercise period to 24 months post-termination	•No single trigger vesting acceleration •Double trigger benefits: 100% vesting acceleration and extension of exercise period to 10 years from option grant date
Edwin L. Parsley	Cash	•Lump sum payment equal to 9 months of current base salary	•Lump sum payment equal to 9 months of current base salary
	Benefits	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months
	Equity	•Double trigger benefits: 100% vesting acceleration if terminated in connection with or within 24 months of a CiC and extension of exercise period to 18 months post-termination	•Double trigger benefits: 100% vesting acceleration and extension of exercise period to 10 years from option grant date
Brandi L. Roberts	Cash	•Lump sum payment equal to 9 months of current base salary if terminated within 3 months before or one year after CiC	•Lump sum payment equal to 9 months of current base salary
	Benefits	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months if terminated within 3 months before or one year after CiC	•Lump sum payment equal to premiums for continued health insurance coverage for 9 months
	Equity	•Double trigger benefits: 100% vesting acceleration and extension of exercise period to 10 years from option grant date if terminated within 24 months of a CiC	•Double trigger benefits: 100% vesting acceleration and extension of exercise period to 10 years from option grant date

Defined Terms for Purposes of Executive Severance Agreements

Under the March 2016 severance agreements:

- “Cause” means (a) any act of personal dishonesty taken by the executive in connection with the executive’s responsibilities as an employee which is intended to result in substantial personal enrichment of the executive; (b) the executive’s conviction of a felony that our board of directors reasonably believes has had or will have a material

detrimental effect on the reputation or business of our company or of our affiliates; (c) a willful act by the executive that constitutes misconduct and is materially injurious to our company or to our affiliates; (d) any material breach

by the executive of any offer letter or confidential information, non-solicitation or invention assignment agreement or other agreement entered into with us; or (e) continued willful violations by the executive of the executive's obligations to our company or to our affiliates after there has been delivered to the executive a written demand for performance that describes the basis for our belief that the executive has not substantially performed the executive's duties.

· "Good reason" means, in each case, without the executive's express written consent, (a) a material reduction or alteration of the executive's duties, position or responsibilities relative to those in effect immediately prior to such reduction or alteration, or the executive's removal from such position, duties or responsibilities; (b) a material reduction of the executive's base salary as in effect immediately prior to such reduction (unless pursuant to a salary reduction program applicable generally to similarly situated employees); or (c) the relocation of the executive's principal place of employment with our company by more than 50 miles. The severance agreements provide us with a 30-day cure period following written notice from an executive of the occurrence of an event that otherwise would constitute good reason and the executive must have provided that notice to us within 90 days of the executive's awareness of the initial existence of the applicable event.

· "Change in control" has the meaning ascribed to it in our 2015 Omnibus Incentive Plan, as may be amended or restated from time to time, or such other equity incentive plan as may be adopted by our board of directors and approved by our stockholders. Generally, under our 2015 Omnibus Incentive Plan, a change in control occurs upon (a) the consummation of a merger or consolidation of our company with or into another entity, (b) the consummation of the sale, transfer or other disposition of all or substantially all of our assets, (c) certain changes in the majority of our board of directors within a period of 36 consecutive months, (d) the acquisition, pursuant to a tender or exchange offer made directly to our stockholders that our board of directors does not recommend, of more than 50% of the total combined voting power in our outstanding securities, or (e) approval by our stockholders of a plan of complete liquidation or dissolution.

DIRECTOR COMPENSATION

The following table shows compensation information for the individuals who served as non-employee directors during the year ended December 31, 2015. Mr. Culley, our only director who is also one of our employees, does not receive any additional compensation for his service as a director.

Director Compensation for Fiscal Year 2015

Name	Fees Earned or Paid in Cash	Stock Awards	Option Awards (1)(2)	Nonqualified			Total
				Non-Equity Incentive Plan Compensation	Deferred Compensation Earnings	All Other Compensation	
Howard C. Dittrich	\$40,975	—	\$26,988	—	—	—	\$67,963
Peter Greenleaf (3)	\$5,824	—	\$30,345	—	—	—	\$36,169
Matthew Pauls (4)	\$6,429	—	\$32,366	—	—	—	\$38,795
David A. Ramsay	\$59,753	—	\$26,988	—	—	—	\$86,741
Jack Lief (5)	\$49,636	—	\$26,988	—	—	—	\$76,624
Lewis J. Shuster (6)	\$67,335	—	\$26,988	—	—	—	\$94,323

(1) The amounts in this column represent the aggregate grant date fair value of option awards granted to the directors in 2015, calculated in accordance with the provisions of FASB ASC Topic 718, Stock Compensation, except that any estimate of forfeitures was disregarded. For a description of the assumptions used to calculate these amounts, see Note 11 to our audited consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2015 filed with the SEC on March 14, 2016. The actual value of any option award, if any, will depend on the excess of our stock price over the exercise price on the date the option award is exercised. The actual value realized by the director upon exercise of the option awards may be higher or lower than the value shown in this column.

(2) As of December 31, 2015, our non-employee directors had option awards outstanding to purchase the following number of shares of our common stock:

Name	Shares Underlying
	Outstanding Options
Howard C. Dittrich	176,181
Peter Greenleaf	102,585
Matthew Pauls	102,585
David A. Ramsay	240,293
Jack Lief	252,472
Lewis J. Shuster	242,039

- (3) Mr. Greenleaf joined our board on November 5, 2015.
- (4) Mr. Pauls joined our board on October 29, 2015.
- (5) Mr. Lief resigned from our board effective August 7, 2015.
- (6) Mr. Shuster resigned from our board effective March 10, 2016.

36

Overview of Non-Employee Director Compensation

Compensation of the non-employee members of our board of directors for their service on the board and its committees is set forth in a written policy adopted by our board of directors. With the assistance of its compensation committee, our board of directors periodically reviews and evaluates the director compensation policy and adopts changes designed to allow us to recruit and retain individuals with the requisite experience, skills and characteristics for membership on our board of directors. During 2015, our non-employee director compensation was governed by the director compensation policy adopted by our board of directors in December 2014 and became effective on January 1, 2015. The policy provides for a combination of cash compensation in the form of a fixed retainer and equity compensation in the form of stock option awards. We also reimburse our directors for travel and other reasonable out-of-pocket expenses related to attendance at meetings of our board of directors and its committees. Our non-employee directors do not receive meeting attendance fees, except in the case of service on ad hoc or special committees established by the board. Each non-employee director who serves on an on ad hoc or special committee will be eligible to receive \$1,000 for each meeting attended whether attendance is in person or by telephone, videoconference or other comparable communication device.

Retainer

The following table reflects the amount of the cash retainer payable to each non-employee director under the director compensation policy in effect during 2015 based on the director's role on our board and its committees. The amounts set forth in the following table are annualized amounts, which we paid in four equal installments on a quarterly basis. A non-employee director whose service began during a quarter received a pro-rated portion of the applicable payment.

2015 Cash Retainer

	Chairperson	Member
Board of Directors	\$ 60,000	\$ 35,000
Audit Committee	\$ 15,000	\$ 7,500
Compensation Committee	\$ 10,000	\$ 5,000
Nominating and Governance Committee	\$ 10,000	\$ 5,000

Equity Compensation

Pursuant to our director compensation policy, non-employee directors are eligible, in connection with each annual meeting of our stockholders, to receive an "annual option" to purchase up to such number of shares of our common stock that is equal to the sum of (a) an amount, which we refer to as the "allocated amount," equal to the product of 0.0396% multiplied by the number of shares of our common stock outstanding as of the date of the applicable annual meeting of stockholders and (b) an amount, which we refer to as the "adjustment amount," equal to the difference between (i) the allocated amount for the current year's annual meeting of stockholders, minus (ii) the allocated amount that was applicable to the prior year's annual meeting of stockholders (unless a director was not a non-employee director at the time of the prior year's annual meeting of stockholders, in which case the adjustment amount for that director will be based on the number of shares of our common stock outstanding as of the date of that director's appointment or election to our board of directors). However, the adjustment amount will be included in the annual option for a director only if (x) the adjustment amount for that director exceeds 20% of the allocated amount for the current year's annual meeting of stockholders, (y) our company's market capitalization (shares outstanding multiplied by stock price) has not exceeded \$100 million for a sustained period, as determined unanimously by our board of directors, and (z) our board of directors unanimously determines to include the adjustment amount in such annual option. Each annual option will vest and become exercisable in 12 substantially equal monthly installments of 1/12th

of the shares subject to the option at the end of each successive month following the date of the applicable annual meeting of stockholders, subject to the director's continuing services (as defined in the 2015 Plan).

In addition, any newly appointed or elected non-employee director is eligible to receive an "inducement option" and a "pro-rated annual option." An inducement option entitles the director to purchase up to such number of shares of our common stock that is equal to the amount, which we refer to as the "new director allocated amount,"

that is the product of 0.0396% multiplied by the number of shares of our common stock outstanding as of the date of the director's initial appointment or election to our board of directors. A pro-rated annual option entitles the director to purchase up to such number of shares of our common stock that is equal to the product of (A) the quotient of the new director allocated amount, divided by 12, and (B) the number of full 30-day periods between the new director's date of appointment or election and the date of our next annual meeting of stockholders (or, if, on the new director's date of appointment or election, the date of our next annual meeting of stockholders has not been set, the one-year anniversary of the new director's date of appointment or election). Each inducement option will vest and become exercisable in 36 substantially equal monthly installments of 1/36th of the shares subject to the option at the end of each successive month following the date of the director's initial appointment or election to our board of directors, subject to the director's continuing services (as defined in the 2015 Plan). Each pro-rated annual option will vest and become exercisable in such number of substantially equal monthly installments as is equal to the number of full 30-day periods between the director's initial appointment or election to our board of directors and the date of the next annual meeting of our stockholders.

Each stock option award granted pursuant to our director compensation policy will be granted under the 2015 Plan, or any amendment or restatement thereof, will have an exercise price per share equal to the fair market value (as defined in the 2015 Plan) of a share of our common stock on the date the option award is granted, and will have a term equal to the shorter of (i) ten years from the date the option award is granted (subject to a 30-day extension in certain limited circumstances) and (ii) three years from the date such non-employee director ceases to provide services (as defined in the 2015 Plan) to us for any reason other than such director's death or disability. In addition, in the event of a change of control of our company, each option award will vest and become exercisable on the day prior to the date of the change in control if the director is then providing services (as defined in the 2015 Plan), and each option award will terminate on the date of the change in control to the extent not exercised.

AUDIT COMMITTEE REPORT

Our management has the primary responsibility for our financial reporting process, accounting principles and internal controls as well as the preparation of our financial statements. Under the guidance of a written charter, the audit committee oversees our accounting and financial reporting process and audits of our financial statements on behalf of our board of directors. Each of the members of the audit committee meets the independence standards and other qualification requirements of the NYSE MKT LLC.

The audit committee appointed PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditor for fiscal year 2015. As such, PricewaterhouseCoopers LLP was responsible for expressing an opinion on our annual financial statements based on an audit conducted in accordance with the standards established by the Public Company Accounting Oversight Board.

In this context and in connection with the audited financial statements contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015, the audit committee:

- reviewed and discussed the audited financial statements as of and for the fiscal year ended December 31, 2015 with our management;
- discussed with PricewaterhouseCoopers LLP the matters required to be discussed by Auditing Standard No. 16, Communications with Audit Committees, as adopted by the Public Company Accounting Oversight Board;
- reviewed the written disclosures and the letter from PricewaterhouseCoopers LLP required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent accountant's communications with the audit committee concerning independence, and has discussed with PricewaterhouseCoopers LLP its independence; and
- based on the foregoing reviews and discussions, recommended to our board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 filed with the SEC on March 14, 2016.

AUDIT COMMITTEE*

David A. Ramsay, Chair
Peter Greenleaf

*Mr. Pauls currently is a member of the audit committee. The relevant review and discussions of the audit committee described above took place before Mr. Pauls was appointed to the committee. Accordingly, and in accordance with SEC guidance, his name does not appear with the audit committee in this report.

The preceding "Audit Committee Report" shall not be deemed soliciting material or filed with the SEC, nor shall any information in this report be incorporated by reference into any past or future filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent the Company specifically incorporates it by reference into such filing.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The audit committee has appointed Mayer Hoffman McCann P.C. (“MHM”), an independent registered public accounting firm, as our independent auditor for the fiscal year ending December 31, 2016. We are asking our stockholders to ratify this appointment. See “Proposal 2 – Ratification of Independent Registered Public Accounting Firm” below.

Change of Independent Registered Public Accounting Firm

On March 30, 2016, PricewaterhouseCoopers LLP (“PwC”) was dismissed as our independent registered public accounting firm. The decision to change accounting firms was approved by the audit committee.

During our two most recent fiscal years, which ended December 31, 2015 and December 31, 2014, and the subsequent interim period through March 30, 2016, (i) there were no “disagreements” (within the meaning set forth in Item 304(a)(1)(iv) of Regulation S-K) with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to PwC’s satisfaction, would have caused PwC to make reference to the subject matter of the disagreements in PwC’s reports on our financial statements for such years; and (ii) there were no “reportable events” (within the meaning set forth in Item 304(a)(1)(v) of Regulation S-K).

PwC’s audit report on our consolidated financial statements as of and for the year ended December 31, 2014 did not contain an adverse opinion or disclaimer of opinion, nor was it qualified or modified as to uncertainty, audit scope, or accounting principles. PwC’s audit report on our consolidated financial statements as of and for the year ended December 31, 2015 did not contain an adverse opinion or disclaimer of opinion, nor was it qualified or modified as to uncertainty, audit scope, or accounting principles, except for an emphasis-of-matter paragraph regarding our recurring significant operating losses and need for additional financing to fund future operations.

In accordance with Item 304(a)(3) of Regulation S-K, we provided PwC with a copy of the above disclosures and requested that PwC furnish us with a letter addressed to the United States Securities and Exchange Commission stating whether or not PwC agrees with our statements above. A copy of PwC’s letter, dated April 1, 2016, stating its agreement with such statements is filed as Exhibit 16.1 to our Current Report on Form 8-K filed with the SEC on April 5, 2016.

On March 30, 2016, the audit committee approved the engagement of MHM as our independent registered public accounting firm for the fiscal year ending December 31, 2016. During our two most recent fiscal years and the subsequent interim period through March 30, 2016, neither we, nor any person acting on our behalf, consulted MHM regarding (i) the application of accounting principles to a specified transaction, either completed or proposed, (ii) the type of the audit opinion that might be rendered on our financial statements, and MHM did not provide any written report or oral advice to us that MHM concluded was an important factor considered by us in reaching a decision as to the accounting, auditing or financial reporting issue, or (iii) any matter that was either the subject of any disagreement with PwC on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to PwC’s satisfaction, would have caused PwC to make reference to the subject matter of the disagreements in connection with its reports on our financial statements for such years, or a reportable event.

Fees of Independent Registered Public Accounting Firm

The following table presents the fees billed to us by our former independent registered public accounting firm, PwC, for the years ended December 31, 2015 and December 31, 2014 for professional services rendered to us by PwC:

	2015	2014
Audit Fees(1)	\$484,552	\$348,490
Audit-Related Fees(2)	—	40,000
Tax Fees	—	—
All Other Fees	—	—
Total	\$484,552	\$388,490

(1) “Audit Fees” represent fees for professional services provided in connection with the audit of our annual financial statements and, as applicable, our internal control over financial reporting, as well as those provided in connection with the review of financial statements included in our quarterly reports, review of our registration statements on Forms S-3 and S-8, and related services normally provided in connection with statutory and regulatory filings and engagements.

(2) “Audit-Related Fees” represent fees for assurance services provide in connection with the audit of the opening balance sheet of Aires Pharmaceuticals, Inc., which was acquired by us in February 2014.

MHM did not provide any services or bill any fees to us during the years ended December 31, 2015 and December 31, 2014.

Policy Regarding Pre-Approval of Audit and Non-Audit Services by Our Independent Registered Public Accounting Firm

The charter for our audit committee requires that all audit, review and attest services and all permissible non-audit services (including any permissible tax or internal control-related services) to be provided by our independent registered public accounting firm will be approved by the audit committee in advance of their performance. The audit committee may pre-approve services as part of its approval of the scope of the engagement of the independent registered public accounting firm or on an individual case-by-case basis. The audit committee considers whether the provision of any non-audit service is compatible with maintaining the independence of our auditors. The audit committee’s charter provides that it may adopt policies and procedures for the pre-approval of permissible services, which may include delegation of authority to a designated member or members of the audit committee to approve permissible services so long as any such approvals are disclosed to the full audit committee.

PROPOSAL 1 — ELECTION OF DIRECTORS

At the Annual Meeting, our stockholders will vote on the election of five directors to serve for one-year terms until the 2017 annual meeting of stockholders and until their successors are elected and qualified, or until their earlier death, retirement, resignation or removal. Our board of directors has unanimously nominated Brian M. Culley, Howard C. Dittrich, Peter Greenleaf, Matthew Pauls and David A. Ramsay for election to our board of directors at the Annual Meeting. The director nominees have indicated that they are willing and able to serve as directors. If any of the nominees becomes unable or unwilling to serve, the proxies being solicited by this proxy statement will be voted for the election of any substitute nominee who shall be designated by our board of directors to fill the vacancy. The proxies being solicited by this proxy statement will be voted for no more than five nominees at the Annual Meeting.

Assuming a quorum is present at the Annual Meeting, each director nominee who receives an affirmative vote of the holders of a majority of the shares of common stock having voting power present in person or represented by proxy at the Annual Meeting will be elected. Abstentions will have the same effect as negative votes. Broker non-votes will not be counted toward the vote total and therefore will have no effect on the outcome of this proposal. Stockholders do not have cumulative voting rights in the election of directors.

Our board of directors unanimously recommends a vote “FOR” the election of Brian M. Culley, Howard C. Dittrich, Peter Greenleaf, Matthew Pauls and David A. Ramsay as directors.

PROPOSAL 2 — RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

On March 30, 2016, the audit committee approved the engagement of Mayer Hoffman McCann P.C. (“MHM”) as our independent registered public accounting firm for the fiscal year ending December 31, 2016. On that same date, Pricewaterhouse Coopers LLP (“PwC”) was dismissed as our independent registered public accounting firm. See “Principal Accountant Fees and Services – Change of Independent Registered Public Accounting Firm” above. PwC had served as our independent registered public accounting firm since 2011. At the Annual Meeting, our stockholders will be asked to ratify the appointment of MHM as our independent registered public accounting firm for the fiscal year ending December 31, 2016. Stockholder ratification of the appointment of MHM as our independent registered public accounting firm is not required by our bylaws or otherwise. Our board of directors is submitting the appointment of MHM to our stockholders for ratification as a matter of good corporate practice. If our stockholders do not ratify the appointment of MHM, the audit committee will reconsider this appointment. Even if the appointment is ratified, the audit committee, in its discretion, may appoint a different independent registered public accounting firm at any time during the year if the audit committee determines that such a change would be in the best interests of our company and our stockholders.

A representative of MHM is expected to be present at the Annual Meeting, will have an opportunity to make a statement if that representative so desires, and will be available to respond to appropriate questions. Representatives of PwC are not expected to be present at the Annual Meeting.

Assuming a quorum is present at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of our common stock having voting power present in person or represented by proxy at the Annual Meeting is required to approve this proposal. Abstentions will have the same effect as negative votes. Brokers and other nominees generally will have discretionary authority to vote on this proposal because it is considered a routine matter under NYSE rules, and therefore we do not expect broker non-votes with respect to this proposal.

Our board of directors unanimously recommends a vote “FOR” the ratification of the appointment of Mayer Hoffman McCann P.C. as our independent registered public accounting firm for the fiscal year ending December 31, 2016.

PROPOSAL 3 —ADVISORY VOTE ON THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS

Our goal for our executive compensation program is to attract, motivate and retain qualified executives in a way that establishes an appropriate relationship between executive pay and the creation of stockholder value on a long-term basis. We believe that our executive compensation program accomplishes this goal.

Our executive compensation program and the 2015 compensation of our named executive officers are described in this proxy statement under “Executive Officer Compensation” above. We are requesting that our stockholders vote to approve the compensation of our named executive officers as disclosed in this proxy statement pursuant to the SEC’s compensation disclosure rules, which disclosures include the compensation tables and the narrative discussion following the compensation tables. This advisory vote is generally referred to as a “say-on-pay vote” and is being provided pursuant to Section 14A of the Exchange Act. In accordance with the results of the advisory vote held at our 2013 annual meeting of stockholders on the frequency of future say-on-pay votes, we are conducting say-on-pay votes every three years. As such, the next time we expect to submit the say-on-pay vote to our stockholders will be in 2019.

Our board of directors is asking our stockholders to indicate their support for the compensation of our named executive officers as described in this proxy statement by voting “FOR” the following resolution:

“RESOLVED, that the compensation paid to the company’s named executive officers as disclosed in this proxy statement pursuant to Item 402 of Regulation S-K, including the compensation tables and narrative discussion within the section of this proxy statement entitled “Executive Officer Compensation,” is hereby APPROVED.”

As an advisory vote, this proposal will not be binding upon our board of directors or us. However, the views expressed by our stockholders are important to us and, accordingly, our board of directors and the compensation committee intend to consider the outcome of this vote when evaluating and making future decisions regarding executive compensation arrangements.

Vote Required

Assuming a quorum is present at the Annual Meeting, the affirmative vote of the holders of a majority of the shares of our common stock having voting power present in person or represented by proxy at the Annual Meeting is required to approve the resolution set forth above. Abstentions will have the same effect as negative votes. Broker non-votes will not be counted toward the vote total and therefore will have no effect on the outcome of this proposal.

Our board of directors unanimously recommends a vote “FOR” the approval of the compensation of our named executive officers as disclosed in this proxy statement.

OTHER MATTERS

As of the time of preparation of this proxy statement, neither our board of directors nor our management knows of any matter to be presented at the Annual Meeting that is not listed in the Notice of Annual Meeting accompanying this proxy statement and described in this proxy statement. If any other matters should properly come before the Annual Meeting or any adjournment or postponement thereof, however, the holders of proxies solicited by this proxy statement will vote on such matters in accordance with their judgment.

STOCKHOLDER PROPOSALS FOR 2017 ANNUAL MEETING

The deadline for submitting a stockholder proposal for inclusion in our proxy materials for our 2017 annual meeting of stockholders is December 29, 2016, which is 120 days prior to the first anniversary of the mailing date of this proxy statement. These proposals must be delivered to our principal executive offices and comply with the requirements as to form and substance established by the SEC for such proposals in order to be included in our proxy materials. Stockholders who wish to nominate persons for election to our board of directors or make a proposal at the 2017 annual meeting of stockholders without including the proposal in our proxy materials relating to that meeting must notify us in writing delivered to our principal executive offices no earlier than February 15, 2017 and no later than March 17, 2017. Stockholders are advised to review our bylaws, which contain additional advance notice requirements. A copy of our bylaws is available to stockholders upon written request to our corporate secretary.

By Order of the Board of Directors,

Brian M. Culley
Chief Executive Officer

San Diego, California

April 28, 2016

YOUR VOTE IS IMPORTANT!

You are cordially invited to attend the Annual Meeting. However, to ensure the presence of a quorum and that your shares are represented at the Annual Meeting, as well as to save us additional proxy solicitation costs, we encourage you to submit your proxy or voting instructions as soon as possible. For specific instructions as to how to vote your shares, please refer to the instructions in the Notice of Internet Availability of Proxy Materials you received in the mail, or, if you've requested and received printed proxy materials, please refer to the instructions in the enclosed proxy card. Even if you have voted by proxy, you may still vote in person if you attend the Annual Meeting. Please note, however, that if your shares are held of record by a broker or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

MAST THERAPEUTICS, INC. ATTN: CORPORATE SECRETARY 3611 VALLEY CENTRE DRIVE, SUITE 500 SAN DIEGO, CA 92130 TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS: KEEP THIS PORTION FOR YOUR RECORDS DETACH AND RETURN THIS PORTION ONLY THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED. Signature [PLEASE SIGN WITHIN BOX] Date Signature (Joint Owners) Date VOTE BY INTERNET - www.proxyvote.com Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form. ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years. VOTE BY PHONE - 1-800-690-6903 Use any touch-tone telephone to transmit your voting instructions up until 11:59 P.M. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions. VOTE BY MAIL Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717. IF YOU HAVE VOTED VIA THE INTERNET OR BY TELEPHONE, THERE IS NO NEED FOR YOU TO MAIL BACK YOUR PROXY CARD. THANK YOU FOR VOTING. MAST THERAPEUTICS, INC. ATTN: CORPORATE SECRETARY 3611 VALLEY CENTRE DRIVE, SUITE 500 SAN DIEGO, CA 92130 E10528-P73364 MAST THERAPEUTICS, INC. The Board of Directors recommends you vote FOR the following:

1. To elect five directors to hold office until the next annual meeting of stockholders and until their respective successors are elected or until their earlier resignation or removal. For Against Abstain For Against Abstain The Board of Directors recommends you vote FOR proposals 2 and 3: Nominees: 2. To ratify the appointment of Mayer Hoffman McCann P.C. as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2016. ! ! ! ! ! 1a. Brian M. Culley ! ! ! 1b. Howard C. Dittrich 3. To approve, on an advisory basis, the compensation of the Company's named executive officers, as disclosed in the proxy statement. ! ! ! ! ! 1c. Peter Greenleaf ! ! ! 1d. Matthew Pauls ! ! ! 1e. David A. Ramsay NOTE: Such other business as may properly come before the meeting or any adjournment or postponement thereof. ! For address changes and/or comments, please check this box and write them on the back where indicated. 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.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be held on June 15, 2016: The Notice and Proxy Statement and Annual Report are available at www.proxyvote.com. E09581-P73364 MAST THERAPEUTICS, INC. This proxy is solicited by the Board of Directors for use at the Annual Meeting of Stockholders to be held on June 15, 2016. The stockholder(s) hereby appoint(s) Brian M. Culley and Brandi L. Roberts, or either of them, as proxies, each with the power to appoint his or her substitute, and hereby authorize(s) them to represent and to vote, as designated on the reverse side of this proxy card and in their discretion upon any other matter that may properly come before the meeting and any adjournment or postponement thereof, all shares of common stock of MAST THERAPEUTICS, INC. that the stockholder(s) is/are entitled to vote at the Annual Meeting of Stockholders to be held at 9:00 AM PDT on June 15, 2016, at the DoubleTree by Hilton Hotel located at 11915 EI Camino Real, San Diego, California 92130, and any adjournment or postponement thereof. By signing this proxy, the stockholder(s) revoke(s) any prior proxy given for use at the Annual Meeting. This proxy, when properly executed, will be voted as specified by the stockholder(s) on the reverse side. If no choice is specified, this proxy will be voted "FOR" each of the director nominees listed on the reverse side and "FOR" Proposals 2 and 3. Address Changes/Comments: (If you noted any Address Changes/Comments above, please mark corresponding box on the reverse side.) Continued and to be signed on reverse side