

MIRAGEN THERAPEUTICS, INC.

Form DEF 14A

May 15, 2017

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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

Miragen 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.

Title of each class of securities to which transaction applies:

Aggregate number of securities to which transaction applies:

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):

Proposed maximum aggregate value of transaction:

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Amount Previously Paid:

Form, Schedule or Registration Statement No.:

Filing Party:

Date Filed:

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MIRAGEN THERAPEUTICS, INC.

6200 LOOKOUT ROAD

BOULDER, CO 80301

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On June 28, 2017

Please take notice that the 2017 Annual Meeting of the Stockholders (the annual meeting) of **MIRAGEN THERAPEUTICS, INC.**, a Delaware corporation (the company). will be held at the time and place and for the purposes indicated below.

TIME 9:00 am local time on Wednesday, June 28, 2017.

PLACE Element Bistro at 6315 Lookout Road, Boulder, CO 80301.

ITEMS OF BUSINESS

1. To elect the seven nominees, William S. Marshall, Ph.D., Bruce L. Booth, Ph.D., John W. Creecy, Thomas E. Hughes, Ph.D., Kevin Koch, Ph.D., Kyle A. Lefkoff and Joseph L. Turner, to the company s Board of Directors to serve until the next annual meeting and their successors are duly elected and qualified.

2. To ratify the selection by our Audit Committee of the Board of Directors of KPMG LLP as the independent registered public accounting firm of the company for its fiscal year ending December 31, 2017.

3. To conduct any other business properly brought before the meeting.

All of the above matters are more fully described in the proxy statement.

RECORD DATE You can vote if you were a stockholder of record at the close of business on May 5, 2017. A complete list of stockholders entitled to vote at the annual meeting shall be open to the examination of any stockholder, for any purpose germane to the annual meeting, during ordinary business hours for at least ten days prior to the annual meeting at our offices at 6200 Lookout Road, Boulder, CO 80301.

ANNUAL REPORT

Our annual report on Form 10-K for the fiscal year ended December 31, 2016 accompanies the proxy statement.

VOTING

You are cordially invited to attend the annual meeting in person. Whether or not you expect to attend the meeting, please complete, date, sign and return the proxy mailed to you, if so requested, or vote over the telephone or the internet as instructed in these materials, as promptly as possible in order to ensure your representation at the meeting. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

By Order of the Board of Directors,

Jason A. Leverone

Chief Financial Officer, Secretary and Treasurer

Boulder, CO

May 15, 2017

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MIRAGEN THERAPEUTICS, INC.

6200 LOOKOUT ROAD

BOULDER, CO 80301

PROXY STATEMENT

FOR THE 2017 ANNUAL MEETING OF STOCKHOLDERS

May 15, 2017

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

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

Pursuant to rules adopted by the Securities and Exchange Commission (the "SEC"), we have elected to provide access to our proxy materials over the internet. Accordingly, we have sent you a Notice of Internet Availability of Proxy Materials (the "Notice") because our Board of Directors (the "Board") of Miragen Therapeutics, Inc. (sometimes referred to as we, us, our, the company or Miragen) is soliciting your proxy to vote at our 2017 Annual Meeting of Stockholders (the "annual meeting"), including at any adjournments or postponements of the meeting. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice or request to receive a printed set of the proxy materials. Instructions on how to access the proxy materials over the internet or to request a printed copy may be found in the Notice.

We intend to mail the Notice on or about May 15, 2017 to all stockholders of record entitled to vote at the annual meeting.

Will I receive any other proxy materials by mail?

We may send you a proxy card, along with a second Notice, on or after May 25, 2017.

How do I attend the annual meeting?

The meeting will be held at Element Bistro, 6315 Lookout Road, Boulder, CO 80301, on Wednesday, June 28, 2017, at 9:00 am local time. Directions to the annual meeting may be found at www.miragentherapeutics.com. Information on how to vote in person at the annual meeting is discussed below.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on May 5, 2017 will be entitled to vote at the annual meeting. On this record date, there were 21,401,828 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on May 5, 2017 your shares were registered directly in your name with our transfer agent, Vstock Transfer, LLC, then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to fill out and return the proxy card or vote by

proxy over the telephone or on the internet as instructed below to ensure your vote is counted.

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

If on May 5, 2017 your shares were not held in your name, but rather in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in street name and

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the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the annual meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the annual meeting. However, because you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker or other agent.

What are the purposes of the annual meeting?

The purposes of the annual meeting are to vote on the following matters described in this proxy statement:

1. Election of seven directors; and
2. Ratification of the selection by our Audit Committee (the Audit Committee) of the Board of KPMG LLP as independent registered public accounting firm of the company for its fiscal year ending December 31, 2017.

What if another matter is properly brought before the meeting?

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

How do I vote?

You may either vote For all the nominees to our Board or you may Withhold your vote for any nominee you specify. For each of the other matters to be voted on, you may vote For or Against or abstain from voting.

Stockholder of Record: Shares Registered in Your Name

If your shares are registered in your name, you may vote by one of the following methods:

1. **Vote in Person** To vote in person, attend the annual meeting and we will give you a ballot when you arrive.
2. **Vote by Mail** To vote by mail, simply complete, sign and date the proxy card and return it promptly by mail in the envelope provided. If you return your completed and signed proxy card to us before the annual meeting, we will vote your shares as you direct.
3. **Voted by Telephone** To vote by the telephone, call 1-800-690-6903 using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the Notice. Your telephone vote must be received by 11:59 p.m. Eastern Time on June 27, 2017 to be counted.
- 4.

Vote by Internet To vote through the internet, go to <http://www.proxyvote.com> to complete an electronic proxy card. You will be asked to provide the company number and control number from the Notice. Your internet vote must be received by 11:59 p.m. Eastern Time on June 27, 2017 to be counted.

Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person even if you have already voted by proxy.

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

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a Notice containing voting instructions from that organization rather than from us. Simply

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follow the voting instructions in the Notice to ensure that your vote is counted. To vote in person at the annual meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

Internet voting may be provided to allow you to vote your shares online with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your internet access, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of our common stock you own as of May 5, 2017.

How will my shares be voted?

	How Your Shares will be Voted If You	How Your Shares will be Voted If You
How Your Shares are Held	Specify How to Vote	Do Not Specify How to Vote
Shares registered in your name	The named proxies will vote your shares as you direct	The named proxies will vote FOR all proposals and nominees
Shares held in street name	Your broker will vote your shares as you direct	Your broker may vote only on routine items in the absence of your instruction how to vote ⁽¹⁾

(1) If your shares are held in street name and you do not indicate how you wish to vote, under the New York Stock Exchange (NYSE) rules, your broker is permitted to exercise its discretion to vote your shares only on certain routine matters. Proposal 1 Election of Directors is not a routine matters. Accordingly, if you do not direct your broker how to vote on those proposals, your broker may not exercise discretionary voting authority and may not vote your shares on these proposals. This is called a broker non-vote and although your shares will be considered to be represented by proxy at the annual meeting, they are not considered to be shares entitled to vote at the annual meeting and will not be counted as having been voted on the applicable proposal. Proposal 2 Ratification of Selection of Independent Registered Public Accounting Firm is a routine matter and your broker is permitted to exercise discretionary voting authority to vote your shares **FOR** or **AGAINST** the proposal in the absence of your instruction.

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

If you return a completed and signed proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, For the election of all seven nominees for director and For the ratification of the selection by our Audit Committee of KPMG LLP as independent registered public accounting firm of the company for its fiscal year ending December 31, 2017. If any other matter is properly presented at the annual meeting, your proxyholder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

Who is paying for this proxy solicitation?

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

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

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

How can I revoke my vote?

Stockholder of Record: Shares Registered in Your Name

Yes. You can revoke your proxy or change your vote at any time before the final vote at the meeting. If your shares are registered in your name, you may revoke your proxy in any one of the following ways:

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

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

You may send a timely written notice that you are revoking your proxy to our Secretary at 6200 Lookout Road, Boulder, CO 80301.

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

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

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

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

When are stockholder proposals and director nominations due for next year's annual meeting?

To be considered for inclusion in next year's proxy materials, your proposal must be submitted in writing by January 15, 2018, to our Secretary at 6200 Lookout Road, Boulder, CO 80301. If you wish to submit a proposal (including a director nomination) at the meeting that is not to be included in next year's proxy materials, you must do so by no earlier than March 30, 2018, and no later than April 29, 2018. Any nominations for director or any proposal submission must comply with the requirements of our Bylaws. You are also advised to review our Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

Who will count the votes?

Broadridge Financial Solutions, Inc. has been engaged to tabulate stockholder votes and act as an independent inspector of elections for the annual meeting.

What are broker non-votes ?

As discussed above, when a beneficial owner of shares held in street name does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed by the NYSE to be non-routine, the broker or nominee cannot vote the shares. These unvoted shares are counted as broker non-votes.

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The following table summarizes the minimum vote needed to approve each proposal and the effect of abstentions and broker non-votes.

Proposal Number	Proposal Description	Board Recommendation	Vote Required for Approval	Effect of Withhold and Abstentions	Effect of Broker Non-Votes
1	Election of Directors	FOR all seven nominees	Nominees receiving the most For votes.	Under plurality voting, there are no abstentions. Withheld votes will have no effect.	None
2	Ratification of the selection of KPMG LLP as the company's independent registered public accounting firm for the fiscal year ending December 31, 2017.	FOR	For votes from the holders of a majority of shares present in person or represented by proxy and entitled to vote on the matter.	Against	None

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the outstanding shares entitled to vote are present at the meeting in person or represented by proxy. On the record date, there were 21,401,828 shares outstanding and entitled to vote. Thus, the holders of 10,700,915 shares must be present in person or represented by proxy at the meeting to have a quorum.

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

How can I find out the results of the voting at the annual meeting?

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

Why do you discuss a merger in this Proxy Statement?

On February 13, 2017, we completed our merger with privately-held Miragen Therapeutics, Inc. (Private Miragen) in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated October 31, 2016 (the Merger Agreement), whereby one of our wholly owned subsidiaries merged with and into Private Miragen, with Private Miragen surviving as our wholly owned subsidiary (the Merger). Immediately following the merger, Private Miragen merged with and into the company, with the company as the surviving corporation (the Short-Form Merger). In connection with the Short-Form Merger, we changed our

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name from Signal Genetics, Inc. to Miragen Therapeutics, Inc. In connection with the closing of the Merger, our common stock began trading on The NASDAQ Capital Market under the ticker symbol MGEN.

Pursuant to the terms of the Merger Agreement, our former executive officers and members of our Board resigned, and our current executive officers and members of our Board were appointed to their applicable offices, concurrent with the closing of the Merger. In addition, effective as of March 24, 2017, we dismissed our independent registered public accounting firm, BDO USA LLP (BDO), and appointed the independent registered public accounting firm of Private Miragen, KPMG LLP, as our independent auditor for the fiscal year ending December 31, 2017. Throughout this Proxy Statement we discuss both our former executive officers and members of our Board prior to the Merger and our current executive officers and members of our Board.

Under the terms of the Merger Agreement, we issued shares of our common stock to Private Miragen's stockholders, at an exchange rate of approximately 0.7031 shares of common stock, in exchange for each share of Private Miragen common stock outstanding immediately prior to the Merger. We also assumed all of the stock options issued and outstanding under the Private Miragen 2008 Equity Incentive Plan, as amended (the Miragen 2008 Plan), and issued and outstanding warrants of Private Miragen, with such stock options and warrants going forward representing the right to purchase a number of shares of our common stock equal to 0.7031 multiplied by the number of shares of Private Miragen's common stock previously represented by such stock options and warrants, as applicable. All of our outstanding options and restricted stock units were cancelled and terminated in their entirety immediately prior to the effectiveness of the Merger.

Immediately after the Merger, there were approximately 21.3 million shares of our common stock outstanding. Immediately after the Merger, the former Private Miragen stockholders, warrant holders and option holders owned approximately 96% of our fully-diluted common stock, with our stockholders and warrant holders immediately prior to the Merger, whose warrants and shares of our common stock remain outstanding after the Merger, owning approximately 4% of our fully-diluted common stock.

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PROPOSAL 1

ELECTION OF DIRECTORS

Our Board consists of seven directors, and there are seven director nominees for director this year. Each director to be elected and qualified will hold office until the next annual meeting of stockholders and until his or her successor is elected, or, if sooner, until the director's death, resignation or removal. Each of the nominees listed below is currently a director of the company who was previously appointed as a member of our Board pursuant to the terms of the Merger Agreement. Each nominee for director was recommended to be a member of our Board by the management and board of directors of Private Miragen in connection with the negotiation of the Merger Agreement.

It is the company's policy to encourage its directors and any nominees for director to attend the annual meeting. All five of our then serving directors attended the 2016 Annual Meeting of Stockholders.

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

NOMINEES

The following is a brief biography of each nominee for director and a discussion of the specific experience, qualifications, attributes or skills of each nominee that led our Nominating and Corporate Governance Committee (the "Nominating and Corporate Governance Committee") of our Board to recommend that person as a nominee for director, as of the date of this proxy statement.

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

The following table lists the names, ages and positions of the individuals who are currently serving as our directors:

Name	Age	Position(s)
William S. Marshall, Ph.D.	53	President, Chief Executive Officer and Director

Bruce L. Booth, Ph.D.	43	Director and Chairperson of the Board
John W. Creecy	63	Director
Thomas E. Hughes, Ph.D.	57	Director
Kevin Koch, Ph.D.	57	Director
Kyle A. Lefkoff	57	Director
Joseph L. Turner	65	Director

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William S. Marshall, Ph.D. Dr. Marshall has served as our president and chief executive officer and as a director since February 2017. Prior to joining us, Dr. Marshall was the president, chief executive and a director of Private Miragen since the company was founded in September 2007. Prior to founding Private Miragen, Dr. Marshall was vice president of technology and business development for bioscience at Thermo Fisher Scientific Inc., a serving science company, from April 2005 to July 2007. Dr. Marshall was one of the scientific founders of Dharmacon, Inc., a biotechnology company, which was acquired by Fisher Scientific International Inc. in April 2004, and he served as the executive vice president for research and operations and general manager of Dharmacon from August 2002 to April 2005. Prior to joining Dharmacon, Dr. Marshall served in multiple positions at Amgen, Inc., a biotechnology company, most recently as associate director of research, site head for research and head of the nucleic acid and peptide technology department. Dr. Marshall earned a B.S. in Biochemistry from the University of Wisconsin-Madison and his Ph.D. in Chemistry at the University of Colorado at Boulder.

We believe that Dr. Marshall's role as our chief executive officer, prior board service, and extensive experience and innovations in the field of biotechnology enable him to bring a unique perspective to our Board. In addition, Dr. Marshall's academic expertise and accomplishments provide our Board with in-depth product and field knowledge.

Bruce L. Booth, Ph.D. Dr. Booth has served as a member of our Board since February 2017 and, prior to joining our Board, he served as a member of Private Miragen's board of directors since September 2007. Dr. Booth joined Atlas Venture Associates in 2005, and currently serves as partner in its life sciences group. Prior to joining Atlas Venture, from 2004 to 2005, Dr. Booth was a principal at Caxton Health Holdings L.L.C., a healthcare-focused investment firm. Prior to joining Caxton, from 1999 to 2004, Dr. Booth was an associate principal at McKinsey & Company, a global strategic management consulting firm. Dr. Booth serves on the board of Zafgen, Inc., a publicly-traded biopharmaceutical company, and several privately-held companies. Dr. Booth earned a Ph.D. in molecular immunology from Oxford University's Nuffield Department of Medicine and a B.S. in biochemistry from Pennsylvania State University.

We believe Dr. Booth is qualified to serve on our Board due to his years of investment in the healthcare industry and his continued service leading the boards of directors of both private and public companies, which will enable him to contribute important strategic insight to our Board.

John W. Creecy. Mr. Creecy has served as a member of our Board since February 2017 and, prior to joining our Board, he served as a member of Private Miragen's board of directors since April 2012. Mr. Creecy has served as the chief executive officer and a director of Remeditex Ventures, LLC, a biomedical investment company, since June 2011. Prior to joining Remeditex, Mr. Creecy served as president and chief executive officer of Hunt Petroleum Corporation from February 2001 to September 2008. Prior to Hunt, Mr. Creecy served as the chief operating officer of the Hodges Companies, Inc. from 1988 to 2000. In addition to Miragen, Mr. Creecy has served on the board of directors of Apollo Endosurgery, Inc., a publicly traded medical technology company, since 2011 and sits on the boards of a number of private companies. Mr. Creecy earned a B.S. in Accounting from Texas Tech University and an M.S. in Accounting from the University of North Texas.

We believe Mr. Creecy is qualified to serve on our Board due to his years of investment in the biomedical industry and his experience as an executive officer, which will enable him to contribute important strategic insight to our Board.

Thomas E. Hughes, Ph.D. Dr. Hughes has served as a member of our Board since February 2017 and, prior to joining our Board, he served as a member of Private Miragen's board of directors since September 2009. Dr. Hughes joined Zafgen, Inc., a publicly-traded biopharmaceutical company, as the chief executive officer and as a director in October 2008 and also served as its president from October 2008 until June 2014. From 1987 to 2008, Dr. Hughes held several

positions at Novartis AG (formerly Sandoz Pharmaceuticals), including vice president and global head of the cardiovascular and metabolic diseases therapeutic area at the Novartis Institutes

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for BioMedical Research in Cambridge, MA. Dr. Hughes also serves as a member of the scientific advisory board for Navitor Therapeutics, a discovery-stage biopharmaceutical company, and as a member of the strategic advisory board for Broadview Ventures, an early-stage investment company. Dr. Hughes earned a Ph.D. in nutritional biochemistry from Tufts University, an M.S. in Zoology from Virginia Polytechnic Institute & State University and a B.A. in biology from Franklin and Marshall College.

We believe Dr. Hughes is qualified to serve on our Board due to his years of experience in the biotechnology industry and service on both public and private boards of directors of biopharmaceutical companies, which will enable him to contribute important strategic insight to our Board.

Kevin Koch, Ph.D. Dr. Koch has served as a member of our Board since February 2017 and, prior to joining our Board, he served as a member of Private Miragen's board of directors since July 2016. Dr. Koch has served as a venture partner at OrbiMed Advisors, LLC since May 2016. Prior to joining OrbiMed, Dr. Koch acted as a consultant in the biotech industry from September 2015 to May 2016. Prior to acting as a consultant, Dr. Koch served as the senior vice president, drug discovery, chemical and molecular therapeutics, at Biogen, Inc. from December 2013 to September 2015. Prior to joining Dr. Koch, founded Array BioPharma Inc., a publicly-traded biopharmaceutical company, and served as its president, chief scientific officer and a member of its board of directors from May 1998 to November 2013. Prior to forming Array, Dr. Koch was an associate director of medicinal chemistry and project leader for the protease inhibitor and new technologies group for Amgen Inc. from 1995 to 1998. From 1988 until 1995, Dr. Koch held various research positions within the Central Research Division of Pfizer, Inc., including senior research investigator and senior research scientist. Dr. Koch earned a B.S. in chemistry and in biochemistry from the State University of New York at Stony Brook and a Ph.D. in synthetic organic chemistry from the University of Rochester.

We believe Dr. Koch is qualified to serve on our Board due to his years of experience in the biotechnology industry and service on both public and private boards of biopharmaceutical companies, which will enable him to contribute important strategic insight to our Board.

Kyle A. Lefkoff. Mr. Lefkoff has served as a member of our Board since February 2017 and, prior to joining our Board, he served as a member of Private Miragen's board of directors since September 2007. Mr. Lefkoff has served as a General Partner of Boulder Ventures, Ltd, a venture capital firm, since its founding in 1995. From 1986 until 1995, Mr. Lefkoff was employed by Colorado Venture Management, a venture capital firm, as a General Partner. Mr. Lefkoff serves as chairman of the board of directors of Array BioPharma Inc., a publicly-traded biopharmaceutical company, and is a director of number of private companies. Mr. Lefkoff earned a B.A. in Economics from Vassar College, completed a fellowship in Economic History at the London School of Economics and has an M.B.A. in Finance at the University of Chicago.

We believe Mr. Lefkoff is qualified to serve on our Board due to his years of venture capital experience and his continued service leading the boards of directors of both private and public biopharmaceutical companies, which will enable him to contribute important strategic insight to our Board.

Joseph L. Turner. Mr. Turner has served as a member of our Board since February 2017. Prior to joining our Board, Mr. Turner served on the boards of directors and was the chair of the audit committee of Corcept Therapeutics, Inc., a publicly-traded pharmaceutical company, from 2012 to May 2016, Kythera Biopharmaceuticals, Inc., a publicly-traded pharmaceutical company, from 2008 until Kythera's acquisition by Allergan Inc. October 2015, and Sophiris Bio, a publicly-traded pharmaceutical company from 2013 to May 2016. From July 2010 until its acquisition by Grupo Ferrer Internacional, S.A. in June 2016, Mr. Turner served on the board of directors and as chair of the audit committee of Alexza Pharmaceuticals, Inc., a publicly-traded pharmaceutical company. In 2012, Mr. Turner served on

the board of directors and as chair of the audit committee of Allos Therapeutics, Inc., a publicly-traded pharmaceutical company, until its acquisition by Spectrum Pharmaceuticals Inc. in September 2012. From 2010 through 2012, he served on the board of directors and as a member of the audit committee of QLT Inc., a publicly-traded biotechnology company. In 2008,

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Mr. Turner served as a director and member of the audit committee of SGX Pharmaceuticals Inc., a publicly-traded pharmaceutical company. Mr. Turner served as chief financial officer at Myogen, Inc., a publicly-traded biopharmaceutical company, from 1999 until it was acquired by Gilead Sciences in 2006. Previously, Mr. Turner was the chief financial officer at Centaur Pharmaceuticals, Inc. and served as chief financial officer and vice president, finance and administration at Cortech, Inc. Since 2009, Mr. Turner has also served on the board of managers of Swarthmore College where at various times he has served on its executive committee, finance committee, audit committee, academic affairs committee (which he currently chairs), student affairs committee and property committee. In 2013 until 2015, Mr. Turner served on the board of directors of the Linda Crnic Institute for Down Syndrome at the University of Colorado Medical School. Mr. Turner has an M.B.A. from the University of North Carolina at Chapel Hill, an M.A. in molecular biology from the University of Colorado and a B.A. in chemistry from Swarthmore College.

We believe Mr. Turner is qualified to serve on our Board due to his years of service on both public and private boards of directors of pharmaceutical companies, including service on audit committees, and his extensive finance experience, which will enable him to contribute important strategic insight to our Board.

THE BOARD OF DIRECTORS RECOMMENDS

A VOTE IN FAVOR OF EACH NAMED NOMINEE.

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INFORMATION REGARDING OUR BOARD OF DIRECTORS AND CORPORATE GOVERNANCE

INDEPENDENCE OF OUR BOARD OF DIRECTORS

As required under the NASDAQ Stock Market (NASDAQ) listing standards, a majority of the members of a listed company s board of directors must qualify as independent, as affirmatively determined by the board of directors. Our Board consults with the company s counsel to ensure that our Board s determinations are consistent with relevant securities and other laws and regulations regarding the definition of independent, including those set forth in pertinent listing standards of NASDAQ, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the company, our senior management and our independent auditors, our Board has affirmatively determined that the following six directors are independent directors within the meaning of the applicable NASDAQ listing standards: Drs. Booth, Hughes and Koch and Messrs. Creecy, Lefkoff and Turner. In making this determination, our Board found that none of these directors or nominees for director had a material or other disqualifying relationship with the company. Dr. Marshall is not an independent director under the applicable NASDAQ listing standards due to his position as our president and chief executive officer. In 2016, Bennet S. Lebow, Samuel D. Riccitelli, David A. Gonyer, R. Ph., Douglas A. Schuling and Robin L. Smith, M.D., also served as members of our Board. Our Board previously determined that each of Messrs. Gonyer and Schuling and Dr. Smith qualified as independent directors within the meaning of the applicable NASDAQ listing standards.

In making those independence determinations, our Board took into account certain relationships and transactions that occurred in the ordinary course of business between the company and entities with which some of our directors are or have been affiliated. Our Board considered the following relationships and transactions that occurred during any 12-month period within the last three fiscal years and determined that they were not relationships that would interfere with each director s exercise of his independent judgment in carrying out his responsibilities as a director:

Dr. Booth is affiliated with Atlas Venture VII, L.P., one of our largest stockholders.

Mr. Creecy is affiliated with Remeditx Ventures LLC, one of our largest stockholders.

Mr. Lefkoff is affiliated with Boulder Ventures V, L.P. and Boulder Ventures VI, L.P., two of our largest stockholders.

Dr. Hughes has previously served on our scientific advisory board.

As provided in our Related-Person Transactions Policy, our Board considered that the aggregate dollar amount of the transactions during any 12-month period within the last three fiscal years did not exceed the greater of \$1 million or 2% of the other company s consolidate gross revenues and, therefore, was not regarded as compromising the directors independence. Based on this review, our Board affirmatively determined that all of the directors nominated for election at the annual meeting (other than Dr. Marshall, who is not considered independent because he is an executive officer of the company), are independent under the standards set forth in the applicable NASDAQ rules.

BOARD LEADERSHIP STRUCTURE

Our Board has an independent chairperson, Dr. Booth, who has authority, among other things, to call and preside over Board meetings, including meetings of the independent directors, to set meeting agendas and to determine materials to be distributed to our Board. Accordingly, our Board chairperson has substantial ability to shape the work of our Board. We believe that separation of the positions of Board chairperson and chief executive officer reinforces the independence of our Board in its oversight of the business and affairs of the company. In addition, we believe that having an independent Board chairperson creates an environment that is

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more conducive to objective evaluation and oversight of management's performance, increasing management accountability and improving the ability of our Board to monitor whether management's actions are in the best interests of the company and its stockholders. As a result, we believe that having an independent Board chairperson can enhance the effectiveness of our Board as a whole.

ROLE OF THE BOARD IN RISK OVERSIGHT

One of our Board's key functions is informed oversight of our risk management process. Our Board does not have a standing risk management committee, but rather administers this oversight function directly through our Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the company. Our Audit Committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our Audit Committee also monitors compliance with legal and regulatory requirements, in addition to oversight of the performance of our internal audit function. Our Nominating and Corporate Governance Committee monitors the effectiveness of our corporate governance guidelines, including whether they are successful in preventing illegal or improper liability-creating conduct. Our compensation committee (the Compensation Committee) of our Board assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. Typically, the entire Board meets with our chief financial officer, our executive officer responsible for our risk management, at least annually, and the applicable Board committees meet at least annually with the employees responsible for risk management in the committees' respective areas of oversight. Both our Board as a whole and the various standing committees receive periodic reports from our chief financial officer, as well as incidental reports as matters may arise. It is the responsibility of the committee chairs to report findings regarding material risk exposures to our Board as quickly as possible.

MEETINGS OF THE BOARD OF DIRECTORS

Our Board met nine times during the last fiscal year. Each Board member attended 75% or more of the aggregate number of meetings of our Board and of the committees on which he or she served, held during the portion of the last fiscal year for which he or she was a director or committee member.

As required under applicable NASDAQ listing standards, in the fiscal year ended December 31, 2016, our independent directors met one time at a regularly scheduled executive session at which only independent directors were present.

INFORMATION REGARDING COMMITTEES OF THE BOARD OF DIRECTORS

Our Board has three committees: an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. Below is a description of each committee of our Board.

Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. Our Board has determined that each member of each committee meets the applicable SEC and NASDAQ rules and regulations regarding independence and each member is free of any relationship that would impair his or her individual exercise of independent judgment with regard to the company.

Audit Committee

Our Audit Committee was established by our Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the Exchange Act), to oversee our corporate accounting and financial reporting processes and audits of our financial statements. For this purpose, our Audit Committee performs several functions. Our Audit Committee evaluates the performance of and assesses the qualifications of the

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independent auditors; determines and approves the engagement of the independent auditors; determines whether to retain or terminate the existing independent auditors or to appoint and engage new independent auditors; reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent auditors on the company's audit engagement team as required by law; reviews and approves or rejects transactions between the company and any related persons; confers with management and the independent auditors regarding the effectiveness of internal control over financial reporting; establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by the company regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and meets to review our annual audited financial statements and quarterly financial statements with management and the independent auditor, including a review of our disclosures under the Management's Discussion and Analysis of Financial Condition and Results of Operations discussion in our annual reports on Form 10-K and quarterly reports on Form 10-Q.

Prior to February 2017, our Audit Committee was composed of three directors: Mr. Gonyer, Mr. Schuling and Dr. Smith. In connection with the Merger, in February 2017, each of Mr. Gonyer, Mr. Schuling and Dr. Smith resigned from our Audit Committee and Mr. Turner, who serves as chairperson, and Messrs. Lefkoff and Creecy were appointed as members of our Audit Committee. Our Audit Committee met four times during the fiscal year ended December 31, 2016. Our Board has adopted a written Audit Committee charter that is available to stockholders on the company's website at www.miragentherapeutics.com.

Our Board reviews the NASDAQ listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of our Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing standards).

Our Board has also determined that Mr. Turner qualifies as an audit committee financial expert, as defined in Item 407(d)(5) of Regulation S-K. Our Board made a qualitative assessment of Mr. Turner's level of knowledge and experience based on a number of factors, including his formal education and prior experience as a chief financial officer and member of our Audit Committees for public reporting companies.

Report of our Audit Committee of the Board of Directors¹

Our Audit Committee has reviewed and discussed our audited financial statements for the fiscal year ended December 31, 2016 with our management. Our Audit Committee has discussed with our independent registered public accounting firm the matters required to be discussed by Auditing Standard No. 1301, *Communications with Audit Committees*, as adopted by the Public Company Accounting Oversight Board (PCAOB). Our Audit Committee has also received the written disclosures and the letter from our independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants' communications with our Audit Committee concerning independence, and has discussed with our independent registered public accounting firm the accounting firm's independence. Based on the foregoing, our Audit Committee has recommended to our Board that our audited financial statements be included in our annual report on Form 10-K for the fiscal year ended December 31, 2016.

Joseph L. Turner

Kyle A. Lefkoff

John W. Creecy

¹ The material in this report is not soliciting material, is not deemed filed with the SEC and is not to be incorporated by reference in any filing of the company under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

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Compensation Committee

Prior to February 2017, our Compensation Committee was composed of three directors: Mr. Gonyer, Mr. Schuling and Dr. Smith. In connection with the Merger, in February 2017, each of Mr. Gonyer, Mr. Schuling and Dr. Smith resigned from our Compensation Committee and the number of members was reduced to two and Dr. Hughes, who serves as chairperson, and Dr. Booth were appointed as members of our Compensation Committee. All members of our Compensation Committee are independent (as independence is currently defined in Rule 5605(d)(2) of the NASDAQ listing standards). Our Compensation Committee met three times during the fiscal year ended December 31, 2016. Our Board has adopted a written Compensation Committee charter that is available to stockholders on the company's website at www.miragentherapeutics.com.

Our Compensation Committee acts on behalf of our Board to review, adopt, or if it deems appropriate, makes recommendations to be adopted by our Board, and oversee our compensation strategy, policies, plans and programs, including:

establishment of corporate and individual performance objectives relevant to the compensation of our executive officers, directors and other senior management and evaluation of performance in light of these stated objectives;

review and approval of the compensation and other terms of employment or service, including severance and change-in-control arrangements, of our chief executive officer, the other executive officers and directors; and

administration of our equity compensation plans, pension and profit-sharing plans, deferred compensation plans and other similar plan and programs.

Compensation Committee Processes and Procedures

Typically, our Compensation Committee meets as its members deem necessary or appropriate, but in no event less than annually, and with greater frequency if necessary. The agenda for each meeting is usually developed by the chairperson of our Compensation Committee in consultation with management. Our Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by our Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The chief executive officer may not participate in, or be present during, any deliberations or determinations of our Compensation Committee regarding his compensation or individual performance objectives. The charter of our Compensation Committee grants our Compensation Committee full access to all books, records, facilities and personnel of the company. In addition, under the charter, our Compensation Committee has the authority to obtain, at the expense of the company, advice and assistance from compensation consultants and internal and external legal, accounting or other advisors and other external resources that our Compensation Committee considers necessary or appropriate in the performance of its duties. Our Compensation Committee has direct responsibility for the oversight of the work of any consultants or advisers engaged for the purpose of advising the Committee. In particular, our Compensation Committee has the sole authority to retain, in its sole discretion, compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms. Under the charter, our Compensation Committee may select, or receive advice from, a compensation consultant, legal counsel or other adviser to our Compensation Committee, other than in-house legal

counsel and certain other types of advisers, only after taking into consideration six factors, prescribed by the SEC and NASDAQ, that bear upon the adviser's independence; however, there is no requirement that any adviser be independent.

During the past fiscal year, after taking into consideration the six factors prescribed by the SEC and NASDAQ described above, the Compensation Committee of Private Miragen engaged Radford, an Aon Hewitt

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company (Radford), as a compensation consultant because of its reputation and previous experience advising similarly situated companies. We requested that Radford:

evaluate the efficacy of our existing compensation strategy and practices in supporting and reinforcing our long-term strategic goals after completion of the Merger; and

assist in refining our compensation strategy and in developing and implementing an executive compensation program to execute that strategy after completion of the Merger.

As part of its engagement, Radford developed a comparative group of companies and to perform analyses of competitive performance and compensation levels for that group. Radford conducted individual interviews with certain members of senior management and certain members of the Compensation Committee of Private Miragen to better understand the company's historical pay practices, executive pay philosophy and key business objectives which drive performance-based elements of the compensation program. Radford ultimately developed recommendations that were presented to the Compensation Committee of Private Miragen for its consideration. Following an active dialogue with Radford, the Compensation Committee of Private Miragen approved the recommendations of Radford for our executive officers in 2017.

Under its charter, our Compensation Committee may form, and delegate authority to, subcommittees as appropriate. In 2017, our Compensation Committee formed a single member non-officer stock option subcommittee, currently composed of Dr. Marshall, to which it delegated authority to grant, without any further action required by our Compensation Committee, stock options to employees who are not officers of the company. The purpose of this delegation of authority is to enhance the flexibility of option administration within the company and to facilitate the timely grant of options to non-management employees, particularly new employees, within specified limits approved by our Compensation Committee. In particular, the subcommittee may not grant options to acquire more than 50,000 shares per employee and such grants shall vest over four years, with 25% of the shares vesting on the first anniversary of the applicable subcommittee member is also required, as part of our Compensation Committee's oversight function, to provide our Compensation Committee with a list of the grants made by the subcommittee at the first meeting of our Compensation Committee following the approval of such grants. As of May 5, 2017, the subcommittee has exercised its authority to grant options to purchase an aggregate of 93,000 shares to non-officer employees.

Historically, our Compensation Committee has made most of the significant adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the first quarter of the year. However, our Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the company's compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, our Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the chief executive officer, our Compensation Committee solicits and considers evaluations and recommendations submitted to our Compensation Committee by the chief executive officer. In the case of our chief executive officer, the evaluation of his performance is conducted by our Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors as part of its deliberations, our Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various

hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current company-wide compensation levels and recommendations of our Compensation Committee's compensation consultant, including analyses of executive and director compensation paid at other companies identified by the consultant.

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Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee is responsible for identifying, reviewing and evaluating candidates to serve as directors of the company (consistent with criteria approved by our Board), reviewing and evaluating incumbent directors, recommending to our Board the selection of candidates for election to our Board, making recommendations to our Board regarding the membership of the committees of our Board, assessing the performance of our Board and developing a set of corporate governance principles for the company.

Prior to February 2017, our Nominating and Corporate Governance Committee was composed of three directors: Mr. Gonyer, Mr. Schuling and Dr. Smith. In connection with the Merger, in February 2017, each of Mr. Gonyer, Mr. Schuling and Dr. Smith resigned from our Nominating and Corporate Governance Committee, the number of members was reduced to two and Dr. Koch, who serves as chairperson, and Dr. Hughes were appointed as members of our Nominating and Corporate Governance Committee. All members of our Nominating and Corporate Governance Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards). Our Nominating and Corporate Governance Committee met one time during the fiscal year. Our Board has adopted a written Nominating and Corporate Governance Committee charter that is available to stockholders on the company's website and www.miragentherapeutics.com.

Our Nominating and Corporate Governance Committee believes that candidates for director should have certain minimum qualifications, including the ability to read and understand basic financial statements, being over 21 years of age and having the highest personal integrity and ethics. Our Nominating and Corporate Governance Committee also intends to consider such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to the affairs of the company, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of our stockholders. However, our Nominating and Corporate Governance Committee retains the right to modify these qualifications from time to time. Candidates for director nominee are reviewed in the context of the current composition of our Board, the operating requirements of the company and the long-term interests of our stockholders. In conducting this assessment, our Nominating and Corporate Governance Committee typically considers diversity, age, skills and such other factors as it deems appropriate, given the current needs of our Board and the company, to maintain a balance of knowledge, experience and capability.

In the case of incumbent directors whose terms of office are set to expire, our Nominating and Corporate Governance Committee reviews these directors' overall service to the company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors' independence. Our Nominating and Corporate Governance Committee also takes into account the results of our Board's self-evaluation, conducted annually on a group and individual basis. In the case of new director candidates, our Nominating and Corporate Governance Committee also determines whether the nominee is independent for NASDAQ purposes, which determination is based upon applicable NASDAQ listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. Our Nominating and Corporate Governance Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. Our Nominating and Corporate Governance Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of our Board. Our Nominating and Corporate Governance Committee meets to discuss and consider the candidates' qualifications and then selects a nominee for recommendation to our Board by majority vote. During the fiscal year ended December 31, 2016, our Nominating and Corporate Governance Committee did not engage any independent consultant to assist in the process of identifying or evaluating director candidates.

Our Nominating and Corporate Governance Committee will consider director candidates recommended by stockholders. Our Nominating and Corporate Governance Committee does not intend to alter the manner in

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which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by our Nominating and Corporate Governance Committee to become nominees for election to our Board may do so by delivering a written recommendation to our Nominating and Corporate Governance Committee at the following address: 6200 Lookout Road, Boulder, Colorado 80301, Attn: Secretary. If a stockholder wishes our Nominating and Corporate Governance Committee to consider a director candidate for nomination at an annual meeting of the company's stockholders, then the recommendation must be provided at least 60 days, but not more than 90 days, prior to the anniversary date of the preceding year's annual meeting of stockholders; provided, however, that in the event that the date of the annual meeting is advanced more than 30 days prior to such anniversary date or delayed more than 60 days after such anniversary date, then to be timely such notice must be received by the company no later than the later of the close of business on the 70th day prior to the date of the meeting or the close of business on the 10th day following the day on which public announcement of the date of the meeting was made. Submissions must include the name and address of the stockholder on whose behalf the submission is made, the number and class of shares of the company that are owned beneficially by such stockholder as of the date of the submission, the full name of the proposed nominee, a description of the proposed nominee's business experience for at least the previous five years, complete biographical information and a description of the proposed nominee's qualifications as a director. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected.

CODE OF ETHICS

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the code is posted on our website, which is located at www.miragentherapeutics.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

STOCKHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS

Our Board has adopted a formal process by which stockholders may communicate with our Board or any of its directors. Stockholders who wish to communicate with our Board may do so by sending written communications to our Board or such director c/o Miragen Therapeutics, Inc., 6200 Lookout Road, Boulder, Colorado 80301, Attn: Secretary. Each communication must set forth the name and address of the stockholder on whose behalf the communication is sent, and the number and class of shares of the company that are owned beneficially by such stockholder as of the date of the communication. The Secretary will review each communication and then will forward such communication to our Board or to any individual director to whom the communication is addressed unless the communication contains advertisements or solicitations or is unduly hostile, threatening or similarly inappropriate, in which case the Secretary shall discard the communication.

DIRECTOR COMPENSATION

Effective as of August 6, 2015, our Compensation Committee established the following cash compensation payable to members of our Board or committees, as the case may be:

	Member Annual Service Stipend	Chairperson Annual Service Stipend
Board of Directors	\$ 40,000	\$
Audit Committee	10,000	20,000
Compensation Committee	7,500	15,000
Nominating and Corporate Governance Committee	5,000	10,000
Non-Executive Chairperson	30,000	N/A

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In addition to the cash compensation described above, each non-employee director received an annual equity grant of options to purchase 25,000 shares of our common stock.

Beginning in 2016, on the date of our annual meeting, the chairperson and each current non-employee director received, subject to approval by our Board, an annual equity grant of options to purchase 18,000 shares of our common stock (subject to adjustment for stock splits and similar matters), which vests monthly over a one-year period beginning on the date of grant and has an exercise price equal to the fair market value of a share of our common stock as of the date of grant. Such options are also subject to such other terms and conditions as set forth in our form of stock option grant agreement.

Effective upon the closing of the Merger, we assumed a non-employee director cash and equity compensation policy. Under this policy, we will pay each of our non-employee directors cash compensation for service on our Board and, if applicable, our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee. Each of our non-employee directors will receive an additional cash payment if he serves as the chairperson of our Compensation Committee, Nominating and Corporate Governance Committee or Audit Committee or serves as the non-executive chairperson. The cash stipends payable to each non-employee director for service on our Board are as follows:

	Member Annual Service Stipend⁽¹⁾	Chairperson Annual Service Stipend⁽¹⁾⁽²⁾
Board of Directors	\$ 35,000	\$
Audit Committee	7,500	15,000
Compensation Committee	5,000	10,000
Nominating and Corporate Governance Committee	3,750	7,500
Non-Executive Chairperson	30,000	N/A

(1) Each non-employee director has the right to elect to receive all or a portion of his or her annual cash compensation under the policy in the form of either cash, quarterly restricted common stock based on the closing price of our common stock on The NASDAQ Capital Market on the date of grant, or stock options to purchase common stock based on the Black-Scholes option-pricing model as of the date of grant. Any such election will be made before the start of the fiscal year or within thirty days of first becoming eligible to receive compensation under this policy and with any such stock options or restricted common stock elected by the directors to vest on a quarterly basis in arrears, with stock options to expire ten years from the date of grant.

(2) Chairpersons will not receive cash compensation for being a member of the applicable committee. In addition, the cash compensation described above each member of our Board will receive an automatic equity grant of options to purchase 12,000 shares of our common stock (subject to adjustment for stock splits and similar matters) at each annual meeting when such director is re-elected with an exercise price equal to the fair market value of a share of our common stock on such date. Each equity grant will vest in full on the earlier of the one-year anniversary of the date of grant or our next annual meeting.

Each new director elected or appointed to our Board will receive an initial equity grant of options to purchase 24,000 shares of our common stock (subject to adjustment for stock splits and similar matters) upon such director's appointment or election with an exercise price equal to the fair market value of a share of our common stock on such

date. Each option grant will vest in 36 equal monthly installments.

DIRECTOR COMPENSATION FOR FISCAL YEAR 2016

The table below sets forth the compensation received by each of our non-employee directors for service during the fiscal year ended December 31, 2016. This table does not include Drs. Marshall, Booth, Hughes or Koch or Messrs. Creecy, Lefkoff or Turner because none of these individuals served as a member of our Board

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for the year ended December 31, 2016 given these individuals were not appointed as members of our Board until February 2017 upon the closing of the Merger.

Name ⁽¹⁾	Fees Earned or Paid in			Total
	Cash	Stock Awards	Option Awards ⁽²⁾	
	(\$)	(\$)	(\$)	(\$)
David A. Gonyer, R. Ph.	\$ 67,500	\$	\$ 2,713	\$ 70,213
Bennett S. LeBow	\$ 70,000	\$	\$ 2,713	\$ 72,713
Douglas A. Schuling	\$ 72,500	\$	\$ 2,713	\$ 75,213
Robin L. Smith, M.D.	\$ 70,000	\$	\$ 2,713	\$ 72,713

- (1) Mr. Riccitelli, our president and chief executive officer, also served as a director on our Board for the fiscal year ended December 31, 2016. Mr. Riccitelli's compensation for serving as our president and chief executive officer is reported in the Summary Compensation Table and other compensation tables set forth under *Executive Compensation*. Mr. Riccitelli did not receive any additional compensation for his service on our Board.
- (2) Each of the non-employee directors was granted options to purchase 1,200 shares of common stock on June 15, 2016. The options vest in 12 equal monthly installments beginning on June 30, 2016. The values set forth in this column are based on the aggregate grant date fair value of the awards computed in accordance with FASB ASC Topic 718.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

As of December 31, 2016, we had one equity compensation plan in place under which shares of our common stock were authorized for issuance:

Plan Category ⁽²⁾	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in first column)
Equity compensation plans approved by stockholders	37,465 ⁽¹⁾	\$ 28.83	67,695
Equity compensation plans not approved by stockholders		\$	
Total	37,465	\$ 28.83	67,695

- (1) Represents outstanding options to purchase shares of our common stock.
- (2) This table does not include our 2016 Equity Incentive Plan (the 2016 Plan) or the Miragen 2008 Plan because these plans were not effective or assumed by us until the closing of the Merger in February 2017. Both the 2016 Plan and the Miragen 2008 Plan were each approved by the stockholders of the company and Private Miragen, as applicable.

Table of Contents**PROPOSAL 2****RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

Our Audit Committee has selected KPMG LLP as the company's independent registered public accounting firm for the fiscal year ending December 31, 2017 and has further directed that management submit the selection of its independent registered public accounting firm for ratification by the stockholders at the annual meeting. BDO acted as our independent registered public accounting firm for the fiscal year ended December 31, 2016 and has audited our financial statements since July 2013. A representative of KPMG LLP is expected to be present at the annual meeting. The representative will have an opportunity to make a statement if he or she so desires and will be available to respond to appropriate questions. We do not expect a representative of BDO, the company's former independent registered public accounting firm, to be present at the annual meeting.

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

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

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table represents aggregate fees billed to us for the fiscal years ended December 31, 2016 and 2015, by BDO, our independent registered public accounting firm for the fiscal years ended December 31, 2016 and 2015, and aggregate fees billed to Private Miragen for the fiscal years ended December 31, 2016 and 2015, by KPMG LLP, Private Miragen's independent registered public accounting firm for the fiscal years ended December 31, 2016 and 2015:

<i>(in thousands)</i>	Fiscal Year Ended			
	2016		2015	
	BDO	KPMG	BDO	KPMG
Audit Fees ⁽¹⁾	\$ 205	\$ 279	\$ 225	\$ 111
Audit-related Fees ⁽²⁾				
Tax Fees ⁽³⁾				
All Other Fees ⁽⁴⁾				
Total Fees	\$ 205	\$ 279	\$ 225	\$ 111

- (1) Audit fees consist of fees billed for professional services by BDO or KPMG for audit and quarterly review of our financial statements and review of our registration statement for the Merger, and related services that are normally provided in connection with statutory and regulatory filings or engagements.
- (2) Audit-Related Fees include services relating to accounting consultations and reviews and due diligence services.

- (3) Tax Fees include services relating to tax compliance, tax advice, and tax planning in the United States.
- (4) Services associated with SEC registration statements, periodic reports, and other documents filed with the SEC, or other documents issued in connection with securities offerings.

All fees described above were pre-approved by our Audit Committee or Private Miragen's board of directors, as applicable.

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We have engaged KPMG LLP as our independent public accounting firm for the fiscal year ending December 31, 2017. During the years ended December 31, 2016 and 2015, and the subsequent interim period through February 13, 2017, neither we nor anyone on our behalf consulted with KPMG LLP, regarding either (i) the application of accounting principles to a specific transaction, completed or proposed, or the type of audit opinion that might be rendered on our financial statements, and neither a written report nor oral advice was provided to us that KPMG LLP concluded was an important factor considered by us in reaching a decision as to any accounting, auditing or financial reporting issue or (ii) any matter that was either the subject of a disagreement (as defined in Item 304(a)(1)(iv) of Regulation S-K and the related instructions) or a reportable event (as described in Item 304(a)(1)(v) of Regulation S-K).

PRE-APPROVAL POLICIES AND PROCEDURES.

BDO served as our independent registered public accounting firm for the year ended December 31, 2016 and has served in that capacity since July 15, 2013. The decision to engage BDO as our independent registered public accounting firm for the fiscal year ended December 31, 2016 was approved by our Audit Committee.

Our Audit Committee considered the independence of BDO and whether the audit and non-audit services BDO provides to us are compatible with maintaining that independence. Our Audit Committee has adopted a set of policies governing the provision of non-audit services by BDO. Our Audit Committee has adopted procedures by which our Audit Committee must approve in advance all services provided by and fees paid to our independent registered public accounting firm. The advance approval requirement was not waived in any instance during the past fiscal year.

CHANGE IN INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

On February 13, 2017, our Audit Committee approved the appointment of KPMG LLP as our independent registered public accounting firm to audit our financial statements for the fiscal year ending December 31, 2017, in place of BDO. The decision to change our accounting firm was authorized by our Audit Committee.

The reports of BDO on the company's financial statements for each of the two fiscal years ended December 31, 2016, and December 31, 2015, did not contain an adverse opinion or a disclaimer of opinion, nor were they qualified or modified as to uncertainty, audit scope or accounting principles.

In connection with the audits of our financial statements for each of the two fiscal years ended December 31, 2016, and December 31, 2015, and the subsequent interim periods through March 24, 2017, there were no (i) disagreements (as that term is defined in Item 304(a)(1)(iv) of Regulation S-K and related instructions) between the company and BDO on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedures which, if not resolved to the satisfaction of BDO, would have caused BDO to make reference to the subject matter of the disagreement in their reports, or (ii) reportable events (as that term is defined in Item 304(a)(1)(v) of Regulation S-K). BDO's letter to the SEC stating its agreement with the statements in this paragraph was filed as an exhibit to the company's current report on Form 8-K dated March 30, 2017.

THE BOARD OF DIRECTORS RECOMMENDS

A VOTE IN FAVOR OF PROPOSAL 2.

Table of Contents**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth certain information with respect to the beneficial ownership of our capital stock as of May 5, 2017 (except where otherwise indicated) for:

each person, or group of affiliated persons, who are known by us to beneficially own more than 5% of the outstanding shares of our capital stock;

each of our directors as of May 5, 2017;

each of our named executive officers as of May 5, 2017; and

all of our current directors and executive officers of as a group.

Applicable percentages are based on 21,401,828 shares outstanding on May 5, 2017, adjusted as required by rules promulgated by the SEC. Beneficial ownership is determined under SEC rules and includes sole or shared power to vote or dispose of shares of our common stock. The number and percentage of shares beneficially owned by a person or entity also include shares of common stock subject to stock options that are currently exercisable or become exercisable within 60 days of May 5, 2017. However, these shares are not deemed to be outstanding for the purpose of computing the percentage of shares beneficially owned of any other person or entity. Except as indicated in footnotes to the table below or, where applicable, to the extent authority is shared by spouses under community property laws, the beneficial owners named in the table have, to our knowledge, sole voting and dispositive power with respect to all shares of common stock shown to be beneficially owned by them based on information provided to us by such stockholders. Unless otherwise indicated, the address for each stockholder listed is: c/o Miragen Therapeutics, Inc., 6200 Lookout Road Boulder, Colorado 80301.

Name	Number of Shares Beneficially Owned	Percentage Ownership
<i>5% or Greater Stockholders</i>		
Entities affiliated with Atlas Venture VII, L.P.	3,948,216 ⁽¹⁾	18.4%
FMR, LLC	3,124,888 ⁽²⁾	14.6
Remeditex Ventures LLC	2,706,563 ⁽³⁾	12.6
Entities affiliated with Boulder Ventures	2,070,910 ⁽⁴⁾	9.7
Entities affiliated with BraMira, LLC	1,574,788 ⁽⁵⁾	7.4
MRL Ventures Fund, LLC	1,401,214 ⁽⁶⁾	6.5
JAFCO SV4 Investment Limited Partnership	1,160,406 ⁽⁷⁾	5.4
<i>Directors and Named Executive Officers</i>		
Samuel D. Riccitelli	38,089 ⁽⁸⁾	*
Tamara A Seymour	7,096 ⁽⁹⁾	*
William S. Marshall, Ph.D.	568,460 ⁽¹⁰⁾	2.7

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Bruce L. Booth, Ph.D.	3,950,458 ⁽¹⁾	18.5
John W. Creecy	2,706,563 ⁽³⁾	12.6
Thomas E. Hughes, Ph.D.	32,178 ⁽¹¹⁾	*
Kevin Koch, Ph.D.	7,312 ⁽¹²⁾	*
Kyle A. Lefkoff	2,070,910 ⁽⁴⁾	9.7
Joseph L. Turner	2,666 ⁽¹³⁾	*
<i>All directors and officers as a group (10 persons)</i>	9,511,017 ⁽¹⁴⁾	44.4%

* Represents beneficial ownership of less than 1% of class.

(1) Includes 3,142,580 shares of common stock held directly by Atlas Venture VII, L.P. (Atlas Venture VII) and 805,636 shares of common stock held directly by Atlas Venture Fund X, L.P. (Atlas Venture X). Atlas Venture Associates VII, L.P. (AVA VII LP) is the general partner of Atlas Venture VII, and Atlas Venture Associates VII, Inc. (AVA VII Inc.) is the general partner of AVA VII LP. Atlas Venture

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- Associates X, L.P. (AVA X LP) is the general partner of Atlas Venture X, and Atlas Venture Associates X, LLC (AVA X LLC) is the general partner of AVA X LP. Bruce L. Booth is a member of our Board and is a director of AVA VII Inc. and a member of AVA X LLC. Dr. Booth also has dispositive and voting power over 2,242 of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017, but has granted a pecuniary interest in such shares to an affiliate of Atlas Venture VII and Atlas Venture X. Since Dr. Booth is the sole party with dispositive and voting power over these shares of common stock, he is deemed the sole beneficial owner of such shares in the table above. The principal business address of (i) Atlas Venture VII is 25 First Street, Suite 303, Cambridge, MA 02141 and (ii) Atlas Venture X is 400 Technology Sq., 10th Floor, Cambridge, MA 02139.
- (2) Based solely upon a Schedule 13G filed with the SEC on March 10, 2017. The address for FMR, LLC is 245 Summer Street, Boston, MA 02110.
 - (3) All shares are held directly by Remeditex Ventures LLC (Remeditex). John H. Creecy is the chief executive officer of Remeditex and may be deemed to be the indirect beneficial owner of the shares owned by Remeditex. The principal business address of Remeditex is 2727 N. Harwood Street, Suite 200, Dallas, TX 75201.
 - (4) Includes 1,607,437 shares held by Boulder Ventures V, L.P. (Boulder Ventures V) and 463,473 shares held by Boulder Ventures VI, L.P. (Boulder Ventures VI) and, collectively with Boulder Ventures V, the Boulder Ventures Funds). BV Partners V, L.L.C. (BV V) is the general partner of Boulder Ventures V. BV Partners VI, L.L.C. (BV VI) is the general partner of Boulder Ventures VI. BV V may be deemed to indirectly beneficially own the shares owned by Boulder Ventures V and BV VI may be deemed to indirectly beneficially own the shares owned by Boulder Ventures VI. Kyle A. Lefkoff, Peter A. Roshko and Jonathan L. Perl are managing members of BV V and Mr. Lefkoff, Mr. Roshko and Mr. Perl are managing members of BV VI, and each share voting and dispositive power over the shares held by the applicable Boulder Venture Funds. The principal business address of Boulder Ventures Funds is 1941 Pearl Street, Suite 300, Boulder, CO 80302.
 - (5) Includes 793,566 shares of common stock held directly by BraMira, LLC and 781,22 shares of common stock held directly by Brace Pharmaceuticals LLC (the BraMira Entities). The principal business address of BraMira Entities is 155 Gibbs Street, Suite 406, Rockville, MD 20850.
 - (6) All shares are held directly by MRL Ventures Fund, LLC (MRL Ventures). The principal business address of MRL Ventures is 320 Bent Street, 4th Floor, Cambridge, MA 02141.
 - (7) Based solely upon a Schedule 13G filed with the SEC on April 3, 2017. All shares are held directly by JAFCO SV4 Investment Limited Partnership (JAFCO LP). JAFCO Co., Ltd (JAFCO Ltd) is the general partner of JAFCO LP. The principal business address of JAFCO LP is Otemachi First Square, West Tower 11F, 1-5-1 Otemachi, Chiyoda-ku, Tokyo 100-0004 Japan.
 - (8) Mr. Riccitelli's service to Miragen terminated in February 2017.
 - (9) Ms. Seymour's service to Miragen terminated in February 2017.
 - (10) Includes 148,578 shares of common stock and 419,882 shares of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017.
 - (11) Includes 14,827 shares of common stock, 510 shares of which are subject to forfeiture within 60 days of May 5, 2017 and 17,351 shares of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017.
 - (12) Includes 7,312 shares of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017.
 - (13) Includes 2,666 shares of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017.
 - (14) Includes 8,889,094 shares of common stock, 510 shares of which are subject to forfeiture within 60 days of May 5, 2017 and 621,923 shares of common stock issuable upon exercise of options to purchase our common stock within 60 days of May 5, 2017 held by our current directors and executive officers, including William S. Marshall, Ph.D., Jason A. Leverone, Adam S. Levy, Paul D. Rubin, M.D., Thomas E. Hughes, Ph.D., Kevin

Koch, Ph.D., Bruce L. Booth, Ph.D., Kyle A. Lefkoff, John W. Creecy and Joseph L. Turner, and their affiliates. Samuel D. Riccitelli and Tamara A. Seymour are not included among our directors and executive officers, as neither is a director or officer of our company as of May 5, 2017.

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SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors and executive officers, and persons who own more than 10% of a registered class of our equity securities, to file with the SEC initial reports of ownership within 10 days after he or she becomes a beneficial owner, director or officer and reports of changes in ownership of our common stock and other equity securities within two business days after the transaction is executed. Our officers, directors and greater than 10% stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2016, all Section 16(a) filing requirements applicable to our officers, directors and greater than 10% beneficial owners were complied with; except that one report, reporting the grant of a stock option or restricted stock unit, as applicable, was filed late by each of Bennet. S. Lebow, Samuel D. Riccitelli, David A. Gonyer, Douglas A. Schuling, Tamara A. Seymour and Robin L. Smith.

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The following table lists the names, ages and positions of the individuals who are currently serving as our executive officers. Each of the executive officers listed below is currently an officer of the company who was previously appointed as an executive officer pursuant to the terms of the Merger Agreement. Each executive officer was recommended to be an executive officer of the company by the management and board of directors of Private Miragen in connection with the negotiation of the Merger Agreement:

Name	Age	Position(s)
William S. Marshall, Ph.D.	53	President, Chief Executive Officer and Director
Jason A. Leverone	43	Chief Financial Officer, Secretary and Treasurer
Adam S. Levy	39	Chief Business Officer
Paul D. Rubin, M.D.	63	Executive Vice President, Research and Development

William S. Marshall, Ph.D. Dr. Marshall's biography is included above under *Proposal 1 Election of Directors Nominees*.

Jason A. Leverone. Mr. Leverone has served as our chief financial officer, secretary and treasurer since February 2017. Prior to joining us, Mr. Leverone joined Private Miragen in November 2008 as its senior director of finance and operations and was appointed vice president, finance in March 2010. Mr. Leverone was appointed as Private Miragen's chief financial officer in February 2012. Prior to joining Private Miragen, Mr. Leverone was senior director of finance and controller for Replidyne, Inc., a publicly-traded biotechnology company, from November 2005 to November 2008. Prior to joining Replidyne, Mr. Leverone was the corporate controller for CreekPath System, Inc., an international software development company, from September 2002 to October 2005. He commenced his professional career with the accounting firm of Ernst and Young LLP, where he last served a senior accountant, and then Arthur Andersen LLP, where he last served as an audit manager. Mr. Leverone is a Certified Public Accountant and earned a B.S. in Business Administration from Bryant University.

Adam S. Levy. Mr. Levy has served as our chief business officer since February 2017. Prior to joining us, Mr. Levy served as Private Miragen's chief business officer since May 2016. Prior to joining Private Miragen, Mr. Levy served as a senior vice president of healthcare investment banking at Wedbush Securities Inc. from September 2013 to May 2016. From May 2011 to August 2012, Mr. Levy was employed by Merrill Lynch, Pierce, Fenner & Smith, Incorporated as vice president of healthcare investment banking. Prior to joining Merrill Lynch, Mr. Levy served as vice president of healthcare investment banking at Wedbush from October 2009 through April 2011. Mr. Levy earned a B.S. in Applied Economics from Cornell University.

Paul D. Rubin, M.D. Dr. Rubin has served as our executive vice president, research and development since February 2017. Prior to joining us, Dr. Rubin served as Private Miragen's executive vice president, research and development since November 2016. Prior to joining Private Miragen, Dr. Rubin served as senior vice president, research and development and chief medical officer of Xoma Corporation, a publicly-traded biotechnology company, from November 2011 to November 2016, having joined Xoma in June 2011 as its vice president, clinical development and chief medical officer. Prior to joining XOMA, Dr. Rubin was the chief medical officer at Funxional Therapeutics Ltd., a pharmaceutical company from February 2011 to June 2011. He served as chief executive officer of Resolvix Pharmaceuticals, Inc. from 2007 to 2009 and president and chief executive officer of Critical Therapeutics, Inc. from 2002 to 2007. From 1996 to 2002, Dr. Rubin served as senior vice president, development, and later as executive vice

president, research and development at Sepracor Inc. From 1993 to 1996, Dr. Rubin held senior level positions at Glaxo-Wellcome Pharmaceuticals, most recently as vice president of worldwide clinical pharmacology and early clinical development. During his tenure with Abbott Laboratories from 1987 to 1993, Dr. Rubin served as vice president, immunology and endocrinology. Dr. Rubin received a B.A. from Occidental College and his M.D. from Rush Medical College. He completed his training in internal medicine at the University of Wisconsin.

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Table of Contents**NAMED EXECUTIVE OFFICERS**

Our named executive officers for the year ended December 31, 2016, which consist of our principal executive officer for the year ended December 31, 2016 and our other most highly compensated executive officer for the year ended December 31, 2016, include:

Samuel D. Riccitelli, our chief executive officer and president, as of December 31, 2016; and

Tamara A. Seymour, our chief financial officer, as of December 31, 2016.

This discussion does not include Drs. Marshall or Rubin or Messrs. Leverone and Levy because none of these individuals served as our executive officers in the year ended December 31, 2016. Each of Drs. Marshall and Rubin and Messrs. Leverone and Levy were appointed as our executive officers in February 2017 effective upon the closing of the Merger.

SUMMARY COMPENSATION TABLE

The following table sets forth the information as to compensation paid to or earned by our president and chief executive officer and our only other executive officer during the fiscal years noted below whose total compensation exceeded \$100,000. The persons listed in the following table are referred to herein as the named executive officers.

Name and Principal Position	Fiscal Year	Salary	Bonus	Stock Award(s)⁽¹⁾	Option Award(s)⁽²⁾	All Other Compensation	Total
Samuel D. Riccitelli <i>Chief Executive Officer and President</i>	2016	\$ 450,000	\$ 135,000 ⁽²⁾	\$ 102,000	\$	\$	\$ 687,000
	2015	\$ 450,000	\$ 135,000 ⁽³⁾	\$	\$	\$	\$ 585,000
Tamara A. Seymour <i>Chief Financial Officer</i>	2016	\$ 350,000	\$ 105,000 ⁽²⁾	\$ 51,000	\$	\$	\$ 506,000
	2015	\$ 350,000	\$ 105,000 ⁽⁴⁾	\$	\$ 53,070	\$	\$ 508,070

- (1) Represents the aggregate grant date fair value of stock awards or options for common stock computed in accordance with FASB ASC Topic 718.
- (2) Represents discretionary bonus for services rendered in our fiscal year ended December 31, 2016 granted in January 2017, which was not made pursuant to any contractual arrangement.
- (3) Represents discretionary bonuses of \$33,750 and \$101,250 for services rendered in our fiscal year ended December 31, 2015 granted in March 2016 and January 2017, respectively, which was not made pursuant to any contractual arrangement.
- (4) Represents discretionary bonuses of \$26,250 and \$78,750 for services rendered in our fiscal year ended December 31, 2015 granted in March 2016 and January 2017, respectively, which was not made pursuant to any contractual arrangement.

Named Executive Officer Employment Agreements

Riccitelli Employment Agreement

We entered into an amended and restated employment agreement (the "CEO Agreement") with Samuel D. Riccitelli, on June 17, 2014 (the effective date of the CEO Agreement) in connection with our initial public offering. The CEO Agreement was subsequently amended on July 23, 2014, to bring the agreement into compliance with Section 409A of the Internal Revenue Code of 1986 (as amended, the "Code"), the Treasury Regulations and interpretive guidance issued thereunder. The CEO Agreement prohibits Mr. Riccitelli from engaging in any competitive activity, as described in the CEO Agreement, during his employment with us and for a period of one year following termination of his employment for any reason.

The CEO Agreement's first term ended on October 31, 2015, and automatically renews for additional one-year terms on each anniversary of the effective date of the CEO Agreement after such date. The CEO

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Agreement provides for, among other things, an annual base salary of \$450,000, payable on a semi-monthly basis. It also provides that Mr. Riccitelli will be reimbursed for all reasonable business expenses, including travel and entertainment expenses incurred in the performance of his duties. During the term of his employment, Mr. Riccitelli is entitled to participate in any annual performance-based incentive compensation programs and any long-term incentive compensation programs that are established by the company, on the terms established from time to time our Compensation Committee or our Board. Mr. Riccitelli is also entitled to four weeks of paid vacation time and is eligible to receive the same employee benefits as are provided by us to other executive employees.

The CEO Agreement also provides for certain post-termination benefits. See *Payments Due Upon Termination of Employment or a Change in Control* below for more information.

Mr. Riccitelli's employment with us terminated in February 2017 upon closing of the Merger.

Seymour Employment Agreement

We entered into an employment agreement (the CFO Agreement) with Tamara A. Seymour, on August 4, 2014 (the effective date of the CFO Agreement). The CFO Agreement prohibits Ms. Seymour from engaging in any competitive activity, as described in the CFO Agreement, during her employment with us.

The CFO Agreement's first term ended on the one year anniversary of the effective date of the CFO Agreement, and automatically renews for additional one-year terms on each anniversary of such date. The CFO Agreement provides for, among other things, an annual base salary of \$350,000, payable on a semi-monthly basis. It also provides that Ms. Seymour will be reimbursed for all reasonable business expenses, including travel and entertainment expenses incurred in the performance of her duties. The CFO Agreement also provides that at the end of each fiscal year of the company, in addition to Ms. Seymour's base salary then in effect, she will be eligible to receive a bonus payment of up to 30% of her base salary then in effect, which bonus payment will be awarded in the sole discretion of our Compensation Committee based upon performance goals established by our Compensation Committee during the first ninety days of each fiscal year, which goals shall be set after consultation with our chief executive officer. Pursuant to the terms of the CFO Agreement, Ms. Seymour received an initial restricted stock unit award for 92,000 shares as of the effective date of the CFO Agreement. Ms. Seymour is also entitled to four weeks of paid vacation time and is eligible to receive the same employee benefits as are provided by us to other executive employees.

The CFO Agreement also provides for certain post-termination benefits. See *Payments Due Upon Termination of Employment or a Change in Control* below for more information.

Ms. Seymour's employment with us terminated in February 2017 upon closing of the Merger.

Current Executive Officer Employment Agreements

Marshall Employment Agreement

In December 2016, Private Miragen entered into an employment agreement with Dr. Marshall to be effective, and which we assumed, upon the closing of the Merger. Under this employment agreement, Dr. Marshall is entitled to an annual base salary (subject to periodic review and adjustment by our Board or Compensation Committee) of \$400,000 and a discretionary annual cash bonus equal to 50% of Dr. Marshall's then effective base salary (subject to review and adjustment in the sole discretion of the board of directors or our Compensation Committee of the board of directors). Dr. Marshall is also eligible to participate in, subject to applicable eligibility requirements, all of our benefits plans and fringe benefits and programs that may be provided to our senior executives of from time to time.

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The employment agreement provides that either party may terminate the agreement at-will. In addition, the agreement provides that if we terminate Dr. Marshall's employment without cause or Dr. Marshall resigns for good reason, Dr. Marshall will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting of the equivalent of 12 months on all of Dr. Marshall's stock options or other equity awards that were outstanding as of the effective date of Dr. Marshall's employment agreement; and (iii) 12 months of continued health coverage. Although, if such termination or resignation occurs within one month prior to or 12 months following a change of control, Dr. Marshall will be eligible to receive the following severance benefits: (i) an amount equal to 24 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting in full of all of his then outstanding stock options or other equity awards then outstanding and subject to time-based vesting; and (iii) 12 months of continued health coverage.

The following definitions have been adopted in Dr. Marshall's employment agreement:

cause means (i) Dr. Marshall's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) Dr. Marshall's attempted commission of, or participation in, a fraud or act of dishonesty against us; (iii) Dr. Marshall's intentional, material violation of any contract or agreement between Dr. Marshall and us or any statutory duty Dr. Marshall owes to us, in each case, which remains uncured for 30 days after we provide written notice of such action or conduct to Dr. Marshall; (iv) Dr. Marshall's unauthorized use or disclosure of our confidential information or trade secrets; or (v) Dr. Marshall's gross misconduct which remains uncured for 30 days after we provide written notice of such action or conduct to Dr. Marshall.

good reason means the occurrence, without Dr. Marshall's consent, of any one or more of the following: (i) a material reduction in his base salary of 10% or more (unless such reduction is pursuant to a salary reduction program applicable generally to our similarly situated executives); (ii) a material reduction in Dr. Marshall's authority, duties or responsibilities; (iii) a relocation of Dr. Marshall's principal place of employment to a place that increases Dr. Marshall's one-way commute by more than 25 miles; or (iv) material breach by us of any material provision of Dr. Marshall's employment agreement.

All severance benefits payable to Dr. Marshall under his employment agreement are subject to him signing, not revoking and complying with a release of claims.

Leverone Employment Agreement

In December 2016, Private Miragen entered into an employment agreement with Mr. Leverone to be effective, and which we assumed, upon the closing of the Merger. Under this employment agreement, Mr. Leverone is entitled to an annual base salary (subject to periodic review and adjustment by our Board or Compensation Committee) of \$280,000 and a discretionary annual cash bonus equal to 35% of Mr. Leverone's then effective base salary (subject to review and adjustment in the sole discretion of the board of directors or our Compensation Committee of the board of directors). Mr. Leverone is also eligible to participate in, subject to applicable eligibility requirements, all of our benefits plans and fringe benefits and programs that may be provided to our senior executives from time to time.

The employment agreement provides that either party may terminate the agreement at-will. In addition, the agreement provides that if we terminate Mr. Leverone's employment without cause or Mr. Leverone resigns for good reason, Mr. Leverone will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his

annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting of the equivalent of 12 months on all of Mr. Leverone's stock options or other equity awards that were outstanding as of the effective date of Mr. Leverone's employment agreement; and (iii) 12

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months of continued health coverage. Although, if such termination or resignation occurs within one month prior to or 12 months following a change of control, Mr. Leverone will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting in full of all of Mr. Leverone's then outstanding stock options or other equity awards subject to time-based vesting; and (iii) twelve months of continued health coverage.

The following definitions have been adopted in Mr. Leverone's employment agreement:

cause means (i) Mr. Leverone's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) Mr. Leverone's attempted commission of, or participation in, a fraud or act of dishonesty against us; (iii) Mr. Leverone's intentional, material violation of any contract or agreement between Mr. Leverone and us or any statutory duty Mr. Leverone owes to us, in each case, which remains uncured for 30 days after we provide written notice of such action or conduct to Mr. Leverone; (iv) Mr. Leverone's unauthorized use or disclosure of our confidential information or trade secrets; or (v) Mr. Leverone's gross misconduct which remains uncured for 30 days after we provide written notice of such action or conduct to Mr. Leverone.

good reason means the occurrence, without Mr. Leverone's consent, of any one or more of the following: (i) a material reduction in his base salary of 10% or more (unless such reduction is pursuant to a salary reduction program applicable generally to our similarly situated executives); (ii) a material reduction in Mr. Leverone's authority, duties or responsibilities; (iii) a relocation of Mr. Leverone's principal place of employment to a place that increases Mr. Leverone's one-way commute by more than 25 miles; or (iv) material breach by us of any material provision of Mr. Leverone's employment agreement.

All severance benefits payable to Mr. Leverone under his employment agreement are subject to him signing, not revoking and complying with a release of claims.

Levy Employment Agreement

In December 2016, Private Miragen entered into an employment agreement with Mr. Levy to be effective, and which we assumed, upon the closing of the Merger. Under this employment agreement, Mr. Levy is entitled to an annual base salary (subject to periodic review and adjustment by our Board or Compensation Committee) of \$300,000 and a discretionary annual cash bonus equal to 40% of Mr. Levy's then effective base salary (subject to review and adjustment in the sole discretion of the board of directors or our Compensation Committee of the board of directors). Mr. Levy is also eligible to participate in, subject to applicable eligibility requirements, all of our benefits plans and fringe benefits and programs that may be provided to our senior executives of from time to time.

The employment agreement provides that either party may terminate the agreement at-will. In addition, the agreement provides that if we terminate Mr. Levy's employment without cause or Mr. Levy resigns for good reason, Mr. Levy will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting of the equivalent of 12 months on all of Mr. Levy's stock options or other equity awards that were outstanding as of the effective date of Mr. Levy's employment agreement; and (iii) 12 months of continued health coverage. Although, if such termination or resignation occurs within one month prior to or 12 months following a change of control, Mr. Levy will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting in full of all of Mr. Levy's then

outstanding stock options or other equity awards subject to time-based vesting; and (iii) twelve months of continued health coverage.

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The following definitions have been adopted Mr. Levy's employment agreement:

cause means (i) Mr. Levy's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) Mr. Levy's attempted commission of, or participation in, a fraud or act of dishonesty against us; (iii) Mr. Levy's intentional, material violation of any contract or agreement between Mr. Levy and us or any statutory duty Mr. Levy owes to us, in each case, which remains uncured for 30 days after we provide written notice of such action or conduct to Mr. Levy; (iv) Mr. Levy's unauthorized use or disclosure of our confidential information or trade secrets; or (v) Mr. Levy's gross misconduct which remains uncured for 30 days after we provide written notice of such action or conduct to Mr. Levy.

good reason means the occurrence, without Mr. Levy's consent, of any one or more of the following: (i) a material reduction in his base salary of 10% or more (unless such reduction is pursuant to a salary reduction program applicable generally to our similarly situated executives); (ii) a material reduction in Mr. Levy's authority, duties or responsibilities; (iii) a relocation of Mr. Levy's principal place of employment to a place that increases Mr. Levy's one-way commute by more than 25 miles; or (iv) material breach by us of any material provision of Mr. Levy's employment agreement.

All severance benefits payable to Mr. Levy under his employment agreement are subject to him signing, not revoking and complying with a release of claims.

Rubin Employment Agreement

In December 2016, Private Miragen entered into an employment agreement with Dr. Rubin to be effective, and which we assumed, upon the closing of the Merger. Under this employment agreement, Dr. Rubin is entitled to an annual base salary (subject to periodic review and adjustment by our Board or Compensation Committee) of \$395,000 and a discretionary annual cash bonus equal to 40% of Dr. Rubin's then effective base salary (subject to review and adjustment in the sole discretion of the board of directors or our Compensation Committee of the board of directors). Dr. Rubin is also eligible to participate in, subject to applicable eligibility requirements, all of our benefits plans and fringe benefits and programs that may be provided to our senior executives of from time to time.

The employment agreement provides that either party may terminate the agreement at-will. In addition, the agreement provides that if we terminate Dr. Rubin's employment without cause or Dr. Rubin resigns for good reason, Dr. Rubin will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting of the equivalent of 12 months on all of Dr. Rubin's stock options or other equity awards that were outstanding as of the effective date of Dr. Rubin's employment agreement; and (iii) 12 months of continued health coverage. Although, if such termination or resignation occurs within one month prior to or 12 months following a change of control, Dr. Rubin will be eligible to receive the following severance benefits: (i) an amount equal to 12 months of his annual base salary, less applicable deductions, payable in accordance with our normal payroll schedule; (ii) the vesting in full of all of Dr. Rubin's then outstanding stock options or other equity awards subject to time-based vesting; and (iii) twelve months of continued health coverage.

The following definitions have been adopted in Dr. Rubin's employment agreement:

cause means (i) Dr. Rubin's commission of any felony or any crime involving fraud, dishonesty or moral turpitude under the laws of the United States or any state thereof; (ii) Dr. Rubin's attempted commission of, or participation in, a fraud or act of dishonesty against us; (iii) Dr. Rubin's intentional, material violation of any contract or agreement between Dr. Rubin and us or any statutory duty Dr. Rubin owes to us, in each case, which remains uncured for 30 days after we provide written notice of such action or conduct to Dr. Rubin; (iv) Dr. Rubin's unauthorized use or disclosure of our confidential information or trade secrets; or (v) Dr. Rubin's gross misconduct which remains uncured for 30 days after we provide written notice of such action or conduct to Dr. Rubin.

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good reason means the occurrence, without Dr. Rubin's consent, of any one or more of the following: (i) a material reduction in his base salary of 10% or more (unless such reduction is pursuant to a salary reduction program applicable generally to our similarly situated executives); (ii) a material reduction in Dr. Rubin's authority, duties or responsibilities; (iii) a relocation of Dr. Rubin's principal place of employment to a place that increases Dr. Rubin's one-way commute by more than 25 miles; or (iv) material breach by us of any material provision of Dr. Rubin's employment agreement.

All severance benefits payable to Dr. Rubin under his employment agreement are subject to him signing, not revoking and complying with a release of claims.

OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END 2016

The following table provides information about the number of outstanding equity awards held by our named executive officers at December 31, 2016.

Name	Option Awards			Option exercise price (\$)	Stock Awards			
	Number of securities underlying unexercised options exercisable (#)	Number of securities underlying unexercised options unexercisable (#)	Equity incentive plan awards: number of securities underlying unexercised options (#)		Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
Samuel D. Riccitelli				\$	\$	\$		\$
Tamara A Seymour	4,000 ⁽¹⁾			\$ 23.55	\$	\$		\$

(1) This option terminated upon the effectiveness of the Merger.

PAYMENTS DUE UPON TERMINATION OF EMPLOYMENT OR A CHANGE IN CONTROL**Named Executive Officer Employment Agreements**

Mr. Riccitelli's CEO Agreement and Ms. Seymour's CFO Agreement entitle each of them, each individual referred to herein as the Executive, to receive certain payments upon the termination of such person's employment under certain

circumstance as described below.

Termination for Cause In the event Executive's employment is terminated for Cause, Executive's sole remedy will be to collect all unpaid base salary, all accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of termination, as well as any amount arising from his or her participation in, or benefits under, any employee benefit plan, program or arrangement, payable in accordance with the terms of such plan, program or arrangement.

Termination Without Cause In the event the Executive's employment is terminated without Cause, he or she will be entitled to receive all unpaid base salary, accrued annual bonus or incentive compensation (including any unpaid, accrued annual bonus or incentive compensation from the immediately preceding year), accrued personal time off, and all unreimbursed expenses payable for all periods through the effective date of termination (with such amounts to be paid on the date of termination).

For the purposes above, Cause means (1) expiration of the term of the CEO Agreement or CFO Agreement (as applicable), (2) a material breach by Executive of his or her fiduciary duty to the company that

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results in material harm to the company; (3) a material breach by Executive of the terms of the CEO Agreement or CFO Agreement (as applicable) or any other agreement between Executive and the company, which remains uncured for a period of 30 days following the receipt of written notice specifying the nature of the breach; (4) the willful commission by Executive of any act of embezzlement, fraud, larceny or theft on or from the company; (5) substantial and continuing willful neglect or inattention by Executive of the duties of such person's employment, refusal to perform the lawful and reasonable directions of our Board or the willful misconduct or gross negligence of Executive in connection with the performance of such duties which remain uncured for a period of 30 days following the receipt of written notice specifying the nature of the breach; (6) the willful commission by Executive of any crime involving moral turpitude or a felony; and (7) Executive's performance or omission of any act which, in the judgment of our Board, if known to the customers, clients, stockholders or any regulators of the company, would have a material adverse impact on our business.

In addition, should Mr. Riccitelli's termination occur after June 23, 2015, he will be entitled to receive a severance payment, equal to his then-current base salary for a period of twelve months.

In the event Ms. Seymour's employment is terminated without Cause, Ms. Seymour will be entitled to continue to receive her then-current base salary for twelve months and accelerated vesting of all time-based equity compensation awards then held by Executive to the extent that such awards would have vested during the twelve months following the Executive's termination.

Neither Executive will be required to mitigate the amount of any severance payments received by seeking other employment during the term of the severance period. However, should the Executive obtain other employment during the term of the severance period, we will pay such person, for the remaining length of the severance period, only the difference between such person's new salary and base salary (as in effect at the time of termination), if the new salary is less than such person's base salary (i.e., we will not be obligated to make any severance payments to Executive if such person's new salary is greater than such person's applicable base salary). The severance payment (less all applicable withholdings) will be paid in equal monthly installments over the applicable period immediately following the termination of Executive's employment. We will also reimburse Executive for premiums for COBRA coverage for Executive (and to the extent he or she has family coverage, his family), provided that Executive elects such coverage, during the applicable period when such person is receiving severance payments, until such time as Executive obtains other employment and is entitled to comparable health coverage from such employer.

In connection with the Merger, our Compensation Committee deemed it advisable and in the best interests of our stockholders to permit lump sum payment of the severance arrangements of Mr. Riccitelli and Ms. Seymour upon his or her termination to the extent permitted under Section 409A of the Code, as opposed to the monthly payments originally contemplated therein to avoid a potential acquirer from having to make continued payments following the closing of a merger. Therefore, on October 11, 2016, our Compensation Committee approved modifications to the severance arrangements of Mr. Riccitelli and Ms. Seymour to allow for the payment of severance in a lump sum to the extent such payments can be made in compliance with Section 409A of the Code.

Termination After Disability or Death In the event that Executive's employment is terminated due to disability (as described in the CEO Agreement or CFO Agreement (as applicable)) or on account of such person's death, then Executive (or such person's estate or personal representative, as applicable) will be entitled to receive all unpaid base salary, accrued annual bonus or incentive compensation (including any unpaid, accrued annual bonus or incentive compensation from the immediately preceding year), accrued personal time off, and all unreimbursed expenses payable for all periods through the effective date of termination. In the case of disability only, Executive will be entitled to receive, in addition to the amounts specified above, for a period of six months, a series of monthly payments equal to such person's then-current monthly base salary payments such person received during his or her

employment if and only if Executive does not receive any payments as a result of the short-term and long-term disability insurance benefits that we obtain on such person's behalf pursuant to the

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CEO Agreement or CFO Agreement (as applicable), which payments will be paid in equal installments over the applicable period. If Executive is provided with such insurance payments, then such person will only be entitled to receive the difference between the insurance payments and such person's base salary, if the payments are less than such person's base salary.

Termination by Executive for Good Reason In the event that Executive's employment is terminated by such person for Good Reason, then Executive will be entitled to receive all unpaid base salary, accrued annual bonus or incentive compensation (including any such unpaid, accrued compensation from the immediately preceding year), accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of such person's termination. In addition, Executive will be entitled to receive the same severance payment such person would be entitled to receive if his or her employment were terminated by us without Cause

Good Reason means (1) we have materially breached the CEO Agreement or CFO Agreement (as applicable) and we have failed to cure or remedy such breach after 30-days written notice from Executive (provided that Executive must resign within 30 days after expiration of the 30-day period following written notice without cure or remedy by us), (2) there has occurred any material and substantial diminution or reduction in duties, base salary, title, health care coverage (but only if such diminution is disproportionate to a diminution in health care coverage applicable to other of our employees), authority or responsibilities of Executive, whether is scope or nature, and we have failed to cure or remedy such breach after 30-days written notice from Executive; or (3) we have required that Executive perform any act or refrain from performing any act that would be in violation of applicable law.

Termination by Executive without Good Reason In the event Executive terminates his or her employment without Good Reason, such person will only be entitled to receive all unpaid base salary, all accrued personal time off and all unreimbursed expenses payable for all periods through the effective date of termination and Executive will not be entitled to any compensation or other amounts from us following the effective date of termination.

In addition to the severance payments for our named executive officers described herein, we have also entered employment agreements with Drs. Marshall and Rubin and Messrs. Levy and Leverone pursuant to which we have agreed to certain payments to our executive officers upon their termination or a change of control of the company. These obligations are discussed above under the heading *Current Executive Officer Employment Agreements*.

EMPLOYEE BENEFIT PLANS

2016 Equity Incentive Plan

Purpose

The 2016 Plan was adopted by us, and approved by our stockholders in connection with the Merger. The 2016 Plan is designed to secure and retain the services of our employees, directors and consultants, provide incentives for such, directors and consultants to exert maximum efforts for our success and to provide a means by our employees, directors and consultants may be given an opportunity to benefit from increases in the value of its common stock. The 2016 Plan was adopted to replace and supersede our 2014 Stock Incentive Plan (the "2014 Plan").

As of December 31, 2016, there were no outstanding equity awards under the 2016 Plan.

Types of Awards

The terms of the 2016 Plan provide for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, other stock awards, and performance awards that may be settled in cash, stock, or other property.

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The aggregate number of shares of our common stock that may be issued under the 2016 Plan (the *Share Reserve*) will not exceed 4,182,404 shares, which number is the sum of (i) 1,681,294 shares, plus (ii) the number of shares subject to outstanding stock awards that were granted under the Miragen 2008 Plan that, from and after the closing date of the Merger, expire or terminate for any reason prior to exercise or settlement, are forfeited because of the failure to meet a contingency or condition required to vest such shares, or are reacquired, withheld or not issued to satisfy a tax withholding obligation in connection with an award or to satisfy the purchase price or exercise price of a stock award, if any, as such shares become available from time to time. In addition, the Share Reserve will automatically increase on January 1st of each year, for a period of not more than ten years, commencing on January 1st of the year following the year in which the effective date of the 2016 Plan occurs, and ending on (and including) January 1, 2026, in an amount equal to 4% of the shares of common stock outstanding on December 31st of the preceding calendar year; however our Board or Compensation Committee may act prior to January 1st of a given year to provide that there will be no January 1st increase in the Share Reserve for such year or that the increase in the share reserve for such year will be a lesser number of shares of common stock than would otherwise occur pursuant to the automatic increase.

The following shares of common stock will become available again for issuance under the 2016 Plan: (i) any shares subject to a stock award that are not issued because such stock award expires or otherwise terminates without all of the shares covered by such stock award having been issued; (ii) any shares subject to a stock award that are not issued because such stock award is settled in cash; (iii) any shares issued pursuant to a stock award that are forfeited back to or repurchased by us because of the failure to meet a contingency or condition required for the vesting of such shares; and (iv) any shares reacquired by us in satisfaction of tax withholding obligations on a stock award or as consideration for the exercise or purchase price of a stock award.

Eligibility

All of our employees and non-employee directors are eligible to participate in the 2016 Plan and may receive all types of awards other than incentive stock options. Incentive stock options may be granted under the 2016 Plan only to our employees (including officers) and employees of our affiliates.

Section 162(m) Limits

Under the 2016 Plan, subject to adjustment for specified changes in our capitalization, no participant will be eligible to be granted performance-based compensation during any calendar year more than: (i) a maximum of 1,500,000 shares of common stock subject to stock options and stock appreciation rights whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the fair market value of a share of common stock on the date of grant; (ii) a maximum of 1,500,000 shares of common stock subject to performance stock awards; and (iii) a maximum of \$3,000,000 subject to performance cash awards. These limits are designed to allow us to grant awards that are intended to be exempt from the \$1.0 million limitation on the income tax deductibility of compensation paid per covered employee imposed by Section 162(m) of the Code, and will not apply to awards that our Board determines will not be treated as performance-based compensation.

Non-Employee Director Compensation Limit

Under the 2016 Plan, the maximum number of shares of common stock subject to stock awards granted under the 2016 Plan or otherwise during any one calendar year to any non-employee director, taken together with any cash fees paid us to such non-employee director during such calendar year for services on its board of directors, will not exceed \$500,000 in total value (calculating the value of any such stock awards based on the grant date fair value of such stock

awards for financial reporting purposes), or, with respect to the calendar year in which a non-employee director is first appointed or elected to our Board, \$1,000,000.

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The 2016 Plan is administered by our Board, which may in turn delegate authority to administer the 2016 Plan to a committee. Our Board has delegated concurrent authority to administer the 2016 Plan to its Compensation Committee, but may, at any time, revert in itself some or all of the power delegated to its Compensation Committee. Our Board and its Compensation Committee are each considered to be a Plan Administrator for purposes of the 2016 Plan. Subject to the terms of the 2016 Plan, the Plan Administrator may determine the recipients, the types of awards to be granted, the number of shares of common stock subject to or the cash value of awards, and the terms and conditions of awards granted under the 2016 Plan, including the period of their exercisability and vesting. The Plan Administrator also has the authority to provide for accelerated exercisability and vesting of awards. Subject to the limitations set forth below, the Plan Administrator also determines the fair market value applicable to a stock award and the exercise or strike price of stock options and stock appreciation rights granted under the 2016 Plan.

The Plan Administrator may also delegate to one or more officers the authority to designate employees who are not officers to be recipients of certain stock awards and the number of shares of common stock subject to such stock awards. Under any such delegation, the Plan Administrator will specify the total number of shares of common stock that may be subject to the stock awards granted by such officer. The officer may not grant a stock award to himself or herself.

Repricing; Cancellation and Re-Grant of Stock Awards

Under the 2016 Plan, the Plan Administrator does not have the authority to reprice any outstanding stock option or stock appreciation right by reducing the exercise or strike price of the stock option or stock appreciation right or to cancel any outstanding stock option or stock appreciation right that has an exercise or strike price greater than the then-current fair market value of a share of common stock in exchange for cash or other stock awards without obtaining the approval of our stockholders. Such approval must be obtained within 12 months prior to such an event.

Stock Options

Stock options may be granted under the 2016 Plan pursuant to stock option agreements. The 2016 Plan permits the grant of stock options that are intended to qualify as ISOs and NSOs.

The exercise price of a stock option granted under the 2016 Plan may not be less than 100% of the fair market value of the common stock subject to the stock option on the date of grant and, in some cases (see *Limitations on Incentive Stock Options* below), may not be less than 110% of such fair market value.

The term of stock options granted under the 2016 Plan may not exceed ten years and, in some cases (see *Limitations on Incentive Stock Options* below), may not exceed five years. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's service relationship with us or any of our affiliates, referred to herein as continuous service, terminates (other than for cause and other than upon the participant's death or disability), the participant may exercise any vested stock options for up to three months following the participant's termination of continuous service. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's continuous service terminates due to the participant's disability or death (or the participant dies within a specified period, if any, following termination of continuous service), the participant, or his or her beneficiary, as applicable, may exercise any vested stock options for up to 12 months following the participant's termination due to the participant's disability or for up to 18 months following the participant's death. Except as explicitly provided otherwise in a participant's stock option agreement or other written agreement with us or one of our affiliates, if a participant's continuous service is terminated

for cause (as defined in the 2016 Plan), all stock options held by the participant will terminate upon the participant's termination of

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continuous service and the participant will be prohibited from exercising any stock option from and after such termination date. Except as otherwise provided in a participant's stock option agreement or other written agreement with us or one of its affiliates, the term of a stock option may be extended if the exercise of the stock option following the participant's termination of continuous service (other than for cause and other than upon the participant's death or disability) would be prohibited by applicable securities laws or if the sale of any common stock received upon exercise of the stock option following the participant's termination of continuous service (other than for cause) would violate our insider trading policy. In no event, however, may a stock option be exercised after its original expiration date.

Acceptable forms of consideration for the purchase of common stock pursuant to the exercise of a stock option under the 2016 Plan will be determined by the Plan Administrator and may include payment: (i) by cash, check, bank draft or money order payable to us; (ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board; (iii) by delivery to us of shares of common stock (either by actual delivery or attestation); (iv) by a net exercise arrangement (for NSOs only); or (v) in other legal consideration approved by the Plan Administrator.

Stock options granted under the 2016 Plan may vest as determined by the Plan Administrator at the rate specified in the stock option agreement. Shares covered by different stock options granted under the 2016 Plan may be subject to different vesting schedules as the Plan Administrator may determine.

The Plan Administrator may impose limitations on the transferability of stock options granted under the 2016 Plan in its discretion. Generally, a participant may not transfer a stock option granted under the 2016 Plan other than by will or the laws of descent and distribution or, subject to approval by the Plan Administrator, pursuant to a domestic relations order or an official marital settlement agreement. However, the Plan Administrator may permit transfer of a stock option in a manner that is not prohibited by applicable tax and securities laws. In addition, subject to approval by the Plan Administrator, a participant may designate a beneficiary who may exercise the stock option following the participant's death.

Limitations on Incentive Stock Options

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

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

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

Subject to adjustment for specified changes in capitalization, the aggregate maximum number of shares of common stock that may be issued pursuant to the exercise of ISOs under the 2016 Plan is 20,912,020 shares.

Stock Appreciation Rights

Stock appreciation rights may be granted under the 2016 Plan pursuant to stock appreciation right agreements. Each stock appreciation right is denominated in common stock share equivalents. The strike price of each stock appreciation right will be determined by the Plan Administrator, but will in no event be less than 100% of the fair market value of the common stock subject to the stock appreciation right on the date of grant. The Plan Administrator may also impose restrictions or conditions upon the vesting of stock appreciation rights that it deems appropriate. The appreciation distribution payable upon exercise of a stock appreciation right may

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be paid in shares of our common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the stock appreciation right agreement. Stock appreciation rights will be subject to the same conditions upon termination of continuous service and restrictions on transfer as stock options under the 2016 Plan.

Restricted Stock Awards

Restricted stock awards may be granted under the 2016 Plan pursuant to restricted stock award agreements. A restricted stock award may be granted in consideration for cash, check, bank draft or money order payable to us, the participant's services performed for us or any of our affiliates, or any other form of legal consideration acceptable to the Plan Administrator. Shares of common stock acquired under a restricted stock award may be subject to forfeiture to or repurchase by us in accordance with a vesting schedule to be determined by the Plan Administrator. Rights to acquire shares of common stock under a restricted stock award may be transferred only upon such terms and conditions as are set forth in the restricted stock award agreement. A restricted stock award agreement may provide that any dividends paid on restricted stock will be subject to the same vesting conditions as apply to the shares subject to the restricted stock award. Upon a participant's termination of continuous service for any reason, any shares subject to restricted stock awards held by the participant that have not vested as of such termination date may be forfeited to or repurchased by us.

Restricted Stock Unit Awards

Restricted stock unit awards may be granted under the 2016 Plan pursuant to restricted stock unit award agreements. Payment of any purchase price may be made in any form of legal consideration acceptable to the Plan Administrator. A restricted stock unit award may be settled by the delivery of shares of common stock, in cash, in a combination of cash and stock, or in any other form of consideration determined by the Plan Administrator and set forth in the restricted stock unit award agreement. Restricted stock unit awards may be subject to vesting in accordance with a vesting schedule to be determined by the Plan Administrator. Dividend equivalents may be credited in respect of shares of common stock covered by a restricted stock unit award, provided that any additional shares credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying restricted stock unit award. Except as otherwise provided in a participant's restricted stock unit award agreement or other written agreement with us or one of our affiliates, restricted stock units that have not vested will be forfeited upon the participant's termination of continuous service for any reason.

Performance Awards

The 2016 Plan allows us to grant performance stock and cash awards, including such awards that may qualify as performance-based compensation that is not subject to the \$1 million limitation on the income tax deductibility of compensation paid per covered employee imposed by Section 162(m) of the Code.

A performance stock award is a stock award that is payable (including that may be granted, may vest, or may be exercised) contingent upon the attainment of pre-determined performance goals during a performance period. A performance stock award may require the completion of a specified period of continuous service. The length of any performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will be determined by our Compensation Committee, except that the Plan Administrator also may make any such determinations to the extent that the award is not intended to qualify as performance-based compensation under Section 162(m) of the Code. In addition, to the extent permitted by applicable law and the performance stock award agreement, the Plan Administrator may determine that cash may be used in payment of performance stock awards.

A performance cash award is a cash award that is payable contingent upon the attainment of pre-determined performance goals during a performance period. A performance cash award may require the completion of a

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specified period of continuous service. The length of any performance period, the performance goals to be achieved during the performance period, and the measure of whether and to what degree such performance goals have been attained will be determined by our Compensation Committee, except that the Plan Administrator also may make any such determinations to the extent that the award is not intended to qualify as performance-based compensation under Section 162(m) of the Code. The Plan Administrator may specify the form of payment of performance cash awards, which may be cash or other property, or may provide for a participant to have the option for his or her performance cash award to be paid in cash or other property.

In granting a performance stock or cash award intended to qualify as performance-based compensation under Section 162(m) of the Code, our Compensation Committee will set a period of time, or a performance period, over which the attainment of one or more goals, or performance goals, will be measured. Within the time period prescribed by Section 162(m) of the Code (no later than the earlier of the 90th day of a performance period and the date on which 25% of the performance period has elapsed, and in any event at a time when the achievement of the performance goals remains substantially uncertain), our Compensation Committee will establish the performance goals, based upon one or more criteria, or performance criteria, enumerated in the 2016 Plan and described below. As soon as administratively practicable following the end of the performance period, our Compensation Committee will certify in writing whether the performance goals have been satisfied.

Performance goals under the 2016 Plan will be based on any one or more of the following performance criteria: (i) earnings (including earnings per share and net earnings); (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization; (iv) earnings before interest, taxes, depreciation, amortization and legal settlements; (v) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (vi) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (vii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (viii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation, other non-cash expenses and changes in deferred revenue; (ix) total stockholder return; (x) return on equity or average stockholder's equity; (xi) return on assets, investment, or capital employed; (xii) stock price; (xiii) margin (including gross margin); (xiv) income (before or after taxes); (xv) operating income; (xvi) operating income after taxes; (xvii) pre-tax profit; (xviii) operating cash flow; (xix) sales or revenue targets; (xx) increases in revenue or product revenue; (xxi) expenses and cost reduction goals; (xxii) improvement in or attainment of working capital levels; (xxiii) economic value added (or an equivalent metric); (xxiv) market share; (xxv) cash flow; (xxvi) cash flow per share; (xxvii) cash balance; (xxviii) cash burn; (xxix) cash collections; (xxx) share price performance; (xxxi) debt reduction; (xxxii) implementation or completion of projects or processes (including, without limitation, clinical trial initiation, clinical trial enrollment and dates, clinical trial results, regulatory filing submissions, regulatory filing acceptances, regulatory or advisory committee interactions, regulatory approvals, new and supplemental indications for existing products, and product supply); (xxxiii) stockholders' equity; (xxxiv) capital expenditures; (xxxv) debt levels; (xxxvi) operating profit or net operating profit; (xxxvii) workforce diversity; (xxxviii) growth of net income or operating income; (xxxix) billings; (xl) bookings; (xli) employee retention; (xlii) initiation of phases of clinical trials and/or studies by specific dates; (xliii) acquisition of new customers, including institutional accounts; (xliv) customer retention and/or repeat order rate; (xlv) number of institutional customer accounts (xlvi) budget management; (xlvii) improvements in sample and test processing times; (xlviii) regulatory milestones; (xlix) progress of internal research or clinical programs; (l) progress of partnered programs; (li) partner satisfaction; (lii) milestones related to samples received and/or tests run; (liii) expansion of sales in additional geographies or markets; (liv) research progress, including the development of programs; (lv) submission to, or approval by, a regulatory body (including, but not limited to the U.S. Food and Drug Administration) of an applicable filing or a product; (lvi) timely completion of clinical trials; (lvii) milestones related to samples received and/or tests or panels run; (lviii) expansion of sales in additional geographies or markets; (lix) research progress,

including the development of programs; (lx) patient samples processed and billed; (lxi) sample processing operating metrics (including, without limitation, failure rate maximums and reduction of repeat rates); (lxii) strategic partnerships or transactions (including in-licensing and out-licensing of

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intellectual property); (lxiii) pre-clinical development related to compound goals; (lxiv) customer satisfaction; and (lxv) and to the extent that an award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by our Board.

Performance goals may be based on a company-wide basis, with respect to one or more business units, divisions, affiliates or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Our Compensation Committee (or, to the extent that an award is not intended to qualify as performance-based compensation under Section 162(m) of the Code, the Plan Administrator) is authorized to make appropriate adjustments in the method of calculating the attainment of performance goals for a performance period as follows; *provided, however*, that to the extent that an award is intended to qualify as performance-based compensation under Section 162(m) of the Code, any such adjustment may be made only if such adjustment is objectively determinable and specified in the award agreement at the time the award is granted or in such other document setting forth the performance goals for the award at the time the performance goals are established: (i) to exclude restructuring and/or other nonrecurring charges; (ii) to exclude exchange rate effects; (iii) to exclude the effects of changes to U.S. generally accepted accounting principles (U.S. GAAP); (iv) to exclude the effects of any statutory adjustments to corporate tax rates; (v) to exclude the effects of items that are unusual in nature or occur infrequently as determined under U.S. GAAP; (vi) to exclude the dilutive effects of acquisitions or joint ventures; (vii) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (viii) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (ix) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (x) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under U.S. GAAP; and (xi) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under U.S. GAAP.

In addition, our Compensation Committee (or, to the extent that an award is not intended to qualify as performance-based compensation under Section 162(m) of the Code, the Plan Administrator) retains the discretion to reduce or eliminate the compensation or economic benefit due upon the attainment of any performance goals and to define the manner of calculating the performance criteria it selects to use for a performance period.

Other Stock Awards

Other forms of stock awards valued in whole or in part by reference to, or otherwise based on, common stock may be granted either alone or in addition to other stock awards under the 2016 Plan. The Plan Administrator will have sole and complete authority to determine the persons to whom and the time or times at which such other stock awards will be granted, the number of shares of common stock to be granted and all other terms and conditions of such other stock awards.

Clawback Policy

Awards granted under the 2016 Plan will be subject to recoupment in accordance with any clawback policy that the we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Plan Administrator may impose other clawback, recovery or recoupment provisions in an award agreement as the Plan Administrator determines necessary or appropriate, including a reacquisition right in respect of previously acquired shares of common stock or other cash or property upon the occurrence of cause.

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Changes to Capital Structure

In the event of certain capitalization adjustments, the Plan Administrator will appropriately adjust: (i) the class(es) and maximum number of securities subject to the 2016 Plan and by which the share reserve may increase automatically each year; (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of ISOs; (iii) the class(es) and maximum number of securities that may be awarded to any participant pursuant to Section 162(m) limits; (iv) the class and maximum number of shares that may be awarded to any non-employee director; and (v) the class(es) and number of securities and price per share of stock subject to outstanding stock awards.

Corporate Transaction

In the event of a corporate transaction (as defined in the 2016 Plan and described below), the Plan Administrator may take one or more of the following actions with respect to stock awards, contingent upon the closing or consummation of the corporate transaction, unless otherwise provided in the instrument evidencing the stock award, in any other written agreement between us or one of our affiliates and the participant or in our director compensation policy, or unless otherwise provided by the Plan Administrator at the time of grant of the stock award:

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

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

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

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

cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the corporate transaction, and pay such cash consideration (including no consideration) as the Plan Administrator may consider appropriate; and

cancel or arrange for the cancellation of the stock award, to the extent not vested or not exercised prior to the effective time of the corporate transaction, in exchange for a payment, in such form as may be determined by our Board equal to the excess, if any, of (i) the per share amount payable to holders of common stock in

connection with the corporate transaction, over (ii) the per share exercise price under the applicable award. For clarity, this payment may be zero if the value of the property is equal to or less than the exercise price. In addition, any escrow, holdback, earnout or similar provisions in the definitive agreement for the corporate transaction may apply to such payment to the same extent and in the same manner as such provisions apply to the holders of common stock.

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

In the event of a corporate transaction, unless otherwise provided in the instrument evidencing a performance cash award or any other written agreement between us or one of our affiliates and the participant, or

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unless otherwise provided by the Plan Administrator, all performance cash awards will terminate prior to the effective time of the corporate transaction.

For purposes of the 2016 Plan, a corporate transaction generally will be deemed to occur in the event of the consummation of: (i) a sale or other disposition of all or substantially all of our consolidated assets; (ii) a sale or other disposition of more than 50% of our outstanding securities; (iii) a merger, consolidation or similar transaction following which we are not the surviving corporation; or (iv) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of common stock outstanding immediately prior to the transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control

Under the 2016 Plan, a stock award may be subject to additional acceleration of vesting and exercisability upon or after a change in control (as defined in the 2016 Plan and described below) as may be provided in the participant's stock award agreement, in any other written agreement with us or one of our affiliates or in any director compensation policy, but in the absence of such provision, no such acceleration will occur.

2014 Stock Incentive Plan

Prior to our initial public offering, we adopted the 2014 Plan. On March 25, 2015, our Board approved an amendment to the 2014 Plan (the "2014 Plan Amendment") which was subsequently approved by our stockholders on June 18, 2015, which increased the number of shares of our common stock reserved for issuance by 854,601 shares to 2,100,000 shares. The 2014 Plan Amendment also provides for an annual increase to the total number of shares available for issuance under the 2014 Plan, as amended, on the first day of each calendar year, beginning with January 1, 2016 and ending with the last January 1 during the initial ten-year term of the plan, equal to the lesser of (A) four percent (4%) of the shares of our common stock outstanding (on an as-converted basis) on the last day of the immediately preceding fiscal year, and (B) such smaller number of shares of common stock as determined by our Board. No other amendments were made to the 2014 Plan.

As of December 31, 2016, there were outstanding stock options to purchase 37,465 shares of our common stock under the 2014 Plan.

Our Board terminated the 2014 Plan in February 2017 in connection with the Merger. There are no awards outstanding under the terms of the 2014 Plan and no future awards will be issued under the 2014 Plan.

Eligibility. Selected employees, officers, directors, and other individuals providing bona fide services to us or any of our affiliates, were eligible for awards under the 2014 Plan. The plan administrator could also grant awards to individuals in connection with hiring, retention, or otherwise before the date the individual first performs services for the company or an affiliate. However, those awards would not become vested or exercisable before the date the individual first performs those services for us.

Administration. The 2014 Plan was administered by our Board or by a committee or committees as our Board may appoint from time to time. The plan administrator had the full authority and discretion to administer the 2014 Plan and to take any action that is necessary or advisable in connection with the administration of the plan, including without limitation the authority and discretion to interpret and administer the plan and any instrument or agreement relating to the plan or any award made thereunder. The plan administrator's determinations will be final and conclusive.

Types of awards. The 2014 Plan provided for grants of stock options (including incentive stock options qualifying under Code section 422 and nonstatutory stock options), stock appreciation rights, restricted or unrestricted stock awards, restricted stock units, performance awards, other stock-based awards, or any combination of the foregoing.

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Stock options. The 2014 Plan allowed the plan administrator to grant incentive stock options, as that term is defined in section 422 of the Code, or nonqualified stock options. Only our employees or employees of our subsidiaries or any parent corporation may receive incentive stock option awards. Options must have an exercise price at least equal to the fair market value of the underlying shares (110% of the fair market value for incentive stock options if the grantee is a 10% holder within the meaning of Code section 422) on the date of grant. The option holder may pay the exercise price in cash or by check, by tendering shares of common stock, by a combination of cash and shares, or by any other means that the plan administrator approves. Generally, options granted under the 2014 Plan will have a 10 year term (five year term in the case of incentive stock options granted to a 10% holder), however, the options will expire earlier if the option holder's service relationship with us terminates.

Stock appreciation rights. The 2014 Plan allowed the plan administrator to grant awards of stock appreciation rights, which entitle the holder to receive a payment in cash, in shares of common stock, or in a combination of both, having an aggregate value equal to the spread on the date of exercise between the fair market value of the underlying shares on that date and the base price of the shares specified in the grant agreement, multiplied by the number of shares specified in the award being exercised.

Stock awards. The 2014 Plan allowed the plan administrator to grant stock awards to eligible participants in such amounts, on such terms and conditions, and for such consideration, including no consideration or minimum consideration as may be required by law. A stock award may be denominated in common stock or other securities, stock-equivalent units or restricted stock units, securities or debentures convertible into common stock, or any combination of the foregoing and may be paid in common stock or other securities, in cash, or in a combination of common stock or other securities and cash, all as determined in the sole discretion of the plan administrator.

Performance awards. The 2014 Plan allowed the plan administrator to grant performance awards which become payable in common stock or other securities, in cash, or in a combination of common stock or other securities and cash, on account of attainment of one or more performance goals established by the plan administrator.

Change in control. In the event of any transaction resulting in a change in control of the company (as defined in the 2014 Plan), outstanding stock options and other awards that are payable in or convertible into our common stock terminate upon the effective time of the change in control unless provision is made in connection with the transaction for the continuation, assumption, or substitution of the awards by the surviving or successor entity or its parent. In the event of such termination the holders of stock options and other awards under the 2014 Plan will be permitted immediately before the change in control to exercise or convert all portions of awards that are then exercisable or convertible or which become exercisable or convertible upon or prior to the effective time of the change in control. In the event that a change in control occurs after a performance-based stock award has been granted but before completion of the applicable performance period, a pro rata portion of such award will become payable (or a pro rata portion of the lapse restrictions will lapse, as applicable) as of the date of the change in control to the extent otherwise earned on the basis of achievement of the pro rata portion of the performance goals and performance targets relating to the portion of the performance period completed as of the date of the change in control. All outstanding awards under the 2014 Plan were terminated in connection with the Merger.

Amendment and termination. The 2014 Plan became effective on June 17, 2014. The 2014 Plan Amendment became effective on June 18, 2015. The 2014 Plan terminated upon the effectiveness of the Merger.

2008 Equity Incentive Plan

The Miragen 2008 Plan was adopted by Private Miragen's board of directors and approved by its stockholders in May 2008, and was subsequently amended by its board of directors and stockholders, most

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recently in October 2015. Upon completion of the Merger, no further awards will be made under the Miragen 2008 Plan, but all awards outstanding under the 2008 Miragen Plan as of the effective time of the Merger remain subject to the terms and conditions of the 2008 Miragen Plan.

As of December 31, 2016, there were outstanding stock options to purchase 2,320,393 shares of our common stock under the Miragen 2008 Plan. These shares reflect the exchange ratio of Private Miragen's capital stock effective as of the Merger.

All awards granted under the Miragen 2008 Plan that, from and after the effective date of the Merger, expire or terminate for any reason prior to exercise or settlement, are forfeited because of the failure to meet a contingency or condition required to vest, or are reacquired, withheld or not issued to satisfy a tax withholding obligation in connection with an award or to satisfy the exercise price of a stock award, will become available for grant under the 2016 Plan in accordance with its terms.

Stock Awards

The Miragen 2008 Plan provides for the grant of ISO, NSOs, stock appreciation rights, restricted stock awards and restricted stock unit awards (collectively, stock awards), all of which may be granted to employees, including officers, non-employee directors and consultants of Private Miragen. ISOs may be granted only to employees. All other awards may be granted to employees, including officers, and to non-employee directors and consultants. Private Miragen only granted stock options under the Miragen 2008 Plan.

Administration

Our Board or our Compensation Committee may act as the administrator of the Miragen 2008 Plan. The administrator has the complete discretion to make all decisions relating to the plan and outstanding awards. The administrator has the authority to modify outstanding awards under the Miragen 2008 Plan. Subject to the terms of the Miragen 2008 Plan, the administrator has the authority to reduce the exercise or strike price of any outstanding stock award, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under U.S. GAAP, with the consent of any adversely affected participant.

Terms of Awards

Subject to the terms of the Miragen 2008 Plan, the administrator determines the terms of all awards. The exercise price for stock options granted under the Miragen 2008 Plan may not be less than 100% of the fair market value of Miragen common stock on the grant date; however, the exercise price for an incentive stock option granted to a holder of more than 10% of Miragen's stock may not be less than 110% of such fair market value on the grant date. Options are generally transferable only by will or the laws of descent and distribution, and may be exercised during the holder's lifetime only by the holder.

The term of options granted under the Miragen 2008 Plan may not exceed ten years and will generally expire sooner if the optionee's service terminates. Options vest at the times determined by the administrator. Shares may be awarded under the terms of the Miragen 2008 Plan in consideration for services rendered to Private Miragen, or sold under the terms of the Miragen 2008 Plan. Shares awarded or sold under the Miragen 2008 Plan may be fully vested at grant or subject to special forfeiture conditions or rights of repurchase as determined by the administrator.

Changes in Capitalization

If any change is made in the shares of common stock by reason of any merger, consolidation, reorganization, recapitalization, stock dividend, split up, combination of shares, exchange of shares, change in

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corporate structure, or otherwise, appropriate adjustments will be made by the administrator to the class and maximum number of shares reserved for issuance under the Miragen 2008 Plan, the class and maximum number of shares that may be issued upon the exercise of ISOs and the class and number of shares and price per share of stock subject to each outstanding award under the Miragen 2008 Plan. Any increase in the shares, or the right to acquire shares, as the result of such an adjustment will be subject to the same terms and conditions that apply to the award for which such increase was received.

Corporate Transaction

In the event of certain specified significant corporate transactions, outstanding stock awards shall be assumed, continued or substituted for similar stock awards by the surviving or acquiring corporation. If any surviving or acquiring corporation fails to assume, continue or substitute such stock awards, stock awards held by participants whose continuous service has not terminated will accelerate vesting in full prior to the corporate transaction, and all stock awards will terminate at or prior to the corporate transaction. In addition, in the event a stock award will terminate if not exercised before a corporate transaction, our Board may, in its sole discretion, provide that the holder of the stock award may not exercise the stock award but will receive a payment equal to the excess, if any, of (i) the value of our common stock the holder would have received upon exercise of the stock awards, over (ii) any exercise price payable by the holder in connection with the exercise.

Under the Miragen 2008 Plan, a corporate transaction is generally the consummation of (i) a sale or other disposition of all or substantially all of our consolidated assets, (ii) a sale or other disposition of at least 90% of our outstanding securities, (iii) a merger, consolidation or similar transaction following which we are not the surviving corporation, or (iv) a merger, consolidation or similar transaction following which we are the surviving corporation but the shares of our common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction.

Change in Control

The Miragen 2008 Plan provides that if a change in control of us occurs and as of, or within thirteen (13) months after, the effective time of such change in control, the service of an award holder is terminated due to an involuntary termination without cause (not including death or disability), or due to a voluntary termination with good reason, then the vesting and exercisability of the holder's awards will be accelerated in full. In addition, the administrator may provide, in an individual award agreement or in any other written agreement between a participant and us, that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change in control.

Under the Miragen 2008 Plan, a change of control is generally (i) the acquisition by a person or entity of more than 50% of our combined voting power other than by merger, consolidation or similar transaction; (ii) a consummated merger, consolidation or similar transaction involving us immediately after which our stockholders cease to own more than 50% of the combined voting power of the surviving entity or of its parent entity; (iii) a consummated sale, lease or exclusive license or other disposition of all or substantially of our consolidated assets; or (v) when a majority of our Board becomes comprised of individuals who were not serving on the board on the date of adoption of the Miragen 2008 Plan, or whose nomination, appointment, or election was not approved by a majority of the incumbent board then still in office. The Merger did not constitute a change in control for purposes of the Miragen 2008 Plan, but the change in control provisions could be triggered by a subsequent transaction

Amendment and Termination

Our Board may at any time amend the Miragen 2008 Plan. However, our Board must obtain approval of our stockholders or any amendment requiring such approval under federal tax or federal securities laws. In addition, our Board may not alter or impair any award previously granted under the Miragen 2008 Plan without the

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consent of the holder of such award. The Miragen 2008 Plan will terminate on the earliest of ten years after the date the Miragen 2008 Plan was adopted by Private Miragen's board of directors, ten years after the date Private Miragen's stockholder approved the Miragen 2008 Plan or a date determined by our Board.

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TRANSACTIONS WITH RELATED PERSONS AND INDEMNIFICATION

RELATED-PERSON TRANSACTIONS POLICY AND PROCEDURES

In February 2017, we adopted a related person transaction policy that sets forth our procedures for the identification, review, consideration and approval or ratification of related person transactions. For purposes of our policy only, a related person transaction is a transaction, arrangement or relationship, or any series of similar transactions, arrangements or relationships, in which we and any related person are, were or will be participants in which the amount involved exceeds the lesser of (x) \$120,000 or (y) 1% of the average of our total assets at year end for the last two completed fiscal years. Transactions involving compensation for services provided to us as an employee or director are not covered by this policy. A related person is any executive officer, director or beneficial owner of more than 5% of any class of our voting securities, including any of their immediate family members and any entity owned or controlled by such persons.

Under the policy, if a transaction has been identified as a related person transaction, including any transaction that was not a related person transaction when originally consummated or any transaction that was not initially identified as a related person transaction prior to consummation, our management must present information regarding the related person transaction to our Audit Committee, or, if Audit Committee approval would be inappropriate, to another independent body of our Board, for review, consideration and approval or ratification. The presentation must include a description of, among other things, the material facts, the interests, direct and indirect, of the related persons, the benefits to us of the transaction and whether the transaction is on terms that are comparable to the terms available to or from, as the case may be, an unrelated third party or to or from employees generally. Under the policy, we will collect information that we deem reasonably necessary from each director, executive officer and, to the extent feasible, significant stockholder to enable us to identify any existing or potential related-person transactions and to effectuate the terms of the policy. In addition, under our code of business conduct and ethics, our employees and directors will have an affirmative responsibility to disclose any transaction or relationship that reasonably could be expected to give rise to a conflict of interest. In considering related person transactions, our Audit Committee, or other independent body of our Board, will take into account the relevant available facts and circumstances including, but not limited to:

the risks, costs and benefits to us;

the impact on a director's independence in the event that the related person is a director, immediate family member of a director or an entity with which a director is affiliated;

the availability of other sources for comparable services or products; and

the terms available to or from, as the case may be, unrelated third parties or to or from employees generally. The policy requires that, in determining whether to approve, ratify or reject a related person transaction, our Audit Committee, or other independent body of our Board, must consider, in light of known circumstances, whether the transaction is in, or is not inconsistent with, our best interests and those of our stockholders, as our Audit Committee, or other independent body of our Board, determines in the good faith exercise of its discretion.

CERTAIN RELATED-PERSON TRANSACTIONS

Described below are the transactions and series of similar transactions since January 1, 2015 in which:

the amounts involved exceeded or will exceed the lesser of (x) \$120,000 or (y) 1% of the average of our total assets at year end for the last two completed fiscal years; and

any of the directors, executive officers, holders of more than 5% of our capital stock (sometimes refer to as 5% stockholders below) or any member of their immediate family had or will have a direct or indirect material interest.

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Table of Contents**Amendment to the Bennet S. Lebow Promissory Note**

In connection with our initial public offering in 2014, Bennett S. LeBow advanced \$1,000,000 to us to pay for certain offering expenses. Following the offering, this amount, along with an additional \$45,000, which was advanced to pay for certain additional offering expenses, was reclassified as amounts due to related party on our consolidated balance sheet. This aggregate amount was non-interest bearing and due on demand.

On March 6, 2015, we issued a promissory note to Mr. LeBow (the *Note*), who was then a member of our Board and our largest stockholder. When issued, the terms of the Note provided (i) for a principal amount of \$1,105,009, which accrued interest computed on the basis of the actual number of days elapsed in a 360-day year, at a rate per annum of 8%, (ii) that at any time on or after June 30, 2015, Mr. LeBow may demand payment of the entire outstanding principal of the Note and all unpaid interest accrued thereon and (iii) that upon the occurrence and during the continuance of any event of default by us under the Note, the principal balance of the Note shall accrue interest at a rate of 11%.

On October 31, 2016, prior to the execution of the Merger Agreement, we entered into an amendment to the Note with Mr. LeBow (the *Note Amendment*). The Note Amendment (i) made the outstanding principal balance and all accrued interest on the Note, plus a premium of 11% on the outstanding balance, automatically convertible into shares our common stock immediately prior to the effective time of the Merger at a conversion price of \$5.39 per share, which was the closing price of our common stock on the effective date of the Note Amendment, and (ii) modified the principal amount of the Note to \$1,045,000, the original amount advanced to us as of June 17, 2014, and the interest of the Note to a rate per annum of 11% commencing on June 17, 2014, with interest computed on the basis of the actual number of days in a 360-day year. The terms of the Note Amendment were approved by our stockholders on February 10, 2017. Upon the closing of the Merger, the Note converted into 279,067 shares of our common stock.

Private Placement of Common Stock

On October 31 2016, Private Miragen entered into a subscription agreement (the *Subscription Agreement*) with certain stockholders of Private Miragen and certain new investors pursuant to which the purchasers agreed to purchase an aggregate of 9,045,126 shares of Private Miragen's common stock at a price per share of \$4.50, or 6,359,617 shares of common stock at a price per share of \$6.40, as adjusted for the subsequent conversion as of the closing of the Merger, for an aggregate consideration of approximately \$40.7 million immediately prior to the consummation of the Merger, subject to specified conditions in the Subscription Agreement. The table below sets forth the number of shares of Private Miragen's common stock agreed to be purchased and the purchase price for the shares of common stock for each purchaser that is a director, executive officer or 5% stockholder, and their affiliates. As a result of the Merger, these stockholders received 0.7031 shares of our common stock in exchange for each share of Private Miragen's common stock held immediately prior to the Merger, which is reflected in the table below.

Name of Purchaser	Shares of Common Stock Pre-Merger (#)	Shares of Common Stock Post-Merger (#)	Purchase Price (\$)
Fidelity Select Portfolios: Biotechnology Portfolio ⁽¹⁾	3,507,819	2,466,347	\$ 15,785,186
Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund ⁽¹⁾	936,625	658,541	\$ 4,214,813
Atlas Venture Fund X, L.P. ⁽²⁾	1,145,835	805,636	\$ 5,156,258

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Boulder Ventures VI, L.P. ⁽³⁾	147,419	103,650	\$ 663,386
MRL Ventures Fund, LLC ⁽⁴⁾	412,774	290,221	\$ 1,857,483
JAFCO SV4 Investment Limited Partnership ⁽⁵⁾	353,806	248,760	\$ 1,592,127
Remeditex Ventures LLC ⁽⁶⁾	797,308	560,587	\$ 3,587,886
BraMira LLC ⁽⁷⁾	1,111,111	781,222	\$ 5,000,000

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- (1) Fidelity Select Portfolios: Biotechnology Portfolio and Fidelity Advisor Series VII: Fidelity Advisor Biotechnology Fund, together, hold more than 5% of our outstanding capital stock.
- (2) The Atlas Venture Funds, together, hold more than 5% of our outstanding capital stock. Dr. Booth is a member of our Board and a director of Atlas Venture Associates VII, Inc. and Atlas Venture Associates X, Inc., which are affiliated with the Atlas Venture Funds.
- (3) Boulder Ventures holds more than 5% of our outstanding capital stock. Mr. Lefkoff is a member of our Board and a managing member of BV Partners V, L.L.C. and BV Partners VI, L.L.C., which are each affiliated with Boulder Ventures.
- (4) MRL Ventures Fund, LLC holds more than 5% of our outstanding capital stock.
- (5) JAFCO holds more than 5% of our outstanding capital stock.
- (6) Remeditex Ventures LLC holds more than 5% of our outstanding capital stock. Mr. Creecy is a member of our Board and the chief executive officer of Remeditex Ventures LLC.
- (7) BraMira LLC, together with its affiliates, holds more than 5% of our outstanding capital stock.

Issuance of Series C Convertible Preferred Stock

In October 2015 and September 2016, Private Miragen issued and sold in two closings an aggregate of 9,268,563 shares of Private Miragen's Series C convertible preferred stock at a price per share of \$4.43, or approximately 6,516,727 shares of common stock at a price per share of \$6.30, as adjusted for the subsequent conversion as of the closing of the Merger, for an aggregate consideration of approximately \$41.1 million, inclusive of the conversion, at a price per share equal to \$4.43, of approximately \$8.9 million of principal and accrued interest on then outstanding convertible promissory notes previously issued by Private Miragen. The convertible promissory notes accrued interest at a rate of 6% per annum and were scheduled to mature 18 months from the date of issuance. The table below sets forth the number of shares of Series C convertible preferred stock purchased and the purchase price for the shares of Series C convertible preferred stock for each purchaser that is a director, executive officer or 5% stockholder, and their affiliates. Immediately prior to the closing of the Merger each outstanding share of Private Miragen's Series C convertible preferred stock converted into one share of Private Miragen's common stock. As a result of the Merger, these stockholders received 0.7031 shares of our common stock in exchange for each share of Private Miragen's common stock held immediately prior to the Merger, as presented in the table below.

Name of Purchaser	Shares of Series C Convertible Preferred Stock	Shares of Common Stock	Purchase Price (\$)
	Pre-Merger (#)	Post-Merger (#)	
Atlas Venture Fund VII, L.P. ⁽¹⁾	1,245,502	875,712	\$ 5,517,574
Boulder Ventures V, L.P. ⁽²⁾	233,089	163,884	\$ 1,032,584
Boulder Ventures VI, L.P. ⁽²⁾	564,334	396,783	\$ 2,500,000
MRL Ventures Fund, LLC ⁽³⁾	1,580,135	1,110,992	\$ 6,999,998
JAFCO SV4 Investment Limited Partnership ⁽⁴⁾	1,354,402	952,280	\$ 6,000,001
Remeditex Ventures LLC ⁽⁵⁾	1,968,830	1,384,284	\$ 8,721,917
BraMira LLC ⁽⁶⁾	1,128,668	793,566	\$ 4,999,999
William S. Marshall, Ph.D. ⁽⁷⁾	17,263	12,137	\$ 76,475

- (1) Atlas Venture Fund VII, L.P. holds more than 5% of our outstanding capital stock. Dr. Booth is a member of our Board and a director of Atlas Venture Associates VII, Inc., which is affiliated with the Atlas Venture Fund VII, L.P. The purchase price includes the conversion of convertible promissory notes in the principal amount of \$1,548,834 plus accrued interest.
- (2) Boulder Ventures holds more than 5% of our outstanding capital stock. Mr. Lefkoff is a member of our Board and a managing member of BV Partners V, L.L.C. and BV Partners VI, L.L.C., which are each

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affiliated with Boulder Ventures. The purchase price includes the conversion of convertible promissory notes in the principal amount of \$988,704 plus accrued interest.

- (3) MRL Ventures Fund, LLC holds more than 5% of our outstanding capital stock.
- (4) JAFCO holds more than 5% of our outstanding capital stock.
- (5) Remeditex Ventures LLC holds more than 5% of our outstanding capital stock. Mr. Creecy is a member of our Board and the chief executive officer of Remeditex Ventures LLC. The purchase price includes the conversion of convertible promissory notes in the principal amount of \$5,000,000 plus accrued interest.
- (6) BraMira LLC, together with its affiliates, holds more than 5% of our outstanding capital stock.
- (7) Dr. Marshall is a member of our Board and serves as our president and chief executive officer. The purchase price includes the conversion of convertible promissory notes in the principal amount of \$20,904 plus accrued interest.

Director and Officer Indemnification and Insurance

We have entered into indemnification agreements with each of our executive officers and directors and purchased directors and officers liability insurance. Our indemnification agreements and bylaws require us to indemnify our directors and officers to the fullest extent permitted under Delaware law.

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HOUSEHOLDING OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other annual meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or other annual meeting materials addressed to those stockholders. This process, which is commonly referred to as householding, potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are our stockholders will be householding our proxy materials. A single Notice will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate Notice, please notify us or your broker. Direct your written request to our Secretary at 6200 Lookout Road, Boulder, CO 80301 or contact our Secretary at (303) 531-5952. Stockholders who currently receive multiple copies of the Notice at their addresses and would like to request householding of their communications should contact their brokers.

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OTHER MATTERS

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

By Order of the Board of Directors

Jason A. Leverone

Chief Financial Officer, Secretary and Treasurer

Boulder, CO

May 15, 2017

A copy of the company's annual report on Form 10-K for the fiscal year ended December 31, 2016 is available without charge upon written request to: Secretary, Miragen Therapeutics, Inc., 6200 Lookout Road, Boulder, CO 80301.

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MIRAGEN THERAPEUTICS, INC.

C/O PROXY SERVICES

P.O. BOX 9142

FARMINGDALE, NY 11735

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.

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

E30095-P93713

KEEP THIS PORTION FOR YOUR RECORDS

DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

MIRAGEN THERAPEUTICS, INC.

For	Withhold	For All
All	All	Except

The Board of Directors recommends you vote

FOR all nominees listed and FOR Proposal 2.

1. Election of Directors

Nominees:

- | | |
|--------------------------------|-----------------------|
| 01) William S. Marshall, Ph.D. | 05) Kevin Koch, Ph.D. |
| 02) Bruce L. Booth, Ph.D. | 06) Kyle A. Lefkoff |
| 03) John W. Creecy | 07) Joseph L. Turner |
| 04) Thomas E. Hughes, Ph.D. | |

To withhold authority to vote for any individual nominee(s), mark **For All Except** and write the number(s) of the nominee(s) on the line below.

For Against Abstain

2. To ratify the selection by our Audit Committee of the Board of Directors of KPMG LLP as the independent registered public accounting firm of the company for its fiscal year ending December 31, 2017.

NOTE: In their discretion, the proxyholders are authorized to vote upon such other matters that may properly come before the meeting or any adjournment or adjournments thereof.

The shares represented by this proxy, when properly executed, will be voted in the manner directed herein by the undersigned Stockholder. **If no direction is made, this proxy will be voted FOR all nominees and FOR Proposal 2.** If any other matters properly come before the meeting, the person named in this proxy will vote in their discretion.

For address changes and/or comments, please check this box and write them on the back where indicated.

Please indicate if you plan to attend this meeting.

Yes No

Please sign your name exactly as it appears hereon. When signing as attorney, executor, administrator, trustee or guardian, please add your title as such. When signing as joint tenants, all parties in the joint tenancy must sign. If a signer is a corporation, please sign in full corporate name by duly authorized officer.

Signature [PLEASE SIGN WITHIN BOX]

Date

Signature (Joint Owners)

Date

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Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting:

The Notice and Proxy Statement and Form 10-K are available at www.proxyvote.com.

E30096-P93713

MIRAGEN THERAPEUTICS, INC.

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

ANNUAL MEETING OF STOCKHOLDERS

JUNE 28, 2017

The stockholder hereby appoints William S. Marshall and Jason A. Leverone, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this ballot, all of the shares of Common Stock of Miragen Therapeutics, Inc. that the stockholder is entitled to vote at the Annual Meeting of Stockholders to be held at 9:00 a.m., Mountain Time on June 28, 2017, at the Element Bistro, 6315 Lookout Road, Boulder, Colorado 80301, and any adjournment or postponement thereof.

THIS PROXY, WHEN PROPERLY EXECUTED, WILL BE VOTED AS DIRECTED BY THE STOCKHOLDER. IF NO SUCH DIRECTIONS ARE MADE, THIS PROXY WILL BE VOTED FOR THE ELECTION OF THE NOMINEES LISTED ON THE REVERSE SIDE FOR THE BOARD OF DIRECTORS AND FOR PROPOSAL 2.

PLEASE MARK, SIGN, DATE AND RETURN THIS PROXY CARD PROMPTLY USING THE ENCLOSED REPLY ENVELOPE

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

V.1.1