

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

SCHEDULE 14A

**PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934**

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

Check the appropriate box:

- Preliminary Proxy Statement
- Definitive Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Additional Materials
- Soliciting Material Pursuant to sec. 240.14a-11(c) or sec. 240.14a-12

RXi PHARMACEUTICALS CORPORATION

(Name of Registrant as Specified In Its Charter)

N/A

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

Payment of Filing Fee (Check the appropriate box):

- Fee not required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

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

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

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

(4) Proposed maximum aggregate value of transaction.

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(1) Amount Previously Paid.

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

(3) Filing Party:

(4) Date Filed:



257 Simarano Drive, Suite 101
Marlborough, MA 01752

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To Be Held on June 6, 2017**

Dear Stockholder:

You are cordially invited to attend the 2017 Annual Meeting of Stockholders (the “*Annual Meeting*”) of RXi Pharmaceuticals Corporation, a Delaware corporation (the “*Company*”), which will be held on June 6, 2017, at 10:00 a.m. local time, at the offices of Gibson, Dunn & Crutcher LLP, located at 200 Park Avenue, New York, NY 10166. Only stockholders who held stock at the close of business on the record date, April 17, 2017, may vote at the Annual Meeting, including any adjournment or postponement thereof. If you wish to attend the 2017 Annual Meeting in person, you must RSVP by marking the appropriate box on the proxy card or by contacting the Company by May 31, 2017 by telephone at 508-929-3646. In order to be admitted into the Annual Meeting, your name must appear on the attendance list and you must present government-issued photo identification (such as a driver’s license).

At the Annual Meeting, you will be asked to consider and vote upon:

- (1) the election of the five director nominees named in the accompanying Proxy Statement;
- (2) the ratification of BDO USA, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2017;
- (3) an amendment to the Company’s Amended and Restated Certificate of Incorporation, as amended, to effect a reverse stock split, if considered by the Board of Directors to be necessary, of the shares of the Company’s common stock, par value \$0.0001 per share (the “*common stock*”), at a ratio of not less than 1-for-2 and not greater than 1-for-40, with the exact ratio and effective time of the reverse stock split to be determined by the Board of Directors;
- (4) an approval, for purposes of complying with NASDAQ Listing Rule 5635(d), of the issuance of more than 20% of the Company’s issued and outstanding common stock pursuant to the Company’s acquisition of Mirlimmune Inc. in January 2017; and
- (5) the transaction of any other business that may properly come before the meeting or any adjournment thereof. Pursuant to the Company’s bylaws, no other items of business are expected to be considered at the meeting and no other director nominees will be entertained.

The accompanying Proxy Statement more fully describes the details of the business to be conducted at the Annual Meeting. After careful consideration, our Board of Directors has unanimously approved the proposals and recommends that you vote FOR each nominee and proposal described in the Proxy Statement.

We are pleased to make use of the Securities and Exchange Commission rules that allow companies to furnish proxy materials to their stockholders via the Internet. We believe the ability to deliver proxy materials electronically allows us to provide our stockholders with the information they need, while lowering the costs of delivery and reducing the environmental impact from the distribution of our Annual Meeting materials.

We look forward to seeing you at the Annual Meeting.

Sincerely,

A handwritten signature in black ink, appearing to read 'Geert Cauwenbergh'.

Geert Cauwenbergh, Dr. Med. Sc.
President and Chief Executive Officer

April , 2017

WHETHER OR NOT YOU EXPECT TO ATTEND THE MEETING, PLEASE VOTE VIA THE INTERNET OR OVER THE TELEPHONE AS INSTRUCTED IN THE **NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS** AND ON THE ENCLOSED PROXY CARD OR, IF YOU REQUESTED AND RECEIVED A PRINTED COPY OF THE PROXY STATEMENT, COMPLETE, DATE, SIGN AND RETURN THE ENCLOSED PROXY CARD USING THE ENCLOSED RETURN ENVELOPE, 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 CARD ISSUED IN YOUR NAME FROM THAT INTERMEDIARY.



257 Simarano Drive, Suite 101
Marlborough, MA 01752

**PROXY STATEMENT FOR
2017 ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON JUNE 6, 2017**

GENERAL INFORMATION

This Proxy Statement is furnished in connection with the solicitation of proxies by the Board of Directors (the “**Board**”) of RXi Pharmaceuticals Corporation (“**RXi**” or the “**Company**”) for use at the Company’s 2017 Annual Meeting of Stockholders (the “**Annual Meeting**”), to be held at the offices of Gibson, Dunn & Crutcher LLP, located at 200 Park Avenue, New York, NY 10166 on June 6, 2017, at 10:00 a.m. local time. This Proxy Statement is being made available via the Internet on April 27, 2017 and the mailing date of the Notice Regarding the Availability of Proxy Materials (the “**Notice**”) to our stockholders will be on or about April 27, 2017.

The Notice instructs you as to how you may access and review important information contained in the proxy materials. The Notice also instructs you on how you may submit your proxy via the Internet. If you receive a Notice by mail and would like to receive a printed copy of our proxy materials, you should follow the instructions for requesting such materials included in the Notice.

For a proxy to be effective, it must be properly executed and received prior to the Annual Meeting. Each proxy properly tendered will, unless otherwise directed by the stockholder, be voted for the proposals and nominees described in this Proxy Statement and at the discretion of the proxy holder(s) with regard to all other matters that may properly come before the meeting.

The Company will pay all of the costs of soliciting proxies. We will provide copies of our proxy materials to brokerage firms, fiduciaries and custodians for forwarding to beneficial owners who request printed copies of these materials and will reimburse these persons for their costs of forwarding these materials. Our directors, officers and employees may also solicit proxies by telephone, facsimile or personal solicitation; however, we will not pay them additional compensation for any of these services.

Shares Outstanding and Voting Rights

Only holders of record of our common stock (“**common stock**”) at the close of business on April 17, 2017 (the “**Record Date**”), are entitled to notice of and to vote at the Annual Meeting. On the Record Date, 10,000,000 shares of common stock were issued and outstanding. Each share of common stock is entitled to one vote on all matters to be voted upon at the Annual Meeting. Holders of common stock do not have the right to cumulative voting in the election of directors. The presence, in person or by proxy, of the holders of a majority of the outstanding shares on the Record Date will constitute a quorum for the transaction of business at the Annual Meeting and any adjournment thereof.

Persons who hold shares of our common stock directly on the Record Date (“**record holders**”) must return a proxy card or attend the Annual Meeting in person in order to vote on the proposals. Persons who hold shares of our common stock indirectly on the Record Date through a brokerage firm, bank or other financial institution (“**beneficial holders**”) must return a voting instruction form to have their shares voted on their behalf. Brokerage

firms, banks or other financial institutions that do not receive voting instructions from beneficial holders may either vote these shares on behalf of the beneficial holders on certain “routine” matters or return a proxy leaving these shares un-voted (a “**broker non-vote**”). Of the proposals described herein, only Proposal No. 2 (ratification of the independent registered public accounting firm) is considered a “routine” matter. Proposals No. 1 (election of directors), No. 3 (reverse stock split) and No. 4 (Nasdaq proposal) are considered “non-routine” matters, and Brokerage firms, banks or other financial institutions that hold shares on behalf of beneficial holders will not have discretionary authority to vote such shares for these items without instructions to do so from beneficial holders.

Abstentions and broker non-votes will be counted for the purpose of determining the presence or absence of a quorum, but will not be counted for the purpose of determining the number of votes cast on a given proposal. The required vote for each of the proposals expected to be acted upon at the Annual Meeting is described below:

Proposal No. 1 — Election of directors. Directors are elected by a plurality, with the five nominees obtaining the most votes being elected. Because there is no minimum vote required, abstentions and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome. Under the plurality vote standard, any shares that are not voted, whether by abstention, broker non-votes or otherwise, will not affect the election of directors.

Proposal No. 2 — Ratification of independent registered public accounting firm. This proposal must be approved by a majority of the votes cast on the matter affirmatively or negatively. As a result, abstentions and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

Proposal No. 3 — Approve an amendment to the Company’s Amended and Restated Certificate of Incorporation, as amended (as amended from time to time, the “Charter”), to effect a reverse stock split, if considered by the Board to be necessary, of the Company’s common stock, at a ratio of not less than 1-for-2 and not greater than 1-for-40, with the exact ratio and effective time of the reverse stock split to be determined by the Board (the “Reverse Stock Split”). This proposal must be approved by a majority of the outstanding shares of our common stock. As a result, abstentions and broker non-votes will have the same effect as a vote against such proposal.

Proposal No. 4 — Approve, for purposes of complying with NASDAQ Listing Rule 5635(d), the issuance of more than 20% of the Company’s issued and outstanding common stock pursuant to the Company’s acquisition of MirImmune Inc. (“MirImmune”) in January 2017. This proposal must be approved by a majority of the votes cast on the matter affirmatively or negatively; provided, however, that the vote of all shares of the Company’s common stock issued in the acquisition of MirImmune will not be counted in determining whether or not the proposal is approved. As a result, abstentions and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

We encourage you to vote by proxy, whether via telephone, through the Internet or mailing an executed proxy card. By voting in advance of the Annual Meeting, this ensures that your shares will be voted and reduces the likelihood that the Company will be forced to incur additional expenses soliciting proxies for the Annual Meeting. Any record holder of our common stock may attend the Annual Meeting in person and may revoke the enclosed form of proxy at any time by:

- executing and delivering to the Corporate Secretary a later-dated proxy;
- delivering a written revocation to the Corporate Secretary before the meeting; or
- voting in person at the Annual Meeting.

Beneficial holders of our common stock who wish to change or revoke their voting instructions should contact their brokerage firm, bank or other financial institution for information on how to do so. Beneficial holders who wish to attend the Annual Meeting and vote in person should contact their brokerage firm, bank or other financial institution holding shares of our common stock on their behalf in order to obtain a “legal proxy,” which will allow them to both attend the Annual Meeting and vote in person. Without a legal proxy, beneficial holders cannot vote at the Annual Meeting because their brokerage firm, bank or other financial institution may have already voted or returned a broker non-vote on their behalf.

PROPOSAL NO. 1
ELECTION OF DIRECTORS

The Amended and Restated Bylaws of the Company (the “*Bylaws*”) provide that the number of directors shall be not fewer than two and not more than five, with directors serving one-year terms. The total Board size is currently fixed at five directors. Currently, the directors (whose terms expire at the 2017 Annual Meeting of Stockholders) are Geert Cauwenbergh, Dr. Med. Sc., Robert J. Bitterman, Keith L. Brownlie, H. Paul Dorman and Curtis A. Lockshin, Ph.D. Directors elected at the Annual Meeting will hold office until the 2018 Annual Meeting of Stockholders and until their successors are elected and qualified, unless they resign or their seats become vacant due to death, removal or other cause in accordance with the Bylaws.

As described below, the Board has nominated Drs. Cauwenbergh and Lockshin and Messrs. Bitterman, Brownlie and Dorman for reelection as directors at the Annual Meeting. All nominees have indicated their willingness to serve if elected. Should any nominee become unavailable for election at the Annual Meeting, the persons named on the enclosed proxy as proxy holders may vote all proxies given in response to this solicitation for the election of a substitute nominee chosen by the Board.

Nomination of Directors

The Nominating and Governance Committee reviews and recommends to the Board potential nominees for election to the Board. In reviewing potential nominees, the Nominating and Governance Committee considers the qualifications of each potential nominee in light of the Board’s existing and desired mix of experience and expertise. The Nominating and Governance Committee considers many factors when making a determination to nominate a candidate for a director position on the Board, such as integrity and character, prior business experience, including experience relating to the biotechnology industry, financial literacy and the nominee’s willingness to commit substantial time to the Company. After reviewing the qualifications of potential Board candidates, the Nominating and Governance Committee presents its recommendations to the Board, which selects the final director nominees. Upon the recommendation of the Nominating and Governance Committee, the Board nominated Drs. Cauwenbergh and Lockshin and Messrs. Bitterman, Brownlie and Dorman for reelection as directors. The Company did not pay any fees to any third parties to identify or assist in identifying or evaluating nominees for the Annual Meeting.

The Nominating and Governance Committee considers stockholder nominees using the same criteria set forth above. Stockholders who wish to present a potential nominee to the Nominating and Governance Committee for consideration for election at a future annual meeting of stockholders must provide the Nominating and Governance Committee with notice of the nomination and certain information regarding the candidate within the time periods set forth below under the caption “Stockholder Proposals.”

Although the Nominating and Governance Committee may consider whether nominees assist in achieving a mix of Board members that represents a diversity of background and experience, including but not limited to race, gender or national origin, we have no formal policy regarding Board diversity.

Nominees and Incumbent Directors

The Nominating and Governance Committee has recommended and the Board has nominated Drs. Cauwenbergh and Lockshin and Messrs. Bitterman, Brownlie and Dorman to be reelected as directors at the Annual Meeting. The following table sets forth the following information for these nominees: the year each was first elected a director of the Company, if applicable; their respective ages as of the date of filing of this Proxy Statement; the positions currently held with the Company, if any, and the year their current term will expire, if applicable:

Nominee / Director Name and Year First Became a Director (if applicable)	Age	Position(s) with the Company	Year Current Term Expires
Nominees for Directors:			
Geert Cauwenbergh, Dr. Med. Sc. (2012)	63	President, Chief Executive Officer, acting Chief Financial Officer and Director	2017
Robert J. Bitterman (2012)	66	Chairman of the Board of Directors	2017
Keith L. Brownlie (2012)	64	Director	2017
H. Paul Dorman (2013)	80	Director	2017
Curtis A. Lockshin, Ph.D. (2013)	56	Director	2017

Directors Nominated for Election

The following persons have been nominated by the Board to be elected as directors at the Annual Meeting.

Geert Cauwenbergh, Dr. Med. Sc. was appointed to the Board and was elected as President and Chief Executive Officer of the Company in April 2012. Prior to joining us, from June 2011 to April 2012, Dr. Cauwenbergh was active, through his consulting company Phases123 LLC, in advising various small biotech and healthcare companies. From July 2008 to June 2011, Dr. Cauwenbergh was the Chief Executive Officer of Rhei Pharmaceuticals HK Ltd, a Chinese company that licenses western drugs for development and commercialization in China, and Managing Director of the Center for Medical Innovation, a government subsidized center for translational medicine for the Belgian Region of Flanders. From 2002 to 2008, Dr. Cauwenbergh served as Chief Executive Officer of Barrier Therapeutics, Inc., a publicly traded biopharmaceutical company that he founded in 2001 and where he also served as Chairman of the board of directors from 2002 to 2006. Barrier, which focused on dermatology drug development and commercialization, was acquired by Stiefel Laboratories, Inc. in 2008. Prior to founding Barrier, Dr. Cauwenbergh held a number of ascending senior management positions at Johnson & Johnson, where he was employed for 23 years. As Vice President of Research and Development for Johnson & Johnson's Skin Research Center, he was responsible for the worldwide research and development of all skin care products for the Johnson & Johnson consumer companies. He currently serves on the board of directors of Moberg Pharma AB, Phosphagenics Ltd. and Cutanea Life Sciences, Inc., a wholly owned subsidiary of Maruho Company, LTD. In 2005, Dr. Cauwenbergh was inducted into the New Jersey High-Tech Hall of Fame, and, from 2009 to 2010, he served as Chairman of the Board of Trustees of BioNJ. He has authored more than 100 publications and has been a guest editor for numerous books addressing mycology and infectious diseases. Dr. Cauwenbergh received his Doctorate in Medical Sciences from the Catholic University of Leuven, Faculty of Medicine (Belgium), where he also completed his masters and undergraduate work. Our Nominating and Governance Committee believes that Dr. Cauwenbergh is qualified to serve as a member of our Board due to his executive leadership and extensive knowledge and experience in the industry.

Robert J. Bitterman has served as a member and the Chairman of our Board since 2012. Prior to joining the Company, Mr. Bitterman founded Cutanea Life Sciences, Inc. in September 2005 as its President, Chief Executive Officer and director. Cutanea Life Sciences, Inc. focuses on the development and commercialization of proprietary technologies to treat diseased and aging skin and was successfully acquired by Maruho Company, LTD. in February 2012, where Mr. Bitterman has continued his role as President and Chief Executive Officer. Mr. Bitterman also served as President and General Manager of Dermik Laboratories, the global dermatology strategic business unit of Aventis S.A. from 1994 to 2004. Prior to assuming senior operational leadership positions, Mr. Bitterman held various positions of increasing responsibility in financial and commercial capacities within Aventis S.A. From September 2004 until April 2005, Mr. Bitterman also held the position of

President and Chief Executive Officer of Isolagen, Inc., a publicly traded bioscience technology company which developed and commercialized autologous human fibroblasts targeting soft tissue enhancement. Mr. Bitterman holds an A.B. degree in Economics from The College of the Holy Cross and a Master of Business Administration degree from Boston University. He also holds a Doctor of Human Letters (Honoris Causa) from the New York College of Podiatric Medicine and is a member of the Philadelphia Business Leaders Network. Our Nominating and Governance Committee believes that Mr. Bitterman is qualified to serve as a member of our Board due to his executive leadership and his experience in the dermatology and pharmaceutical industries.

Keith L. Brownlie has served as a member of our Board since June 2012. Prior to joining us, Mr. Brownlie was employed by the accounting firm Ernst & Young LLP from 1974 to 2010. At Ernst & Young, he served as audit partner for numerous public companies and was the Life Sciences Industry Leader for the New York Metro Area. Mr. Brownlie co-founded the New Jersey Entrepreneur of the Year Program and was co-chair of the BIONJ/PABIO Annual Symposium. Since his retirement from Ernst & Young in 2010, Mr. Brownlie currently serves as a member of the board of directors and chairman of the audit committee of Soligenix, Inc., which develops products to treat life-threatening side effects of cancer treatments and serious gastrointestinal diseases and vaccines for certain bioterrorism agents. From 2011 to 2013, Mr. Brownlie also served as a member of the board of directors and served as the chairman of the audit committee of EpiCept Corporation, which focused on the development and commercialization of pharmaceutical products for the treatment of pain and cancer and merged with Immune Pharmaceuticals in August 2013. From 2013 to 2014, Mr. Brownlie was a member of the board of directors and served as the chairman of the audit committee of Cancer Genetics, Inc., an emerging leader in DNA-based cancer diagnostics that personalizes the clinical management of difficult-to-diagnose cancers. Mr. Brownlie received a B.S. in Accounting from Lehigh University and is a Certified Public Accountant. Our Nominating and Governance Committee believes that Mr. Brownlie is qualified to serve as a member of our Board due to his significant financial expertise and background serving as a director of other public companies.

H. Paul Dorman has served as a member of our Board since April 2013. Mr. Dorman currently serves as the Chairman and CEO of DFB Pharmaceuticals, a holdings company specializing in investing in and operating pharmaceutical businesses. From 1990 to 2012, Mr. Dorman also served as the Chairman and CEO of DPT Laboratories, a contract manufacturer and developer of pharmaceutical products. During that time, Mr. Dorman expanded DPT into a portfolio of healthcare companies that provides services and proprietary branded pharmaceutical products to the global market. Prior to acquiring DPT, Mr. Dorman was employed by Johnson & Johnson for 12 years, where he served in various positions, including Vice President and as a member of the board of directors. Prior to Johnson & Johnson, Mr. Dorman was employed by Baxter-Travenol, a large pharmaceuticals company. Mr. Dorman holds a B.S. degree in Mechanical Engineering from Tulane University and a Juris Doctor of Law from Loyola University. Our Nominating and Governance Committee believes that Mr. Dorman is qualified to serve as a member of our Board due to his executive leadership and business experience in the pharmaceutical industry.

Curtis A. Lockshin, Ph.D. has served as a member of our Board since April 2013. Dr. Lockshin currently serves as the Chief Scientific Officer of Xenetic Biosciences, Inc., a biopharmaceutical company focused on developing biologic drugs and novel oncology therapeutics. Prior to his appointment as Chief Scientific Officer, Dr. Lockshin served as the Vice President of Research and Operations from March 2014 to January 2017. From July 2015 to July 2016, he served as Chief Executive Officer and director of SciVac Therapeutics Inc., and its subsidiary SciVac, Ltd. where Dr. Lockshin had been serving as Chief Executive Officer and director since September 2014. With the merger of SciVac Therapeutics Inc. and VBI Vaccines in July 2016, Dr. Lockshin served as the Chief Technical Officer of the merged company until December 2016. In addition, he has served as the President and Chief Executive Officer of Guardum Pharmaceuticals, LLC since May 2013. From October 2011 to February 2013, Dr. Lockshin served as Vice President of Corporate R&D Initiatives for OPKO Health, Inc., at which time he then assumed the position of consultant to OPKO until December 2013. Since 2003, Dr. Lockshin has worked as an independent consultant, focusing on small private companies in the healthcare, biotechnology and security sectors. From August 2002 to March 2003, Dr. Lockshin held the position of Director of Discovery Biology at Beyond Genomics, Inc. (now BG Medicine, Inc.), and held various positions from June

1998 to July 2002 at Sepracor, Inc. (now Sunovion Pharmaceuticals, Inc.). Since April 2004, Dr. Lockshin has also served as a member of the board of directors of the Ruth K. Broad Biomedical Research Foundation, a Duke University Support Corporation that supports basic research related to Alzheimer's disease and neurodegeneration via intramural, extramural and international grants. He is a past member of the board of directors of ChromaDex, Inc. and Sorrento Therapeutics, Inc. Dr. Lockshin holds a S.B. degree in Life Sciences and a Ph.D. in Biological Chemistry from the Massachusetts Institute of Technology. Our Nominating and Governance Committee believes that Dr. Lockshin is qualified to serve as a member of our Board due to his scientific background, his significant industry knowledge and management experience.

Vote Required

The five nominees who receive the greatest number of affirmative votes of the shares present in person or by proxy will be elected as directors. Any shares that are not voted, whether by abstention, broker non-votes or otherwise, will not affect the election of directors.

Holders of proxies solicited by this Proxy Statement will vote the proxies received by them as directed on the proxy card or, if no direction is made, then FOR the election of the nominees named in this Proxy Statement.

**THE BOARD RECOMMENDS A VOTE "FOR"
THE NOMINEES IDENTIFIED ABOVE.**

PROPOSAL NO. 2
RATIFICATION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Our Audit Committee has selected BDO USA, LLP (“**BDO**”) as our independent registered public accounting firm for the fiscal year ending December 31, 2017, and has further directed that we submit the selection of BDO for ratification by our stockholders at the Annual Meeting.

The Company is not required to submit the selection of our independent registered public accounting firm for stockholder approval. However, if the stockholders do not ratify this selection, the Audit Committee will reconsider its selection of BDO. Even if the selection is ratified, our Audit Committee may direct the appointment of a different independent registered public accounting firm at any time during the year if the Audit Committee determines that the change would be in the best interests of the Company.

The Audit Committee reviews and pre-approves all audit and non-audit services performed by its independent registered public accounting firm, as well as the fees charged for such services. All fees incurred in fiscal years 2016 and 2015 for services rendered by BDO were approved in accordance with these policies. In its review of non-audit service fees, the Audit Committee considers, among other things, the possible impact of the performance of such services on the auditor’s independence. Additional information concerning the Audit Committee and its activities can be found in the “Board Committees” section of this Proxy Statement.

Representatives of BDO are expected to be present at the Annual Meeting, will have the opportunity to make a statement if they desire to do so and will be available to respond to appropriate stockholder questions.

Fees for Independent Registered Public Accounting Firm

The following is a summary of the fees billed to the Company by BDO for professional services rendered for the fiscal years ended December 31, 2016 and 2015. These fees are for work invoiced in the fiscal years indicated.

	<u>2016</u>	<u>2015</u>
<i>Audit Fees:</i>		
Consists of fees billed for professional services rendered for the audit of the Company’s annual financial statements and the review of the interim financial statements included in the Company’s quarterly reports (together, the “ Financial Statements ”) and for services normally provided in connection with statutory and regulatory filings or engagements	\$ 174,242	\$ 194,962
<i>Other Fees:</i>		
<i>Audit-Related Fees</i>		
Consists of fees billed for assurance and related services reasonably related to the performance of the annual audit or review of the Financial Statements	—	—
<i>Tax Fees</i>		
Consists of fees billed for tax compliance, tax advice and tax planning	—	—
<i>All Other Fees</i>		
Consists of fees billed for other products and services not described above, which consisted of fees relating to: accounting policy and auditor consent	—	—
Total Other Fees	—	—
<i>Total All Fees:</i>	<u>\$ 174,242</u>	<u>\$ 194,962</u>

Recommendation

The Board recommends a vote “FOR” the ratification of BDO as our independent registered public accounting firm for the fiscal year ending December 31, 2017. Proxies will be so voted unless stockholders specify otherwise in their proxies.

Vote Required

Ratification of the selection of the independent registered public accounting firm requires the affirmative vote of a majority of the votes cast on the matter affirmatively or negatively. Abstentions and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

THE BOARD RECOMMENDS A VOTE “FOR” PROPOSAL NO. 2.

PROPOSAL NO. 3
THE REVERSE STOCK SPLIT PROPOSAL

General

Our Board has unanimously approved, and recommended that our stockholders approve, an amendment to our Charter (the “*Certificate of Amendment*”), to effect a reverse stock split, if considered by the Board to be necessary, at a ratio of not less than 1-for-2 and not greater than 1-for-40, with the final decision of whether to proceed with the Reverse Stock Split, the effective time of the Reverse Stock Split, and the exact ratio of the Reverse Stock Split to be determined by the Board, in its sole discretion. If the stockholders approve the Reverse Stock Split, and the Board decides to implement it, the Reverse Stock Split will become effective as of 12:01 a.m. Eastern Time on a date to be determined by the Board that will be specified in the Certificate of Amendment (the “*effective time*”). If the Board does not decide to implement the Reverse Stock Split within twelve months from the date of the Annual Meeting, the authority granted in this proposal to implement the Reverse Stock Split will terminate.

The Reverse Stock Split will be realized simultaneously for all outstanding common stock. The Reverse Stock Split will affect all holders of common stock uniformly and each stockholder will hold the same percentage of common stock outstanding immediately following the Reverse Stock Split as that stockholder held immediately prior to the Reverse Stock Split, except for immaterial adjustments that may result from the treatment of fractional shares as described below. The Reverse Stock Split will not change the par value of our common stock and will not reduce the number of authorized shares of common stock.

Reasons for the Reverse Stock Split

The principal reason for the Reverse Stock Split is to increase the per share trading price of the Company’s common stock in order to help ensure a share price high enough to satisfy the \$1.00 per share minimum bid price requirement for continued listing on The Nasdaq Capital Market, although there can be no assurance that the trading price of our common stock would be maintained at such level or that we will be able to maintain the listing of our common stock on The Nasdaq Capital Market.

As previously reported, on February 2, 2017, the Company received written notice (the “*Notification Letter*”) from the Nasdaq Stock Market (“*Nasdaq*”) notifying the Company that it was not in compliance with the minimum bid price requirements set forth in Nasdaq Listing Rule 5550(a)(2) for continued listing on The Nasdaq Capital Market, because the bid price of the Company’s common stock had closed below the minimum \$1.00 per share for the 30 consecutive business days prior to the date of the Notification Letter. The Notification Letter indicated that we were provided an initial period of 180 calendar days, or until August 1, 2017, in which to regain compliance.

The Company may be unable to regain compliance with the bid price requirement by August 1, 2017. In the event that the Company does not regain compliance by August 1, 2017, the Company may be eligible for an extension of up to an additional 180 calendar days to reach compliance with the minimum bid price requirement.

If we do not regain compliance by August 1, 2017 (or are granted the aforementioned 180-day extension and do not regain compliance by January 28, 2018), the Nasdaq staff will provide written notice that our common stock is subject to delisting. The Board has considered the potential harm to the Company and our stockholders should Nasdaq delist our common stock. Delisting from Nasdaq would likely adversely affect our ability to raise additional financing through the public or private sale of equity securities and would significantly affect the ability of investors to trade our securities. Delisting would also likely negatively affect the value and liquidity of our common stock because alternatives, such as the OTC Bulletin Board and the pink sheets, are generally considered to be less efficient markets.

Due to the timing and related costs to call a meeting of stockholders at a later date than our Annual Meeting, at which time the Company would then propose an amendment to our Charter to effect the Reverse Stock Split, the

Company is taking a proactive approach to ask our shareholders to approve the Reverse Stock Split at our upcoming Annual Meeting. The Board believes that with the Company's upcoming events and milestones during the year, the likelihood of our stock price increasing to meet the Nasdaq listing requirements before the applicable deadline without the Reverse Stock Split is promising. However, given the volatility and fluctuations in the capital markets, if our share price does not appreciate prior to these deadlines, we believe that the Company's best option to meet Nasdaq's \$1.00 minimum bid price requirement would be to effect the Reverse Stock Split to increase the per-share trading price of our common stock.

In addition, we believe that the low per share market price of our common stock impairs its marketability to and acceptance by institutional investors and other members of the investing public and creates a negative impression of the Company. Theoretically, decreasing the number of shares of common stock outstanding should not, by itself, affect the marketability of the shares, the type of investor who would be interested in acquiring them, or our reputation in the financial community. In practice, however, many investors, brokerage firms and market makers consider low-priced stocks as unduly speculative in nature and, as a matter of policy, avoid investment and trading in such stocks. Moreover, the analysts at many brokerage firms do not monitor the trading activity or otherwise provide coverage of lower priced stocks. The presence of these factors may be adversely affecting, and may continue to adversely affect, not only the pricing of our common stock but also its trading liquidity. In addition, these factors may affect our ability to raise additional capital through the sale of stock.

Further, we believe that a higher stock price could help us establish business development relationships with other companies. Theoretically, decreasing the number of shares of common stock outstanding should not, by itself, affect our reputation in our business community. In practice, however, we believe that potential business development partners may be less confident in the prospects of a company with a low stock price, and are less likely to enter into business relationships with a company with a low stock price. If the Reverse Stock Split successfully increases the per share price of our common stock, we believe this may increase our ability to attract business development partners.

Also, we believe that a higher stock price could help us attract and retain employees and other service providers. We believe that some potential employees and service providers are less likely to work for a company with a low stock price, regardless of the size of the company's market capitalization. If the Reverse Stock Split successfully increases the per share price of our common stock, we believe this increase will enhance our ability to attract and retain employees and service providers.

We hope that the decrease in the number of shares of our outstanding common stock as a consequence of the Reverse Stock Split, and the anticipated increase in the price per share, will encourage greater interest in our common stock by the financial community, business development partners and the investing public, help us attract and retain employees and other service providers, help us raise additional capital through the sale of stock in the future if needed, and possibly promote greater liquidity for our stockholders with respect to those shares presently held by them. However, the possibility also exists that liquidity may be adversely affected by the reduced number of shares which would be outstanding if the Reverse Stock Split is effected, particularly if the price per share of our common stock begins a declining trend after the Reverse Stock Split is effected.

The Board believes that stockholder adoption of a range of reverse stock split ratios (as opposed to adoption of a single reverse stock split ratio or a set of fixed ratios) provides maximum flexibility to achieve the purposes of a reverse stock split and, therefore, is in the best interests of the Company. In determining a ratio following the receipt of stockholder adoption, the Board (or any authorized committee of the Board) may consider, among other things, factors such as:

- the historical trading price and trading volume of our common stock;
- the number of shares of our common stock outstanding;
- the then-prevailing trading price and trading volume of our common stock and the anticipated impact of the Reverse Stock Split on the trading market for our common stock;
- the anticipated impact of a particular ratio on our ability to reduce administrative and transactional costs;

-
- the continued listing requirements of Nasdaq; and
 - prevailing general market and economic conditions.

The Board reserves the right to elect to abandon the Reverse Stock Split, notwithstanding stockholder adoption thereof, if it determines, in its sole discretion, that the Reverse Stock Split is no longer needed to regain compliance with Nasdaq's listing requirements or is no longer in the best interests of the Company.

Reverse Stock Split Amendment to the Charter

If the Reverse Stock Split is approved, subsection(a) of ARTICLE IV of the Charter shall be amended and restated in its entirety as follows:

(a) Authorized Shares. The total number of shares of stock which the Corporation shall have authority to issue is 110,000,000 shares, consisting of 100,000,000 shares of Common Stock, par value \$0.0001 per share ("Common Stock") and 10,000,000 shares of Preferred Stock, par value \$0.0001 per share ("Preferred Stock"). Upon the effectiveness of this Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Corporation, each [whole number of shares, as determined by the Board], of Common Stock issued and outstanding at such time shall, automatically and without any further action on the part of the Corporation or the holder thereof, be combined into one (1) validly issued, fully paid and non-assessable share of Common Stock (the "Reverse Stock Split"). The par value of the Common Stock following the Reverse Stock Split shall remain \$0.0001 per share. No fractional shares shall be issued, and, in lieu thereof, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock, as determined by the Board of Directors. Each certificate that immediately prior to the Effective Time represented shares of Common Stock (an "Old Certificate") shall thereafter represent that number of shares of Common Stock into which the shares of Common Stock represented by the Old Certificate shall have been combined, subject to the elimination of fractional share interests as described above.

The Certificate of Amendment attached hereto as Appendix A reflects the changes that will be implemented to our Charter if the Reverse Stock Split is approved.

Principal Effects of the Reverse Stock Split

If the stockholders approve the proposal to authorize the Board to implement the Reverse Stock Split and the Board implements the Reverse Stock Split, we will amend the existing provision of Article IV of our Charter in the manner set forth above.

By approving this amendment, stockholders will approve the combination of any whole number of shares of common stock between and including two (2) and forty (40), with the exact number to be determined by the Board, into one (1) share. The Certificate of Amendment to be filed with the Secretary of State of the State of Delaware will include only that number determined by the Board to be in the best interests of the Company and its stockholders. In accordance with these resolutions, the Board will not implement any amendment providing for a different split ratio.

As explained above, the Reverse Stock Split will be effected simultaneously for all issued and outstanding shares of common stock and the exchange ratio will be the same for all issued and outstanding shares of common stock. The Reverse Stock Split will affect all of our stockholders uniformly and will not affect any stockholder's percentage ownership interests in the Company, except to the extent that the Reverse Stock Split results in any of our stockholders receiving a cash payment in lieu of owning a fractional share, as described in the section titled "**Fractional Shares**" below. Common stock issued pursuant to the Reverse Stock Split will remain fully paid and non-assessable. The Reverse Stock Split will not affect the Company's continuing obligations under the periodic reporting requirements of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"). Following the Reverse Stock Split, our common stock will continue to be listed on The Nasdaq Capital Market, under the symbol "RXII," although it would receive a new CUSIP number.

Upon effectiveness of the Reverse Stock Split, the number of authorized shares of common stock that are not issued or outstanding will increase substantially, because the proposed amendment will not reduce the number of authorized shares, while it will reduce the number of outstanding shares by a factor of between and including two and forty, depending on the exchange ratio selected by the Board.

The shares that are authorized but unissued after the Reverse Stock Split will be available for issuance, and, if we issue these shares, the ownership interest of holders of our common stock may be diluted. We may issue such shares to raise capital and/or as consideration in acquiring other businesses or establishing strategic relationships with other companies. Such acquisitions or strategic relationships may be effected using shares of common stock or other securities convertible into common stock and/or by using capital that may need to be raised by selling such securities. Other than with respect to the acquisition of MirImmune, we do not have any agreement, arrangement or understanding at this time with respect to any specific transaction or acquisition for which the newly unissued authorized shares would be issued.

Procedure for Effecting Reverse Stock Split and Exchange of Stock Certificates

If the Reverse Stock Split is approved by the Company's stockholders, and if at such time the Board still believes that a reverse stock split is in the best interests of the Company and its stockholders, the Board will determine the ratio of the reverse stock split to be implemented. The Reverse Stock Split will become effective as of the effective time. The Board will determine the exact timing of the filing of the Certificate of Amendment based on its evaluation as to when the filing would be the most advantageous to the Company and its stockholders. If the Board does not decide to implement the Reverse Stock Split within twelve months from the date of the Annual Meeting, the authority granted in this proposal to implement the Reverse Stock Split will terminate.

Except as described below under the section titled "**Fractional Shares**," at the effective time, each whole number of issued and outstanding pre-Reverse Stock Split shares that the Board has determined will be combined into one post-Reverse Stock Split share, will, automatically and without any further action on the part of our stockholders, be combined into and become one share of common stock, and each certificate which, immediately prior to the effective time represented pre-Reverse Stock Split shares, will be deemed for all corporate purposes to evidence ownership of post-Reverse Stock Split shares.

Fractional Shares

No fractional shares will be issued in connection with the Reverse Stock Split. Stockholders of record at the effective time of the Reverse Stock Split who otherwise would be entitled to receive fractional shares because they hold a number of pre-Reverse Stock Split shares not evenly divisible by the number of pre-Reverse Stock Split shares for which each post-Reverse Stock Split share is to be exchanged, will, in lieu of a fractional share, be entitled, upon surrender to the exchange agent of certificate(s) representing such pre-Reverse Stock Split shares, to a cash payment in lieu thereof. The cash payment will equal the fraction to which the stockholder would otherwise be entitled multiplied by the average of the closing prices (as adjusted to reflect the Reverse Stock Split) of our common stock, as reported by Bloomberg L.P., during the ten consecutive trading days ending on the trading day that is the second day immediately prior to the date on which the Reverse Stock Split becomes effective.

Stockholders should be aware that, under the escheat laws of the various jurisdictions where stockholders reside, sums due for fractional interests that are not timely claimed after the effective time may be required to be paid to the designated agent for each such jurisdiction. Thereafter, stockholders otherwise entitled to receive such funds may have to seek to obtain them directly from the state to which they were paid.

Risks Associated with the Reverse Stock Split

We cannot predict whether the Reverse Stock Split will increase the market price for our common stock. The history of similar stock split combinations for companies in like circumstances is varied, for example, our share price decreased 5% the next trading day with our stock split in 2016, but increased 11% the next trading day from

our stock split in 2013. Additionally, the market price of our common stock will also be based on our performance and other factors, some of which are unrelated to the number of shares outstanding. Further, there are a number of risks associated with the Reverse Stock Split, including:

- The market price per share of our shares of common stock post-Reverse Stock Split may not remain in excess of the \$1.00 minimum bid price per share as required by Nasdaq, or the Company may fail to meet the other requirements for continued listing on Nasdaq, including the minimum value of listed securities, as described above, resulting in the delisting of our common stock.
- Although the Board believes that a higher stock price may help generate the interest of new investors, the Reverse Stock Split may not result in a per-share price that will successfully attract certain types of investors and such resulting share price may not satisfy the investing guidelines of institutional investors or investment funds. Further, other factors, such as our financial results, market conditions and the market perception of our business, may adversely affect the interest of new investors in the shares of our common stock. As a result, the trading liquidity of the shares of our common stock may not improve as a result of the Reverse Stock Split and there can be no assurance that the Reverse Stock Split, if completed, will result in the intended benefits described above.
- The Reverse Stock Split could be viewed negatively by the market and other factors, such as those described above, may adversely affect the market price of the shares of our common stock. Consequently, the market price per post-Reverse Stock Split shares may not increase in proportion to the reduction of the number of shares of our common stock outstanding before the implementation of the Reverse Stock Split. Accordingly, the total market capitalization of our shares of common stock after the Reverse Stock Split may be lower than the total market capitalization before the Reverse Stock Split. Any reduction in total market capitalization as the result of the Reverse Stock Split may make it more difficult for us to meet the Nasdaq Listing Rule regarding minimum value of listed securities, which could result in our shares of common stock being delisted from The Nasdaq Capital Market.
- The Reverse Stock Split may result in some stockholders owning “odd lots” of less than 100 shares of common stock. Odd lot shares may be more difficult to sell, and brokerage commissions and other costs of transactions in odd lots are generally somewhat higher than the costs of transactions in “round lots” of even multiples of 100 shares.

Book-Entry Shares

If the Reverse Stock Split is effected, stockholders who hold uncertificated shares (i.e., shares held in book-entry form and not represented by a physical stock certificate), either as direct or beneficial owners, will have their holdings electronically adjusted automatically by our transfer agent (and, for beneficial owners, by their brokers or banks that hold in “street name” for their benefit, as the case may be) to give effect to the Reverse Stock Split. Stockholders who hold uncertificated shares as direct owners will be sent a statement of holding from our transfer agent that indicates the number of post-Reverse Stock Split shares of our common stock owned in book-entry form.

Certificated Shares

As soon as practicable after the effective time of the Reverse Stock Split, stockholders will be notified that the Reverse Stock Split has been effected. We expect that our transfer agent will act as exchange agent for purposes of implementing the exchange of stock certificates. Holders of pre-Reverse Stock Split shares will be asked to surrender to the exchange agent certificates representing pre-Reverse Stock Split shares in exchange for certificates representing post-Reverse Stock Split shares in accordance with the procedures to be set forth in a letter of transmittal to be sent by us or our exchange agent. No new certificates will be issued to a stockholder until such stockholder has surrendered such stockholder’s outstanding certificate(s) together with the properly completed and executed letter of transmittal to the exchange agent. Any pre-Reverse Stock Split shares submitted for transfer, whether pursuant to a sale or other disposition, or otherwise, will automatically be exchanged for post-Reverse Stock Split shares. STOCKHOLDERS SHOULD NOT DESTROY ANY STOCK CERTIFICATE(S) AND SHOULD NOT SUBMIT ANY CERTIFICATE(S) UNTIL REQUESTED TO DO SO.

Principal Effects of Reverse Stock Split on Outstanding Options, Preferred Stock, Warrants, and Option Plan

As of the Record Date, there were outstanding stock options to purchase an aggregate of _____ shares of our common stock with a weighted average exercise price of \$ _____ per share, _____ outstanding shares of Series C Convertible Preferred Stock, convertible on a one-to-one basis into shares of our common stock, and warrants to purchase an aggregate of _____ shares of common stock with a weighted average exercise price of \$ _____ per share. When the Reverse Stock Split becomes effective, the number of shares of common stock covered by such rights will be reduced to between and including one-half and one-fortieth the number currently covered, and the exercise or conversion price per share will be increased by between and including two and forty times the current exercise or conversion price, resulting in the same aggregate price being required to be paid therefor upon exercise or conversion thereof as was required immediately preceding the Reverse Stock Split.

In addition, the number of shares of common stock and number of shares of common stock subject to stock options or similar rights authorized under the Company's equity incentive plan and employee stock purchase plan will automatically be proportionately adjusted for the reverse stock split ratio, such that fewer shares will be subject to such plans. Further, the per share exercise price under such plans will automatically be proportionately adjusted for the Reverse Stock Split.

Accounting Matters

The Reverse Stock Split will not affect the common stock capital account on our balance sheet. However, because the par value of our common stock will remain unchanged at the effective time of the split, the components that make up the common stock capital account will change by offsetting amounts. Depending on the size of the Reverse Stock Split the Board decides to implement, the stated capital component will be reduced proportionately based upon the Reverse Stock Split and the additional paid-in capital component will be increased with the amount by which the stated capital is reduced. Immediately after the Reverse Stock Split, the per share net income or loss and net book value of our common stock will be increased because there will be fewer shares of common stock outstanding. All historic share and per share amounts in our financial statements and related footnotes will be adjusted accordingly for the Reverse Stock Split.

Effect on Par Value

The proposed amendment to our Charter will not affect the par value of our common stock, which will remain at \$0.0001 per share.

No Going Private Transaction

Notwithstanding the decrease in the number of outstanding shares following the proposed Reverse Stock Split, our Board does not intend for this transaction to be the first step in a "going private transaction" within the meaning of Rule 13e-3 of the Exchange Act.

Potential Anti-Takeover Effect

Although the increased proportion of unissued authorized shares to issued shares could, under certain circumstances, have an anti-takeover effect (for example, by permitting issuances that would dilute the stock ownership of a person seeking to effect a change in the composition of the Board or contemplating a tender offer or other transaction for the combination of the Company with another company), the Reverse Stock Split proposal is not being proposed in response to any effort of which we are aware to accumulate shares of our common stock or obtain control of the Company, nor is it part of a plan by management to recommend a series of similar amendments to the Board and stockholders. Other than the Reverse Stock Split proposal, the Board does not currently contemplate recommending the adoption of any other actions that could be construed to affect the ability of third parties to take over or change control of the Company.

No Dissenters' Appraisal Rights

Under the Delaware General Corporation Law, the Company's stockholders are not entitled to dissenters' appraisal rights with respect to the Reverse Stock Split, and the Company will not independently provide stockholders with any such right.

Material United States Federal Income Tax Consequences of the Reverse Stock Split

The following is not intended as tax or legal advice. Each holder should seek advice based on his, her or its particular circumstances from an independent tax advisor.

The following is a summary of certain United States federal income tax consequences of the Reverse Stock Split generally applicable to beneficial holders of shares of our common stock. This summary addresses only such stockholders who hold their pre-reverse stock split shares as capital assets and will hold the post-reverse stock split shares as capital assets. This discussion does not address all United States federal income tax considerations that may be relevant to particular stockholders in light of their individual circumstances or to stockholders that are subject to special rules, such as financial institutions, tax-exempt organizations, insurance companies, dealers in securities, and foreign stockholders. The following summary is based upon the provisions of the Internal Revenue Code of 1986, as amended, applicable Treasury Regulations thereunder, judicial decisions and current administrative rulings, as of the date hereof, all of which are subject to change, possibly on a retroactive basis. Tax consequences under state, local, foreign, and other laws are not addressed herein. Each stockholder should consult its tax advisor as to the particular facts and circumstances which may be unique to such stockholder and also as to any estate, gift, state, local or foreign tax considerations arising out of the Reverse Stock Split.

Exchange Pursuant to Reverse Stock Split

No gain or loss will be recognized by a stockholder upon such stockholder's exchange of pre-reverse stock split shares for post-reverse stock split shares pursuant to the Reverse Stock Split, except to the extent of cash, if any, received in lieu of fractional shares, further described in "*Cash in Lieu of Fractional Shares*" below. The aggregate tax basis of the post-reverse stock split shares received in the Reverse Stock Split, including any fractional share deemed to have been received, will be equal to the aggregate tax basis of the pre-reverse stock split shares exchanged therefor, and the holding period of the post-reverse stock split shares will include the holding period of the pre-reverse stock split shares.

Cash in Lieu of Fractional Shares

A holder of pre-reverse stock split shares that receives cash in lieu of a fractional share of post-reverse stock split shares should generally be treated as having received such fractional share pursuant to the Reverse Stock Split and then as having exchanged such fractional share for cash in a redemption by the Company. The amount of any gain or loss should be equal to the difference between the ratable portion of the tax basis of the pre-reverse stock split shares exchanged in the Reverse Stock Split that is allocated to such fractional share and the cash received in lieu thereof. In general, any such gain or loss will constitute a long-term capital gain or loss if the holder's holding period for such pre-reverse stock split shares exceeds one year at the time of the Reverse Stock Split. Deductibility of capital losses by holders is subject to limitations.

Interests of Directors and Executive Officers

Our directors and executive officers have no substantial interests, directly or indirectly, in the matters set forth in this proposal except to the extent of their ownership of shares of our common stock.

Reservation of Right to Abandon Reverse Stock Split

We reserve the right to not file the Certificate of Amendment and to abandon any reverse stock split without further action by our stockholders at any time before the effectiveness of the filing with the Secretary of the State

of Delaware of the Certificate of Amendment, even if the authority to effect these amendments is approved by our stockholders at the Annual Meeting. By voting in favor of the Reverse Stock Split, you are expressly also authorizing the Board to delay, not proceed with, and abandon, the Reverse Stock Split and the Certificate of Amendment if it should so decide, in its sole discretion, that such actions are in the best interests of our stockholders.

Recommendation

The Board recommends a vote “FOR” the ratification of the Certificate of Amendment so as to effect the Reverse Stock Split.

Vote Required

The affirmative vote of the holders of a majority of the outstanding shares of our common stock entitled to vote on the matter either in person or by proxy is required to approve the Certificate of Amendment to our Charter to effect the Reverse Stock Split of our common stock. Abstentions and broker non-votes, if any, will thus count as votes AGAINST the Reverse Stock Split.

Holders of proxies solicited by this Proxy Statement will vote the proxies received by them as directed on the proxy card or, if no direction is made, then FOR the Reverse Stock Split.

THE BOARD RECOMMENDS A VOTE “FOR” PROPOSAL NO. 3.

PROPOSAL NO. 4
THE NASDAQ PROPOSAL

General

On January 6, 2017, the Company entered into a Stock Purchase Agreement (the “*Stock Purchase Agreement*”) by and among the Company, RXi Merger Sub, LLC, a Delaware limited liability company and wholly owned subsidiary of the Company (“*RXi Merger Sub*”), MirImmune Inc., a Delaware corporation (“*MirImmune*”), the stockholders of MirImmune set forth on the signature pages thereto (each a “*Seller*” and collectively, the “*Sellers*”), and Alexey Wolfson, Ph.D., in his capacity as the Sellers’ Representative. Pursuant to the Stock Purchase Agreement, the Company acquired from the Sellers 100% of the issued and outstanding shares of capital stock of MirImmune for an aggregate of 2,750,371 shares of the Company’s common stock and an aggregate of 1,118,224 shares of Series C Convertible Preferred Stock, par value \$0.0001 per share (the “*Series C Preferred Stock*”). Such consideration represents in the aggregate a number of shares of capital stock equal to approximately 19.99% of the outstanding common stock immediately prior to the execution of the Stock Purchase Agreement, plus approximately 19.99% of the common stock underlying the outstanding Series B Convertible Preferred Stock immediately prior to the execution of the Stock Purchase Agreement, which was previously issued in the Company’s registered securities offering pursuant to a registration statement on Form S-1 (File No. 333-214199) (the “*Financing*”). Pursuant to the Certificate of Designation for the Series C Preferred Stock (the “*Certificate of Designation*”), upon approval by the Company’s stockholders in accordance with the stockholder approval requirements of Nasdaq Marketplace Rule 5635, each share of the Series C Preferred Stock shall be automatically converted into one share of common stock, resulting in the issuance of 1,118,224 shares of common stock, subject to adjustment for stock splits, stock dividends, distributions, subdivisions and combinations.

Under the terms of the Stock Purchase Agreement, if certain development or commercial milestones (the “*Milestones*”) are achieved within two years of the Closing (as defined therein), the Company will be required to either: (i) issue to the Sellers a number of shares of common stock (the “*Milestone Shares*”) equal to the sum of 2,519,091 shares of common stock (which represents 13% of the outstanding common stock and 13% of the common stock underlying the shares of Series B Convertible Preferred Stock, in each case as of immediately following the closing of the Financing), plus an additional number of shares of common stock equal to 13% of the common stock issued upon exercise of any warrants issued under the Financing, which would result in the issuance of a maximum of 1,661,111 additional shares of common stock, but only to the extent that such warrants have been exercised prior to the Milestones being achieved; or (ii) pay the equivalent value of the Milestone Shares in cash to the Sellers, subject to certain adjustments set forth in the Stock Purchase Agreement. In certain circumstances, if the Company has not received stockholder approval for the issuance of the Milestone Shares, the Company may be required to instead issue shares of Series C Convertible Preferred Stock in lieu of part or all of the common stock otherwise issuable as Milestone Shares.

The Stock Purchase Agreement requires the Company to use reasonable best efforts to call a meeting of the stockholders and present a proposal to issue the shares of common stock underlying the Series C Preferred Shares to be voted upon at such meeting on or before June 30, 2017. Our Board also believes that it is in the best interest of the Company and our stockholders to approve the issuance of the Milestone Shares.

The terms of the Stock Purchase Agreement and the Certificate of Designation are complex and are only briefly summarized above. For further information regarding these agreements, please refer to our Current Report on Form 8-K filed with the SEC on January 10, 2017. For copies of these agreements, please refer to the exhibits filed with such Form 8-K. The discussion herein is qualified in its entirety by reference to such filed transaction documents.

Why the Company Needs Stockholder Approval

As a result of our listing on The NASDAQ Capital Market, issuances of our common stock are subject to the NASDAQ Marketplace Rules, including Rule 5635(d), which requires us to obtain stockholder approval prior to

the issuance of securities in connection with a transaction, other than a public offering, involving the sale, issuance or potential issuance by us of shares of our common stock (or securities convertible into or exercisable for shares of our common stock) at a price less than the greater of book or market value if such issuance would represent 20% or more of our common stock or voting power of the Corporation outstanding before the issuance (the “*Nasdaq 20% Rule*”). In order to comply with the Nasdaq 20% Rule and to satisfy conditions under the Stock Purchase Agreement, we are seeking stockholder approval to permit issuance of more than 20% of our common stock, upon the conversion of the Series C Preferred Shares and the achievement of the Milestones.

Effect of Failure to Obtain Stockholder Approval

If the stockholders do not approve Proposal No. 4, the Sellers will be unable to convert their shares of Series C Preferred Stock into shares of common stock. Further, if the Milestones are achieved within two years, the Company will be unable to issue shares of common stock to the Sellers and may instead be forced to pay the equivalent value of the Milestone Shares in cash to the Sellers, subject to certain adjustments set forth in the Stock Purchase Agreement. In certain circumstances, if the Company has not received stockholder approval for the issuance of the Milestone Shares, the Company may be required to instead issue shares of Series C Convertible Preferred Stock in lieu of part or all of the common stock otherwise issuable as Milestone Shares.

Effect of Approval

If the stockholders approve Proposal No. 4, 1,118,224 shares of common stock would be issuable upon the automatic conversion of the Series C Preferred Stock, subject to adjustment for stock splits, stock dividends, distributions, subdivisions and combinations, representing % of the shares of our common stock outstanding on the Record Date. Further, if the Milestones are achieved within two years, 2,519,091 shares of common stock would be issuable plus an additional number of shares of common stock equal to 13% of the common stock issued upon exercise of any warrants issued under the Financing, which would result in the issuance of a maximum of 1,661,111 additional shares of common stock, but only to the extent that such warrants have been exercised prior to the Milestones being achieved. The issuance of such shares could result in significant dilution to our stockholders, and could substantially reduce our stockholders’ percentage interest in the voting power of the Company. In addition, the sale or any resale of the common stock issued upon conversion of the Series C Preferred Stock and achievement of the Milestones could cause the market price of our common stock to decline further.

Recommendation

The Board recommends a vote “FOR” approval of the issuance of shares of common stock pursuant to the Stock Purchase Agreement and in accordance with the stockholder approval requirements of Nasdaq Listing Rule 5635(d).

Vote Required

This proposal must be approved by a majority of the votes cast on the matter affirmatively or negatively; provided, however, that the vote of all shares of our common stock issued to the Sellers pursuant to the Stock Purchase Agreement will not be counted in determining whether or not Proposal No. 4 is approved. As a result, abstentions and broker non-votes will be entirely excluded from the vote and will have no effect on its outcome.

THE BOARD RECOMMENDS A VOTE “FOR” PROPOSAL NO. 4.

CORPORATE GOVERNANCE

Director Independence

We believe that the Company benefits from having a strong and independent Board. For a director to be considered independent, the Board must determine that the director does not have any direct or indirect material relationship with the Company that would affect his or her exercise of independent judgment. On an annual basis, the Board reviews the independence of all directors under the applicable NASDAQ listing standards. The Company also considers each director's affiliations with the Company and members of management, as well as significant holdings of Company securities. This review considers all known relevant facts and circumstances in making an independence determination. Based on this review, the Board has made an affirmative determination that all directors, other than Dr. Cauwenbergh, are independent. It was determined that Dr. Cauwenbergh lacks independence because of his status as the Company's President and Chief Executive Officer.

In addition, NASDAQ listing standards require that, subject to specified exceptions, each member of our Audit, Compensation and Nominating and Governance Committees be independent and that our Audit Committee members also satisfy independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended (the "*Exchange Act*"). Our Board has determined that Messrs. Brownlie and Dorman and Dr. Lockshin, members of the Audit Committee, Messrs. Bitterman and Brownlie and Dr. Lockshin, members of the Compensation Committee, and Dr. Lockshin and Messrs. Brownlie and Dorman, members of the Nominating and Governance Committee, are independent under the applicable NASDAQ listing standards and the Exchange Act.

Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Waivers of our Code of Business Conduct and Ethics may only be granted by the Board or our Nominating and Governance Committee and will be publicly announced promptly in our SEC filings. Our Code of Business Conduct and Ethics, as well as other corporate governance materials, is located on our website at www.rxipharma.com.

Stockholder Communications

Generally, stockholders who have questions or concerns regarding the Company should contact our Investor Relations department at (508) 929-3646. However, any stockholders who wish to address questions regarding the business or affairs of the Company directly with the Board, or any individual director, should direct his or her questions in writing to the Chairman of the Board, RXi Pharmaceuticals Corporation, 257 Simarano Drive, Suite 101, Marlborough, MA 01752. Upon receipt of any such communications, the correspondence will be directed to the appropriate person, including individual directors.

BOARD OF DIRECTORS AND COMMITTEES

During fiscal year 2016, our Board met nine times. Each director attended at least 92% of the aggregate of the meetings of the Board and meetings of the committees of which he was a member in our last fiscal year. The Board has three standing committees: an Audit Committee, a Compensation Committee, and a Nominating and Governance Committee. All members of the Audit, Compensation and Nominating and Governance Committees are non-employee directors who are deemed independent.

Although the Company has no formal policies regarding director attendance at annual meetings, it does expect that all members of the Board will attend the 2017 Annual Meeting. All directors attended the 2016 Annual Meeting of Stockholders.

Board Leadership Structure and Role in Risk Oversight

The positions of Chairman of the Board and Chief Executive Officer are separated, which allows our Chief Executive Officer to focus on our day-to-day business, while allowing the Chairman of the Board to lead the Board in its fundamental role of providing advice to and independent oversight of management. Our Board recognizes the time, effort and energy that the Chief Executive Officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our Chairman. Our Board also believes that this structure ensures a greater role for the independent directors in the oversight of our Company and active participation of the independent directors in setting agendas and establishing priorities and procedures for the work of our Board. Our Board believes its administration of its risk oversight function has not affected its leadership structure.

While our Bylaws do not require that our Chairman and Chief Executive Officer positions be separate, our Board believes that having separate positions and having an independent outside director serve as Chairman is the appropriate leadership structure for us at this time and demonstrates our commitment to good corporate governance. Our separated Chairman and Chief Executive Officer positions are augmented by our independent Board committees that provide appropriate oversight in the areas described below. At executive sessions of independent directors, these directors speak candidly on any matter of interest, which may be with or without the Chief Executive Officer present. The independent directors meet separately in executive session on at least an annual basis to discuss matters relating to the Company and the Board, without members of the management team present. The Board met in executive session two times in 2016. We believe this structure provides consistent and effective oversight of our management and the Company.

The Board has overall responsibility for the oversight of the Company's risk management process, which is designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term organizational performance and enhance stockholder value. Risk management includes not only understanding company-specific risks and the steps management implements to manage those risks, but also what level of risk is acceptable and appropriate for the Company. Management is responsible for establishing our business strategy, identifying and assessing the related risks and implementing appropriate risk management practices. The Board periodically reviews our business strategy and management's assessment of the related risk, and discusses with management the appropriate level of risk for the Company. The Board also delegates oversight to Board committees to oversee selected elements of risk as set forth below.

Board Committees

Audit Committee. As of the Record Date, the Audit Committee was comprised of Messrs. Brownlie (Chairman) and Dorman and Dr. Lockshin. The Audit Committee selects the Company's independent registered public accounting firm, approves its compensation, oversees and evaluates the performance of the independent registered public accounting firm, oversees the accounting and financial reporting policies and internal control systems of the Company, reviews the Company's interim and annual financial statements, independent registered public accounting firm reports and management letters and performs other duties, as specified in the Audit Committee Charter, a copy of which is available on the Company's website at www.rxipharma.com. The Audit Committee met four times in fiscal year 2016. All members of the Audit Committee satisfy the current independence and experience requirements of Rule 10A-3 of the Exchange Act and the current NASDAQ independence standards, and the Board has determined that Mr. Brownlie is an "audit committee financial expert," as the SEC has defined that term in Item 407 of Regulation S-K.

Compensation Committee. As of the Record Date, the Compensation Committee was comprised of Messrs. Bitterman (Chairman) and Brownlie and Dr. Lockshin. The Compensation Committee determines compensation levels for the Company's executive officers and directors, oversees administration of the Company's equity compensation plans and performs other duties regarding compensation for employees and consultants as the Board may delegate from time to time. Our Chief Executive Officer makes recommendations to the Compensation Committee regarding the corporate and individual performance goals and objectives relevant to executive compensation and executives' performance in light of such goals and objectives, and recommends other executives' compensation levels to the Compensation Committee based on such evaluations. The

Compensation Committee considers these recommendations and then makes an independent decision regarding officer compensation levels and awards. The Compensation Committee met one time in fiscal year 2016. A copy of the Compensation Committee charter is available on the Company's website at www.rxipharma.com. All members of the Compensation Committee satisfy the current NASDAQ independence standards, and each member of the Committee qualifies as an "outside director" and "non-employee director" as defined by Section 162(m) of the Code and Rule 16b-3 of the Exchange Act, respectively.

Nominating and Governance Committee. As of the Record Date, the Nominating and Governance Committee was comprised of Dr. Lockshin (Chairman) and Messrs. Brownlie and Dorman. The Nominating and Governance Committee reviews potential director nominees, recommends nominees to the Board, oversees the Company's corporate governance principles and develops and implements policies and processes regarding corporate governance matters. The Nominating and Governance Committee met one time in fiscal year 2016. A copy of the Nominating and Governance Committees charter is available on our website at www.rxipharma.com. Dr. Lockshin and Messrs. Brownlie and Dorman satisfy the current NASDAQ independence standards.

EXECUTIVE OFFICERS

Our current executive officers and their respective ages and positions as of the Record Date are set forth in the following table. Biographical information regarding each executive officer who is not also a director is set forth following the table. Biographical information for Dr. Cauwenbergh is set forth above under Proposal No. 1 (Election of Directors).

Name	Age	Position
Geert Cauwenbergh, Dr. Med. Sc.	63	President, Chief Executive Officer and acting Chief Financial Officer
Pamela Pavco, Ph.D.	60	Chief Development Officer
Alexey Eliseev, Ph.D.	52	Chief Business Officer

Pamela Pavco, Ph.D. currently serves as our Chief Development Officer. Prior to this, Dr. Pavco served as our Senior Vice President of Pharmaceutical Development from September 24, 2011 until April 2012. From March 2007 to September 24, 2011, she served as the Vice President of Pharmaceutical Development of Galena Biopharma, Inc. Dr. Pavco has over 25 years of research and development experience in oligonucleotides. Dr. Pavco was Senior Director of Research and Development Project Management at Sima Therapeutics, Inc., from 2002 until 2006, when it was acquired by Merck & Co., Inc. for \$1.1 billion. While at Sima, she was responsible for the discovery research and development of Sima-027, the first chemically modified siRNA to enter clinical trials. Dr. Pavco also managed Sima's alliance with Allergan, Inc. that was initiated to continue discovery research in the area of ophthalmology and take Sima-027 forward into Phase 2 clinical studies. While at Sima, Dr. Pavco served in various additional capacities, including Director of Biology Research and Director of Pharmacology and she also managed numerous corporate collaborations and internal programs focusing on the development of therapeutic oligonucleotides in the fields of oncology, antiangiogenesis, hepatitis, respiratory disease and Huntington's disease. Dr. Pavco has authored numerous scientific articles and contributed to approximately 60 patents and patent applications in the oligonucleotide therapeutics field. Dr. Pavco received a Ph.D. in Biochemistry from Virginia Commonwealth University and did her post-doctoral work at Duke University. She is a member of the American Association of Cancer Research and the Association for Research and Vision in Ophthalmology.

Alexey Eliseev, Ph.D. currently serves as our Chief Business Officer. Dr. Eliseev previously served as the Chief Executive Officer of MirImmune Inc., a private biopharmaceutical company he co-founded that focused on the development of new and improved immunotherapies for cancer, from March 2015 until January 2017, when we acquired MirImmune. From 2009 to 2016, Dr. Eliseev worked with Maxwell Biotech Venture Fund as its Managing Director and ran the investment activity of the fund in the United States. Maxwell Biotech is a Russian venture fund fully dedicated to investments in the life science sector. The fund was created with the participation of the Russian Venture Company, a government sponsored fund of funds that has a mission of promoting the development of innovation-based economy in the country. In 1999, he co-founded the company Therascope, later

Alantos Pharmaceuticals, with a number of prominent founders including French Nobel Laureate Jean-Marie Lehn. He then became CTO of Alantos and President of Alantos's U.S. division until 2004. Dr. Eliseev was also among the founders of AC Immune (Switzerland) and Boston BioCom LLC. Dr. Eliseev currently is a member of the board of directors of BioNevia Pharmaceuticals. Dr. Eliseev's career includes over twenty years of experience in academia, biotechnology industry and venture capital. He received his Ph.D. in Bioorganic Chemistry from Moscow State University and MBA from the MIT Sloan School of Management.

CERTAIN RELATIONSHIPS AND RELATED-PARTY TRANSACTIONS

Our Board has a policy to review and approve all transactions with directors, officers and holders of more than 5% of our voting securities and their affiliates. The policy provides that, prior to Board consideration of a transaction with such a related party, the material facts as to the related party's relationship or interest in the transaction must be disclosed to the Board, and the transaction will not be considered approved by the Board unless a majority of the directors who are not interested in the transaction (if applicable) approve the transaction. Furthermore, when stockholders are entitled to vote on a transaction with a related party, the material facts of the related party's relationship or interest in the transaction must be disclosed to the stockholders, who must approve the transaction in good faith.

Indemnification Agreements

We have entered into indemnification agreements with each of our executive officers and directors. These agreements provide that, subject to limited exceptions and among other things, we will indemnify each of our executive officers and directors to the fullest extent permitted by law and advance expenses to each indemnitee in connection with any proceeding in which a right to indemnification is available.

Stock Purchase Agreement

Pursuant to the Stock Purchase Agreement described in Proposal No. 4, we issued 817,813 shares of common stock and 332,499 shares of Series C Preferred Stock to Alexey Eliseev, Ph.D., a Seller in the agreement and co-founder of MirImmune. The approximate dollar value of such shares is equal to \$0.8 million. Additionally, Dr. Eliseev is eligible to receive 748,926 Milestone Shares, or the equivalent value in cash, if the Milestones are achieved within two years. The amount of Milestone Shares to be issued may increase as provided in Proposal No. 4. Assuming no such increase takes place, the approximate dollar value of such Milestone Shares is equal to \$, (based on an assumed Milestone Share price per common share of \$, which was the closing price of our common stock on the Record Date). In connection with the Stock Purchase Agreement Dr. Eliseev also executed and delivered a three-year non-compete agreement with the Company under which Dr. Eliseev agreed to not interfere with the Company's business or solicit the Company's employees or business contacts. Dr. Eliseev is the Chief Business Officer of the Company.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our "officers" (as defined in Rule 16a-1(f) under the Exchange Act) and directors, and persons who own more than 10% of a registered class of our equity securities to file reports of beneficial ownership and changes in beneficial ownership with the SEC. Officers, directors and greater-than-10% stockholders (the "**Reporting Persons**") are required by SEC regulations to furnish us with copies of all reports filed under Section 16(a). Based solely on our review of copies of these reports and representations of such reporting persons, we believe that during fiscal year 2016, all Reporting Persons satisfied such applicable SEC filing requirements.

EQUITY COMPENSATION PLAN INFORMATION

The following table sets forth certain information, as of December 31, 2016, about the securities authorized for issuance under our equity compensation plans, which consisted of our 2012 Long Term Incentive Plan and our 2013 Employee Stock Purchase Plan.

Plan Category	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 security holders	374,446	\$ 27.29	1,375,354
Equity compensation plans not approved by security holders	—	—	—
Total	374,446	\$ 27.29	1,375,354

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Based on information available to us and filings with the Securities and Exchange Commission (the “SEC”), the following table sets forth certain information regarding the beneficial ownership (as defined by Rule 13d-3 under the Exchange Act) of our outstanding common stock for (i) each of our directors, (ii) each of our “named executive officers,” as defined in the Executive Compensation section below, (iii) all of our directors and executive officers as a group and (iv) persons known to us to beneficially own more than 5% of our outstanding common stock. The following information is presented as of April 1, 2017 or such other date as may be reflected below.

Beneficial ownership and percentage ownership are determined in accordance with the rules of the SEC and include voting or investment power with respect to shares of stock. This information does not necessarily indicate beneficial ownership for any other purpose. Under these rules, shares of common stock issuable under stock options or warrants that are exercisable within 60 days of April 1, 2017 are deemed outstanding for the purpose of computing the percentage ownership of the person holding the options or warrants, but are not deemed outstanding for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated and subject to applicable community property laws, to our knowledge, each stockholder named in the following table possesses sole voting and investment power over their shares of common stock, except for those jointly owned with that person's spouse. Unless otherwise indicated below, the address of each person listed on the table is c/o RXi Pharmaceuticals Corporation, 257 Simarano Drive, Suite 101, Marlborough, MA 01752.

<u>Name and Address of Beneficial Owner</u>	<u>Shares Beneficially Owned</u>	
	<u>Number(1)</u>	<u>Percent of Class(2)</u>
Greater than 5% Holders		
None		
Directors, Director Nominees, Officers and Named Executive Officers:		
Geert Cauwenbergh, Dr. Med. Sc.(3)	291,552	1.31%
Robert J. Bitterman(4)	16,777	*
Keith L. Brownlie(5)	10,502	*
H. Paul Dorman(6)	14,460	*
Curtis A. Lockshin, Ph.D.(7)	10,735	*
Alexey Eliseev, Ph.D.(8)	832,345	3.77%
Pamela Pavco, Ph.D.(9)	101,723	*%
All current directors and executive officers as a group (seven persons)	1,278,094	5.71%

* Indicates less than 1%.

- (1) Represents shares of common stock and shares of restricted stock held as of April 1, 2017 plus shares of common stock that may be acquired upon exercise of options, warrants and other rights exercisable within 60 days of April 1, 2017.
- (2) Based on 22,045,481 shares of the registrant's common stock that were issued and outstanding as of April 1, 2017. The percentage ownership and voting power for each person (or all directors and executive officers as a group) is calculated by assuming the exercise or conversion of all options, warrants and convertible securities exercisable or convertible within 60 days of April 1, 2017 held by such person and the non-exercise and non-conversion of all outstanding warrants, options and convertible securities held by all other persons.
- (3) Consists of (a) 107,083 shares of common stock and (b) 147,136 shares of common stock issuable upon the exercise of options and 37,333 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of April 1, 2017.
- (4) Consists of (a) 4,400 shares of common stock and (b) 10,502 shares of common stock issuable upon the exercise of options and 1,875 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of April 1, 2017.
- (5) Consists of 10,502 shares of common stock issuable upon the exercise of options exercisable within 60 days of April 1, 2017.
- (6) Consists of (a) 3,750 shares of common stock and (b) 8,835 shares of common stock issuable upon the exercise of options and 1,875 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of April 1, 2017.
- (7) Consists of (a) 1,300 shares of common stock and (b) 8,835 shares of common stock issuable upon the exercise of options and 600 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of April 1, 2017.
- (8) Consists of (a) 817,813 shares of common stock and (b) 14,532 shares of common stock issuable upon the exercise of options within 60 days of April 1, 2017.
- (9) Consists of (a) 17,173 shares of common stock and (b) 72,814 shares of common stock issuable upon the exercise of options and 11,736 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of April 1, 2017.

EXECUTIVE COMPENSATION

The following describes the compensation earned in fiscal 2016 and 2015 by each of the executive officers identified below in the Summary Compensation Table, who are referred to collectively as our “named executive officers.” Our named executive officers with respect to the fiscal year that ended on December 31, 2016 are Geert Cauwenbergh, Dr. Med. Sc., President, Chief Executive Officer, acting Chief Financial Officer and Director, and Pamela Pavco, Ph.D., Chief Development Officer.

Summary Compensation Table

Name and principal position	Year	Salary (\$)	Option awards (\$)(1)	Non-equity	All other	Total (\$)
				incentive plan compensation (\$)(2)	compensation (\$)(3)	
Geert Cauwenbergh, Dr. Med. Sc. President, Chief Executive Officer and acting Chief Financial Officer	2016	413,723	26,602	197,600	624	638,549
	2015	398,361	37,240	190,000	300	625,901
Pamela Pavco, Ph.D. Chief Development Officer	2016	377,522	13,200	108,186	585	499,493
	2015	363,808	18,480	104,025	300	486,613

- (1) The amounts shown reflect the grant date fair value computed in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) 718, “Compensation—Stock Compensation” (“ASC 718”) for the indicated year, adjusted to disregard the effects of any estimate of forfeitures related to service-based vesting. The assumptions we used in valuing options are described more fully in the “Management’s Discussion and Analysis” section and the Notes to Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
- (2) The amounts shown reflect the annual cash bonus earned for performance for each respective year under the Company’s Incentive Bonus Program. The annual cash bonuses were paid in February of the calendar year following the year to which the bonus relates.
- (3) Represents amounts for the dollar value of life insurance premiums paid.

Outstanding Equity Awards at Fiscal Year-End

The following table shows information regarding outstanding equity awards as of December 31, 2016 for our named executive officers. None of the named executive officers held any outstanding stock awards as of that date.

Name	Option Awards			
	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date
Geert Cauwenbergh, Dr. Med. Sc.(1)	113,852	—	25.50	06/08/2022
	11,667	1,667	60.00	06/07/2023
	8,313	4,988	28.50	06/02/2024
	4,988	8,313	3.80	06/01/2025
	—	13,301	2.86	02/10/2026
Pamela Pavco, Ph.D.(2)	55,810	—	39.00	05/04/2022
	5,834	833	60.00	06/07/2023
	4,125	2,475	28.50	06/02/2024
	2,475	4,126	3.80	06/01/2025
	1,375	5,225	2.86	02/10/2026

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- (1) The option awards granted to Dr. Cauwenbergh vest as to 25% of the award on the first anniversary of the grant date and as to the remaining 75% of the option in equal monthly installments over a three year period thereafter.
 - (2) The option awards granted to Dr. Pavco vest in equal monthly installments over a four year period.

Nonqualified Deferred Compensation Earnings

We do not have any nonqualified deferred compensation plans.

Employment and Change of Control Agreements

Geert Cauwenbergh, Dr. Med. Sc.

Dr. Cauwenbergh was appointed Chief Executive Officer pursuant to an employment agreement, dated April 27, 2012, pursuant to which he is entitled to receive an initial base salary of \$360,000 per annum, as well as a performance bonus of up to 50% of his base salary, subject to the achievement of performance goals to be established annually. On June 8, 2012, Dr. Cauwenbergh received an option entitling him to purchase 113,852 shares of Company common stock at an exercise price equal to the fair value of the underlying common stock on the date of grant. The option vested with respect to one quarter of the underlying shares on April 27, 2013, and then vested on a ratable basis monthly thereafter over the next three years such that the option became fully vested and exercisable on April 27, 2016.

Dr. Cauwenbergh's employment agreement provides that, upon termination of Dr. Cauwenbergh's employment without "cause" (as defined therein) by us or by Dr. Cauwenbergh for "good reason" (as defined therein), he will be entitled to payment of: (1) any accrued but unpaid salary, business expenses and unused vacation as of the date of his termination as well as any unpaid bonus compensation awarded for the prior year; (2) six months of salary from the date of termination; and (3) continued participation, at our expense, during the applicable six-month severance period in our sponsored group medical and dental plans. In the event his employment is terminated within twelve months following a "change of control" of RXi, he will be entitled to: (x) twelve months of salary from the date of termination; (y) accelerated vesting of any unvested RXi stock options held by him; and (z) continued participation, at our expense, during the twelve-month severance period in our sponsored group medical and dental plans.

Pamela Pavco, Ph.D.

Dr. Pavco serves as our Chief Development Officer. Under her employment agreement dated September 24, 2011, Dr. Pavco is entitled to receive an initial annual salary of \$300,000. She also received an option to purchase up to 55,810 shares of common stock at an exercise price equal to the fair value of the underlying common stock on the date of grant. The option vested in equal monthly installments over four years, beginning on October 24, 2011, such that the option became fully vested and exercisable on September 24, 2015.

Dr. Pavco's employment agreement provides that, upon termination of Dr. Pavco's employment without "cause" (as defined therein) by us or by Dr. Pavco for "good reason" (as defined therein), she will be entitled to payment of: (1) any accrued but unpaid salary and unused vacation as of the date of her termination; (2) six months of salary from the date of termination; and (3) continued participation, at our expense, during the applicable six-month severance period in our sponsored group medical and dental plans. In the event her employment is terminated within twelve months following a "change of control" of RXi, she will be entitled to: (x) twelve months of salary from the date of termination; (y) accelerated vesting of any unvested RXi stock options held by her as to 50% of the unvested option shares or the portion of the unvested option shares that would have vested over the following twenty-four months, whichever is greater; and (z) continued participation, at our expense, during the twelve-month severance period in our sponsored group medical and dental plans.

DIRECTOR COMPENSATION

The following table shows the compensation paid in fiscal year 2016 to the Company's non-employee directors.

Name	Fees Earned or Paid in Cash (\$)	Option Awards (\$)(1)(2)	Total (\$)
Robert J. Bitterman	35,000	3,001	38,001
Keith L. Brownlie	35,000	3,001	38,001
H. Paul Dorman	25,000	3,001	28,001
Curtis A. Lockshin, Ph.D.	30,000	3,001	33,001

- (1) The amounts shown reflect the grant date fair value computed in accordance with FASB ASC 718 for the indicated year, adjusted to disregard the effects of any estimate of forfeitures related to service-based vesting. The assumptions we used in valuing options are described more fully in the "Management's Discussion and Analysis" section and the Notes to Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016.
- (2) Since their service on the Board, the aggregate number of shares underlying stock options outstanding at fiscal yearend to our non-employee directors is as follows: Robert J. Bitterman — 10,002 option awards, Keith L. Brownlie 10,002 option awards, H. Paul Dorman — 8,335 option awards and Curtis A. Lockshin, Ph.D. 8,335 option awards.

We compensate our non-employee directors for their service as a member of our Board. As our only director who is also an employee, Dr. Cauwenbergh receives no separate compensation for Board service. Dr. Cauwenbergh's compensation is set forth above in the Summary Compensation Table.

Each non-employee director is entitled to receive an annual cash retainer of \$25,000. The chairs of our Board and the Audit Committee are entitled to receive an additional annual cash retainer of \$10,000 and the chair of the Nominating and Governance Committee is entitled to receive an additional annual cash retainer of \$5,000.

Each non-employee director is entitled to receive an option award for 3,334 shares of the Company's common stock, vesting in equal quarterly installments over one year, upon initial election to our Board. In addition, each non-employee director is also entitled to receive an additional annual option award for 2,000 shares of the Company's common stock, vesting in equal quarterly installments over one year.

Non-employee directors are also reimbursed for their travel and reasonable out-of-pocket expenses incurred in connection with attending Board and committee meetings and in attending continuing education seminars, to the extent that attendance is required by the Board or the committee(s) on which that director serves.

The Compensation Committee and the Board reassess the appropriate level of equity compensation for non-employee directors on an annual basis. Future equity compensation payments will be determined on a year-by-year basis for the foreseeable future due to the volatility of the Company's stock price.

REPORT OF THE AUDIT COMMITTEE

The Audit Committee evaluates auditor performance, manages relations with the Company's independent registered public accounting firm, and evaluates policies and procedures relating to internal control systems. The Audit Committee operates under a written Audit Committee Charter that has been adopted by the Board, a copy of which is available on the Company's website at www.rxipharma.com. All members of the Audit Committee currently meet the independence and qualification standards for Audit Committee membership set forth in the listing standards provided by NASDAQ and the SEC.

Other than Mr. Brownlie, the Audit Committee members are not professional accountants or auditors. The members' functions are not intended to duplicate or to certify the activities of management and the independent registered public accounting firm. The Audit Committee serves a Board-level oversight role in which it provides

advice, counsel and direction to management and the auditors on the basis of the information it receives, discussions with management and the auditors, and the experience of the Audit Committee's members in business, financial and accounting matters.

The Audit Committee oversees the Company's financial reporting process on behalf of the Board. The Company's management has the primary responsibility for the financial statements and reporting process, including the Company's system of internal controls. In fulfilling its oversight responsibilities, the Audit Committee reviewed with management the audited financial statements included in the Annual Report on Form 10-K for the fiscal year ended December 31, 2016. This review included a discussion of the quality and the acceptability of the Company's financial reporting, including the nature and extent of disclosures in the financial statements and the accompanying notes. The Audit Committee also reviewed the progress and results of the testing of the design and effectiveness of its internal controls over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act of 2002.

The Audit Committee also reviewed with the Company's independent registered public accounting firm, which is responsible for expressing an opinion on the conformity of the audited financial statements with accounting principles generally accepted in the United States of America, their judgments as to the quality and the acceptability of the Company's financial reporting and such other matters as are required to be discussed with the Committee under generally accepted auditing standards, including the Public Company Accounting Oversight Board Auditing Standard No. 16, *Communications with Audit Committees*. The Audit Committee has received the written disclosures and the letter from the independent registered public accounting firm required by the Public Company Accounting Oversight Board. The Audit Committee discussed with the independent registered public accounting firm their independence from management and the Company, including the matters required by the applicable rules of the Public Company Accounting Oversight Board.

In addition to the matters specified above, the Audit Committee discussed with the Company's independent registered public accounting firm the overall scope, plans and estimated costs of their audit. The Committee met with the independent registered public accounting firm periodically, with and without management present, to discuss the results of the independent registered public accounting firm's examinations, the overall quality of the Company's financial reporting and the independent registered public accounting firm's reviews of the quarterly financial statements, and drafts of the quarterly and annual reports.

In reliance on the reviews and discussions referred to above, the Audit Committee recommended to the Board that the Company's audited financial statements should be included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016.

Keith L. Brownlie
H. Paul Dorman
Curtis A. Lockshin, Ph.D.

OTHER BUSINESS

We know of no other matters to be submitted to a vote of stockholders at the Annual Meeting. If any other matter is properly brought before the Annual Meeting or any adjournment thereof, it is the intention of the persons named in the enclosed proxy to vote the shares they represent in accordance with their judgment. In order for any stockholder to nominate a candidate or to submit a proposal for other business to be acted upon at a given annual meeting, he or she must provide timely written notice to our corporate secretary in the form prescribed by our Bylaws, as described below.

STOCKHOLDER PROPOSALS

Stockholder proposals intended to be included in the 2018 annual meeting proxy materials must be received by the Secretary of the Company no later than February 1, 2018, or otherwise as permitted by applicable law (the “*Proxy Deadline*”). The form and substance of these proposals must satisfy the requirements established by the Company’s Bylaws and the SEC, and the timing for the submission of any such proposals may be subject to change as a result of changes in SEC rules and regulations.

Additionally, stockholders who intend to present a stockholder proposal at the 2018 annual meeting must provide the Secretary of the Company with written notice of the proposal not fewer than 90 nor more than 120 days prior to the anniversary date of the 2017 annual meeting, *provided, however*, that if the 2018 annual meeting date is more than 30 days before or after the anniversary date of the 2017 annual meeting, then stockholders must provide notice on or before 10 days after the day on which the date of the 2018 annual meeting is first disclosed in a public announcement. Notice must be tendered in the proper form prescribed by our Bylaws. Proposals not meeting the requirements set forth in our Bylaws will not be entertained at the meeting.

Additionally, any stockholder seeking to recommend a director candidate or any director candidate who wishes to be considered by the Nominating and Governance Committee, the committee that recommends a slate of nominees to the Board for election at each annual meeting, must provide the Secretary of the Company with a completed and signed biographical questionnaire on or before the Proxy Deadline. Stockholders can obtain a copy of this questionnaire from the Secretary of the Company upon written request. The Nominating and Governance Committee is not required to consider director candidates received after this date or without the required questionnaire. The Nominating and Governance Committee will consider all director candidates who comply with these requirements and will evaluate these candidates using the criteria described above under the caption, “Nomination of Directors.” Director candidates who are then approved by the Board will be included in the Company’s proxy statement for that annual meeting.

DELIVERY OF PROXY MATERIALS

Our Annual Report to stockholders for the fiscal year ended December 31, 2016, including audited financial statements and the notes thereto, accompanies this Proxy Statement. **Copies of our Annual Report on Form 10-K for fiscal 2016 and the exhibits thereto are available from the Company without charge upon written request of a stockholder.** Copies of these materials are also available online through the SEC at www.sec.gov. The Company may satisfy SEC rules regarding delivery of proxy materials, including the Proxy Statement, Annual Report and Notice, by delivering a single Notice and, if applicable, a single set of proxy materials to an address shared by two or more Company stockholders. This delivery method can result in meaningful cost savings for the Company. In order to take advantage of this opportunity, the Company may deliver only one Notice and, if applicable, a single set of proxy materials to multiple stockholders who share an address, unless contrary instructions are received prior to the mailing date. Similarly, if you share an address with another stockholder and have received multiple copies of our Notice and/or other proxy materials, you may write or call us at the address and phone number below to request delivery of a single copy of the Notice and, if applicable, other proxy materials in the future. We undertake to deliver promptly upon written or oral request a separate copy of the Notice and, if applicable, other proxy materials, as requested, to a stockholder at a shared address to which a single copy of the Notice and/or other proxy materials was delivered. If you hold stock as a record stockholder and prefer to receive separate copies of a Notice and, if applicable, other proxy materials either now or in the future, please contact the Company’s Investor Relations department at 257 Simarano Drive, Suite 101, Marlborough, MA 01752 or by telephone at (508) 929-3646. If your stock is held through a brokerage firm or bank and you prefer to receive separate copies of a Notice and, if applicable, other proxy materials either now or in the future, please contact your brokerage firm or bank.

**EACH STOCKHOLDER IS URGED TO COMPLETE, DATE, SIGN AND PROMPTLY RETURN
THE ENCLOSED PROXY.**

Appendix A

**CERTIFICATE OF AMENDMENT TO THE
AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF
RXI PHARMACEUTICALS CORPORATION**

RXi Pharmaceuticals Corporation (the “*Corporation*”), a corporation duly organized and existing under the General Corporation Law of the State of Delaware (the “*Delaware General Corporation Law*”), hereby certifies as follows:

FIRST: That the Board of Directors of the Corporation has duly adopted resolutions authorizing the Corporation to execute and file with the Secretary of State of the State of Delaware this Certificate of Amendment to the Amended and Restated Certificate of Incorporation, as amended (this “*Amendment*”) to combine each [whole number of shares, as determined by the Board] outstanding shares of the Corporation’s Common Stock, par value \$0.0001 per share (the “*Common Stock*”), into one (1) validly issued, fully paid and non-assessable share of Common Stock.

SECOND: That this Amendment was duly adopted in accordance with the terms of the Amended and Restated Certificate of Incorporation, as amended, and the provisions of the Delaware General Corporation Law by the Board of Directors and stockholders of the Corporation.

THIRD: That upon the effectiveness of this Amendment, the Amended and Restated Certificate of Incorporation, as amended, is hereby amended such that subsection (a) of ARTICLE IV is amended and restated in its entirety to read as set forth below, with no changes to be made to the subsequent sections of ARTICLE IV:

(a) Authorized Shares. The total number of shares of stock which the Corporation shall have authority to issue is 110,000,000 shares, consisting of 100,000,000 shares of Common Stock, par value \$0.0001 per share (“Common Stock”) and 10,000,000 shares of Preferred Stock, par value \$0.0001 per share (“Preferred Stock”). Upon the effectiveness of this Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Corporation, each [whole number of shares, as determined by the Board], of the Corporation’s Common Stock issued and outstanding at such time shall, automatically and without any further action on the part of the Corporation or the holder thereof, be combined into one (1) validly issued, fully paid and non-assessable share of Common Stock (the “Reverse Stock Split”). The par value of the Common Stock following the Reverse Stock Split shall remain \$0.0001 per share. No fractional shares shall be issued, and, in lieu thereof, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock, as determined by the Board of Directors. Each certificate that immediately prior to the Effective Time represented shares of Common Stock (an “Old Certificate”) shall thereafter represent that number of shares of Common Stock into which the shares of Common Stock represented by the Old Certificate shall have been combined, subject to the elimination of fractional share interests as described above.

FOURTH: This Amendment shall be effective as of a date to be determined by the Board, at 12:01 a.m., Eastern Time (the “Effective Time”).

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to the Amended and Restated Certificate of Incorporation to be executed by Geert Cauwenbergh, its Chief Executive Officer, this day of , 2017.

RXi PHARMACEUTICALS CORPORATION

By: _____
Name: Geert Cauwenbergh, Dr. Med. Sc.
Title: President and Chief Executive Officer

**▼ IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE
BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ▼**

Proxy — RXi PHARMACEUTICALS CORPORATION

**Annual Meeting of Stockholders
June 6, 2017 10:00 a.m.**

This proxy is solicited by the Board of Directors

The stockholder(s) hereby appoint Geert Cauwenbergh as proxy with the power to appoint his substitute, and hereby authorize him to represent and to vote, as designated on the reverse side of this ballot, all of the shares of Common Stock of RXi Pharmaceuticals Corporation that the stockholder(s) is/are entitled to vote at the 2017 Annual Meeting of Stockholders to be held on June 6, 2017 at 10:00 a.m., local time, at the offices of Gibson, Dunn & Crutcher LLP, located at 200 Park Avenue, New York, New York 10166, and at any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations and in the discretion of the proxy holders on all other matters that may come before the meeting.

Continued and to be signed on reverse side