

## Table of Contents

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

SCHEDULE 14A

INFORMATION REQUIRED IN PROXY STATEMENT  
SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities  
Exchange Act of 1934 (Amendment No. )

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

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

**RXi Pharmaceuticals Corporation**

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

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

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(1) Amount Previously Paid:

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

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(3) Filing Party:

\_\_\_\_\_

(4) Date Filed:

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**60 Prescott Street  
Worcester, Massachusetts 01605**

April 23, 2009

Dear Stockholder:

You are cordially invited to attend the 2009 Annual Meeting of Stockholders of RXi Pharmaceuticals Corporation. The meeting will be held at the Company's offices at 60 Prescott Street, Worcester, Massachusetts, at 10:00 A.M., local time, on Friday, June 5, 2009.

The Notice of Meeting and the Proxy Statement on the following pages cover the formal business of the meeting. At the Annual Meeting, I will also report on RXi's current operations and will be available to respond to questions from stockholders.

Whether or not you plan to attend, it is important that your shares be represented and voted at the meeting. I urge you, therefore, to return a signed proxy card or vote by telephone or over the internet, so that you can be sure your votes are properly counted, even if you plan to attend the meeting. Information about voting procedures can be found in the proxy statement.

I hope you will join us.

Sincerely,

A handwritten signature in black ink that reads "Tod Woolf". The signature is written in a cursive, slightly slanted style.

Tod M. Woolf, Ph.D.  
President and Chief Executive Officer

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60 Prescott Street  
Worcester, Massachusetts 01605

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS  
To Be Held On June 5, 2009**

Notice is hereby given to the holders of common stock, of RXi Pharmaceuticals Corporation, that the Annual Meeting of Stockholders will be held on Friday, June 5, 2009 at the Company's offices at 60 Prescott Street, Worcester, Massachusetts, 01605, at 10:00 A.M., local time, for the following purposes:

- (1) To elect two directors to serve until the 2012 Annual Meeting of Stockholders;
- (2) To ratify the selection of BDO Seidman, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2009;
- (3) To consider and act on a proposal to approve an amendment to the 2007 Incentive Plan; and
- (4) To transact such other business as may properly come before the Annual Meeting or any postponement or adjournment thereof.

Only those stockholders of record at the close of business on April 14, 2009 are entitled to notice of and to vote at the Annual Meeting or any postponement or adjournment thereof. A complete list of stockholders entitled to vote at the Annual Meeting will be available at the Annual Meeting.

Our Board of Directors recommends that you vote your shares **"FOR"** each of the nominees for director, **"FOR"** the ratification of the selection of BDO Seidman, LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2009, and **"FOR"** the approval of an amendment to the 2007 Incentive Plan.

By Order of the Board of Directors,

A handwritten signature in cursive script that reads "Stephen J. DiPalma".

Stephen J. DiPalma  
Corporate Secretary

April 23, 2009

**Important Notice Regarding the Availability of Proxy Materials for the Shareholder Meeting to be Held on June 5, 2009. The proxy statement, the proxy card, and the 2008 Annual Report on Form 10-K are available online via the Internet at: <http://www.envisionreports.com/RXII> .**



60 Prescott Street  
Worcester, Massachusetts 01605  
To Be Held June 5, 2009

## PROXY STATEMENT

This Proxy Statement is furnished to holders of common stock, of RXi Pharmaceuticals Corporation, a Delaware corporation, in connection with the solicitation of proxies by our Board of Directors for use at our 2009 Annual Meeting of Stockholders to be held at the Company's offices at 60 Prescott Street, Worcester, Massachusetts 01605, at 10:00 A.M., local time, on Friday, June 5, 2009, and at any postponement or adjournment thereof. This Proxy Statement and the accompanying proxy card are first being mailed to our stockholders on or about April 23, 2009.

### What is the purpose of the Annual Meeting?

At the Annual Meeting, stockholders will act upon the matters referred to in the attached Notice of Meeting and described in detail in this Proxy Statement, which are the election of directors, the ratification of our appointment of independent accountants and a proposal to amend the 2007 Incentive Plan. In addition, management will report on our performance during fiscal year 2008 and respond to appropriate questions from stockholders.

### Who is entitled to vote at the Annual Meeting?

Only stockholders of record at the close of business on April 14, 2009 will be entitled to notice of, and to vote at, the Annual Meeting or any adjournment or postponement thereof. These shares include those (1) held directly in your name as the *shareholder of record*, and (2) held for you as the *beneficial owner* through a broker, bank or other nominee.

### What is the difference between holding shares as a shareholder of record and as a beneficial owner?

Most RXi shareholders hold their shares through a broker, bank or other nominee rather than directly in their own name as the shareholder of record. As summarized below, there are some distinctions between shares held of record and those owned beneficially.

- *Shareholder of Record* — If your shares are registered directly in your name with RXi's Transfer Agent, Computershare Trust Company, N.A. ("Computershare"), you are considered, with respect to those shares, the *shareholder of record*. As the *shareholder of record*, you have the right to grant your voting proxy directly to RXi or to vote in person at the Annual Meeting.
- *Beneficial Owner* — If your shares are held in a stock brokerage account or by a bank or other nominee, you are considered the beneficial owner of shares held *in street name* and your broker or nominee is considered, with respect to those shares, the *shareholder of record*. As the beneficial owner, you have the right to direct your broker or nominee on how to vote and are also invited to attend the Annual Meeting. However, since you are not the *shareholder of record*, you may not vote these shares in person at the Annual Meeting unless you receive a proxy from your broker or nominee. Your broker or nominee has provided voting instructions for you to use. If you wish to attend the Annual Meeting and vote in person, please contact your broker or nominee so that you can receive a legal proxy to present at the Annual Meeting.

### What constitutes a quorum?

Our Bylaws provide that the presence, in person or by proxy, at our Annual Meeting of the holders of a majority of outstanding shares of our common stock will constitute a quorum for the transaction of business.

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For the purpose of determining the presence of a quorum, proxies marked “withhold authority” or “abstain” will be counted as present. Shares represented by proxies that include so-called broker non-votes also will be counted as shares present for purposes of establishing a quorum. On the record date, there were 13,821,629 shares of our common stock issued and outstanding, exclusive of treasury shares.

### **What are the voting rights of the holders of RXi’s common stock?**

Each share of common stock entitles its holder to one vote on all matters to come before the Annual Meeting, including the election of directors. In the election of directors, for each of the nominees you may vote “FOR” such nominee or your vote may be “WITHHELD” with respect to such nominee. For the other proposals, you may vote “FOR”, “AGAINST” or “ABSTAIN”. If you “ABSTAIN”, it has the same effect as a vote “AGAINST” the proposal.

If you vote via the Internet or telephone and do not specify contrary voting instructions, your shares will be voted in accordance with the recommendations of the Board. Similarly, if you sign and submit your proxy card or voting instruction card with no instructions, your shares will be voted in accordance with the recommendations of the Board.

If you are a shareholder of record and do not either vote via the Internet, via telephone, or return a signed proxy card, your shares will not be voted.

If you are a beneficial shareholder and do not vote via the Internet, telephone, or by returning a signed voting instruction card, your shares may be voted in situations where brokers have discretionary voting authority over the shares. Discretionary voting authority is permitted on the proposals for the election of directors and the ratification of the selection of BDO Seidman, LLP as the independent registered public accounting firm for 2009.

### **What Vote Is Required For The Proposal?**

The following votes are required with respect to the proposals.

- For the election of directors, the candidate receiving the greatest number of affirmative votes (a “plurality vote”) of the votes attached to shares of common stock will be elected.
- For the approval of Proposal II, the affirmative vote of a majority of the shares present, in person or by proxy, and entitled to vote at the Annual Meeting is required.
- For the approval of Proposal III, the affirmative vote of a majority of the shares present, in person or by proxy, and entitled to vote at the Annual Meeting is required.

An automated system administered by the Company’s transfer agent will tabulate votes cast by proxy at the Annual Meeting, and an officer of the Company will tabulate votes cast in person at the Annual Meeting.

### **Why did I receive a notice of the Internet availability of RXi’s proxy materials (the “Notice”), instead of a full set of printed proxy materials?**

New rules adopted by the Securities and Exchange Commission allowed us, beginning this year, to provide access to our proxy materials over the Internet instead of mailing a full set of such materials to every shareholder. We have sent a Notice of the availability of the proxy materials on the Internet to all of our shareholders. All of our shareholders may access our proxy materials over the Internet using the directions set forth in the Notice. In addition, by following the instructions in the Notice, any shareholder may request that a full set of printed proxy materials be sent to them.

We have chosen to send the Notice of the Internet availability of our proxy materials to shareholders, instead of automatically sending a full set of printed copies to all shareholders, to reduce the impact of printing our proxy materials on the environment and to save on the costs of printing and mailing incurred by us.

### **How do I access RXi’s proxy materials online?**

The Notice of Internet availability of the proxy materials provides instructions for accessing the proxy materials for the Annual Meeting over the Internet, and includes the Internet address where those materials are available. RXi’s proxy statement for the Annual Meeting and 2009 Annual Report can be viewed online via the Internet at: <http://www.envisionreports.com/RXII>.

### **How do I request a paper copy of the proxy materials?**

Paper copies of RXi's proxy materials will be made available at no cost to you, but they will only be sent to you if you request them. To request a paper copy of the proxy materials follow the instructions on the Notice which you received. You will be able to submit your request for copies of the proxy materials by sending an email to the email address set forth in the Notice, by going to the Internet address set forth in the Notice or by calling the phone number provided in the Notice.

### **What are the Board's recommendations?**

The recommendations of our Board of Directors are set forth together with the description of each Proposal in this Proxy Statement. In summary, our Board of Directors recommends a vote:

- "FOR" election of the directors named in this Proxy Statement as described in Proposal I;
- "FOR" ratification of the appointment of BDO Seidman, LLP as our independent registered public accounting firm for fiscal 2009 as described in Proposal II;
- "FOR" approval of the amendment of the 2007 Incentive Plan as described in Proposal III.

### **How can I attend the Annual Meeting?**

You may attend the Annual Meeting if you are listed as a shareholder of record as of April 14, 2009 and bring proof of your identification. If you hold your shares through a broker or other nominee, you will need to provide proof of your share ownership by bringing either a copy of a brokerage statement showing your share ownership as of April 14, 2009, or a legal proxy if you wish to vote your shares in person at the Annual Meeting. In addition to the items mentioned above, you should bring proof of your identification.

### **How can I vote my shares in person at the Annual Meeting?**

Shares held directly in your name as the *shareholder of record* may be voted in person at the Annual Meeting. If you choose to do so, please bring proof of your identification to the Annual Meeting. Shares beneficially owned may be voted by you if you receive and present at the Annual Meeting a proxy from your broker or nominee, together with proof of identification. Even if you plan to attend the Annual Meeting, we recommend that you also vote in one of the ways described below so that your vote will be counted if you later decide not to attend the Annual Meeting or are otherwise unable to attend.

### **How can I vote my shares without attending the Annual Meeting?**

Whether you hold shares directly as the shareholder of record or beneficially in street name, you may direct your vote without attending the Annual Meeting. You may vote by granting a proxy or, for shares held in street name, by submitting voting instructions to your broker or nominee. In most instances, you will be able to do this over the Internet, by telephone or by mail. Please refer to the summary instructions below, the instructions included on the Notice of Internet availability of the proxy materials, and if you request printed proxy materials, the instructions included on your proxy card or, for shares held in street name, the voting instruction card provided by your broker or nominee.

- *By Internet* — If you have Internet access, you may submit your proxy from any location in the world by following the Internet voting instructions on the Notice you received or by following the Internet voting instructions on the proxy card or voting instruction card sent to you.
- *By Telephone* — You may submit your proxy by following the telephone voting instructions on the Notice you received or by following the telephone voting instructions on the proxy card or voting instruction card sent to you.
- *By Mail* — You may do this by marking, dating and signing your proxy card or, for shares held in street name, the voting instruction card provided to you by your broker or nominee, and mailing it in the enclosed, self-addressed, postage prepaid envelope. No postage is required if mailed in the United States. Please note

that you will only be mailed a printed proxy card or printed voting instruction card if you request that such printed materials be sent to you by following the instructions in the Notice for requesting paper copies of the proxy materials.

**Can I change my vote or revoke my proxy?**

You may change your proxy instructions at any time prior to the vote at the Annual Meeting. For shares held directly in your name, you may accomplish this by granting another proxy that is properly signed and bears a later date, by sending a properly signed written notice to the Corporate Secretary of the Company or by attending the Annual Meeting and voting in person. To revoke a proxy previously submitted by telephone or through the Internet, you may simply vote again at a later date, using the same procedures, in which case your later submitted vote will be recorded and your earlier vote revoked. Attendance at the Annual Meeting will not cause your previously granted proxy to be revoked unless you specifically so request. For shares held beneficially by you, you may change your vote by submitting new voting instructions to your broker or nominee. All written notices should be addressed as follows: RXi Pharmaceuticals Corporation, 60 Prescott Street, Worcester, Massachusetts 01605, Attention: Corporate Secretary

**What does it mean if I receive more than one Notice of the Internet availability of proxy materials, or more than one proxy or voting instruction card?**

It means your shares are registered differently or are held in more than one account. Please provide voting instructions for all Notices, or proxy and voting instruction cards you receive.

**Where can I find the voting results of the Annual Meeting?**

We will announce preliminary voting results at the Annual Meeting. We will publish final voting results in a Current Report on Form 8-K within a few days following the Annual Meeting.

**If I am a shareholder of record how do I consent to receive my annual meeting materials electronically?**

Shareholders of record that choose to vote their shares via the Internet will be asked to choose a delivery preference prior to voting their shares. After entering the access information requested by the electronic voting site, click "Login" and then respond as to whether you would like to receive proxy material via *electronic* delivery. If you would like to receive future proxy materials electronically click the applicable button, enter and verify your current email address and then click "Continue". Shareholders of record with multiple RXi accounts will need to consent to electronic delivery for each account separately.

## TABLE OF CONTENTS

Proposal I — Election of Directors	6
Proposal II — Ratification of Appointment of Independent Registered Public Accounting Firm	26
Proposal III — Amendment of the 2007 Incentive Plan	27
Stockholder Proposals	33
Other Matters	33
Annex A — RXi Pharmaceuticals Corporation 2007 Incentive Plan	A-1

**PROPOSAL I  
ELECTION OF DIRECTORS**

Our Board of Directors currently is comprised of six members, who are divided into three classes. Each director will serve for a term ending on the date of the third annual meeting following the annual meeting at which such director was elected. The directors in Class I, Tod Woolf and Rudolph Nisi, will serve for a term ending on the date of the annual meeting in 2011, the directors in Class II, Mark J. Ahn and Stephen S. Galliker, will serve for a term ending on the date of the annual meeting in 2009, and the directors in Class III, Sanford J. Hillsberg and Steven A. Kriegsman, will serve for a term ending on the date of the annual meeting in 2010, with each director to hold office until his or her successor is duly elected and qualified. The term of the two directors in Class II expire at this Annual Meeting.

The following is information concerning the nominees for election of directors, as well as the directors whose terms of office will continue after the Annual Meeting. Each director's age is indicated in parentheses after his name.

**Current Nominees**

We believe that these nominees will be available and able to serve as directors. In the event that either nominee is unable or unwilling to serve, the proxy holders will vote the proxies for such other nominee as they may determine.

**Class II — Nominees to Serve as Director Until the 2012 Annual Meeting**

*Mark J. Ahn, Ph.D. (46)* has been one of our directors since 2007. Dr. Ahn is Professor and Chair, Science & Technology Management with a joint appointment from the faculties of Commerce & Administration and Science, Victoria University of Wellington. He is also a Principal of Pukana Partners, Ltd., a strategic consulting firm. Prior to that he was founder, President and Chief Executive Officer and a member of the Board of Directors for Hana Biosciences from 2003 to 2007. Prior to joining Hana, he served as Vice President, Hematology and corporate officer at Genentech, Inc. where he was responsible for commercial and clinical development of the Hematology franchise from 2001 through 2003. Dr. Ahn was also employed by Amgen (1990 to 1997) and Bristol-Myers Squibb Company (1997 to 2001), holding a series of positions of increasing responsibility in strategy, general management, sales and marketing, business development, and finance. He also serves on the Board of Directors of Access Pharmaceuticals and Mesynthes. Dr. Ahn received a BA and MBA from Chaminade University, where he currently serves on the Board of Governors. He was a graduate fellow in Economics at Essex University, and has a Ph.D. from the University of South Australia. Dr. Ahn is a Henry Crown Fellow at the Aspen Institute.

*Stephen Galliker, CPA (62)* has been one of our directors since 2007. Mr. Galliker served as the Executive Vice President, Finance and Administration, and Chief Financial Officer of Dyax Corp. from 1999 until his retirement in July 2008. From 1996 to 1999, Mr. Galliker was the Chief Financial Officer of Excel Switching Corporation, a developer and manufacturer of open switching platforms for telecommunications networks, and was Excel's Vice President, Finance and Administration from 1997 to 1999. From 1992 to 1996, Mr. Galliker was employed by Ultracision, Inc., a developer and manufacturer of ultrasonically powered surgical instruments, where he served as Chief Financial Officer and Vice President of Finance until 1995, when he became Ultracision's Chief Operating Officer. Mr. Galliker is also a director of Osteotech, Inc., a medical device company. Mr. Galliker is a Certified Public Accountant and received a B.S. from Georgetown University and an M.B.A. from the University of Chicago.

**THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE NOMINEES FOR  
ELECTION AS DIRECTORS.**

**Continuing Directors**

The following is a description of the directors in Class I and Class III whose terms of office will continue after the Annual Meeting.

### Class III — Term Expiring at the 2010 Annual Meeting

*Sanford J. Hillsberg, J.D. (60)* has been the Chairman of our Board of Directors since 2007. Mr. Hillsberg has been an attorney with TroyGould PC since 1976 and is a member of the firm's Management Committee. Mr. Hillsberg was a founder and until December 2007, served as a director and Secretary of ImmunoCellular Therapeutics, Ltd., a publicly-held biopharmaceutical company formed to develop cellular therapies, including dendritic cell-based vaccines for the treatment of brain and other cancers, and its predecessor company since February 2004. Mr. Hillsberg served as a director and Secretary of Duska Therapeutics, Inc., a publicly-held biopharmaceutical company, and its predecessor company from 1999 until January 2006. He previously served as a director and Vice President of Medco Research, Inc., a then publicly-held pharmaceutical company. Mr. Hillsberg is a member of the Board of Governors of Cedars-Sinai Medical Center and has also previously served as a Commissioner of the Quality and Productivity Commission of the City of Los Angeles. Mr. Hillsberg holds a B.A. degree from the University of Pennsylvania and a J.D. degree from Harvard Law School. TroyGould PC, including Mr. Hillsberg, has represented CytRx since 2003.

*Steven A. Kriegsman (67)* has been one of our directors since 2006. Mr. Kriegsman has been a director and the President and Chief Executive Officer of CytRx since July 2002. He previously served as Director and Chairman of Global Genomics from June 2000 until July 2002. Mr. Kriegsman is the Chairman of the Board and Founder of Kriegsman Capital Group LLC, a financial advisory firm specializing in the development of alternative sources of equity capital for emerging growth companies in the healthcare industry. He has advised such companies as SuperGen Inc., Closure Medical Corporation, Novoste Corporation, Miravant Medical Technologies and Maxim Pharmaceuticals. Mr. Kriegsman has a B.S. degree with honors from New York University in Accounting and completed the Executive Program in Mergers and Acquisitions at New York University, The Management Institute. Mr. Kriegsman was formerly a Certified Public Accountant with KPMG in New York City. From June 2003 until February 2008, he served as a Director, and he is the former Chairman of the Audit Committee of Bradley Pharmaceuticals, Inc. From June 2008 to the present, Mr. Kriegsman has served on the Board of Directors of Hythiam, Inc. and serves as chairman of Hythiam's audit committee. In February 2006, Mr. Kriegsman received the Corporate Philanthropist of the Year Award from the Greater Los Angeles Chapter of the ALS Association and in October 2006, he received the Lou Gehrig Memorial Corporate Award from the Muscular Dystrophy Association. Mr. Kriegsman has been active in various charitable organizations including the Biotechnology Industry Organization, the ALS Association, the Los Angeles Venture Association, the Southern California Biomedical Council, and the Palisades-Malibu YMCA.

### Class I — Term Expiring at the 2011 Annual Meeting

*Tod M. Woolf, Ph.D. (44)* has been our President and Chief Executive Officer and a director since 2007. Dr. Woolf has 20 years of experience developing and commercializing innovative biomedical technologies. He previously worked at numerous biotechnology companies including Ribozyme Pharmaceuticals (now Sirna Therapeutics), where he co-developed a number of lead therapeutic RNA compounds and developed Genbloc™ RNA technology, which was spun out to create Atugen (now called Silence Therapeutics). In 1996 he founded and served as Chief Executive Officer of Sequitur, an RNAi company acquired by Invitrogen Corporation in 2003. At Sequitur, Dr. Woolf co-invented and commercialized Stealth™ RNAi, one of the most widely used second-generation RNAi research products. Also at Sequitur, he established collaborations with over a dozen major pharmaceutical companies. From 2003 through 2006, Dr. Woolf was an advisor to Invitrogen and more recently has served as an advisor to Signet Laboratories prior to its acquisition by Covance, and has advised ProNai and Praecis Pharmaceuticals. Furthermore, beginning in 2004, Dr. Woolf has served as the President and owner of IPIFINI, Inc., a consulting company focused on technology development and from 2006 to 2007, Dr. Woolf acted as a consultant to CytRx Corporation with a focus on strategic advising in relation to its RNAi assets. Dr. Woolf earned his Masters and Ph.D. in Cellular and Development Biology at Harvard University from 1987 through 1991, where he performed work in the then-nascent field of RNA therapeutics.

*Rudolph Nisi, M.D., (71)* has been one of our directors since January, 2009. Dr. Nisi has held various positions at New York Westchester Square Medical Center. In addition to having been on the Active Staff in Internal

Medicine/Cardiology since 1963, Dr. Nisi is also Director of Medicine since 1975, Chief of Cardiology since 1975, Chairman of Medical Critical Care Unit since 1975, President of the Medical Board from 1977 to 1978, Chairman of the Board of Trustees since 1983 and from 1976 to 1978, Chairman of the ER Committee since 1984, and Vice-President of Medical Affairs since 1993. Dr. Nisi was the Chairman of the Board of Medco Research Inc. Dr. Nisi has also served as an Attending Physician at New York Hospital, a Clinical Assistant Professor of Medicine at Cornell University Medical College and an Assistant Dean at Weill Medical College of Cornell University. Dr. Nisi has also served as a director of Temptra Technology, Inc., a thermal research and development company, since 1997 and on the boards of Touchtone HMO and New York Presbyterian Hospital. Dr. Nisi holds a B.S. degree from Fordham University and a Doctor of Medicine degree from the University of Rome Medical School in Rome, Italy and is a fellow in the American College of Cardiology.

**Meetings of the Board of Directors and Committees**

*Board of Directors.* The property, affairs and business of RXi are conducted under the general supervision and management of our Board of Directors as called for under the laws of Delaware and our Bylaws. Our Board of Directors has established a standing Audit Committee, Compensation Committee and Nomination and Governance Committee.

The Board of Directors held 13 meetings during 2008. All directors were in attendance for 12 out of the 13 meetings, with only one director being absent from only one meeting. Board agendas include regularly scheduled executive sessions for the independent directors to meet without management present.

*Director Independence.* Our Board of Directors has determined that Messrs. Hillsberg, Ahn, Nisi and Galliker each are “independent” under the current independence standards of both the NASDAQ Capital Market and the Securities and Exchange Commission, or SEC, and have no material relationships with us (either directly or as a partner, shareholder or officer of any entity) that could be inconsistent with a finding of their independence as members of our Board of Directors or as the members of our Audit Committee. Our Board of Directors also has determined that Mr. Galliker, one of the independent directors serving on our Audit Committee, is our audit committee financial expert.

The following table provides information concerning the current membership of our Board committees:

<u>Name</u>	<u>Class of Directors(1)</u>	<u>Audit Committee</u>	<u>Compensation Committee</u>	<u>Nomination and Governance Committee</u>	<u>Strategy Committee</u>
Sanford J. Hillsberg(5)	III	x	x	x	
Tod M. Woolf, Ph.D.	I				
Mark J. Ahn, Ph.D.(4)	II	x		x	x
Stephen S. Galliker(2)	II	x	x	x	
Steven A. Kriegsman(3)	III				x
Rudolph Nisi M.D.	I		x		

- (1) Class I directors serve until the 2011 Annual Meeting of Stockholders, Class II directors serve until the 2009 Annual Meeting of Stockholders and Class III directors serve until the 2010 Annual Meeting of Stockholders.
- (2) Mr. Galliker is the Chairman of the Audit Committee.
- (3) Mr. Kriegsman is Chairman of the Strategy Committee.
- (4) Dr. Ahn is Chairman of the Nominating and Corporate Governance Committee.
- (5) Mr. Hillsberg is Chairman of the Compensation Committee.

## Table of Contents

The following table provides information concerning the membership of our Board committees through March 27, 2009:

<u>Name</u>	<u>Class of Directors(1)</u>	<u>Audit Committee</u>	<u>Compensation Committee</u>	<u>Nomination and Governance Committee</u>
Sanford J. Hillsberg	III	x		x
Tod M. Woolf, Ph.D.	I			
Mark J. Ahn, Ph.D.(4)	II	x	x	x
Stephen S. Galliker(2)	II	x	x	x
Steven A. Kriegsman(3)	III		x	

- (1) Class I directors serve until the 2011 Annual Meeting of Stockholders, Class II directors serve until the 2009 Annual Meeting of Stockholders and Class III directors serve until the 2010 Annual Meeting of Stockholders.
- (2) Mr. Galliker is the Chairman of the Audit Committee.
- (3) Mr. Kriegsman was the Chairman of the Compensation Committee.
- (4) Dr. Ahn is Chairman of the Nominating and Corporate Governance Committee.

### *Audit Committee.*

Our Board of Directors has determined that each of the current members of the Audit Committee are “independent” under the current independence standards of the NASDAQ Capital Market. The Audit Committee assists the Board of Directors in fulfilling its oversight responsibilities relating to:

- The quality and integrity of our financial statements and reports.
- The independent registered public accounting firm’s qualifications and independence.
- The performance of our independent auditors.

The Audit Committee reviews our financial structure, policies and procedures, appoints the outside independent registered public accounting firm, reviews with the outside independent registered public accounting firm the plans and results of the audit engagement, approves permitted non-audit services provided by our independent registered public accounting firm, reviews the independence of the auditors and reviews the adequacy of our internal accounting controls. The Audit Committee’s responsibilities also include oversight activities described below under the “Report of the Audit Committee.”

The Audit Committee has discussed with the outside independent registered public accounting firm the auditors’ independence from management and RXi, including the matters in the written disclosures required by the Public Company Accounting Oversight Board and considered the compatibility of permitted non-audit services with the auditors’ independence. The Audit Committee operates pursuant to a written charter, which is available on our website, [www.rxipharma.com](http://www.rxipharma.com).

The Audit Committee held 10 meetings during 2008.

**Report of the Audit Committee**

The primary function of the Audit Committee is to assist the Board of Directors in fulfilling its oversight responsibilities relating to:

- The quality and integrity of RXi's financial statements and reports.
- The independent auditors' qualifications and independence.
- The performance of RXi's independent auditors.

The Audit Committee operates under a written charter adopted by the Board of Directors on July 11, 2007

The Audit Committee's primary duties and responsibilities are:

- to appoint, oversee and replace, if necessary, the independent auditor.
- to assist the Board of Directors' oversight of the preparation of our financial statements, our compliance with legal and regulatory requirements, the independent auditor's qualifications and independence and the performance of our independent auditor.
- to prepare the report the SEC rules require to be included in our annual proxy statement.
- to resolve disagreements between management and the auditor regarding financial reporting.

The Audit Committee provides assistance to the Board of Directors in fulfilling its oversight responsibility to the stockholders, potential stockholders, the investment community, and others relating to RXi's financial statements and the financial reporting process, the systems of internal accounting and financial controls, the annual independent audit of RXi's financial statements and the ethics programs when established by RXi management and the Board of Directors. The Audit Committee has the sole authority (subject, if applicable, to stockholder ratification) to appoint or replace the outside auditors and is directly responsible for determining the compensation of the independent auditors.

The Audit Committee must pre-approve all auditing services and all permitted non-auditing services to be provided by the outside auditors. In general, the Audit Committee's policy is to grant such approval where it determines that the non-audit services are not incompatible with maintaining the auditors' independence and there are costs or other efficiencies in obtaining such services from the auditors as compared to other possible providers. During 2008, the Audit Committee approved all of the non-audit services proposals submitted to it.

The Audit Committee schedules its meetings with a view to ensuring that it devotes appropriate attention to all of its tasks. In discharging its oversight role, the Audit Committee is empowered to investigate any matter brought to its attention, with full access to all of RXi's books, records, facilities and personnel, and to retain its own legal counsel and other advisers as it deems necessary or appropriate.

As part of its oversight of RXi's financial statements, the Audit Committee reviewed and discussed with both management and its outside auditors RXi's interim financial statements and annual audited financial statements that are included in RXi's Quarterly Reports on Form 10-Q and Annual Report on Form 10-K, respectively. RXi's management advised the Audit Committee in each case that all such financial statements were prepared in accordance with accounting principles generally accepted in the United States of America and reviewed significant accounting issues with the Audit Committee. These reviews included discussion with the outside auditors of matters required to be discussed pursuant to Statement on Auditing Standards (SAS) No. 61 (Communication with Audit Committees), as amended and as adopted by the Public Company Oversight Board in Rule 3200T.

The Audit Committee retained BDO Seidman, LLP to audit RXi's financial statements for 2008. The Audit Committee also has selected BDO Seidman, LLP as RXi's independent registered public accountants for 2009.

The Audit Committee discussed with BDO Seidman, LLP, which audited RXi's annual financial statements for 2008, matters relating to its independence, including a review of audit and non-audit fees and the letter and written disclosures made by BDO Seidman, LLP to the Audit Committee pursuant to Public Company Accounting Oversight Board (United States) Rule 3526.

In addition, the Audit Committee reviewed initiatives aimed at strengthening the effectiveness of RXi's internal control structure. As part of this process, the Audit Committee continued to monitor and review staffing levels and steps taken to implement recommended improvements in internal procedures and controls.

Taking all of these reviews and discussions into account, the Audit Committee recommended to the Board of Directors that the Board approve the inclusion of RXi's audited financial statements in its Annual Report on Form 10-K for the fiscal year ended December 31, 2008, filed with the SEC.

Respectfully submitted,

Audit Committee:

Stephen S. Galliker, Chairman  
Sanford J. Hillsberg  
Mark J. Ahn, Ph.D.

***Compensation Committee.***

The Compensation Committee is authorized to review and make recommendations to the full Board of Directors relating to the annual salaries and bonuses of our officers and to determine in its sole discretion all grants of stock options, the exercise price of each option, and the number of shares to be issuable upon the exercise of each option under our various stock option plans. The Committee also is authorized to interpret our stock option plans, to prescribe, amend and rescind rules and regulations relating to the plans, to determine the term and provisions of the respective option agreements, and to make all other determinations deemed necessary or advisable for the administration of the plans. Our Board of Directors has determined that each of the current members of the Compensation Committee, Messrs. Galliker and Hillsberg and Dr. Nisi are "independent" under the current independence standards of the NASDAQ Capital Market.

The Compensation Committee operates pursuant to a written charter, which is available on our website, [www.rxipharma.com](http://www.rxipharma.com).

The Compensation Committee held 6 meetings during 2008.

***Nomination and Governance Committee.***

The Nomination and Governance Committee assists our Board of Directors in discharging its duties relating to corporate governance and the compensation and evaluation of the Board. The Nomination and Governance Committee operates pursuant to a written charter, which is available on our website, [www.rxipharma.com](http://www.rxipharma.com). Our Board of Directors has determined that each of the current members of the Nomination and Governance Committee, Dr. Ahn and Messrs. Hillsberg and Galliker, are "independent" under the current independence standards of the NASDAQ Capital Market.

The principal responsibilities of the Nomination and Governance Committee include:

- identify individuals qualified to become members of the Board of Directors.
- select, or recommend that the Board of Directors select the director nominees for the next annual meeting of stockholders.
- develop and recommend to the Board of Directors a set of applicable corporate governance principles.
- oversee the evaluation of the Board of Directors and its dealings with management and appropriate committees of the Board of Directors.

The Nominating and Governance Committee also established a policy under which stockholders may recommend a candidate for consideration for nomination as a director, articulating expectations to each director, reviewing practices and policies with respect to directors, reviewing functions, duties and composition of the committees of the Board of Directors, reviewing policies with respect to significant issues of corporate public responsibility, recommending processes for annual evaluations of the performance of the Board of Directors and Chief Executive Officer, reporting questions of possible conflicts of interest of board members and overseeing the

maintenance and presentation to the Board of Directors of management's plans for succession to senior management positions.

The Nomination and Governance Committee held 6 meetings in 2008.

The Nomination and Governance Committee has not established any specific minimum qualifications for director candidates or any specific qualities or skills that a candidate must possess in order to be considered qualified to be nominated as a director.

Qualifications for consideration as a director nominee may vary according to the particular areas of expertise being sought as a complement to the existing board composition. In making its nominations, our Nomination and Governance Committee generally will consider, among other things, an individual's business experience, industry experience, financial background, breadth of knowledge about issues affecting our company, time available for meetings and consultation regarding company matters and other particular skills and experience possessed by the individual.

### *Strategy Committee*

The Strategy Committee was established in March 2009 by the Board of Directors to advise management on strategic matters and to report such matters to the Board of Directors. Current members include Mr. Kriegsman and Dr. Ahn.

## **Transactions with Related Persons**

### *General*

Our Audit Committee is responsible for reviewing and approving, as appropriate, all transactions with related persons, in accordance with its Charter and NASDAQ Marketplace Rules. We had various transactions with CytRx Corporation, our largest shareholder, in 2008.

As a result of the distribution and award of our shares by CytRx described in our Registration Statement on Form S-1 that became effective on February 14, 2008, CytRx's ownership of our common stock went from 86% to 49%. As of December 31, 2008, CytRx owns 45.4% of our common stock.

### *Reimbursement Agreements*

On December 27, 2007, we entered into a letter agreement with CytRx under which we and CytRx agreed to a "fee-sharing" arrangement for expenses arising from the preparation of the registration statement that included the Distribution and Award prospectuses, and our application for the listing of our common stock on the NASDAQ Capital Market. Pursuant to this agreement, we agreed to reimburse CytRx an amount equal to the sum of (i) \$30,000 plus (ii) 50% of the total relevant fees and expenses paid by CytRx to certain financial services professionals. Also under this agreement CytRx agreed to reimburse us 50% of the total relevant fees and expenses paid by us to our financial printer, our transfer agent and our legal counsel. There are no further payments or obligations owed in accordance with this letter agreement.

### *Stockholder and Preemptive Rights Agreement*

On February 15, 2007, we entered into a letter agreement with CytRx and certain of our current stockholders. Under this letter agreement, we agreed to grant to CytRx preemptive rights to acquire any new securities, as defined therein, that we propose to sell or issue so that CytRx may maintain its percentage ownership of us. The preemptive rights will expire on January 8, 2012, or such earlier time at which CytRx owns less than 10% of our outstanding common stock. Under this letter agreement, CytRx also undertakes to vote its shares of our stock in the election of our directors and dispose of their shares of our stock in accordance with the terms of its letter agreement with UMMS. CytRx has further agreed in this letter agreement to approve of actions that may be adopted and recommended by our Board of Directors to facilitate any future financing. We amended this letter agreement on July 28, 2008 to adjust certain non-material terms.

***Registration Rights Agreement***

On April 30, 2007, we entered into a registration rights agreement with CytRx. Under this agreement, we agreed, upon request by CytRx, to use best efforts to cause all of our shares issued to CytRx pursuant to the two contribution agreements to be registered under the Securities Act, with certain exceptions, with all expenses incurred in connection with any such registration will be borne by us. We amended this agreement on July 28, 2008 to adjust certain non-material terms.

Transactions between us and one or more related persons may present risks or conflicts of interest or the appearance of conflicts of interest. Our Code of Ethics requires all employees, officers and directors to avoid activities or relationships that conflict, or may be perceived to conflict, with our interests or adversely affect our reputation. It is understood, however, that certain relationships or transactions may arise that would be deemed acceptable and appropriate so long as there is full disclosure of the interest of the related parties in the transaction and review and approval by disinterested directors to ensure there is a legitimate business reason for the transaction and that the transaction is fair to us and our stockholders.

As a result, the procedures followed by the Audit Committee to evaluate transactions with related persons require:

- that all related person transactions, all material terms of the transactions, and all the material facts as to the related person's direct or indirect interest in, or relationship to, the related person transaction must be communicated to the Audit Committee; and
- that all related person transactions, and any material amendment or modification to any related person transaction, be reviewed and approved or ratified by the Audit Committee, as required by NASDAQ Marketplace Rules.

Our Audit Committee will evaluate related person transactions based on:

- information provided by members of our Board of Directors in connection with the required annual evaluation of director independence;
- pertinent responses to the Directors' and Officers' Questionnaires submitted periodically by our officers and directors and provided to the Audit Committee by our management;
- background information on nominees for director provided by the Nominating and Corporate Governance Committee of our Board of Directors; and
- any other relevant information provided by any of our directors or officers.

In connection with its review and approval or ratification, if appropriate, of any related person transaction, our Audit Committee is to consider whether the transaction will compromise standards included in our Code of Ethics. In the case of any related person transaction involving an outside director or nominee for director, the Audit Committee also is to consider whether the transaction will compromise the director's status as an independent director as prescribed in the NASDAQ Marketplace Rules.

All of our related person transactions will be disclosed in our filings with the SEC in accordance with SEC rules.

**Stockholder Recommendations of Director Candidates**

The policy of the Nomination and Governance Committee is that a stockholder wishing to submit recommendations for director candidates for consideration by the Nomination and Governance Committee for election at an annual meeting of shareholders must do so in writing to the Corporate Secretary. Such recommendations must be received at our principal executive offices not less than 60 days and not more than 90 days prior to the anniversary date of the immediately preceding annual meeting of the stockholders. The written recommendation must include the following information:

- A statement that the writer is a stockholder and is proposing a candidate for consideration.

- The name and contact information for the candidate.
- A statement of the candidate's business and educational experience.
- Information regarding the candidate's qualifications to be a director.
- The number of shares of our common stock, if any, owned either beneficially or of record by the candidate and the length of time such shares have been so owned.
- The written consent of the candidate to serve as a director if nominated and elected.
- Information regarding any relationship or understanding between the proposing stockholder and the candidate.
- A statement that the proposed candidate has agreed to furnish us all information as we deem necessary to evaluate such candidate's qualifications to serve as a director.

As to the stockholder giving the notice, the written recommendation must state the name and address of the stockholder and the number of shares of our common stock which are owned beneficially or of record by the shareholder.

Any recommendations in proper form received from stockholders will be evaluated in the same manner that potential nominees recommended by our Board members or management are evaluated.

### **Stockholder Nominations of Directors**

Our Bylaws specify the procedures by which stockholders may nominate director candidates directly, as opposed to merely recommending a director candidate to the Nomination and Governance Committee as described above. Any stockholder nominations must comply with the requirements of our Bylaws and should be addressed to: Corporate Secretary, RXi Pharmaceuticals Corporation, 60 Prescott Street, Worcester, Massachusetts 01605.

### **Stockholder Communication with Board Members**

Stockholders who wish to communicate with our Board members may contact us by telephone, facsimile or regular mail at our principal executive office. Written communications specifically marked as a communication for our Board of Directors, or a particular director, except those that are clearly marketing or soliciting materials, will be forwarded unopened to the Chairman of our Board, or to the particular director to which they are addressed, or presented to the full Board or the particular director at the next regularly scheduled Board meeting. In addition, communications sent to us via telephone or facsimile for our Board of Directors or a particular director will be forwarded to our Board or the director by an appropriate officer.

### **Board Member Attendance at Annual Meetings**

Our Board of Directors has no formal policy regarding attendance of directors at our annual stockholder meetings. All our directors attended the July 18, 2008 annual meeting.

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

Our executive officers and directors and any person who owns more than 10% of our outstanding shares of common stock are required under Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock and to furnish us with copies of those reports. Based on the Company's review of copies of such forms it has received from its executive officers, directors and greater than ten-percent beneficial owners, the Company believes that during the fiscal year ended December 31, 2008, all Section 16(a) filing requirements applicable to its Reporting Persons were met in a timely manner, except that Ms. Khvorova failed to timely report one Form 3 and one Form 4. Ms. Khvorova subsequently filed the required reports.

**Beneficial Owners of More Than Five Percent of RXi’s Common Stock; Shares Held by Directors and Executive Officers**

The following tables set forth information with respect to the beneficial ownership of our common stock as of April 1, 2009 by:

- any person known by us to be the beneficial owner of 5% or more of our common stock, including any “group” as that term is defined in the Exchange Act,
- each director and our named executive officers and
- all of our directors and executive officers as a group.

Beneficial ownership is determined in accordance with SEC rules, and generally includes voting or investment power with respect to securities. Shares of common stock subject to options, warrants and convertible securities that are currently exercisable or convertible within 60 days are deemed to be outstanding and to be beneficially owned by the person holding the options, warrants or convertible securities for the purpose of computing the percentage ownership of the person, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person.

Unless otherwise noted, the information below is based on the number of shares of our common stock beneficially owned by each person or entity at April 1, 2009 and the number of shares subject to any options and warrants granted to these individuals that are exercisable within 60 days of April 1, 2009, which are indicated by footnote.

<u>Name of Beneficial Owner</u>	<u>Amount and Nature of Beneficial Ownership</u>	<u>Percentage of Outstanding Shares</u>
CytRx Corporation(1)	6,268,881	45.4%
Investment Funds affiliated with Fidelity Investments(2)	1,855,684	13.4%
Tod Woolf, Ph.D.(3)	228,105	1.7%
Stephen J. DiPalma(4)	60,056	*
Anastasia Khvorova(5)	23,750	*
Konstantinos Andrikopoulos(6)	12,500	*
Pamela Pavco, Ph.D.(7)	86,048	*
Dmitry Samarsky, Ph.D.(8)	53,726	*
Mark J. Ahn, Ph.D.(9)	122,500	*
Stephen S. Galliker(9)	122,500	*
Sanford J. Hillsberg(9)(10)	118,500	*
Steven A. Kriegsman(9)(11)	250,282	1.8%
Rudolph Nisi, M.D.(12)	23,375	*
All executive officers and directors as a group — 11 persons(13)	1,101,342	8%

\* Represents less than 1% of the outstanding shares of our common stock.

(1) The address for CytRx is 11726 San Vicente Boulevard, Suite 650, Los Angeles, California 90049.

(2) Holdings as of December 31, 2008 as reported on Schedule 13G filed with the SEC on February 17, 2009 by the Selling Stockholder consist of (i) shares owned by Fidelity Mt. Vernon Street Trust: Fidelity New Millennium Fund (“FNMF”), (ii) shares owned by Fidelity Trend Fund: Fidelity Trend Fund (“FTF”), (iii) shares owned by Fidelity Advisor Series I: Fidelity Advisor Strategic Growth Fund (“FASGF”), (iv) shares owned by Variable Insurance Product Fund IV: Growth Stock Portfolio (GSP”), (v) shares owned by Fidelity Mt. Vernon Street Trust: Fidelity Aggressive Growth Fund (“FAGF”), (vi) shares owned by Fidelity Securities Fund: Fidelity Advisor Aggressive Growth Fund (“FAAGF”), and (vii) shares owned by Variable Insurance Products Fund III: Aggressive Growth Portfolio (“AGP” and, together with FNMF, FTF, FASGF, GSP, FAGF, and FAAGF, the “Funds”). FAGF holds 1,101,923 shares, or 8.0% of the Company’s total outstanding common stock, and FNMF holds 744,517 shares, or 5.4%, of the Company’s total outstanding common stock.

Each of the Funds is a registered investment fund advised by Fidelity Management & Research Company (“FMR Co.”), a registered investment adviser under the Investment Advisers Act of 1940, as amended. FMR Co., 82 Devonshire Street, Boston, Massachusetts 02109, a wholly-owned subsidiary of FMR Corp. and an investment advisor registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 2,049,622 shares of the outstanding common stock of the Company held by the Funds.

Edward C. Johnson 3d, FMR Corp., through its control of FMR Co., and the Funds each has sole power to dispose of the shares owned by the Funds.

Neither FMR Corp. nor Edward C. Johnson 3d, Chairman of FMR Corp., has the sole power to vote or direct the voting of the shares owned directly by each Fund, which power resides with such Fund’s Board of Trustees.

The Funds are affiliates of a broker-dealer. The Funds purchased the common stock in the ordinary course of business and, at the time of purchase of the common stock to be resold, the Funds did not have any agreements or understandings, directly or indirectly, with any person to distribute the common stock.

- (3) Consists of 228,105 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (4) Consists of 60,056 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (5) Consists of 23,750 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (6) Consists of 16,500 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (7) Includes 86,048 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (8) Includes 53,726 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (9) Includes 112,500 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (10) The shares shown do not include shares owned by TroyGould PC.
- (11) Mr. Kriegsman is the CEO and a director of CytRx, but acting alone, he has neither voting nor investment power with respect to the shares beneficially owned by CytRx. As a result, Mr. Kriegsman disclaims beneficial ownership of such shares.
- (12) Includes 23,375 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.
- (13) Includes 1,101,342 shares of common stock underlying stock options exercisable within 60 days of April 1, 2009.

### **Executive Officers of RXi Pharmaceuticals Corporation**

Set forth below is information regarding our current executive officers (other than information relating to Tod M. Woolf, Ph.D., our President and Chief Executive Officer, which is set forth above under “Continuing Directors”). Each officer’s age is indicated in parentheses after his name.

*Stephen J. DiPalma (50)* has been our Chief Financial Officer since August 2007 and was promoted to Executive Vice President of Business Operations/Chief Financial Officer in January 2009. Mr. DiPalma has over twenty years of broad experience with emerging life science companies. He was founder, President and CEO of Catalyst Oncology, Inc., a specialty diagnostic company, from 2004 until its merger with a public diagnostics company. From 2002 to 2004, Mr. DiPalma was the Chief Financial Officer for Milkhaus Laboratories, a drug development company, and from 1998 to 2002, he was Chief Financial Officer for Phytera, Inc., an international biotech company involved in natural products-based drug discovery. Prior to Phytera, Mr. DiPalma was the Chief Financial Officer at Aquila Biopharmaceuticals, a public biotechnology company. From 1988 to 1995, he was the co-founder and Chief Financial Officer at Athena Diagnostics, a specialty diagnostic testing firm in the neurology field that subsequently merged with a public biotech company. Mr. DiPalma began working in the healthcare industry in 1985 in financial positions for a subsidiary of Baxter International. Mr. DiPalma earned an MBA from

Babson College and holds a BS in finance and information systems from the University of Massachusetts. He has also serves on the Board of Directors of Neuroptix Corporation.

*Anastasia Khvorova, Ph.D. (39)* has been our Chief Scientific Officer since October 2008. Dr. Khvorova has contributed significantly to the RNAi field. While at Dharmacon (ThermoFisher Scientific), she made major technology advances in RNAi and microRNA. Dr. Khvorova was also responsible for establishing and managing several drug discovery/development collaborations with major pharmaceutical companies, including Abbott and Alcon. Her groundbreaking work has allowed her to author more than 150 abstracts, 30 patents and patent applications, several book chapters and over 40 peer reviewed publications. Dr. Khvorova received her Ph.D. in Biochemistry from Russian Academia of Sciences in Moscow in 1994 and after 10 years of working in academia and industry she joined world recognized RNAi leader Dharmacon in September 2002 as an Associate Director. Dr. Khvorova was promoted several times before becoming the Chief Scientific Officer in April of 2005. Dr. Khvorova held this position for six years

*Konstantinos Andrikopoulos, Ph.D., J.D. (43)* has been our Vice President, Legal Counsel and Chief Intellectual Property Counsel at RXi since November 2008. Dr. Andrikopoulos brings a broad range of experience to RXi. He was previously an Associate General Counsel at Transkaryotic Therapies, Inc., (TKT) from September 2002 to July 2005 when TKT was acquired by Shire Pharmaceuticals, and continuing there as Senior Patent Counsel prior to joining RXi. While there, Dr. Andrikopoulos was responsible for Shire HGT's extensive patent portfolio encompassing two marketed drug products and a rich pipeline. Prior to his work at Shire, Dr. Andrikopoulos spent five years with Wolf, Greenfield & Sacks, P.C., a Boston firm specializing in intellectual property law, as a technology specialist, patent agent and patent attorney, creating and managing patent estates for a number of biotechnology clients. Dr. Andrikopoulos received his law degree from Suffolk University Law School in Boston, his Ph.D. in Biomedical Sciences from the City University of New York (through Mount Sinai School of Medicine's Graduate School of Biological Sciences Program) and his B.Sc. in Biophysics (Hons.) from the University of East London, London, U.K. Dr. Andrikopoulos was an Irvington Foundation Postdoctoral Fellow at MGH, Harvard Medical School in Boston. He is the author or co-author of numerous scientific publications and is a member of the Massachusetts Bar and a registered patent attorney with the United States Patent and Trademark Office.

*Pamela Pavco, Ph.D. (52)* has been our Vice President of Pharmaceutical Development since March 2007. Dr. Pavco brings over 16 years of research and development experience in oligonucleotides to us. From 2002 to 2006, Dr. Pavco was Senior Director, R&D Project Management at Sirna Therapeutics, previously known as Ribozyme Pharmaceuticals, where she was responsible for the discovery research and development of Sirna-027, the first chemically modified siRNA to enter into clinical trials. Dr. Pavco also managed the alliance with Allergan that was initiated to continue discovery research in the area of ophthalmology and take Sirna-027 forward into Phase 2 clinical studies. While at Sirna, Dr. Pavco served various additional roles including Director of Biology Research and Director of Pharmacology and managed numerous corporate collaborations and internal programs developing therapeutic oligonucleotides in the fields of oncology, anti-angiogenesis, Hepatitis, respiratory disease and Huntington's disease. Dr. Pavco has authored numerous scientific articles and contributed to approximately 48 patents and patent applications in the oligonucleotide therapeutics field. Dr. Pavco received a Ph.D. in Biochemistry from Virginia Commonwealth University in 1983 and did her post-doctoral work at Duke University prior to joining Sirna Therapeutics. She is a member of the American Association of Cancer Research and the Association for Research and Vision in Ophthalmology.

*Dmitry Samarsky, Ph.D. (42)* has been our Vice President of Technology and Business Development since June 2007. From 2005 through 2007, Dr. Samarsky was with Dharmacon, Inc. (now part of ThermoFisher Scientific), where his role was to develop, support and expedite technology development for the company's RNAi platform. From 2003 through 2005, Dr. Samarsky was employed by Invitrogen, formulating partnership models and providing BioDiscovery platform solutions for the drug discovery process. From 2001 through 2003, Dr. Samarsky was employed by Sequitur, Inc. where he had the role of developing and promoting Sequitur, Inc.'s antisense and RNAi technological platforms. Dr. Samarsky received his Ph.D. in biochemistry and molecular biology from the University of Massachusetts, Amherst in 1998. He then performed postdoctoral work with Dr. Michael R. Green, a Howard Hughes Medical Institute investigator at the University of Massachusetts Medical School, Worcester. During postdoctoral training, Dr. Samarsky was awarded a three year H. Arthur Smith Fellowship for Cancer Research. Dr. Samarsky has authored many

publications, including research articles, reviews, book chapters and patent applications and has frequently advised, chaired and presented at various industrial and academic conferences and symposia

*Ramani Varanasi (39)* has been our Vice President of Business Development since March 2009. Ms. Varanasi has more than 15 years of experience in structuring, negotiating and executing strategic alliances, licenses and collaborations and in providing business development, management and strategic leadership in the pharmaceutical industry. Ms. Varanasi spent nine years at Millennium Pharmaceuticals, where from September 1996 to July 2004 she served in a variety of management roles in the areas of technology licensing and technology and product business development. From July 2004 to June 2005 she served as Director of Business Development at Millennium Pharmaceuticals, and cultivated her business strategy skills, executed several broad technology and product focused deals with global pharmaceutical and biotechnology companies, and grew her network of connections in the pharmaceutical industry. In June 2005, she then joined Momenta Pharmaceuticals as Director, Corporate Development, where she successfully led various business and corporate development activities for the company. From January 2007 to March 2008, Ramani served as Head of Business Development at Archemix Corporation where she was responsible for and lead the strategic development and execution of several strategic technology, research collaboration and product alliances, including the partnership with Merck Serono, a multi-year alliance with a deal value greater than \$600M. Ramani holds a B.Sc. and a M.Sc. from McGill University in Microbiology & Immunology and Biochemistry, respectively, and an MBA from Northeastern University.

## EXECUTIVE COMPENSATION

### Summary Compensation Table

The following table shows the compensation paid or accrued during the fiscal years ended December 31, 2008 and 2007 to our Chief Executive Officer and two most highly compensated executive officers, other than our President and Chief Executive Officer. Amounts included under Options Awards below represent the fair value of the award calculated under SFAS 123(R) and as more fully described in “Management’s Discussion and Analysis and the footnotes to our financial statements incorporated herein by reference to our annual report of Form 10-K for the year ended December 31, 2008.

<u>Name and Principle Position</u>	<u>Year</u>	<u>Salary (\$)</u>	<u>Bonus(1) (\$)</u>	<u>Option Awards (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Tod Woolf, Ph.D. President and Chief Executive Officer	2007	216,347	87,500	236,433	33,302(2)	573,582
	2008	275,481	54,814	444,079	450(3)	774,824
Stephen J. DiPalma Executive Vice President of Business Operations and Chief Financial Officer and Secretary	2007	76,396	30,000	47,893	201(4)	154,490
	2008	229,173	46,593	131,809	450(3)	408,025
Pamela Pavco, Ph.D. Vice President of Pharmaceutical Development	2007	162,762	38,522	104,390	29,677(5)	335,351
	2008	212,677	27,539	190,759	450(3)	431,425

- (1) Year-end bonuses were accrued at December 31, 2008 and 2007 and paid in January 2009 and January 2008 respectively.
- (2) Consists of \$33,000 in consulting fees paid in 2007 by CytRx Corporation and \$302 in life insurance premiums paid by us.
- (3) Consists of \$450 in life insurance premiums paid by us.
- (4) Consists of \$201 in life insurance premiums paid by us.
- (5) Consists of \$29,375 in consulting fees paid by CytRx Corporation and \$302 in life insurance premiums paid by us.

## RXi Pharmaceuticals Corporation's 2007 Incentive Plan

The RXi Pharmaceutical's Corporation 2007 Incentive Plan, (the "2007 Incentive Plan"), was adopted by our Board of Directors on February 23, 2007, approved by our stockholders on June 19, 2007. During 2008, the 2007 Incentive Plan was amended to increase the maximum number of common stock shares authorized for issuance from 2,750,000 to 3,750,000. The amendment was adopted by our Board of Directors on June 4, 2008 and approved by our stockholders on July 18, 2008. Under this plan, we may grant incentive common stock options, nonqualified stock options and restricted and unrestricted stock awards. As of December 31, 2008, 2,223,452 shares were subject to outstanding options under this plan, and 1,526,548 shares were available for future grant under this plan. The Board of Directors has appointed its Compensation Committee to act as the administrator of our 2007 Incentive Plan.

Subject to board approval, the administrator has the power to select the participants, establish the price, terms and conditions of each option, issue shares upon option exercises and interpret option agreements, and the administrator may at any time modify or amend the 2007 Incentive Plan in any respect, except where stockholders' approval is required by law or where such termination or modification or amendment affects the rights of an optionee under a previously granted option and such optionee's consent has not been obtained.

In the event of a change of control in which there is an acquiring or surviving entity, the administrator may provide for the assumption or substitution of some or all outstanding awards by the acquirer or survivor. In the absence of an assumption or substitution, each stock option will become fully exercisable prior to the transaction on a basis that gives the holder of the stock option a reasonable opportunity as determined by the administrator, to participate as a stockholder in the transaction following exercise, and the stock option will terminate upon consummation of the transaction. In the case of restricted stock, the administrator may require that any amounts delivered, exchanged or otherwise paid in respect of such stock in connection with the transaction be placed in escrow or otherwise made subject to such restrictions as the Board of Directors deems appropriate.

Immediately upon termination of employment of an employee, the unvested portion of any stock option will terminate and the balance, to the extent exercisable, will remain exercisable for the lesser of (i) a period of three months (90 days) or (ii) the period ending on the latest date on which such stock option could have been exercised without regard to this provision. The 2007 Incentive Plan provides exceptions for the vesting of options upon an individual's death or if the administrator determines that the termination of employment resulted for reasons that cast discredit on the individual.

## Outstanding Equity Awards

The following table shows vested and unvested stock award grants outstanding on December 31, 2008 to each of the executive officers named in the Summary compensation table:

Name	Option Awards			
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Tod Woolf, Ph.D.(1)	167,302	149,692	5.00	5/23/2017
President and Chief Executive Officer	6,888	48,219	7.50	4/18/2018
Stephen J. DiPalma(2)	37,500	62,500	5.00	10/18/2017
Executive Vice President of Business Operations and Chief Financial Officer and Secretary	2,428	17,001	7.50	4/18/2018
Pamela Pavco, Ph.D.(3)	63,573	81,738	5.00	5/23/2017
Vice President of Pharmaceutical Development	5,228	36,598	7.50	4/18/2018

- (1) The stock option grant to Dr. Woolf with an exercise price equal to \$5.00 vests in 36 equal monthly installments of 8,804 shares beginning on June 23, 2007. The stock option grant with an exercise price equal to \$7.50 vests in 16 equal quarterly installments of 3,444 shares beginning on July 18, 2008.

- (2) The stock option grant to Mr. DiPalma with an exercise price equal to \$5.00 vests in 16 equal quarterly installments of 6,250 shares beginning on November 28, 2007. The stock option grant with an exercise price equal to \$7.50 vests in 16 equal quarterly installments of 1,214 shares beginning on July 18, 2008.
- (3) The stock option grant to Dr. Pavco with an exercise price equal to \$5.00 vests in 15 equal quarterly installments of 9,081.94 shares beginning on June 7, 2007, with a final installment of 9,081.90 shares vesting on March 7, 2011. The stock option grant with an exercise price equal to \$7.50 vests in 16 equal quarterly installments of 2,614 shares beginning on July 18, 2008.

### **Pension Benefits**

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

### **Nonqualified Defined Compensation**

We do not have any nonqualified defined compensation plans.

### **Termination-Based Compensation**

We have agreements in place with our named executive officers that provide for acceleration of option vesting and severance payments upon termination of such officer's employment or a change of control. In the event of a change of control, as defined, certain provisions allow for acceleration of vesting in full of the options granted in such employment agreement. Pursuant to the change of control provisions in Dr. Pavco's employment agreement and as more fully described below in "Termination Agreements," if such officer is terminated due to a change of control, she is entitled to immediate vesting of the greater of (a) 50% of all unvested options or (b) 12 months of unvested options, as well as any accrued but unpaid salary and unused vacation time as of the date of termination, twelve months' of salary from the date of termination and continued participation at our cost in our employer sponsored group benefit plans in which the officer was participating as of the date of termination.

### **Termination Agreements**

#### ***Tod Woolf, Ph.D.***

Upon termination of Dr. Woolf's employment by us without cause (as defined) or by Dr. Woolf with good reason (as defined), he is entitled to payment of: (a) any accrued but unpaid salary and unused vacation as of the date of his termination and any unpaid bonus that may have been previously awarded to him prior to such date, both of which are due and payable upon the effective date of his termination, (b) an amount, due and payable within 10 days following his termination, equal to his annual base salary for the period of time which is equal to or the earlier of either (i) the 12-month anniversary of his termination date or (ii) the remainder of the term of the agreement but in no event less than six months and (c) continued participation, at our expense, during the six-month period in any of our sponsored group benefit plans in which Dr. Woolf was participating as of the date of termination. In the event that Dr. Woolf were to be terminated by us without cause, the value of his severance package at December 31, 2008 would be \$1,250,500 including salary and benefits of approximately \$584,300. In addition, any options issued to Dr. Woolf under the 2007 Incentive Plan that would have vested through the earlier of (i) the 12-month anniversary of his termination date or (ii) the remainder of the term of the agreement but in no less than six months following the date of termination, will vest and become exercisable as of the date of his termination without cause.

Furthermore, in the event that either (a) a covered transaction, as defined in our 2007 Incentive Plan, occurs or (b) CytRx votes its shares of our common stock to elect individuals who are (i) employees, officers or directors of CytRx, (ii) employees, officers or directors of any entity that has a contractual business relationship with CytRx, or (iii) employees, officers, directors of any entity that has a contractual business relationship with any officer or director of CytRx to constitute a majority of our Board of Directors, any options issued to Dr. Woolf will vest in full and become exercisable. The fair value of stock options that would vest as a result of any of these events occurring is approximately \$524,000. The fair value of the options, based on the following assumptions, was estimated using the Black-Scholes option-pricing model. Due to the fact that we have limited history of stock trading, our company's expected stock-price volatility assumption is based on a combination of implied volatilities of similar entities whose share or option prices are publicly traded. We used a weighted-average expected stock-price volatility of 105.3%.

The expected life assumption is based on a simplified method provided for under SAB No. 107 (“SAB 107”) regarding the Staff’s interpretation of SFAS 123(R), which averages the contractual term of our options (10 years) with the ordinary vesting term (four years). The dividend yield of zero is based on the fact that we have no present intention to pay cash dividends. The weighted average risk-free rate of 3.92% used for each grant is equal to the zero coupon rate in effect at the time of the grant for instruments with similar expected life. Dr. Woolf’s severance payments will only be triggered in the event that his employment is terminated by us without cause or by Dr. Woolf with good reason, which, for purposes of his employment agreement, means any of the following: (i) a material reduction in Dr. Woolf’s duties, position, or responsibilities in effect immediately prior to such reduction, (ii) the reduction of Dr. Woolf’s base salary or bonus opportunity by more than 5% relative to his salary and bonus opportunity in effect immediately prior to such reduction, (iii) a material reduction by us in the kind or level of benefits to which Dr. Woolf is entitled immediately prior to such reduction with the result that Dr. Woolf’s overall benefits package is significantly reduced, (iv) without Dr. Woolf’s express written consent, he is relocated to a facility or location more than 35 miles from our current facility in Worcester, Massachusetts, or (v) CytRx votes its shares of our common stock to elect individuals who are affiliates of CytRx to constitute a majority of our Board of Directors.

***Stephen DiPalma***

Upon termination of Mr. DiPalma’s employment by us without cause (as defined) or by Mr. DiPalma with good reason (as defined), he is entitled to payment of: (a) any accrued but unpaid salary and unused vacation as of the date of his termination, (b) six months’ salary from the date of termination (this period shall be referred to as the “Severance Period”) in the form of salary continuation; and (c) continued participation, at our expense, during the Severance Period in any of our sponsored group benefit plans in which Mr. DiPalma was participating as of the date of termination.

In the event that Mr. DiPalma were to be terminated by us without cause, the value of his severance package at December 31, 2008 would be \$211,000 including salary and benefits our approximately \$139,800. Mr. DiPalma’s severance payments will only be triggered in the event that his employment is terminated by us without cause or by Mr. DiPalma with good reason, which, for purposes of his employment agreement, means any of the following: (i) a material reduction in Mr. DiPalma’s compensation or benefits, and/or (ii) any change in Mr. DiPalma’s position or title that is not agreeable to Mr. DiPalma. In addition to the payments upon termination of Mr. DiPalma, all options issued to Mr. DiPalma under his employment agreement will vest in full and become exercisable as to all of the shares covered thereby upon the occurrence of a covered transaction as defined in our 2007 Incentive Plan. The fair value of stock options that would vest as a result of a covered transaction is approximately \$71,200. The fair value of the options, based on the following assumptions, was estimated using the Black-Scholes option-pricing model.

Due to the fact that we have limited history of stock trading, our company’s expected stock-price volatility assumption is based on a combination of implied volatilities of similar entities whose share or option prices are publicly traded. We used a weighted-average expected stock-price volatility of 106.64%. The expected life assumption is based on a simplified method provided for under SAB 107, which averages the contractual term of our options (10 years) with the ordinary vesting term (four years). The dividend yield of zero is based on the fact that we have no present intention to pay cash dividends. The weighted average risk-free rate of 4.09% used for each grant is equal to the zero coupon rate in effect at the time of the grant for instruments with similar expected life.

***Pamela Pavco, Ph.D.***

Upon termination of Dr. Pavco employment without cause (as defined) by us or by Dr. Pavco as a result of an involuntary termination, she is entitled to payment of (a) any accrued but unpaid salary and unused vacation as of the date of her termination, (b) her salary through September 7, 2009 and (c) continued participation, at our expense, during the severance period (as defined) in any of our sponsored group benefit plans in which Dr. Pavco was participating as of the date of termination.

Additionally, any options issued to Dr. Pavco under our 2007 Incentive Plan, that would have vested during the severance period will vest and become exercisable as of the date of her termination without cause or as a result of involuntary termination. Furthermore, upon the occurrence of a covered transaction, as defined in our 2007

Incentive Plan, all options issued to Dr. Pavco under the 2007 Incentive Plan, will vest and become exercisable. In the event that Dr. Pavco was terminated from the Company without cause at December 31, 2008, the value of her severance package would be approximately \$406,800 including salary and benefits of approximately \$248,800 and the fair value of stock options that would vest as a result of this termination of approximately \$158,000. In addition to the payments upon termination of Dr. Pavco, all options issued to Dr. Pavco under her employment agreement will vest in full and become exercisable as to all of the shares covered thereby upon the occurrence of a covered transaction as defined in our 2007 Incentive Plan. The fair of stock options that would vest as a result of a covered transaction is approximately \$304,000. The fair value of the options, based on the following assumptions, was estimated using the Black-Scholes option-pricing model. Due to the fact that we have limited history of stock trading, our expected stock-price volatility assumption is based on a combination of implied volatilities of similar entities whose share or option prices are publicly traded. We used a weighted-average expected stock-price volatility of 105.3%. The expected life assumption is based on a simplified method provided for under SAB 107, which averages the contractual term of the Company's options (ten years) with the ordinary vesting term (four years). The dividend yield of zero is based on the fact that we have no present intention to pay cash dividends. The risk-free rate of 3.92% used for each grant is equal to the zero coupon rate in effect at the time of the grant for instruments with similar expected life.

Dr. Pavco's severance payments will only be triggered in the event that her employment is terminated by us without cause or by Dr. Pavco herself as a result of an involuntary termination, which, for purposes of her employment agreement, means any of the following: (a) our breach of any material term of the employment agreement; provided that the first occasion of any particular breach shall not constitute such cause unless we have failed to cure such breach within 60 days after receiving written notice from Dr. Pavco stating the nature of such breach (b) a reduction in Dr. Pavco's salary (c) a reduction in Dr. Pavco's title, (d) the reduction of Dr. Pavco's duties from those typically assigned to a Vice President of a similarly situated biotechnology or pharmaceutical company.

In addition to the above, in the event we undergo a change of control (as defined) and Dr. Pavco's employment is terminated by us or by Dr. Pavco for involuntary termination, within one year after the change of control (other than for cause (as defined)), then: (i) the greater of (a) 50% of Dr. Pavco's unvested options shall vest immediately, or (b) 12 months' unvested options shall vest immediately, and (ii) Dr. Pavco will be entitled to (a) any accrued but unpaid salary and unused vacation time as of the date of such termination, (b) 12 months' of salary from the date of termination, payable in accordance with our normal payroll practice, and (c) continued participation, at our expense and cost, during those 12 months in any of our sponsored group benefit plans in which Dr. Pavco was participating as of the date of termination. In the event that Dr. Pavco was terminated following a change of control, the value of salary and benefits Dr. Pavco would be entitled to receive during those 12 months would be approximately \$ . As any options held by Dr. Pavco's at the time of the change of control would vest immediately, the accelerated vesting provisions described above would only apply to options that may be issued to her after the change of control. Because the terms of any such options are unknown, the current fair value of stock options that would vest as a result of such termination cannot be calculated.

### **Employment Agreements**

#### ***Tod Woolf, Ph.D.***

We entered into an employment agreement with Dr. Woolf under which he was engaged to continue his employment as our President and Chief Executive Officer through December 31, 2008. Dr. Woolf was entitled under his employment agreement to receive an annual base salary of \$250,000. In October of 2008, the Board of Directors voted to increase Dr. Woolf's base salary to \$375,000. On January 1, 2009, we extended Dr. Woolf employment agreement through December 31, 2009 at his then current base salary. In addition, on May 23, 2007, after our initial funding and pursuant to the terms of his employment agreement, we granted Dr. Woolf an option to purchase 316,994 shares of our common stock at an exercise price of the then fair market value of \$5.00 per share. This option has a term of ten years and will vest in equal monthly installments over three years, subject to accelerated vesting if any of the following occur: (a) a covered transaction, as defined in the 2007 Incentive Plan, occurs or (b) CytRx votes its shares of our stock to elect individuals who are (i) employees, officers or directors of CytRx, (ii) employees, officers or directors of any entity that has a contractual business relationship with CytRx, or (iii) employees, officers, directors of any entity that has a contractual business relationship with any officer or

director of CytRx to constitute a majority of our Board of Directors. Dr. Woolf also may be eligible for an annual discretionary bonus, which will be determined in our sole discretion. Under Dr. Woolf's employment agreement, CytRx agrees to indemnify and hold Dr. Woolf and IPIFINI, Inc., an entity affiliated with him, harmless for any claims which arise from his services as our President and Chief Executive Officer prior to the effective date of his employment agreement. In April 18, 2008, we granted Dr. Woolf an option to purchase 55,107 shares of our common stock at an exercise price of the then fair market value of \$7.50 per share. This option has a term of ten years and will vest and become exercisable in 16 equal quarterly installments beginning on July 18, 2008, subject to accelerated vesting in the event of a covered transaction, as defined in our 2007 Incentive Plan. Provisions in Dr. Woolf's agreement related to payments upon termination are described above in "Termination Based Compensation and Termination Agreements."

***Stephen DiPalma***

We have entered into an employment agreement with Mr. DiPalma under which he is engaged to serve as our Executive Vice President of Business Operations, Chief Financial Officer and Secretary. Mr. DiPalma is entitled under his employment agreement to receive an annual base salary of \$220,000 and an annual performance bonus for the achievement of certain company and employee performance goals to be established by the Compensation Committee. The bonus for top performance against such established goals will be 30% of Mr. DiPalma's annual base salary. In October of 2008, the Board of Directors voted to increase Mr. DiPalma's base salary to \$265,000. Pursuant to the terms of his employment agreement, on October 18, 2007, we granted Mr. DiPalma an option to purchase 100,000 shares of our common stock at an exercise price of the then fair market value of \$5.00 per share. The option will have a term of ten years and will vest and become exercisable in 16 equal quarterly installments beginning on August 28, 2007, subject to accelerated vesting in the event of a covered transaction, as defined in our 2007 Incentive Plan. In April 18, 2008, we granted Mr. DiPalma an option to purchase 19,429 shares of our common stock at an exercise price of the then fair market value of \$7.50 per share. The option will have a term of ten years and will vest and become exercisable in 16 equal quarterly installments beginning on July 18, 2008, subject to accelerated vesting in the event of a covered transaction, as defined in our 2007 Incentive Plan. Provisions in Mr. DiPalma's agreement related to payments upon termination are described above in "Termination Based Compensation and Termination Agreements."

***Pamela Pavco, Ph.D.***

We have entered into an employment agreement with Dr. Pavco under which she is engaged to serve as our Vice President of Research and Development or Vice President of Pharmaceutical Development for a term of one year. Dr. Pavco is entitled under her employment agreement to receive an annual base salary of \$198,000. In October of 2008, the Board of Directors voted to increase Dr. Pavco's base salary to \$270,000. On May 23, 2007, after the initial funding and pursuant to the terms of her employment agreement, we granted Dr. Pavco an option to purchase 145,311 shares of our common stock at an exercise price of the then fair market value of \$5.00 per share. The option will have a term of ten years and will vest and become exercisable in 16 equal quarterly installments beginning on June 7, 2007, subject to accelerated vesting in the event of a covered transaction, as defined in our 2007 Incentive Plan. In April 18, 2008, we granted Dr. Pavco an option to purchase 41,826 shares of our common stock at an exercise price of the then fair market value of \$7.50 per share. The option will have a term of ten years and will vest and become exercisable in 16 equal quarterly installments beginning on July 18, 2008, subject to accelerated vesting in the event of a covered transaction, as defined in our 2007 Incentive Plan. Provisions in Dr. Pavco's agreement related to payments upon termination, a covered transaction and a change of control are described above in "Termination Based Compensation and Termination Agreements."

**Director Compensation**

In the discretion of the Board of Directors, each director may be paid such fees for his services as a director and be reimbursed for his reasonable expenses incurred in the performance of his duties as director as the Board of Directors determines from time to time.

## Table of Contents

The following table sets forth a summary of the compensation paid to certain of our directors in 2008, other than Dr. Woolf. Amounts included under Options awards below represent the fair value of the award calculated under SFAS 123(R).

<u>Name</u>	<u>Fees Earned or Paid in Cash (\$)</u>	<u>Option Awards (\$)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Mark. J. Ahn, Ph.D.	90,750	224,475	—	315,225
Stephen S. Galliker	101,500	224,475	—	325,975
Sanford J. Hillsberg	114,750	224,475	—	339,225
Steven A. Kriegsman	68,750	224,475	—	293,225

### *Cash Compensation*

In 2007, our Board of Directors approved a director compensation plan that provides that each director who is not an employee will receive the following cash compensation for service on our Board of Directors and committees of our Board of Directors:

- an annual retainer fee of \$10,000 for each director, payable quarterly,
- an annual retainer fee of \$12,000 for the chairperson of each committee of our Board of Directors other than the audit committee, payable quarterly,
- an annual retainer fee of \$20,000 for the chairperson of the audit committee of our Board of Directors, payable quarterly,
- an annual retainer fee of \$32,000 for the Chairman of the Board of Directors, payable quarterly,
- a fee of \$2,000 per board meeting attended by the director (\$1,000 if attendance is telephonic), and
- a fee of \$1,500 per committee meeting attended by the director (\$750 if attendance is telephonic).

On April 18, 2008, our Board of Directors approved a revised director compensation plan to be effective as of that date that provides that each director who is not an employee will receive the following cash compensation for service on our Board of Directors and committees of our Board of Directors:

- an annual retainer fee of \$24,000 for each director, payable quarterly,
- an annual retainer fee of \$12,000 for the chairperson of each committee of our Board of Directors other than the audit committee, payable quarterly,
- an annual retainer fee of \$25,000 for the chairperson of the audit committee of our Board of Directors, payable quarterly,
- an annual retainer fee of \$50,000 for the Chairman of the Board of Directors, payable quarterly,
- a fee of \$3,000 per board meeting attended by the director, such fee payable for meetings attended in person or telephonically,
- fee of \$2,500 per audit committee meeting attended by the chair of the committee, such fees payable for meetings attended in person or telephonically,
- a fee of \$2,000 per audit committee meeting attended by other directors who are members of the committee, such fees payable for meetings attended in person or telephonically,
- a fee of \$2,000 per all other committee meetings attended by the chair of the committee, such fees payable for meetings attended in person or telephonically,
- a fee of \$1,500 per all other committee meeting attended by other directors who are members of the committee, such fees payable for meetings attended in person or telephonically, and
- a fee of \$750 per each written consent.

***Equity Compensation***

On January 10, 2008, as part of their annual grant, each non-employee director was granted, an option of 25,000 shares at an exercise price of \$5.00 per share. These options were fully vested at December 31, 2008. These options have a ten year term and will be exercisable for two years following termination of service as a member of the Board of Directors, unless the director is terminated for cause, in which case the options are terminated.

On April 18, 2008 each non-employee director was granted an additional 25,000 shares at an exercise price of \$7.50 per share. These options were fully vested at December 31, 2008. These options have a ten year term and will be exercisable for two years following termination of service as a member of the Board of Directors, unless the director is terminated for cause, in which case the options are terminated.

***Reimbursements***

Directors will be reimbursed for their expenses incurred in attending Board of Directors, committee and stockholder meetings, including those for travel, meals and lodging.

***Indemnification Agreements***

We have entered into director indemnification agreements with each of our directors. Consistent with the indemnification rights that will be provided to all of our directors under our amended and restated certificate of incorporation, we will indemnify and hold harmless each director to the fullest extent permitted or authorized by the Delaware General Corporation Law in effect on the date of the agreement or as such laws may be amended or replaced to increase the extent to which a corporation can indemnify its directors.

**Tax and Accounting Implications**

***Deductibility of Executive Compensation***

As part of its role, the Compensation Committee reviews and considers the deductibility of executive compensation under Section 162(m) of the Internal Revenue Code, which provides that corporations may not deduct compensation of more than \$1.0 million that is paid to certain individuals. We believe that compensation paid to our executive officers generally is fully deductible for federal income tax purposes.

***Accounting for Share-Based Compensation***

We account for share-based compensation in accordance with the requirements of SFAS 123(R). This accounting treatment has not significantly affected our compensation decisions.

**Compensation Committee Interlocks and Insider Participation in Compensation Decisions**

There are no “interlocks,” as defined by the SEC with respect to any member of the compensation committee. Mr. Hillsberg (chair), Mr. Galliker and Dr. Nisi are the current members of the Compensation Committee. None of Mr. Hillsberg, Dr. Nisi or Mr. Galliker have ever served as an officer of the Company or acted in such capacity.

**Code of Ethics**

On July 11, 2007, we adopted a Code of Ethics applicable to all employees, including the principal executive officer, principal financial officer and principal accounting officer. A copy of our Code of Ethics is available upon request. Such requests should be directed to Attention: Corporate Secretary, 60 Prescott Street, Worcester, Massachusetts 01605, or by telephone at 508-767-3861.

**PROPOSAL II  
RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED  
PUBLIC ACCOUNTING FIRM**

**Appointment of BDO Seidman, LLP**

BDO Seidman, LLP (BDO) currently serves as our independent registered public accounting firm and audited our financial statements for the year ended December 31, 2008. BDO does not have and has not had any financial interest, direct or indirect, in RXi, and does not have and has not had any connection with RXi except in its professional capacity as our independent auditors. BDO also audits the financial statements of CytRx Corporation, our largest shareholder.

Our Audit Committee has reappointed BDO to serve as our independent registered public accounting firm for the year ending December 31, 2009. The ratification by our stockholders of the appointment of BDO is not required by law or by our Bylaws. Our Board of Directors, consistent with the practice of many publicly held corporations, is nevertheless submitting this appointment for ratification by the stockholders. If this appointment is not ratified at the Annual Meeting, the Audit Committee intends to reconsider its appointment of BDO. Even if the appointment is ratified, the Audit Committee in its sole discretion may direct the appointment of a different independent registered public accounting firm at any time during the fiscal year if the Committee determines that such a change would be in the best interests of RXi and its stockholders.

Any material non-audit services to be provided by BDO are subject to the prior approval of the Audit Committee. In general, the Audit Committee's policy is to grant such approval where it determines that the non-audit services are not incompatible with maintaining the independent registered public accounting firm's independence and there are cost or other efficiencies in obtaining such services from the independent registered public accounting firm as compared to other possible providers.

We expect that representatives of BDO will be present at the Annual Meeting, will have an opportunity to make a statement if they so desire, and will be available to respond to appropriate questions.

**Audit Fees**

The fees for 2008 and 2007 billed to us by BDO for professional services rendered for the audit of our annual financial statements, S-1 and S-8 Registration Statements were \$281,000 and \$587,000 respectively.

**Audit Related Fees**

There were no audit related fees.

**Tax Fees**

There were \$7,500 in tax related fees for 2008.

**All Other Fees**

No other services were rendered by BDO for 2008 and 2007.

**Pre-Approval Policies and Procedures**

It is the policy of our Audit Committee that all services to be provided by our independent registered public accounting firm, including audit services and permitted audit-related and non-audit services, must be pre-approved by our Audit Committee. Our Audit Committee pre-approved all services provided to us by BDO for 2008.

**THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE "FOR"  
RATIFICATION OF THE APPOINTMENT OF BDO SEIDMAN, LLP AS OUR INDEPENDENT  
REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2009.**

**PROPOSAL III**  
**APPROVAL OF AMENDMENT TO THE 2007 INCENTIVE PLAN**

The RXi Pharmaceuticals Corporation 2007 Incentive Plan, (the “2007 Incentive Plan”), was adopted by our Board of Directors on February 23, 2007 and approved by our stockholders on June 19, 2007. During 2008 the 2007 Incentive Plan was amended to increase the maximum number of common stock shares authorized for issuance from 2,750,000 to 3,750,000. The amendment was adopted by our Board of Directors on June 4, 2008 and approved by our stockholders on July 18, 2008. Under this plan, we may grant incentive common stock options (“ISOs”), nonqualified stock options (“NSOs”), restricted and unrestricted stock awards, deferred stock awards, performance awards, stock appreciation rights, securities convertible into stock or otherwise based on stock, and cash awards to all employees, officers, directors, consultants and advisors who provide services to us and our affiliates. A maximum of 3,750,000 shares of common stock are currently authorized for issuance under our 2007 Incentive Plan. As of December 31, 2008, 2,223,452 shares were subject to outstanding options under this plan, and 1,526,548 shares were available for future grant under this plan. Because we anticipate that our needs under the 2007 Incentive Plan over the next several years will exceed the number of shares of common stock available, our Board has approved, and we are asking our stockholders to approve, the amendment of the 2007 Incentive Plan, which serves to increase the number of shares of common stock under the 2007 Incentive Plan by 1,000,000 shares for a total of 4,750,000 shares of common stock authorized for issuance under awards granted pursuant to the 2007 Incentive Plan (the “2007 Incentive Plan Amendment”) and to make corresponding changes to related amounts in the 2007 Incentive Plan with respect to limits on the number of shares of common stock that may be delivered in satisfaction of awards under the 2007 Incentive Plan. A copy of the 2007 Plan, as proposed to be amended, appears as Annex A to this Proxy Statement, which we urge Stockholders to read in its entirety.

The purpose of the 2007 Incentive Plan is to advance the interests of the Company by giving stock-based incentives and other incentives to selected employees, directors and other individuals or entities who provide services to us or our affiliates who, in the opinion of the Administrator (as defined below), are in a position to make a significant contribution to the success of the Company and our affiliates.

**Administration**

The 2007 Incentive Plan is administered by the Compensation Committee of the Board of Directors (the “Compensation Committee”) or by such persons to whom the Compensation Committee may delegate such administration (collectively, with the Compensation Committee, the “Administrator”). The Administrator has full authority, consistent with the 2007 Incentive Plan, to select who will receive awards, to determine the type of awards to be granted, as well as the amounts, price, terms and conditions of any awards, to issue shares upon option exercises and interpret option agreements. The Administrator has the right to determine any questions that may arise regarding the interpretation and application of the provisions of the 2007 Incentive Plan and to make, administer, and interpret such rules and regulations as it deems necessary or advisable. Determinations of the Administrator made under the 2007 Incentive Plan are conclusive and bind all parties.

**Participation in the 2007 Incentive Plan**

Employees, directors, consultants and advisors who provide services to us and our affiliates, who, in the opinion of the Administrator, are in a position to make a significant contribution to the success of the Company or its affiliates are eligible to participate in the 2007 Incentive Plan. However, only employees are eligible to receive ISOs. Approximately 100 employees and directors and approximately 20 consultants and advisors who provide services to us and our affiliates are eligible to receive awards under the 2007 Incentive Plan. The maximum number of shares for which stock options and stock appreciation rights may be granted to any participant in any calendar year is the total number of shares of Stock authorized under the 2007 Incentive Plan. The maximum number of ISOs which may be granted under the 2007 Incentive Plan is the total number of shares of Stock authorized under the 2007 Incentive Plan.

The future benefits or amounts that would be received by or allocated under the 2007 Incentive Plan are discretionary and therefore are not determinable at this time. If the 2007 Incentive Plan Amendment is approved, the Company does not expect the award of benefits to change from the current practice.

## **Types of Awards**

The Administrator in its discretion, may award (i) stock options, (ii) restricted stock, (iii) deferred stock awards, (iv) performance awards, (v) stock appreciation rights, (vi) securities convertible into stock or otherwise based on stock, and (vii) cash awards, on such terms and conditions as it determines.

## **Performance Criteria**

Awards under the 2007 Incentive Plan may be conditioned upon satisfaction of specified performance criteria. In the case of any such award that is intended to qualify for exemption from the deduction limitation rules of Section 162(m) of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), each a "Performance Award", the criteria used in connection with the Performance Award shall mean an objectively determinable measure of performance relating to any or any combination of the following (measured either absolutely or by reference to an index or indices and determined either on a consolidated basis or, as the context permits, on a divisional, subsidiary, line of business, project or geographical basis or in combinations thereof): sales; revenues; assets; expenses; earnings before or after deduction for all or any portion of interest, taxes, depreciation, or amortization, whether or not on a continuing operations or an aggregate or per share basis; return on equity, investment, capital or assets; one or more operating ratios; borrowing levels, leverage ratios or credit rating; market share; capital expenditures; cash flow; stock price; stockholder return; sales of particular products or services; customer acquisition or retention; acquisitions and divestitures (in whole or in part); joint ventures and strategic alliances; spin-offs, split-ups and the like; reorganizations; or recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings. A performance criterion and any targets with respect thereto determined by the Administrator need not be based upon an increase, a positive or improved result or avoidance of loss. To the extent consistent with the requirements for satisfying the performance-based compensation exception under Section 162(m), the Administrator will provide in the case of any award intended to qualify for such exception that one or more of the performance criteria applicable to such award will be adjusted in an objectively determinable manner to reflect events occurring during the performance period that affect the applicable performance criteria. In the case of a Performance Award, the Administrator will pre-establish the particular performance criteria no later than 90 days after the commencement of the period of service to which the performance relates (or such earlier time as is required to qualify the award as performance-based under Section 162(m)) and will certify prior to payment whether the performance criteria have been attained.

## **Rules Applicable to Awards**

No awards may be made after the tenth anniversary of the date the 2007 Incentive Plan was first adopted by the Board, but previously granted awards may continue beyond that date in accordance with their terms. Unless the Administrator expressly provides otherwise, awards may not be transferred other than by will or applicable laws of descent and distribution, and generally only the participant may exercise an award during such participant's lifetime. The Administrator may permit awards other than ISOs to be transferred by gift, subject to such limitations as the Administrator may impose. The Administrator may determine the time or times at which an award will vest or become exercisable. Without limiting the foregoing, the Administrator may at any time accelerate the vesting or exercisability of an award, regardless of any adverse or potentially adverse tax consequences resulting from such acceleration. Immediately upon termination of employment of an employee, the unvested portion of any stock option will terminate and the balance, to the extent exercisable, will remain exercisable for the lesser of (i) a period of three months (90 days) or (ii) the period ending on the latest date on which such stock option could have been exercised without regard to this provision. The 2007 Incentive Plan provides exceptions for the vesting of options upon an individual's death or if the administrator determines that the termination of employment resulted for reasons that cast discredit on the individual. The Administrator will determine what will happen with respect to an award granted to a participant that is outstanding upon the cessation of the participant's service relationship with the Company, including disability, death or retirement.

## **Stock Options**

The Administrator will determine the exercise price, if any, of each award requiring exercise. Unless the Administrator determines otherwise, each stock option will have an exercise price not less than the fair market value

of the stock subject to the stock option, determined as of the date of grant. A stock option intended to be an ISO granted to a person who owns (or by application of attribution rules is deemed to own) more than 10% of the total combined voting power of all classes of stock of the Company will have an exercise price equal to 110% of such fair market value. Awards requiring exercise will have a maximum term not to exceed ten years from the date of grant and will vest, either quarterly or annually and all within four years of grant date.

### **Effect of Certain Transactions**

In the event of a consolidation, merger, or sale of substantially all of the Company's assets or a dissolution or liquidation of the Company in which there is a surviving or acquiring entity, the Administrator may provide for the assumption or substitution of some or all outstanding awards by the acquiror or survivor. If the holders of stock will receive a payment upon consummation of the transaction, the Administrator may provide for a "cash-out" payment with respect to some or all awards or any portion thereof, equal to the excess, if any, of (a) the fair market value of one share of stock times the number of shares of stock subject to the award or such portion, over (b) the aggregate exercise or purchase price, if any, under the award or such portion (in the case of a stock appreciation right, the aggregate base value above which appreciation is measured), on such payment and other terms as the Administrator determines. In the absence of an assumption, substitution or cash-out, each award requiring exercise will become fully exercisable, and delivery of shares of stock deliverable under each outstanding award will be accelerated and such shares will be issued prior to the transaction on a basis that gives the participant a reasonable opportunity, as determined by the Administrator, following exercise of the award or delivery of the shares, as the case may be, to participate in the transaction as a stockholder. Any shares of stock so issued with respect to an award, in the discretion of the Administrator, may contain such restrictions as the Administrator deems appropriate to reflect any performance or other vesting conditions to which the award was subject. All such awards will terminate upon consummation of such transaction.

### **Equitable Adjustment**

In the event of a change in the outstanding common stock resulting from a stock dividend, stock split, recapitalization, or other capital change, the aggregate number of shares available under the 2007 Plan, the number of shares available for individual awards, the terms of outstanding awards, including stock option exercise prices, will be appropriately adjusted by the Administrator. The Administrator may also make adjustments in other circumstances if it determines that the adjustments are necessary to avoid distortion in the operation of the 2007 Plan and to preserve the value of awards; provided, however, that no such adjustment shall be made to the maximum share limits, or otherwise to an award intended to be eligible for the performance-based exception under Section 162(m) of the Code, except to the extent consistent with that exception.

### **Amendment**

Subject to the Administrator's obligation to exercise its discretion consistent with qualifying awards for the performance-based exception under Section 162(m) if such awards are intended to so qualify, the Administrator may at any time or times amend the 2007 Incentive Plan or any outstanding award for any purpose which may at the time be permitted by law, and may at any time terminate the 2007 Incentive Plan as to any future grants of awards; provided, that except as otherwise expressly provided in the 2007 Incentive Plan, the Administrator may not, without the participant's consent, alter the terms of an award so as to materially and adversely affect the participant's rights under the award, unless the Administrator expressly reserved the right to do so at the time of such award. Any amendments to the 2007 Incentive Plan shall be conditioned upon stockholder approval only to the extent, if any, such approval is required by law (including the Code and applicable stock exchange requirements).

### **Other Compensation**

The existence of the 2007 Incentive Plan or the grant of any award will not in any way affect the Company's right to award a person bonuses or other compensation in addition to awards under the 2007 Incentive Plan.

**Price of Common Stock**

The closing price of the Company's common stock on the NASDAQ Capital Market on April 16, 2009 was \$4.96.

**Certain Federal Income Tax Consequences**

The following discussion summarizes certain United States federal income tax consequences of the issuance and receipt of options under the 2007 Incentive Plan under the law as in effect on the date of this proxy statement. The 2007 Incentive Plan provides for the grant of both ISOs and NSOs, as well as other awards. The summary does not purport to cover federal employment tax or other federal tax consequences that may be associated with the 2007 Incentive Plan, nor does it cover state, local or non-U.S. taxes.

***ISOs***

An optionee realizes no taxable income upon the grant or, for regular tax purposes, upon the exercise of an ISO. However, the exercise of an ISO increases the optionee's alternative minimum taxable income by an amount equal to the excess (at the time of exercise) of the fair market value of the shares acquired upon exercise over the exercise price and this increase may give rise to an alternative minimum tax liability. With certain exceptions, a disposition of shares purchased under an ISO within two years from the date of grant or within one year after exercise produces ordinary income to the optionee (and a deduction to the Company) equal to the value of the shares at the time of exercise less the exercise price. Any additional gain recognized in the disposition is treated as capital gain for which the Company is not entitled to a deduction. If the optionee does not dispose of the shares until after the expiration of these one and two year holding periods, any gain or loss recognized upon a subsequent sale is treated as a long-term capital gain or loss for which the Company is not entitled to a deduction.

***NSOs***

In general, in the case of an NSO, the optionee has no taxable income at the time of grant but realizes income in connection with the exercise of the option in an amount equal to the excess (at the time of exercise) of the fair market value of the shares acquired upon exercise over the exercise price; a corresponding deduction is available to the Company; and upon a subsequent sale or exchange of the shares, any recognized gain or loss after the date of exercise is treated as capital gain or loss for which the Company is not entitled to a deduction.

In general, an ISO that is exercised by the optionee more than three months after termination of employment is treated as an NSO. ISOs are also treated as NSOs to the extent they first become exercisable by an individual in any calendar year for shares having a fair market value (determined as of the date of grant) in excess of \$100,000.

***Restricted Stock***

The Administrator may award stock options that are exercisable for restricted stock. Under Section 83 of the Code, an optionee who exercises a nonqualified stock option for restricted stock will generally have income only when the stock vests, equal to the fair market value of the stock at that time less the exercise price. However, the optionee may make a so-called "83(b) election" in connection with the exercise to recognize taxable income at the time of exercise. Assuming no other applicable limitations, the amount and timing of the deduction available to the Company will correspond to the income recognized by the optionee. In the case of an optionee who exercises an incentive stock option for restricted stock, the tax consequences described above with respect to the exercise of incentive stock options will apply except that (i) the optionee will have no alternative minimum taxable income associated with the exercise until the stock vests, unless the optionee makes a timely "83(b) election," and (ii) in the event of a disqualifying disposition, the ordinary income recognized by reason of the disposition and the Company's corresponding deduction will be measured by reference to the fair market value of the stock at the time the stock vested.

***Deferred Stock***

A promise by the Company to transfer shares of stock to a participant in the future does not itself result in taxable income to the participant. When the participant actually acquires the shares of stock, unless the shares are

restricted, the participant will recognize ordinary income equal to the value of the shares at that time. If the shares delivered to the participant are restricted for tax purposes, the participant will be subject at that time to the tax consequences describe above with respect to restricted stock.

***Performance-Based Awards***

No special tax consequences exist with respect to the use of performance criteria. Where stock is transferred to a participant upon the satisfaction of specified performance criteria, the participant will recognize ordinary income equal to the value of the shares at that time unless the stock is restricted stock. If the shares received by the participant are shares of restricted stock, or if restrictions on previously awarded shares of restricted stock are lifted in connection with the satisfaction of performance criteria, the tax consequences discussed above with respect to restricted stock will apply.

***Stock Appreciation Rights***

The grant of a stock appreciation right does not itself result in taxable income, nor does taxable income result merely because a stock appreciation right becomes exercisable. Generally, if a participant exercises a stock appreciation right for shares of stock or receives payment in cancellation of a stock appreciation right, the participant will have ordinary income equal to the amount of any cash and the fair market value of any stock received.

***Deferred Compensation Rules***

Arrangements under the 2007 Incentive Plan may involve the payment, or commitment to pay, deferred compensation subject to special rules under the Code. Awards that are subject to but fail to comply with the formal and operational requirements of these rules will be subject to a 20% excise tax, in addition to ordinary income tax, as well as, in some cases, to interest charges. Failure to comply with these rules may also result in an acceleration of the timing of income inclusion in respect of such awards for income tax purposes. With certain exceptions, awards of restricted stock and stock options with an exercise price that can never be less than the fair market value of the common stock subject to the option at the time of grant will be exempt from these rules. Other types of awards, however, if granted, such as deferred stock awards, would have to comply.

***162(m) Issues***

The Code limits to \$1 million the deduction a public corporation may claim in any year for compensation paid to any of its chief executive officer and four other most highly compensated named executive officers, subject to a number of exceptions. Generally, the \$1 million deduction limit does not apply to certain stock option grants awarded under stockholder approval plans or to other qualifying performance-based awards. Stock options awarded under the 2007 Incentive Plan, assuming an exercise price not less than fair market value on the date of grant, are intended to be eligible for this exception. The 2007 Incentive Plan is also designed to enable the Company to grant other performance-based awards that will be exempt for purposes of the \$1 million deduction limitation rule.

***Golden Parachute Rules***

Under the “golden parachute” provisions of the Code, the accelerated vesting of awards in connection with a change in control of the Company may be required to be valued and taken into account in determining whether participants have received compensatory payments, contingent on the change in control, in excess of certain limits. These tax consequences, where applicable, apply to change in control payments that exceed an individual’s “base amount,” generally, the average annual taxable compensation of the individual determined over the preceding five years. They do not apply where an individual’s total change in control payments are less than three times his or her base amount. If these limits are exceeded, a substantial portion of amounts payable to the participant, including income recognized by reason of the grant, vesting or exercise of awards under the 2007 Incentive Plan, may be subject to an additional 20% federal tax and may be nondeductible to the Company.

*Company Deductions*

Generally, a deduction will be available to the Company for any ordinary compensation income realized by a participant under an award. The deduction will be available in the same year as that in which the participant realizes income for income tax purposes.

Generally, the Company is not entitled to a deduction for any dividends paid to its stockholders. However, if stock has been transferred under the Plan subject to a substantial risk of forfeiture, and if no effective 83(b) election has been made, dividends on the stock would be treated as deductible compensation until such time as the substantial risk of forfeiture lapses.

**Information with respect to the 2007 Incentive Plan as of December 31, 2008**

**Equity Compensation Plan Information**

<u>Plan Category</u>	<u>Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights</u>	<u>Weighted-Average Exercise of Outstanding Options, Warrants and Rights</u>	<u>Number of Securities Remaining Available for Future Issuance Under Compensation Plans (Excluding Securities Related in (a))</u>
Equity compensation plans approved by security holders	2,223,452	\$ 6.11	1,526,548
Equity compensation plans not approved by security holders	—	—	—
<b>Total</b>	<b>2,223,452</b>	<b>\$ 6.11</b>	<b>1,526,548</b>

**THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE “FOR” APPROVAL OF THE AMENDMENT TO THE AMENDED AND RESTATED 2007 INCENTIVE PLAN**

## **STOCKHOLDER PROPOSALS**

Any proposal which a stockholder intends to present in accordance with Rule 14a-8 of Exchange Act of 1934 at our next Annual Meeting of Stockholders to be held in 2010 must be received by us on or before December 24, 2009. Only proper proposals under Rule 14a-8 which are timely received will be included in the Proxy Statement in 2010.

## **OTHER MATTERS**

### **Expenses of Solicitation**

We will bear the cost of soliciting proxies in the accompanying form. In addition to the use of the mails, proxies may also be solicited by our directors, officers or other employees, personally or by telephone, facsimile or email, none of whom will be compensated separately for these solicitation activities.

### **Miscellaneous**

Our management does not intend to present any other items of business and is not aware of any matters other than those set forth in this Proxy Statement that will be presented for action at the Annual Meeting. However, if any other matters properly come before the Annual Meeting, the persons named in the enclosed proxy intend to vote the shares of our common stock that they represent in accordance with their best judgment.

**RXi Pharmaceuticals Corporation**  
**2007 INCENTIVE PLAN**

**1. DEFINED TERMS**

Exhibit A, which is incorporated by reference, defines the terms used in the Plan and sets forth certain operational rules related to those terms.

**2. PURPOSE**

The Plan has been established to advance the interests of the Company by providing for the grant to Participants of Stock-based and other incentive Awards.

**3. ADMINISTRATION**

The Administrator has discretionary authority, subject only to the express provisions of the Plan, to interpret the Plan; determine eligibility for and grant Awards; determine, modify or waive the terms and conditions of any Award; prescribe forms, rules and procedures; and otherwise do all things necessary to carry out the purposes of the Plan. In the case of any Award intended to be eligible for the performance-based compensation exception under Section 162 (m), the Administrator will exercise its discretion consistent with qualifying the Award for that exception. Determinations of the Administrator made under the Plan will be conclusive and will bind all parties.

**4. LIMITS ON AWARDS UNDER THE PLAN**

(a) *Number of Shares*. A maximum of 4,750,000 shares of Stock may be delivered in satisfaction of Awards under the Plan. The number of shares of Stock delivered in satisfaction of Awards shall, for purposes of the preceding sentence, be determined net of shares of Stock withheld by the Company in payment of the exercise price of the Award or in satisfaction of tax withholding requirements with respect to the Award. The limits set forth in this Section 4(a) shall be construed to comply with Section 422. To the extent consistent with the requirements of Section 422 and with other applicable legal requirements (including applicable stock exchange requirements), Stock issued under awards of an acquired company that are converted, replaced, or adjusted in connection with the acquisition shall not reduce the number of shares available for Awards under the Plan.

(b) *Type of Shares*. Stock delivered by the Company under the Plan may be authorized but unissued Stock or previously issued Stock acquired by the Company. No fractional shares of Stock will be delivered under the Plan.

(c) *Section 162(m) Limits*. The maximum number of shares of Stock for which Stock Options may be granted to any person in any calendar year and the maximum number of shares of Stock subject to SARs granted to any person in any calendar year will each be the total number of shares then available under the Plan. The maximum number of shares subject to other Awards granted to any person in any calendar year will be the total number of shares available under the Plan. The foregoing provisions will be construed in a manner consistent with Section 162 (m).

**5. ELIGIBILITY AND PARTICIPATION**

The Administrator will select Participants from among those key Employees and directors of, and consultants and advisors to, the Company or its Affiliates who, in the opinion of the Administrator, are in a position to make a significant contribution to the success of the Company and its Affiliates; *provided*, that, subject to such express exceptions, if any, as the Administrator may establish, eligibility shall be further limited to those persons as to whom the use of a Form S-8 registration statement is permissible. Eligibility for ISOs is limited to employees of the Company or of a "parent corporation" or "subsidiary corporation" of the Company as those terms are defined in Section 424 of the Code.

## 6. RULES APPLICABLE TO AWARDS

(a) *All Awards*

(1) *Award Provisions*. The Administrator will determine the terms of all Awards, subject to the limitations provided herein. By accepting (or, under such rules as the Administrator may prescribe, being deemed to have accepted) an Award, the Participant agrees to the terms of the Award and the Plan. Notwithstanding any provision of this Plan to the contrary, awards of an acquired company that are converted, replaced or adjusted in connection with the acquisition may contain terms and conditions that are inconsistent with the terms and conditions specified herein, as determined by the Administrator.

(2) *Term of Plan*. No Awards may be made after the tenth anniversary of the date that this Plan is first adopted by the Board of Directors of the Company, but previously granted Awards may continue beyond that date in accordance with their terms.

(3) *Transferability*. Neither ISOs nor, except as the Administrator otherwise expressly provides in accordance with the second sentence of this Section 6(a)(3), other Awards may be transferred other than by will or by the laws of descent and distribution, and during a Participant's lifetime ISOs (and, except as the Administrator otherwise expressly provides in accordance with the second sentence of this Section 6(a)(3), other Awards requiring exercise) may be exercised only by the Participant. The Administrator may permit Awards other than ISOs to be transferred by gift, subject to such limitations as the Administrator may impose.

(4) *Vesting, Etc.* The Administrator may determine the time or times at which an Award will vest or become exercisable and the terms on which an Award requiring exercise will remain exercisable. Without limiting the foregoing, the Administrator may at any time accelerate the vesting or exercisability of an Award, regardless of any adverse or potentially adverse tax consequences resulting from such acceleration. Unless the Administrator expressly provides otherwise, however, the following rules will apply: immediately upon the cessation of the Participant's Employment, each Award requiring exercise that is then held by the Participant or by the Participant's permitted transferees, if any, will cease to be exercisable and will terminate, and all other Awards that are then held by the Participant or by the Participant's permitted transferees, if any, to the extent not already vested will be forfeited, except that:

(A) subject to (B) and (C) below, all Stock Options and SARs held by the Participant or the Participant's permitted transferees, if any, immediately prior to the cessation of the Participant's Employment, to the extent then exercisable, will remain exercisable for the lesser of (i) a period of three months or (ii) the period ending on the latest date on which such Stock Option or SAR could have been exercised without regard to this Section 6(a)(4), and will thereupon terminate;

(B) all Stock Options and SARs held by a Participant or the Participant's permitted transferees, if any, immediately prior to the Participant's death, to the extent then exercisable, will remain exercisable for the lesser of (i) the one year period ending with the first anniversary of the Participant's death or (ii) the period ending on the latest date on which such Stock Option or SAR could have been exercised without regard to this Section 6(a)(4), and will thereupon terminate; and

(C) all Stock Options and SARs held by a Participant or the Participant's permitted transferees, if any, immediately prior to the cessation of the Participant's Employment will immediately terminate upon such cessation if the Administrator in its sole discretion determines that such cessation of Employment has resulted for reasons which cast such discredit on the Participant as to justify immediate termination of the Award or are otherwise determined by the Administrator to constitute cause.

(5) *Taxes*. The Administrator will make such provision for the withholding of taxes as it deems necessary. The Administrator may, but need not, hold back shares of Stock from an Award or permit a Participant to tender previously owned shares of Stock in satisfaction of tax withholding requirements (but not in excess of the minimum withholding required by law).

(6) *Dividend Equivalents, Etc.* The Administrator may provide for the payment of amounts in lieu of cash dividends or other cash distributions with respect to Stock subject to an Award. Any entitlement to dividend

equivalents or similar entitlements shall be established and administered consistent either with exemption from, or compliance with, the requirements of Section 409A.

(7) *Rights Limited*. Nothing in the Plan will be construed as giving any person the right to continued employment or service with the Company or its Affiliates, or any rights as a stockholder except as to shares of Stock actually issued under the Plan. The loss of existing or potential profit in Awards will not constitute an element of damages in the event of termination of Employment for any reason, even if the termination is in violation of an obligation of the Company or any Affiliate to the Participant.

(8) *Section 162(m)*. This Section 6(a)(8) applies to any Performance Award intended to qualify as performance-based for the purposes of Section 162(m) other than a Stock Option or SAR. In the case of any Performance Award to which this Section 6(a)(8) applies, the Plan and such Award will be construed to the maximum extent permitted by law in a manner consistent with qualifying the Award for such exception. With respect to such Performance Awards, the Administrator will preestablish, in writing, one or more specific Performance Criteria no later than 90 days after the commencement of the period of service to which the performance relates (or at such earlier time as is required to qualify the Award as performance-based under Section 162(m)). Prior to grant, vesting or payment of the Performance Award, as the case may be, the Administrator will certify whether the applicable Performance Criteria have been attained and such determination will be final and conclusive. No Performance Award to which this Section 6(a)(8) applies may be granted after the first meeting of the stockholders of the Company held in 2012 until the listed performance measures set forth in the definition of "Performance Criteria" (as originally approved or as subsequently amended) have been resubmitted to and reapproved by the stockholders of the Company in accordance with the requirements of Section 162(m) of the Code, unless such grant is made contingent upon such approval.

(9) *Coordination with Other Plans*. Awards under the Plan may be granted in tandem with, or in satisfaction of or substitution for, other Awards under the Plan or awards made under other compensatory plans or programs of the Company or its Affiliates. For example, but without limiting the generality of the foregoing, awards under other compensatory plans or programs of the Company or its Affiliates may be settled in Stock (including, without limitation, Unrestricted Stock) if the Administrator so determines, in which case the shares delivered shall be treated as awarded under the Plan (and shall reduce the number of shares thereafter available under the Plan in accordance with the rules set forth in Section 4). In any case where an award is made under another plan or program of the Company or its Affiliates and such award is intended to qualify for the performance-based compensation exception under Section 162(m), and such award is settled by the delivery of Stock or another Award under the Plan, the applicable Section 162(m) limitations under both the other plan or program and under the Plan shall be applied to the Plan as necessary (as determined by the Administrator) to preserve the availability of the Section 162(m) performance-based compensation exception with respect thereto.

(10) *Section 409A*. Each Award shall contain such terms as the Administrator determines, and shall be construed and administered, such that the Award either (i) qualifies for an exemption from the requirements of Section 409A, or (ii) satisfies such requirements.

(11) *Certain Requirements of Corporate Law*. Awards shall be granted and administered consistent with the requirements of applicable Delaware law relating to the issuance of stock and the consideration to be received therefor, and with the applicable requirements of the stock exchanges or other trading systems on which the Stock is listed or entered for trading, in each case as determined by the Administrator.

(b) *Awards Requiring Exercise*

(1) *Time And Manner Of Exercise*. Unless the Administrator expressly provides otherwise, an Award requiring exercise by the holder will not be deemed to have been exercised until the Administrator receives a notice of exercise (in form acceptable to the Administrator) signed by the appropriate person and accompanied by any payment required under the Award. If the Award is exercised by any person other than the Participant, the Administrator may require satisfactory evidence that the person exercising the Award has the right to do so.

(2) *Exercise Price*. The exercise price (or the base value from which appreciation is to be measured) of each Award requiring exercise shall be 100% (in the case of an ISO granted to a ten-percent shareholder within the meaning of subsection (b)(6) of Section 422, 110%) of the fair market value of the Stock subject to the Award,

determined as of the date of grant, or such higher amount as the Administrator may determine in connection with the grant. No such Award, once granted, may be repriced other than in accordance with the applicable stockholder approval requirements of Nasdaq. Fair market value shall be determined by the Administrator consistent with the applicable requirements of Section 422 and Section 409A.

(3) *Payment Of Exercise Price*. Where the exercise of an Award is to be accompanied by payment, payment of the exercise price shall be by cash or check acceptable to the Administrator, or, if so permitted by the Administrator and if legally permissible, (i) through the delivery of shares of Stock that have been outstanding for at least six months (unless the Administrator approves a shorter period) and that have a fair market value equal to the exercise price, (ii) through a broker-assisted exercise program acceptable to the Administrator, (iii) by other means acceptable to the Administrator, or (iv) by any combination of the foregoing permissible forms of payment. The delivery of shares in payment of the exercise price under clause (i) above may be accomplished either by actual delivery or by constructive delivery through attestation of ownership, subject to such rules as the Administrator may prescribe.

(4) *Maximum Term*. Awards requiring exercise will have a maximum term not to exceed ten (10) years from the date of grant.

## 7. EFFECT OF CERTAIN TRANSACTIONS

(a) *Mergers, etc.* Except as otherwise provided in an Award, the following provisions shall apply in the event of a Covered Transaction:

(1) *Assumption or Substitution*. If the Covered Transaction is one in which there is an acquiring or surviving entity, the Administrator may provide for the assumption of some or all outstanding Awards or for the grant of new awards in substitution therefor by the acquiror or survivor or an affiliate of the acquiror or survivor.

(2) *Cash-Out of Awards*. If the Covered Transaction is one in which holders of Stock will receive upon consummation a payment (whether cash, non-cash or a combination of the foregoing), the Administrator may provide for payment (a “cash-out”), with respect to some or all Awards or any portion thereof, equal in the case of each affected Award or portion thereof to the excess, if any, of (A) the fair market value of one share of Stock (as determined by the Administrator in its reasonable discretion) times the number of shares of Stock subject to the Award or such portion, over (B) the aggregate exercise or purchase price, if any, under the Award or such portion (in the case of an SAR, the aggregate base value above which appreciation is measured), in each case on such payment terms (which need not be the same as the terms of payment to holders of Stock) and other terms, and subject to such conditions, as the Administrator determines; *provided*, that the Administrator shall not exercise its discretion under this Section 7(a)(2) with respect to an Award or portion thereof providing for “nonqualified deferred compensation” subject to Section 409A in a manner that would constitute an extension or acceleration of, or other change in, payment terms if such change would be inconsistent with the applicable requirements of Section 409A.

(3) *Acceleration of Certain Awards*. If the Covered Transaction (whether or not there is an acquiring or surviving entity) is one in which there is no assumption, substitution or cash-out, each Award requiring exercise will become fully exercisable, and the delivery of any shares of Stock remaining deliverable under each outstanding Award of Stock Units (including Restricted Stock Units and Performance Awards to the extent consisting of Stock Units) will be accelerated and such shares will be delivered, prior to the Covered Transaction, in each case on a basis that gives the holder of the Award a reasonable opportunity, as determined by the Administrator, following exercise of the Award or the delivery of the shares, as the case may be, to participate as a stockholder in the Covered Transaction; *provided*, that to the extent acceleration pursuant to this Section 7(a)(3) of an Award subject to Section 409A would cause the Award to fail to satisfy the requirements of Section 409A, the Award shall not be accelerated and the Administrator in lieu thereof shall take such steps as are necessary to ensure that payment of the Award is made in a medium other than Stock and on terms that as nearly as possible, but taking into account adjustments required or permitted by this Section 7, replicate the prior terms of the Award.

(4) *Termination of Awards Upon Consummation of Covered Transaction*. Each Award will terminate upon consummation of the Covered Transaction, other than the following: (i) Awards assumed pursuant to Section 7(a)(1) above; (ii) Awards converted pursuant to the proviso in Section 7(a)(3) above into an ongoing right to receive payment other than Stock; and (iii) outstanding shares of Restricted Stock (which shall be treated in the same manner as other shares of Stock, subject to Section 7(a)(5) below).

(5) *Additional Limitations*. Any share of Stock and any cash or other property delivered pursuant to Section 7(a)(2) or Section 7(a)(3) above with respect to an Award may, in the discretion of the Administrator, contain such restrictions, if any, as the Administrator deems appropriate to reflect any performance or other vesting conditions to which the Award was subject and that did not lapse (and were not satisfied) in connection with the Covered Transaction. In the case of Restricted Stock that does not vest in connection with the Covered Transaction, the Administrator may require that any amounts delivered, exchanged or otherwise paid in respect of such Stock in connection with the Covered Transaction be placed in escrow or otherwise made subject to such restrictions as the Administrator deems appropriate to carry out the intent of the Plan.

(b) *Changes in and Distributions With Respect to Stock*

(1) *Basic Adjustment Provisions*. In the event of a stock dividend, stock split or combination of shares (including a reverse stock split), recapitalization or other change in the Company's capital structure, the Administrator shall make appropriate adjustments to the maximum number of shares specified in Section 4(a) that may be delivered under the Plan and to the maximum share limits described in Section 4(c), and shall also make appropriate adjustments to the number and kind of shares of stock or securities subject to Awards then outstanding or subsequently granted, any exercise prices relating to Awards and any other provision of Awards affected by such change.

(2) *Certain Other Adjustments*. The Administrator may also make adjustments of the type described in Section 7(b)(1) above to take into account distributions to stockholders other than those provided for in Section 7(a) and 7(b)(1), or any other event, if the Administrator determines that adjustments are appropriate to avoid distortion in the operation of the Plan and to preserve the value of Awards made hereunder, having due regard for the qualification of ISOs under Section 422, the requirements of Section 409A, and for the performance-based compensation rules of Section 162(m), where applicable.

(3) *Continuing Application of Plan Terms*. References in the Plan to shares of Stock will be construed to include any stock or securities resulting from an adjustment pursuant to this Section 7.

## 8. LEGAL CONDITIONS ON DELIVERY OF STOCK

The Company will not be obligated to deliver any shares of Stock pursuant to the Plan or to remove any restriction from shares of Stock previously delivered under the Plan until: (i) the Company is satisfied that all legal matters in connection with the issuance and delivery of such shares have been addressed and resolved; (ii) if the outstanding Stock is at the time of delivery listed on any stock exchange or national market system, the shares to be delivered have been listed or authorized to be listed on such exchange or system upon official notice of issuance; and (iii) all conditions of the Award have been satisfied or waived. If the sale of Stock has not been registered under the Securities Act of 1933, as amended, the Company may require, as a condition to exercise of the Award, such representations or agreements as counsel for the Company may consider appropriate to avoid violation of such Act. The Company may require that certificates evidencing Stock issued under the Plan bear an appropriate legend reflecting any restriction on transfer applicable to such Stock, and the Company may hold the certificates pending lapse of the applicable restrictions.

## 9. AMENDMENT AND TERMINATION

The Administrator may at any time or times amend the Plan or any outstanding Award for any purpose which may at the time be permitted by law, and may at any time terminate the Plan as to any future grants of Awards; *provided*, that except as otherwise expressly provided in the Plan the Administrator may not, without the Participant's consent, alter the terms of an Award so as to affect materially and adversely the Participant's rights under the Award, unless the Administrator expressly reserved the right to do so at the time of the Award. Any

amendments to the Plan shall be conditioned upon stockholder approval only to the extent, if any, such approval is required by law (including the Code and applicable stock exchange requirements), as determined by the Administrator.

**10. OTHER COMPENSATION ARRANGEMENTS**

The existence of the Plan or the grant of any Award will not in any way affect the Company's right to Award a person bonuses or other compensation in addition to Awards under the Plan.

**11. MISCELLANEOUS**

(a) *Waiver of Jury Trial.* By accepting an Award under the Plan, each Participant waives any right to a trial by jury in any action, proceeding or counterclaim concerning any rights under the Plan and any Award, or under any amendment, waiver, consent, instrument, document or other agreement delivered or which in the future may be delivered in connection therewith, and agrees that any such action, proceedings or counterclaim shall be tried before a court and not before a jury. By accepting an Award under the Plan, each Participant certifies that no officer, representative, or attorney of the Company has represented, expressly or otherwise, that the Company would not, in the event of any action, proceeding or counterclaim, seek to enforce the foregoing waivers.

(b) *Limitation of Liability.* Notwithstanding anything to the contrary in the Plan, neither the Company, nor any Affiliate, nor the Administrator, nor any person acting on behalf of the Company, any Affiliate, or the Administrator, shall be liable to any Participant or to the estate or beneficiary of any Participant or to any other holder of an Award by reason of any acceleration of income, or any additional tax, asserted by reason of the failure of an Award to satisfy the requirements of Section 422 or Section 409A or by reason of Section 4999 of the Code; provided, that nothing in this Section 11(b) shall limit the ability of the Administrator or the Company to provide by separate express written agreement with a Participant for a gross-up payment or other payment in connection with any such tax or additional tax.

**EXHIBIT A**

**Definition of Terms**

The following terms, when used in the Plan, will have the meanings and be subject to the provisions set forth below:

*“Administrator”* : The Compensation Committee, except that the Compensation Committee may delegate (i) to one or more of its members such of its duties, powers and responsibilities as it may determine; (ii) to one or more officers of the Company the power to grant rights or options to the extent permitted by Section 157(c) of the Delaware General Corporation Law; and (iii) to such Employees or other persons as it determines such ministerial tasks as it deems appropriate. In the event of any delegation described in the preceding sentence, the term *“Administrator”* shall include the person or persons so delegated to the extent of such delegation.

*“Affiliate”* : Any corporation or other entity that stands in a relationship to the Company that would result in the Company and such corporation or other entity being treated as one employer under Section 414(b) and Section 414(c) of the Code, except that in determining eligibility for the grant of a Stock Option or SAR by reason of service for an Affiliate, Sections 414(b) and 414(c) of the Code shall be applied by substituting *“at least 50%”* for *“at least 80%”* under Section 1563(a)(1), (2) and (3) of the Code and Treas. Regs. § 1.414(c)-2; *provided*, that to the extent permitted under Section 409A, *“at least 20%”* shall be used in lieu of *“at least 50%”*; *and further provided*, that the lower ownership threshold described in this definition (50% or 20% as the case may be) shall apply only if the same definition of affiliation is used consistently with respect to all compensatory stock options or stock awards (whether under the Plan or another plan). The Company may at any time by amendment provide that different ownership thresholds (consistent with Section 409A) apply but any such change shall not be effective for twelve (12) months.

*“Award”* : Any or a combination of the following:

- (i) Stock Options.
- (ii) SARs.
- (iii) Restricted Stock.
- (iv) Unrestricted Stock.
- (v) Stock Units, including Restricted Stock Units.
- (vi) Performance Awards.
- (vii) Cash Awards.

(viii) Awards (other than Awards described in (i) through (vii) above) that are convertible into or otherwise based on Stock.

*“Board”* : The Board of Directors of the Company.

*“Cash Award”* : An Award denominated in cash.

*“Code”* : The U.S. Internal Revenue Code of 1986 as from time to time amended and in effect, or any successor statute as from time to time in effect.

*“Compensation Committee”* : The Compensation Committee of the Board.

*“Company”* : RXi Pharmaceuticals Corporation.

*“Covered Transaction”* : Any of (i) a consolidation, merger, or similar transaction or series of related transactions, including a sale or other disposition of stock, in which the Company is not the surviving corporation or which results in the acquisition of all or substantially all of the Company’s then outstanding common stock by a single person or entity or by a group of persons and/or entities acting in concert, (ii) a sale or transfer of all or substantially all the Company’s assets, or (iii) a dissolution or liquidation of the Company.

Where a Covered Transaction involves a tender offer that is reasonably expected to be followed by a merger described in clause (i) (as determined by the Administrator), the Covered Transaction shall be deemed to have occurred upon consummation of the tender offer.

*“Employee”* : Any person who is employed by the Company or an Affiliate.

*“Employment”* : A Participant’s employment or other service relationship with the Company and its Affiliates. Employment will be deemed to continue, unless the Administrator expressly provides otherwise, so long as the Participant is employed by, or otherwise is providing services in a capacity described in Section 5 to the Company or its Affiliates. If a Participant’s employment or other service relationship is with an Affiliate and that entity ceases to be an Affiliate, the Participant’s Employment will be deemed to have terminated when the entity ceases to be an Affiliate unless the Participant transfers Employment to the Company or its remaining Affiliates.

*“ISO”* : A Stock Option intended to be an “incentive stock option” within the meaning of Section 422. Each option granted pursuant to the Plan will be treated as providing by its terms that it is to be a non-incentive stock option unless, as of the date of grant, it is expressly designated as an ISO.

*“Participant”* : A person who is granted an Award under the Plan.

*“Performance Award”* : An Award subject to Performance Criteria. The Committee in its discretion may grant Performance Awards that are intended to qualify for the performance-based compensation exception under Section 162(m) and Performance Awards that are not intended so to qualify.

*“Performance Criteria”* : Specified criteria, other than the mere continuation of Employment or the mere passage of time, the satisfaction of which is a condition for the grant, exercisability, vesting or full enjoyment of an Award. For purposes of Awards that are intended to qualify for the performance-based compensation exception under Section 162(m), a Performance Criterion will mean an objectively determinable measure of performance relating to any or any combination of the following (measured either absolutely or by reference to an index or indices and determined either on a consolidated basis or, as the context permits, on a divisional, subsidiary, line of business, project or geographical basis or in combinations thereof): sales; revenues; assets; expenses; earnings before or after deduction for all or any portion of interest, taxes, depreciation, or amortization, whether or not on a continuing operations or an aggregate or per share basis; return on equity, investment, capital or assets; one or more operating ratios; borrowing levels, leverage ratios or credit rating; market share; capital expenditures; cash flow; stock price; stockholder return; sales of particular products or services; customer acquisition or retention; acquisitions and divestitures (in whole or in part); joint ventures and strategic alliances; spin-offs, split-ups and the like; reorganizations; or recapitalizations, restructurings, financings (issuance of debt or equity) or refinancings. A Performance Criterion and any targets with respect thereto determined by the Administrator need not be based upon an increase, a positive or improved result or avoidance of loss. To the extent consistent with the requirements for satisfying the performance-based compensation exception under Section 162(m), the Administrator may provide in the case of any Award intended to qualify for such exception that one or more of the Performance Criteria applicable to such Award will be adjusted in an objectively determinable manner to reflect events (for example, but without limitation, acquisitions or dispositions) occurring during the performance period that affect the applicable Performance Criterion or Criteria.

*“Plan”* : The RXi Pharmaceuticals Corporation 2007 Incentive Plan as from time to time amended and in effect.

*“Restricted Stock”* : Stock subject to restrictions requiring that it be redelivered or offered for sale to the Company if specified conditions are not satisfied.

*“Restricted Stock Unit”* : A Stock Unit that is, or as to which the delivery of Stock or cash in lieu of Stock is, subject to the satisfaction of specified performance or other vesting conditions.

*“SAR”* : A right entitling the holder upon exercise to receive an amount (payable in cash or in shares of Stock of equivalent value) equal to the excess of the fair market value of the shares of Stock subject to the right over the base value from which appreciation under the SAR is to be measured.

## Table of Contents

“*Section 409A*” : Section 409A of the Code.

“*Section 422*” : Section 422 of the Code.

“*Section 162(m)*” : Section 162(m) of the Code.

“*Stock*” : Common Stock of the Company, par value \$0.0001 per share.

“*Stock Option*” : An option entitling the holder to acquire shares of Stock upon payment of the exercise price.

“*Stock Unit*” : An unfunded and unsecured promise, denominated in shares of Stock, to deliver Stock or cash measured by the value of Stock in the future.

“*Unrestricted Stock*” : Stock not subject to any restrictions under the terms of the Award.





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



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## Proxy — RXi Pharmaceuticals Corporation

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### PROXY FOR 2009 ANNUAL MEETING OF STOCKHOLDERS

#### THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned stockholder of RXi PHARMACEUTICALS CORPORATION, a Delaware corporation, acknowledges receipt of the Notice of Annual Meeting of Stockholders and Proxy Statement, each dated April 23, 2009. The undersigned stockholder hereby also designates Sanford J. Hillsberg, Stephen J. DiPalma and Marc A. Rubenstein, or any of them, as proxies and attorneys-in-fact, with full power to each other of substitution, on behalf and in the name of the undersigned, to represent the undersigned at the 2009 Annual Meeting of Stockholders of RXi PHARMACEUTICALS CORPORATION to be held on Friday, June 5, 2009 at 10:00 a.m., local time, at 60 Prescott Street, Worcester, Massachusetts and at any adjournment or adjournments thereof, and to vote all shares of Common Stock which the undersigned would be entitled to vote, if then and there personally present, on the matters set forth on the reverse side.

**THIS PROXY WILL BE VOTED AS DIRECTED, OR IF NO CONTRARY DIRECTION IS INDICATED, WILL BE VOTED FOR THE ELECTION OF DIRECTORS, FOR THE RATIFICATION OF THE APPOINTMENT OF BDO SEIDMAN, LLP AS THE INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM OF THE COMPANY, FOR THE APPROVAL OF THE AMENDED AND RESTATED 2007 INCENTIVE PLAN TO RESERVE AN ADDITIONAL 1,000,000 SHARES THEREUNDER AND AS SAID PROXIES DEEM ADVISABLE ON SUCH OTHER MATTERS AS MAY PROPERLY COME BEFORE THE MEETING. THE BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS A VOTE "FOR" THESE PROPOSALS.**

CONTINUED AND TO BE SIGNED ON REVERSE SIDE

