2015 Annual Report

RXi Pharmaceuticals Corporation

Developing Innovative Therapeutics
For a Better Life

CORPORATE OVERVIEW

RXi Pharmaceuticals Corporation (NASDAQ: RXII) is a clinical-stage RNAi company developing innovative therapeutics that address high-unmet medical needs. We believe that we are well positioned to compete successfully using our siRNA technology platform and immunotherapy agents. The Company is supported by a proven and experienced management team, an accomplished Scientific Advisory Board and an extensive intellectual property portfolio.

RNAi is a powerful molecular tool that has the ability to "silence" or down-regulate the expression of a specific gene that may be overexpressed in a disease condition. Scientists at RXi developed a robust RNAi therapeutic platform that includes self-delivering RNA (sd-rxRNA®) compounds where drug-like properties are built into the RNAi compound itself. Our proprietary sd-rxRNA technology circumvents many challenges facing other RNAi-based drugs by providing advantages over classic siRNAs in cellular uptake, safety, potency and selectivity. All cell types tested (primary, neuronal and non-adherent) internalize sd-rxRNA compounds uniformly and efficiently, resulting in potent and long-lasting silencing. sd-rxRNA compounds have the ability to selectively block the expression of any target in the genome providing applicability to a broad spectrum of therapeutic areas.

RXI-109, an sd-rxRNA compound, is the Company's first product candidate. RXI-109 silences Connective Tissue Growth Factor (CTGF), which plays a key role in tissue regeneration and repair. RXI-109 is initially being developed to reduce or inhibit scar formation in the skin and retina.

Samcyprone™, our second lead candidate, is a proprietary topical formulation of diphenylcyclopropenone (DPCP), which is a small molecule immunomodulator that works by initiating a T-cell response. Samcyprone™ is initially being developed for the treatment of such disorders as warts, alopecia areata, and cutaneous metastases of melanoma.

In addition to therapeutic development, RXi is developing functional skincare products based on its sd-rxRNA technology. RXi's consumer health compounds, RXI-231 and RXI-185, are in development and are intended to affect the appearance of the skin. Both of these sd-rxRNA compounds provide several development opportunities for non-therapeutic skin health.

The Company's robust pipeline, coupled with an extensive patent portfolio, provides for multiple corporate and business development opportunities to drive growth, innovation and shareholder value. For example, the Company has licensed its sd-rxRNA platform to MirImmune, Inc. for cell therapy to treat cancer. MirImmune has made significant progress in their R&D activities, and RXi recently entered into an exclusive option agreement to acquire MirImmune, which will broaden RXi's pipeline to include immuno-oncology. In addition, the Company has also recently out-licensed its proprietary platform to Thera Neuropharma, Inc. for the development of therapeutics to treat ALS and possibly other neurodegenerative diseases, expanding the evaluation of our sd-rxRNA platform in an important disease area while providing an equity position in this company.

RXi is committed to being a partner of choice for academia, small companies, and large multinationals and welcomes ideas and proposals for strategic alliances, including in- and out-licensing opportunities, to advance and further develop strategic areas of interest.

Dear RXi Shareholders,

A series of significant events over the past 18 months, since our last Shareholder Letter, have and will continue to shape the future of your Company. In the first half of 2015, the final conversions of preferred shares into common stock were completed. This simplified our capital structure, allowed the Company to complete a capital raise with gross proceeds of $10.4 million and further broadened our shareholder base. This financing provided the Company with the cash to continue to advance our clinical and pre-clinical pipelines consistent with our projected timelines. During this time period, we identified to you, our shareholders, several key initiatives that could build value for the Company in line with your expectations. Of noteworthy importance were advances on our lead clinical program and increased focus on business development and strategic transactions.

We continue to make progress in advancing the development of our lead clinical compound, RXI-109, through Phase 2 studies for the prevention of the recurrence of hypertrophic scars following scar revision surgery. We learned that treatment with RXI-109 was more effective when initiated after the initial inflammation caused by scar revision surgery had subsided. We also found that 5 mg/cm revised scar was the right dose with which to move forward. We also concluded that six months of treatment may yield better results than six doses over three months, which also demonstrated a clinically visible difference between active and control. These observations have helped us significantly in designing the next confirmative studies with this drug in the management of hypertrophic scars.

In November 2015, we initiated a Phase 1/2 clinical study with RXI-109 in retinal scarring in patients with wet age-related macular degeneration. The trial is more than 60% enrolled and thus far has shown that the drug is well tolerated. We have exceeded our enrollment expectations for this year.

Since the acquisition of Samcyprone™ in the beginning of 2015, the Company has been granted Orphan Drug Designation by the FDA for the treatment of malignant melanoma stages IIb to IV. We also initiated a Phase 2 clinical trial for the treatment of common warts with Samcyprone™ that is near full enrollment. We expect initial results from this ongoing study to be available in early 2017, with final results expected around the middle of next year. We will also add a second cohort to the existing study to explore an optimized treatment regimen with results expected around the end of 2017.

We also focused attention on strategic out-licensing transactions to build value for shareholders. Our sd-rxRNA® platform was licensed to MirImmune, Inc. for cell therapy in oncology and to Thera Neuropharma, Inc. for neurodegenerative diseases. Through this out-licensing we were able to position the Company for expanded valuation opportunities, taking equity positions in these emerging companies in exchange for license rights.

MirImmune, with the financial support of Timothy Barberich, co-founder and former Chairman and CEO of Sepracor, Inc., has rapidly advanced into a detailed assessment of the remarkable potential of the sd-rxRNA platform for use in cell therapy and in immuno-oncology. Data thus

far have confirmed the unique ability of sd-rxRNA compounds to rapidly transfect immune cells in culture systems for autologous or allogenic cells, without negatively affecting cell viability in those cultures. It was demonstrated that multiple sd-rxRNA compounds targeting extracellular, as well as intracellular, check points can be used alone or in combination to transfect immune cells. Furthermore, *in vitro* data with patient-derived Tumor Infiltrating Lymphocytes (TILs) demonstrated that PD-1 silencing by sd-rxRNA in TILs resulted in enhanced killing of melanoma tumor cells from the same patient in culture. *In vivo* work in a human ovarian cancer model in mice demonstrated that treatment with mesothelin CAR T-cells transfected with a PD-1 targeting sd-rxRNA significantly reduced the rate of tumor growth in the animals as compared to vehicle control. CAR T-cells isolated from the tumors maintained a robust silencing of PD-1 for at least a month. In that same 18-month time span, MirImmune identified lead sd-rxRNA compounds for each of six different check points, some extracellular and other intracellular, and filed patents for these compounds as well as for the use of RNAi compounds in cell therapy and immune-oncology.

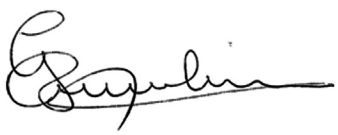
As a result of these findings and the ensuing constructive interactions between our two teams, RXi has entered into an exclusive option agreement to acquire MirImmune.

Looking ahead into 2017, we expect a promising year. We have already taken the necessary steps to raise capital via a public offering. We intend to use the proceeds to exercise the MirImmune acquisition option, if appropriate, to bring the development of their cellular immunotherapy pipeline into the Company. At a minimum, however, we will continue to advance our clinical pipeline to create additional shareholder value through additional partnering or licensing deal opportunities with other companies.

We wish to extend our appreciation to all our shareholders for their patience and continued support. Your E-mails and messages offering advice and encouragement, even in difficult times, are a source of inspiration to our employees, management team and Board of Directors.

We wish everybody a happy, healthy and prosperous 2017.

Warm regards,



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

Robert Bitterman
Chairman of the Board of Directors

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

FORM 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2015

Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission File Number 001-36304

RXi PHARMACEUTICALS CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**45-3215903**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

257 Simarano Drive, Suite 101 Marlborough, Massachusetts 01752
(Address of principal executive offices and Zip Code)

(508) 767-3861
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of exchange on which registered
Common stock, par value $0.0001 per share	**The NASDAQ Capital Market**

Securities registered pursuant to Section 12(g) of the Act:

None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☐ Yes ☒ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for any such shorter time that the registrant was required to submit and post such files). ☒ Yes ☐ No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☐

Non-accelerated filer ☐ (Do not check if a smaller reporting company) Smaller reporting company ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act): ☐ Yes ☒ No

The aggregate market value of the voting common stock held by non-affiliates of the registrant, based on the closing sale price of the registrant's common stock as reported on The NASDAQ Capital Market on June 30, 2015, was $31,656,117. Shares of common stock held by each officer and director and by each person who is known to own 10% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates of the Company. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 15, 2016, RXi Pharmaceuticals Corporation had 65,349,121 shares of common stock, $0.0001 par value, outstanding.

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ANNUAL REPORT ON FORM 10-K
For the Fiscal Year Ended December 31, 2015

EXPLANATORY NOTE

On April 14, 2016, RXi Pharmaceuticals Corporation's (the "Company") Board of Directors approved a 1-for-10 reverse stock split of the Company's outstanding common stock, which was effected on April 18, 2016. The share and per share amounts for the periods presented in this Annual Report on Form 10-K of the Company for the year ended December 31, 2015 does not give effect to the reverse stock split.

FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as "intends," "believes," "anticipates," "indicates," "plans," "expects," "suggests," "may," "should," "potential," "designed to," "will" and similar references. Such statements include, but are not limited to, statements about: our ability to successfully develop RXI-109, Samcyprone™ , and our other product candidates (collectively "our product candidates"); the future success of our clinical trials with our product candidates; the timing for the commencement and completion of clinical trials; the future success of our strategic partnerships; and our ability to implement cost-saving measures. Forward-looking statements are neither historical facts nor assurances of future performance. These statements are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others: the risk that our clinical trials with our product candidates may not be successful in evaluating the safety and tolerability of these candidates or providing evidence of increased surgical scar reduction compared to placebo; the successful and timely completion of clinical trials; uncertainties regarding the regulatory process; the availability of funds and resources to pursue our research and development projects, including clinical trials with our product candidates; general economic conditions; and those identified in this Annual Report on Form 10-K under the heading "Risk Factors" and in other filings the Company periodically makes with the Securities and Exchange Commission. Forward-looking statements contained in this Annual Report on Form 10-K speak as of the date hereof and the Company does not undertake to update any of these forward-looking statements to reflect a change in its views or events or circumstances that occur after the date of this Annual Report on Form 10-K.

PART I

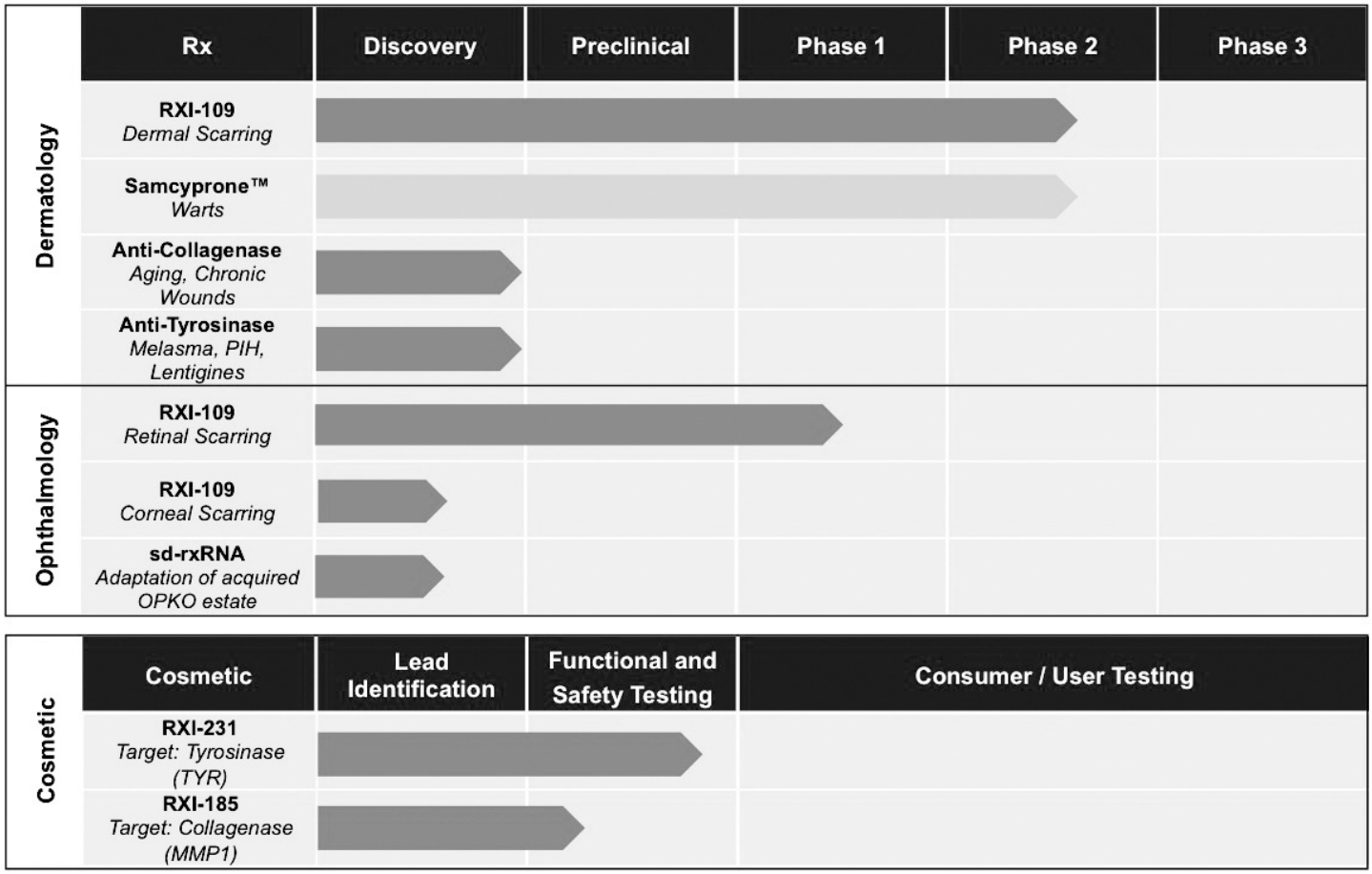
ITEM 1. *BUSINESS*

Overview

RXi Pharmaceuticals Corporation ("**RXi**," "**we**," "**our**" or the "**Company**") is a clinical-stage RNAi company developing innovative therapeutics in dermatology and ophthalmology that address significant unmet medical needs. Our development programs are based on our proprietary self-delivering RNAi (sd-rxRNA®) platform and Samcyprone™, a topical immunomodulator. Our clinical development programs include, but are not limited to, RXI-109, an sd-rxRNA, for the treatment of dermal and ocular scarring, and Samcyprone™ for the treatment of such disorders as warts, alopecia areata, non-malignant skin tumors and cutaneous metastases of melanoma. In addition to these clinical programs, we have a pipeline of discovery and preclinical product candidates in our core therapeutic areas, as well as in other areas of interest. The Company's pipeline, coupled with our extensive patent portfolio, provides for product and business development opportunities across a broad spectrum of therapeutic areas.

Our Pipeline

Our pipeline is focused on three areas: dermatology, ophthalmology and cosmetic product development. Our RNAi therapies are designed to "silence," or down-regulate, the expression of a specific gene that may be over-expressed in a disease condition and our immunotherapy agent treats diseases by inducing, enhancing or suppressing an immune response. The following is a summary of our current product candidates and their development status:



Dermatology Franchise

RXI-109 – Dermal Scarring

The Company's lead product candidate and first RNAi clinical product candidate, RXI-109, is a self-delivering RNAi compound (sd-rxRNA) designed to reduce the expression of connective tissue growth factor ("**CTGF**"), a critical regulator of several biological pathways involved in fibrosis, including scar formation in the skin. RXI-109 is first being evaluated in connection with the management of hypertrophic scars. Hypertrophic scars are abnormal scars that are raised above the normal skin surface and can be reddened or darker than the existing skin tone. RXI-109 commenced human clinical trials in 2012 and is currently being evaluated in Phase 2 clinical trials to prevent or reduce dermal scarring following surgery or trauma.

The Company conducted two Phase 1 clinical trials evaluating RXI-109 in a surgical setting. Both trials demonstrated the safety and tolerability of RXI-109 in ascending single and multi-doses, and also provided the first evidence of clinical activity in a surgical setting. With the successful completion of the Phase 1 trials, the Company initiated its Phase 2 program for RXI-109 with Study 1301, a Phase 2a clinical trial evaluating the use of RXI-109 to prevent the recurrence of hypertrophic scars following scar revision surgery, in November 2013. This was followed by a second Phase 2 clinical trial in April 2014, Study 1401, which evaluated the use of RXI-109 to prevent the recurrence of keloids, raised and reddened or darkened scars resulting from increased collagen production, after surgical revision. Enrollment and dosing for both of these studies has been completed.

Preliminary data observations from Study 1301 were used in the design of the Company's third Phase 2 clinical trial in hypertrophic scars, Study 1402, which commenced in July 2014. In October 2015, we reported that preliminary data from Study 1402 demonstrated that scars at revision sites were less visible after treatment with RXI-109 than untreated revision sites over the course of three months in those same subjects. Based in part on this new information, two more cohorts were added to Study 1402 in November 2015. The Company expects early results and later read-outs for Study 1402 in 2016.

Scarring represents a high unmet medical need as there are currently no U.S. Food and Drug Administration ("**FDA**") approved therapies in the U.S. for the treatment and prevention of scars in the skin. Scar revision surgery is a common option, but often the scar recurs. If approved, RXI-109 could be a "first-in-class" RNAi treatment for the prevention or reduction of post-surgical dermal scarring. Given the large number of surgical procedures, there is a significant market for a scar prevention therapeutic such as RXI-109.

Samcyprone™ – Warts

In December 2014, the Company broadened its clinical pipeline with an exclusive, global license to Samcyprone™, our second clinical candidate. Samcyprone™ is a proprietary topical formulation of diphenylcyclopropenone ("**DPCP**"), an immunomodulator that works by initiating a T-cell response. The use of Samcyprone™ allows sensitization using much lower concentrations of DPCP than are used with existing compounded DPCP solutions, avoiding hyper-sensitization to subsequent challenge doses. Samcyprone™ is currently being developed for the treatment of skin disorders such as warts, alopecia areata, non-malignant skin tumors and cutaneous metastases of melanoma. Further, in March 2015, the FDA granted Orphan Drug Designation to the Company for Samcyprone™ for the treatment of malignant melanoma stage IIb to IV.

The Company initiated its first Phase 2 clinical trial with Samcyprone™, Study 1502, for the treatment of cutaneous warts in December 2015. The Company expects to fully enroll Study 1502 by the end of 2016 with early read-outs also expected in the second half of 2016.

Cutaneous warts are extremely common, being experienced by most people at some time during their lives. Although most warts will spontaneously disappear without treatment, treatment of these lesions is sought for recalcitrant warts and to prevent recurrence. There are many different treatment modalities for warts, including physical destruction and immunomodulation. However, treatment of warts is complicated by low success rates, prolonged duration of therapy and the potential for recurrence. There is a clear unmet need for new therapies for warts and if approved, Samcyprone™ could be a more effective and convenient treatment than the currently available therapies.

Additional Dermatology Programs

In addition to our dermal scarring and wart programs, we continue to advance our preclinical and discovery programs with our sd-rxRNA technology. The Company has selected collagenase ("**MMP1**") and tyrosinase ("**TYR**") as gene targets for our

self-delivering platform. MMP1 is a matrix metalloproteinase involved in the breakdown of extracellular matrix. Reduction of MMP1 may be beneficial in the treatment of skin aging disorders, arthritis, acne scarring, blistering skin disorders, corneal erosions, endometriosis and possible cancer metastasis. TYR is a key enzyme in the synthesis of melanin. Melanin is produced by melanocytes and is the pigment that gives human skin, hair and eyes their color. The inhibition of TYR can play a key role in the management of diseases including cutaneous hyperpigmentation disorders such as lentigines (freckles, age spots and liver spots) and possibly melanoma. In addition to our cosmetic program (described below), the Company is actively evaluating similar sd-rxRNA compounds that target MMP1 and TYR for possible therapeutic development.

Ophthalmology Franchise

RXI-109 – Retinal Scarring

As in dermal scarring, CTGF is known to play a role in retinal scarring. RXI-109 can also be used to target CTGF in the eye, where it is known to be involved in retinal scarring. Building on the work in our dermal clinical program, the Company filed a new investigational drug application ("**IND**") in July 2015 for RXI-109 as a potential therapeutic for the scarring component of retinal diseases in the eye, such as wet age-related macular degeneration ("**AMD**"). In November 2015, we initiated a Phase 1/2 clinical trial to evaluate the safety and clinical activity of RXI-109 in reducing the progression of retinal scarring. Initial safety read-outs are expected in the second half of 2016.

Currently, there is no effective way to prevent the formation or progression of retinal scars that may occur as a consequence of the number of debilitating ocular diseases. In advanced neo-vascular or wet-AMD, our first area of study, retinal scarring can result in continued vision loss even if the patient is being treated with an anti-vascular endothelial growth factor ("**VEGF**") therapy. RXI-109 has the potential to fill this unmet medical need by reducing this continuing damage to the retina and in doing so help preserve these patients' vision for a longer period of time.

Additional Ophthalmology Programs

In addition to the clinical trial for the use of RXI-109 as a potential therapeutic for retinal scarring, we are advancing other early-stage ophthalmology programs. To date, preclinical studies have shown that CTGF protein levels are reduced in a dose-dependent manner in both the retina and cornea following an intravitreal injection of RXI-109 in monkeys. Scarring of the cornea resulting from injury, disease or vision correction surgery can have a dramatic impact on vision. In some cases, a corneal transplant may be needed. CTGF expression levels have been found to be increased during corneal wound healing in rat corneas and in human corneal fibroblasts, and it has been proposed that a reduction of CTGF may be an important step towards reducing corneal scarring. The Company is currently involved in a number of collaborations to develop a topical delivery for disorders of the cornea.

The Company also continues its exploratory efforts to identify potential sd-rxRNA lead compounds and targets from the RNAi-related assets acquired from OPKO Health Inc. ("**OPKO**") in March 2013.

Cosmetic Franchise

RXi's cosmetic development program is based on our proprietary sd-rxRNA technology. Cosmetics are compounds that affect the appearance of the skin and make no preventative or therapeutic claims. These compounds may be developed more rapidly than therapeutics, therefore the path to market may be much shorter and less expensive.

In October 2015, we announced the selection of lead compounds targeting MMP1 and TYR for cosmetic development. RXI-185, an sd-rxRNA compound targeting MMP1, and RXI-231, an sd-rxRNA compound targeting TYR, are being developed as cosmetic ingredients that may improve skin appearance. The Company's next steps include plans to complete functional and safety testing for both compounds, as well as to develop a method for skin penetration that would be compatible with our compounds. Topical delivery can be enhanced in a number of ways and the Company is exploring these both internally and with a number of research collaborations.

Market Opportunity

As there are currently no FDA-approved drugs to prevent scar formation, a therapeutic of this type could have great benefit for trauma and surgical patients, particularly as a treatment during the surgical revision of existing unsatisfactory scars. There are over 42 million medical procedures in the U.S. each year that could potentially benefit from a therapeutic treatment that could successfully reduce or prevent scarring; thus, the market potential is quite large. According to the American Society for Plastic Surgery, there are approximately 177,000 scar revision surgeries in the United States every year. In addition to cosmetic and reconstructive surgeries, medical interventions which could incorporate an anti-scarring agent include treatment of scarring that results from trauma, surgery or burns (especially relating to raised or hypertrophic scarring or contracture scarring), and surgical revision of existing unsatisfactory scars.

Overexpression of CTGF is implicated in dermal scarring, subretinal fibrosis and other fibrotic diseases. Because of this, we believe that RXI-109 or other CTGF-targeting RNAi compounds may be able to treat the fibrotic component of numerous indications. These indications are as wide ranging as acute spinal injury, endometriosis, organ fibrosis including liver and pulmonary fibrosis, cutaneous scleroderma and vascular restenosis, in addition to numerous ocular diseases that result in retinal scarring. If the current clinical trials of RXI-109 produce successful results, we may explore opportunities in these additional indications that can be accessed by local administration, starting with intradermal or intravitreal injection. Although the Company does not intend to develop systemic uses of RXI-109 at this time, the Company is open to business development and out-licensing opportunities for those applications.

DPCP, the active ingredient in Samcyprone™, is a small molecule that has been used since the late 1970s to stimulate regrowth of hair in patients with alopecia areata. Recent publications have supported its use as an immunomodulator for the treatment of alopecia areata, warts and cutaneous metastases of malignant melanoma, a combined market potential of over an estimated $1 billion. Although it has been used by physicians for several decades, it has never been reviewed or approved by a regulatory authority as a drug. DPCP is a new chemical entity under a U.S. IND. If FDA approval is granted, Samcyprone™, RXi's proprietary formulation of DPCP, is expected to achieve market exclusivity.

Introduction to RNAi

RNAi is a naturally occurring phenomenon where short, double-stranded RNA molecules interfere with the expression of targeted genes. The discovery of RNAi is regarded as a significant advancement in the scientific community, as evidenced by the 2006 Nobel Prize in Medicine awarded to the co-discoverers of RNAi, including Dr. Craig Mello, one of the founders of RXi and the Chairman of our Scientific Advisory Board.

RNAi offers a novel approach to the drug development process because RNAi compounds can potentially be designed to target any one of the thousands of human genes, many of which are "undruggable" by other modalities. The specificity of RNAi is achieved by an intrinsic, well-understood biological mechanism based on designing the sequence of an RNAi compound to match the sequence of the targeted gene. The sequence of the entire human genome is now known, and the mRNA coding sequence for many proteins is already available. Supported by numerous gene-silencing reports and our own research, we believe that this sequence information can be used to design RNAi compounds to interfere with the expression of almost any specific gene.

Our RNAi Therapeutic Platform

The first design of RNAi compounds to be pursued for the development of human therapeutics were short, double-stranded RNAs that included at least one overhanging single-stranded region and limited modifications, known as small-interfering RNA, or siRNA, which we will also refer to as classic siRNA.

We believe that classic siRNAs have drawbacks that may limit the usefulness of those agents as human therapeutics, and that we may be able to utilize the technologies we have licensed and developed internally to optimize RNAi compounds for use as human therapeutic agents. It is the combination of the length, the nucleotide sequence and the configuration of chemical modifications that are important for effective RNAi therapeutics.

Drug delivery has been the primary challenge in developing RNAi therapeutics since its initial discovery. One conventional solution to the delivery problem involves encapsulation into a lipid-based particle, such as a liposome, to improve circulation time and cellular uptake. Scientists at RXi have used an alternative approach to delivery in which drug-like properties were built into the RNAi compound itself. These novel compounds are termed 'self-delivering' RNAi compounds or sd-rxRNA.

sd-rxRNAs are hybrid oligonucleotide compounds that the Company believes combine the beneficial properties of both conventional RNAi and antisense technologies. Traditional, single-stranded antisense compounds have favorable tissue distribution and cellular uptake properties. However, they do not have the intracellular potency that is a hallmark of double-stranded RNAi compounds. Conversely, the duplex structure and hydrophilic character of traditional RNAi compounds results in poor tissue distribution and cellular uptake. In an attempt to combine the best properties of both technologies, sd-rxRNA have a single-stranded phosphorothioate region, a short duplex region, and contain a variety of nuclease-stabilizing and lipophilic chemical modifications. The combination of these features allows sd-rxRNA to achieve efficient spontaneous cellular uptake and potent, long-lasting intracellular activity.

We believe that our next generation sd-rxRNA compounds offer significant advantages over classic siRNA used by other companies developing RNAi therapeutics, highlighted by the following characteristics:

- Potent RNAi activity in the absence of a delivery vehicle;
- More resistant to nuclease degradation;
- Readily manufactured;
- Potentially more specific for the target gene; and
- More reliable at blocking immune side effects than classic siRNA.

Our Route of Administration

The route by which an RNAi therapeutic is brought into contact with the body depends on the intended organ or tissue to be treated. Delivery routes can be simplified into two major categories: (1) local (when a drug is delivered directly to the tissue of interest); and (2) systemic (when a drug accesses the tissue of interest through the circulatory system). Local delivery may avoid some hurdles associated with systemic approaches such as rapid clearance from circulation and inefficient tissue extravasation (crossing the endothelial barrier from the blood stream). However, the local delivery approach can only be applied to a limited number of organs or tissues (*e.g.*, skin, eye, lung and potentially the central nervous system).

The key to therapeutic success with RNAi lies in delivering intact RNAi compounds to the target tissue and the interior of the target cells. To accomplish this, we have developed a comprehensive platform that includes chemically synthesized RNAi compounds that are optimized for stability and efficacy and combine delivery at the site of action with a local delivery approach.

Our sd-rxRNA molecules have unique properties that improve tissue and cell uptake. We have studied sd-rxRNA molecules in animal models for dermal and ocular delivery. Direct administration of sd-rxRNA via intradermal injection with no additional delivery vehicle to the skin or to the eye demonstrates that target gene silencing can be measured after local administration. The dose levels required for these direct-injection methods are small and suitable for clinical development. The Company has a number of clinical trials currently ongoing with RXI-109, an sd-rxRNA compound, for local delivery in the skin and the eye. Other target tissues that are potentially accessible for local delivery using sd-rxRNA compounds include the lung, the central nervous system, mucosal tissues and sites of inflammation and tumor (direct administration).

The built-in drug-like properties of sd-rxRNAs, including an extended circulation time and better tissue distribution, may make them amenable for system delivery. Target tissues that are potentially accessible using sd-rxRNA compounds by systemic delivery include kidney, fat, heart, lung, sites of inflammation, tumors and vascular endothelium. Further optimization efforts are required to expand this technology to systemic applications.

Introduction to Immunomodulators

Immunotherapy is the treatment of disease by inducing, enhancing or suppressing an immune response. Active agents in immunotherapy are collectively called immunomodulators. They are a diverse array of recombinant, synthetic and natural preparations that help to regulate or normalize the immune system.

Our Immunomodulator Therapeutic Pipeline

Samcyprone™, licensed by the Company in 2014, is a proprietary topical formulation of DPCP. DPCP has been used for decades as a treatment to stimulate hair re-growth in patients with alopecia areata and more recently as a treatment for recalcitrant wart removal and as an aid in the reduction of cutaneous metastases of melanoma. As it is currently used, a doctor must prescribe DPCP to be formulated by a compounding facility, generally in acetone. There are no standardized methods of formulation or procedures for use. Because it works by causing an immune response, the level of response can vary greatly from person to person. Moreover, some pharmacies will not even compound it, even if it is prescribed.

The Company's formulation of DPCP, called Samcyprone™, works by initiating a T-cell response. T-cells or T lymphocytes are a type of white blood cell that play a key role in cell-mediated immunity. The use of Samcyprone™ will allow for lower sensitizing and challenge doses than in current use and should result in an improved safety margin and a more consistent immune response.

There will be several advantages to using an FDA regulated formulation like the one we are developing. First, the amount of DPCP used in our own ointment formulation will be lower than that generally used in acetone formulation. This should result in reduced side effects that happen due to accidental over-sensitization when a higher than necessary concentration is used. Second, we are developing an optimized dosing regimen so that a standardized response can be expected. And third, the ointment formulation will be easier to prescribe and to use than an acetone formulation, allowing for ease of application at the appropriate site on the skin.

The mechanism of action of Samcyprone™ is linked to DPCP's ability to alter the expression of multiple genes involved in the immune response. Research with Samcyprone™ may also allow us to discover specific targets and develop new sd-rxRNA compounds for the potential treatment of immunological disorders that are relevant to the skin, as well as various systemic diseases.

Intellectual Property

We protect our proprietary information by means of United States and foreign patents, trademarks and copyrights. In addition, we rely upon trade secret protection and contractual arrangements to protect certain of our proprietary information and products. We have pending patent applications that relate to potential drug targets, compounds we are developing to modulate those targets, methods of making or using those compounds and proprietary elements of our drug discovery platform.

Much of our technology and many of our processes depend upon the knowledge, experience and skills of key scientific and technical personnel. To protect our rights to our proprietary know-how and technology, we require all employees, as well as our consultants and advisors when feasible, to enter into confidentiality agreements that require disclosure and assignment to us of ideas, developments, discoveries and inventions made by these employees, consultants and advisors in the course of their service to us, and we vigorously defend that position with partners, as well as with employees who leave the Company.

We have also obtained rights to various patents and patent applications under licenses with third parties, which require us to pay royalties, milestone payments, or both. The degree of patent protection for biotechnology products and processes, including ours, remains uncertain, both in the United States and in other important markets, because the scope of protection depends on decisions of patent offices, courts and lawmakers in these countries. There is no certainty that our existing patents or others, if obtained, will afford us substantial protection or commercial benefit. Similarly, there is no assurance that our pending patent applications or patent applications licensed from third parties will ultimately be granted as patents or that those patents that have been issued or are issued in the future will stand if they are challenged in court. We assess our license agreements on an ongoing basis, and may from time to time terminate licenses to technology that we do not intend to employ in our technology platforms, or in our product discovery or development activities.

Patents and Patent Applications

We are actively prosecuting twenty-eight patent families covering our compounds and technologies, including RXI-109 and Samcyprone™. A combined summary of these patents and patent applications is set forth below in the following table:

	Pending Applications	Issued Patents
United States	19	28
Canada	6	1
Europe	8	31
Japan	4	5
Other Markets	10	8

Patents and Patent Applications Relating to RNAi

Our portfolio includes 72 issued patents, thirteen of which cover our self-delivering RNAi platform. These thirteen patents broadly cover both the composition and methods of use of our self-delivering platform technology and uses of our sd-rxRNAs targeting CTGF for the treatment of fibrotic disorders, including RXI-109 for the treatment of dermal and ocular fibrosis. These patents are scheduled to expire between 2029 and 2031. Furthermore, there are 44 patent applications, encompassing what we believe to be important new RNAi compounds and their use as therapeutics and/or cosmetics, chemical modifications of RNAi compounds that improve the compounds' suitability for therapeutic uses (including delivery) and compounds directed to specific targets (*i.e.*, that address specific disease states).

The patents and any patents that may issue from these pending patent applications will, if issued, be set to expire between 2022 and 2035, not including any patent term extensions that may be afforded under the Federal Food, Drug, and Cosmetic Act (and the equivalent provisions in foreign jurisdictions) for any delays incurred during the regulatory approval process relating to human drug products (or processes for making or using human drug products).

Patent and Patent Applications Relating to Samcyprone™

The Samcyprone™ portfolio includes one issued patent and three patent applications. The patent and patent applications cover both the compositions and methods of use of Samcyprone™ for the treatment of warts, human papilloma virus (HPV) skin infections, skin cancer (including melanoma) and immunocompromised patients.

The patent and any patents that may issue from the pending applications will be set to expire between 2019 and 2031, not including any patent term extensions that may be afforded under the Federal Food, Drug, and Cosmetic Act (and the equivalent provisions in foreign jurisdictions) for any delays incurred during the regulatory approval process relating to human drug products (or processed for making or using human drug products).

Intellectual Property License Agreements

We have secured exclusive and non-exclusive rights to develop therapeutics by licensing key RNAi technologies, Samcyprone™ and patent rights from third parties. These rights relate to chemistry and configuration of compounds, delivery technologies of compounds to cells and therapeutic targets. As we continue to develop our own proprietary compounds, we continue to evaluate both our in-licensed portfolio as well as the field for new technologies that could be in-licensed to further enhance our intellectual property portfolio and unique position in the RNAi and immunotherapy space.

Advirna. In September 2011, we entered into agreements with Advirna, LLC ("**Advirna**") pursuant to which Advirna assigned to us its existing patent and technology rights related to sd-rxRNA technology in exchange for our agreement to issue 5% of the Company's fully-diluted shares, pay an annual maintenance fee of $100,000 and pay a one-time milestone payment of $350,000 upon the issuance of the first patent with valid claims covering the assigned technology. The common shares of the Company were issued to Advirna in 2012 and the one-time milestone payment was paid in 2014. Additionally, we will be required to pay a 1% royalty to Advirna on any license revenue received by us with respect to future licensing of the assigned Advirna patent and technology rights. We also granted back to Advirna a license under the assigned patent and technology rights for fields of use outside human therapeutics and diagnostics.

Our rights under the Advirna agreement will expire upon the later of: (i) the expiration of the last-to-expire of the "patent rights" (as defined therein) or (ii) the abandonment of the last-to-be abandoned of such patents, unless earlier terminated in accordance with the provisions of the agreement.

We may terminate the Advirna agreement at any time upon 90 days' written notice to Advirna, and Advirna may terminate the agreement upon 90 days' prior written notice in the event that we cease using commercially reasonable efforts to research, develop, license or otherwise commercialize the patent rights or "royalty-bearing products" (as defined therein), provided that we may refute such claim within such 90-day period by showing budgeted expenditures for the research, development, licensing or other commercialization consistent with other technologies of similar stage of development and commercial potential as the patent rights or royalty-bearing products. Further, either party at any time may provide to the other party written notice of a material breach of the agreement. If the other party fails to cure the identified breach within 90 days after the date of the notice, the aggrieved party may terminate the agreement by written notice to the party in breach.

Hapten. In December 2014, the Company entered into an Assignment and License Agreement with Hapten Pharmaceuticals, LLC ("**Hapten**") under which Hapten agreed, effective at a closing that was subject to the satisfaction of certain closing conditions which occurred in February 2015, to sell and assign to us certain patent rights and related assets and rights, including an investigational new drug application and clinical data, for Hapten's Samcyprone™ products for therapeutic and prophylactic use. Under the Assignment and License Agreement and upon the closing, Hapten received a one-time upfront cash payment of $100,000 and we issued to Hapten 200,000 shares of Company common stock. Pursuant to the Assignment and License Agreement, Hapten will be entitled to receive: (i) future milestone payments tied to the achievement of certain clinical and commercial objectives (all of which payments may be made at our option in cash or through the issuance of common stock) and (ii) escalating royalties based on product sales by us and any sublicensees.

We have certain customary diligence obligations under the Assignment and License Agreement requiring us to use commercially reasonable efforts to develop and commercialize one or more products covered by the Assignment and License Agreement, which obligations, if not performed, could result in rights assigned or licensed to us reverting back to Hapten.

In addition to the license agreements listed above, the Company has entered into and may enter into other license agreements that may benefit us as we develop our RNAi and Samcyprone™ pipelines.

Other Strategic Agreements

OPKO. In March 2013, the Company entered into an Asset Purchase Agreement with OPKO, in which we acquired substantially all of its RNAi-related assets, which included patents and patent applications, licenses, clinical and preclinical data and other related assets. In exchange for the assets that we purchased from OPKO, we issued 1,666,666 shares of our common stock and agreed to pay, if applicable: (i) up to $50 million in development and commercialization milestones for the successful development and commercialization of each "Qualified Drug" (as defined therein) and (ii) royalty payments equal to: (a) a mid-single-digit percentage of "Net Sales" (as defined therein) with respect to each Qualified Drug sold for an ophthalmologic use during the applicable "Royalty Period" (as defined therein) and (b) a low-single-digit percentage of Net Sales with respect to each Qualified Drug sold for a non-ophthalmologic use during the applicable Royalty Period.

We have certain customary diligence obligations under the Asset Purchase Agreement requiring us to use commercially reasonable efforts to develop and commercialize one or more products covered by the Asset Purchase Agreement, which obligations, if not performed, could result in assets transferred and rights assigned or licensed to us reverting back to OPKO.

MirImmune. In March 2015, RXi granted an exclusive license to MirImmune, Inc. ("**MirImmune**") to utilize the Company's novel and proprietary sd-rxRNA technology for MirImmune's use in developing *ex-vivo* cell-based cancer immunotherapies. Under the terms of the agreement, MirImmune will be responsible for all research, development, manufacturing, regulatory and

commercialization activities for the licensed products. MirImmune will develop *ex-vivo* cell-based therapeutics utilizing our sd-rxRNA technology to target immune inhibitory pathways (checkpoints) which are responsible for limiting the efficacy of cancer immunotherapies. The Company is eligible to receive an annual licensing fee, clinical milestone payments and royalties on sales from MirImmune. Further, upon the achievement of gating milestones, the Company will have the right to acquire a double-digit equity stake in MirImmune.

The Company does not expect to realize any significant milestone payments or royalties under this agreement in the near term. However, if successful, this collaboration has the potential to result in novel, more effective and patient friendly cancer treatments that could contribute to developments in personalized medicine.

Research and Development

To date, our research programs have primarily focused on developing technology necessary to make RNAi compounds available by local administration for diseases for which we intend to develop an RNAi therapeutic, identifying and testing RNAi compounds against therapeutically relevant targets in the fields of dermatology and ophthalmology and identifying lead product candidates and moving those product candidates into the clinic. Since we commenced operations, research and development has comprised a significant proportion of our total operating expenses and is expected to comprise the majority of our spending for the foreseeable future.

There are risks in any new field of drug discovery that preclude certainty regarding the successful development of a product. We cannot reasonably estimate or know the nature, timing and costs of the efforts necessary to complete the development of, or the period in which material net cash inflows are expected to commence from, any product candidate. Our inability to make these estimates results from the uncertainty of numerous factors, including but not limited to:

- Our ability to advance product candidates into preclinical research and clinical trials;
- The scope and rate of progress of our preclinical program and other research and development activities;
- The scope, rate of progress and cost of any clinical trials we commence;
- The cost of filing, prosecuting, defending and enforcing patent claims and other intellectual property rights;
- Clinical trial results;
- The terms and timing of any collaborative, licensing and other arrangements that we may establish;
- The cost and timing of regulatory approvals;
- The cost of establishing clinical and commercial supplies of our product candidates and any products that we may develop;
- The cost and timing of establishing sales, marketing and distribution capabilities;
- The effect of competing technological and market developments; and
- The effect of government regulation and insurance industry efforts to control healthcare costs through reimbursement policy and other cost management strategies.

Failure to complete any stage of the development of our product candidates in a timely manner could have a material adverse effect on our operations, financial position and liquidity.

Research and Development Expenses

Research and development expenses consist of compensation-related costs for our employees dedicated to research and development activities, fees related to our Scientific Advisory Board members, expenses related to our ongoing research and development efforts primarily related to our clinical trials, drug manufacturing, outside contract services, licensing and patent fees and laboratory supplies and services for our research programs.

Total research and development expenses for the years ended December 31, 2015 and 2014 was $6,925,000 and $5,680,000, respectively.

Competition

We believe that numerous companies are investigating or plan to investigate a variety of proposed anti-scarring therapies in clinical trials or are working in the RNAi area generally. Many other companies are pursuing non-RNAi-based therapies for one or more fibrotic disease indications, including ocular scarring or other indications that we may seek to pursue. The companies include large and small pharmaceuticals, chemical and biotechnology companies, as well as universities, government agencies and other private and public research organizations.

We believe that other companies currently developing anti-scarring therapies, both dermal and ocular, include CoDa Therapeutics, Inc., Sirnaomics, Inc., FirstString Research, Inc., Promedior, Inc., FibroGen, Inc., MiRagen Therapeutics, Inc., Ophthotech Corporation, Vascular BioSciences, Allergan plc, and Suneva Medical, Inc.

We believe that other companies working in the RNAi area, generally, include Alnylam Pharmaceuticals, Inc., Benitec Limited, Silence Therapeutics plc, Quark Pharmaceuticals, Inc., Arbutus Biopharma, Arrowhead Research Corporation, Dicerna Pharmaceuticals, Inc., Sylentis, S.A. and Roche Innovation Center Copenhagen A/S, as well as a number of large pharmaceutical companies.

We do not believe that there are any companies developing treatments directly competing with Samcyprone™ for warts or for alopecia areata or cutaneous metastases of malignant melanoma. However, there are several existing treatments for each condition with which Samcyprone™ could potentially compete. Current topical medicinal treatments for warts include salicylic acid, off label use of Imiquimod and Picato® and the most common ablative treatments include removal through medical procedures, such as cryotherapy, surgery or chemical peels. There currently are no FDA-approved treatments specifically for alopecia areata and the most common treatments used by medical professionals include cortisone injections or pills, topical ointments, such as minoxidil or anthralin, and topical immunotherapy with the use of chemicals such as DPCP or dinitrochlorobenzene. Finally, common treatment therapies for cutaneous metastases of malignant melanoma include cryotherapy, photodynamic therapy, laser therapy, chemotherapy and immunotherapy, such as the use of Imiquimod.

Government Regulation

The United States and many other countries extensively regulate the preclinical and clinical testing, manufacturing, labeling, storage, record-keeping, advertising, promotion, export, marketing and distribution of drugs and biologic products. The FDA regulates pharmaceutical and biologic products under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act and other federal statutes and regulations.

To obtain approval of our future product candidates from the FDA, we must, among other requirements, submit data supporting safety and efficacy for the intended indication as well as detailed information on the manufacture and composition of the product candidate. In most cases, this will require extensive laboratory tests and preclinical and clinical trials. The collection of these data, as well as the preparation of applications for review by the FDA involve significant time and expense. The FDA also may require post-marketing testing to monitor the safety and efficacy of approved products or place conditions on any approvals that could restrict the therapeutic claims and commercial applications of these products. Regulatory authorities may withdraw product approvals if we fail to comply with regulatory standards or if we encounter problems at any time following initial marketing of our products.

The first stage of the FDA approval process for a new biologic or drug involves completion of preclinical studies and the submission of the results of these studies to the FDA. These data, together with proposed clinical protocols, manufacturing information, analytical data and other information submitted to the FDA in an IND application, must become effective before human clinical trials may commence. Preclinical studies generally involve FDA regulated laboratory evaluation of product characteristics and animal studies to assess the efficacy and safety of the product candidate.

After the IND becomes effective, a company may commence human clinical trials. These are typically conducted in three sequential phases, but the phases may overlap. Phase 1 trials consist of testing the product candidate in a small number of patients or healthy volunteers, primarily for safety at one or more doses. Phase 2 trials, in addition to safety, evaluate the efficacy of the product candidate in a patient population somewhat larger than Phase 1 trials. Phase 3 trials typically involve additional testing for safety and

clinical efficacy in an expanded population at multiple test sites. A company must submit to the FDA a clinical protocol, accompanied by the approval of the Institutional Review Board ("**IRB**") at the institutions participating in the trials, prior to commencement of each clinical trial.

To obtain FDA marketing authorization, a company must submit to the FDA the results of the preclinical and clinical testing, together with, among other things, detailed information on the manufacture and composition of the product candidate, in the form of a new drug application (an "**NDA**"), or, in the case of a biologic, a biologics license application (a "**BLA**").

The amount of time taken by the FDA for approval of an NDA or BLA will depend upon a number of factors, including whether the product candidate has received priority review, the quality of the submission and studies presented, the potential contribution that the compound will make in improving the treatment of the disease in question and the workload at the FDA.

The FDA may, in some cases, confer upon an investigational product the status of a fast track product. A fast track product is defined as a new drug or biologic intended for the treatment of a serious or life threatening condition that demonstrates the potential to address unmet medical needs for this condition. The FDA can base approval of an NDA or BLA for a fast track product on an effect on a surrogate endpoint, or on another endpoint that is reasonably likely to predict clinical benefit. If a preliminary review of clinical data suggests that a fast track product may be effective, the FDA may initiate review of entire sections of a marketing application for a fast track product before the sponsor completes the application.

We anticipate that our products will be manufactured by our strategic partners, licensees or other third parties. Before approving an NDA or BLA, the FDA will inspect the facilities at which the product is manufactured and will not approve the product unless the manufacturing facilities are in compliance with the FDA's current good manufacturing practices ("**cGMP**"), which are regulations that govern the manufacture, holding and distribution of a product. Manufacturers of biologics also must comply with the FDA's general biological product standards. Our manufacturers also will be subject to regulation under the Occupational Safety and Health Act, the Nuclear Energy and Radiation Control Act, the Toxic Substance Control Act and the Resource Conservation and Recovery Act and other applicable environmental statutes. Following approval, the FDA periodically inspects drug and biologic manufacturing facilities to ensure continued compliance with the cGMP. Our manufacturers will have to continue to comply with those requirements. Failure to comply with these requirements subjects the manufacturer to possible legal or regulatory action, such as suspension of manufacturing or recall or seizure of product. Adverse patient experiences with the product must be reported to the FDA and could result in the imposition of marketing restrictions through labeling changes or market removal. Product approvals may be withdrawn if compliance with regulatory requirements is not maintained or if problems concerning safety or efficacy of the product occur following approval.

The labeling, advertising, promotion, marketing and distribution of a drug or biologic product also must be in compliance with FDA and Federal Trade Commission requirements which include, among others, standards and regulations for off-label promotion, industry sponsored scientific and educational activities, promotional activities involving the internet, and direct-to-consumer advertising. We also will be subject to a variety of federal, state and local regulations relating to the use, handling, storage and disposal of hazardous materials, including chemicals and radioactive and biological materials. In addition, we will be subject to various laws and regulations governing laboratory practices and the experimental use of animals. In each of these areas, as above, the FDA has broad regulatory and enforcement powers, including the ability to levy fines and civil penalties, suspend or delay issuance of product approvals, seize or recall products and deny or withdraw approvals.

We will also be subject to a variety of regulations governing clinical trials and sales of our products outside the United States. Whether or not FDA approval has been obtained, approval of a product candidate by the comparable regulatory authorities of foreign countries and regions must be obtained prior to the commencement of marketing the product in those countries. The approval process varies from one regulatory authority to another and the time may be longer or shorter than that required for FDA approval. In the European Union, Canada and Australia, regulatory requirements and approval processes are similar, in principle, to those in the United States.

Environmental Compliance

Our research and development activities involve the controlled use of potentially harmful biological materials as well as hazardous materials, chemicals and various radioactive compounds. We are subject to federal, state and local laws and regulations governing the use, storage, handling and disposal of these materials and specific waste products. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of bio-hazardous materials. The cost of compliance with these laws and regulations could be significant and may adversely affect capital expenditures to the extent we are required to procure expensive capital equipment to meet regulatory requirements.

Employees

As of March 15, 2016, we had sixteen full-time employees, ten of whom were engaged in research and development, and six of whom were engaged in management, administration and finance. None of our employees are represented by a labor union or covered by a collective bargaining agreement, nor have we experienced any work stoppages.

Corporate Information

RXi was incorporated in the state of Delaware in 2011. Our executive offices are located at 257 Simarano Drive, Suite 101, Marlborough, MA 01752, and our telephone number is (508) 767-3861.

Investor Information

The Company's website address is http://www.rxipharma.com. We make available on our website, free of charge, copies of our annual reports on Form 10-K, our quarterly reports on Form 10-Q and our current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after these reports are filed electronically with, or otherwise furnished to, the Securities and Exchange Commission (the "**SEC**").

You may read and copy any materials the Company files with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding RXi and other issuers that file electronically with the SEC. The SEC's website address is http://www.sec.gov.

ITEM 1A. *RISK FACTORS*

Risks Relating to Our Business and Industry

We are dependent on the success of our lead drug candidates, which may not receive regulatory approval or be successfully commercialized.

RXI-109, our lead product candidate and first RNAi-based product candidate, is designed to reduce the expression of CTGF, a critical regulator of several biological pathways involved in fibrosis. Samcyprone™, our second clinical product candidate, is a proprietary topical formulation of diphenylcyclopropenone ("**DPCP**"), an immunomodulator that works by initiating a T-cell response. We began the clinical program to reduce the formation of hypertrophic scars with RXI-109 in June 2012, and are currently conducting a Phase 2 clinical trial for RXI-109 in this indication and a Phase 1/2 clinical trial in retinal scarring. We initiated our Phase 2 clinical trial for the treatment of cutaneous warts with Samcyprone™ in December 2015. The U.S. Food and Drug Administration ("**FDA**") may require additional information from the Company regarding our current or planned trials at any time, and such information may be costly to provide or cause potentially significant delays in development. There is no assurance that we will be able to successfully develop RXI-109, Samcyprone™ or any other product candidate.

We have no commercial products and currently generate no revenue from commercial sales or collaborations and may never be able to develop marketable products. The FDA or similar foreign governmental agencies must approve our products in development before they can be marketed. The process for obtaining FDA approval is both time-consuming and costly, with no certainty of a successful outcome. Before obtaining regulatory approval for the sale of any drug candidate, we must conduct extensive preclinical tests and successful clinical trials to demonstrate the safety and efficacy of our product candidates in humans. For example, although the results of our Phase 1 clinical trials and preliminary results of our Phase 2 clinical trials of RXI-109 are promising, additional clinical trials will be required to establish the safety and efficacy of RXI-109. While DPCP has been used by physicians for decades, we

have not yet shown safety or efficacy in humans for Samcyprone™ or for any of our other product candidates. A failure of any preclinical study or clinical trial can occur at any stage of testing. The results of preclinical and initial clinical testing of these products may not necessarily indicate the results that will be obtained from later or more extensive testing. Preliminary observations made in early stages of clinical trials with small numbers of subjects are inherently uncertain. Investors are cautioned that initial clinical trial results are not necessarily indicative of results that will be obtained when full data sets are analyzed or in subsequent clinical trials.

A number of different factors could prevent us from obtaining regulatory approval or commercializing our product candidates on a timely basis, or at all.

We, the FDA or other applicable regulatory authorities, or an Institutional Review Board ("**IRB**") may suspend clinical trials of a drug candidate at any time for various reasons, including if we or they believe the subjects participating in such trials are being exposed to unacceptable health risks. Among other reasons, adverse side effects of a drug candidate on subjects in a clinical trial could result in the FDA or other regulatory authorities suspending or terminating the trial and refusing to approve a particular drug candidate for any or all indications of use.

Clinical trials of a new drug candidate require the enrollment of a sufficient number of subjects, including subjects who are suffering from the disease or condition the drug candidate is intended to treat and who meet other eligibility criteria. Rates of subject enrollment are affected by many factors, and delays in subject enrollment can result in increased costs and longer development times.

Clinical trials also require the review and oversight of IRBs, which approve and continually review clinical investigations and protect the rights and welfare of human subjects. An inability or delay in obtaining IRB approval could prevent or delay the initiation and completion of clinical trials, and the FDA may decide not to consider any data or information derived from a clinical investigation not subject to initial and continuing IRB review and approval.

Numerous factors could affect the timing, cost or outcome of our drug development efforts, including the following:

- Delays in filing or acceptance of initial drug applications for our product candidates;
- Difficulty in securing centers to conduct clinical trials;
- Conditions imposed on us by the FDA or comparable foreign authorities regarding the scope or design of our clinical trials;
- Problems in engaging IRBs to oversee trials or problems in obtaining or maintaining IRB approval of studies;
- Difficulty in enrolling subjects in conformity with required protocols or projected timelines;
- Third-party contractors failing to comply with regulatory requirements or to meet their contractual obligations to us in a timely manner;
- Our drug candidates having unexpected and different chemical and pharmacological properties in humans than in laboratory testing and interacting with human biological systems in unforeseen, ineffective or harmful ways;
- The need to suspend or terminate clinical trials if the participants are being exposed to unacceptable health risks;
- Insufficient or inadequate supply or quality of our drug candidates or other necessary materials necessary to conduct our clinical trials;
- Effects of our drug candidates not being the desired effects or including undesirable side effects or the drug candidates having other unexpected characteristics;
- The cost of our clinical trials being greater than we anticipate;
- Negative or inconclusive results from our clinical trials or the clinical trials of others for similar drug candidates or inability to generate statistically significant data confirming the efficacy of the product being tested;

- Changes in the FDA's requirements for testing during the course of that testing;
- Reallocation of our limited financial and other resources to other clinical programs; and
- Adverse results obtained by other companies developing similar drugs.

It is possible that none of the product candidates that we may attempt to develop will obtain the appropriate regulatory approvals necessary to begin selling them or that any regulatory approval to market a product may be subject to limitations on the indicated uses for which we may market the product. The time required to obtain FDA and other approvals is unpredictable, but often can take years following the commencement of clinical trials, depending upon the complexity of the drug candidate. Any analysis we perform of data from clinical activities is subject to confirmation and interpretation by regulatory authorities, which could delay, limit or prevent regulatory approval. Any delay or failure in obtaining required approvals could have a material adverse effect on our ability to generate revenue from the particular drug candidate.

We also are subject to numerous foreign regulatory requirements governing the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement. The foreign regulatory approval process includes all of the risks associated with the FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Approval by the FDA does not assure approval by regulatory authorities outside of the United States.

The approach we are taking to discover and develop novel therapeutics using RNAi is unproven and may never lead to marketable products.

RNA interference is a relatively new scientific discovery. Our RNAi technologies have been subject to only limited clinical testing. To date, no company has received regulatory approval to market therapeutics utilizing RNAi, and a number of clinical trials of RNAi technologies by other companies have been unsuccessful. The scientific evidence to support the feasibility of developing drugs based on these discoveries is both preliminary and limited. To successfully develop RNAi-based products, we must resolve a number of issues, including stabilizing the RNAi material and delivering it into target cells in the human body. We may spend large amounts of money trying to resolve these issues and may never succeed in doing so. In addition, any compounds that we develop may not demonstrate in subjects the chemical and pharmacological properties ascribed to them in laboratory studies, and they may interact with human biological systems in unforeseen, ineffective or even harmful ways.

Samcyprone™ represents a novel approach, topical immunotherapy, to the treatment of skin disorders that presents development challenges to us and may never lead to marketable products.

Although DPCP, the active ingredient in Samcyprone™, has been used by physicians for several decades to stimulate regrowth of hair in patients with alopecia areata and to clear common warts, it has never been reviewed or approved by a regulatory authority as a drug. Other immunomodulatory compounds, such as Imiquimod and Picato®, have been approved for topical use in other indications by the FDA. Our formulation of DPCP, Samcyprone™, has been subject to only limited clinical testing. Further testing may show that Samcyprone™ may interact with human biological systems in unforeseen or ineffective ways. In addition, to successfully develop Samcyprone™ we must resolve a number of development challenges, including developing a consistent process for the safe administration of the product and establishing a consistent manufacturing process in line with the good manufacturing practice regulations. We may spend significant amounts of money to resolve these development challenges and to obtain regulatory approval for Samcyprone™ and may never succeed in doing so.

The FDA could impose a unique regulatory regime for our therapeutics.

The substances we intend to develop may represent a new class of drug, and the FDA has not yet established any definitive policies, practices or guidelines in relation to these drugs. While we expect any product candidates that we develop will be regulated as a new drug under the Federal Food, Drug, and Cosmetic Act, the FDA could decide to regulate them or other products we may develop as biologics under the Public Health Service Act. The lack of policies, practices or guidelines may hinder or slow review by the FDA of any regulatory filings that we may submit. Moreover, the FDA may respond to these submissions by defining requirements that we may not have anticipated.

Even if we receive regulatory approval to market our product candidates, our product candidates may not be accepted commercially, which may prevent us from becoming profitable.

The product candidates that we are developing are based on new technologies and therapeutic approaches. For example, RNAi products may be more expensive to manufacture than traditional small molecule drugs, which may make them more costly than competing small molecule drugs. Additionally, RNAi products do not readily cross the so-called blood brain barrier, are rapidly eliminated from circulating blood and, for various applications, are likely to require injection or implantation, which will make them less convenient to administer than drugs administered orally. Key participants in the pharmaceutical marketplace, such as physicians, medical professionals working in large reference laboratories, public health laboratories and hospitals, third-party payors and consumers may not accept products intended to improve therapeutic results based on our technologies. As a result, it may be more difficult for us to convince the medical community and third-party payors to accept and use our products or to provide favorable reimbursement. If medical professionals working with large reference laboratories, public health laboratories and hospitals choose not to adopt and use our technologies, our products may not achieve broader market acceptance.

Additionally, although we expect that we will have intellectual property protection for our technology, certain governments may elect to deny patent protection for drugs targeting diseases with high unmet medical need (e.g., as in the case of HIV) and allow in their country internationally unauthorized generic competition. If this were to happen, our commercial prospects for developing any such drugs would be substantially diminished in these countries.

We are subject to significant competition and may not be able to compete successfully.

We believe that numerous companies are investigating or plan to investigate a variety of proposed anti-scarring therapies in clinical trials or are working in the RNAi area generally. Many other companies are pursuing non-RNAi-based therapies for one or more fibrotic disease indications, including ocular scarring or other indications that we may seek to pursue. The companies include large and small pharmaceuticals, chemical and biotechnology companies, as well as universities, government agencies and other private and public research organizations.

We do not believe that there are any companies developing treatments directly competing with Samcyprone™ for warts, or for alopecia areata or cutaneous metastases of malignant melanoma. However, there are several treatments for each condition with which Samcyprone™ could potentially compete. For example, current topical medicinal treatments for common warts include salicylic acid, off label use of Imiquimod and Picato® and the most common ablative treatments include removal through medical procedures, such as cryotherapy, surgery or chemical peels.

Most of these competitors have substantially greater research and development capabilities and financial, scientific, technical, manufacturing, marketing, distribution and other resources than we have, and we may not be able to successfully compete with them. In addition, even if we are successful in developing our product candidates, in order to compete successfully we may need to be first to market or to demonstrate that our products are superior to therapies based on different technologies. A number of our competitors have already commenced clinical testing of product candidates and may be more advanced than we are in the process of developing products. If we are not first to market or are unable to demonstrate superiority, any products for which we are able to obtain approval may not be successful.

We are dependent on technologies we license, and if we lose the right to license such technologies or fail to license new technologies in the future, our ability to develop new products would be harmed.

Many patents in the fields we are pursuing have already been exclusively licensed to third parties, including our competitors. If any of our existing licenses are terminated, the development of the products contemplated by the licenses could be delayed or terminated and we may not be able to negotiate additional licenses on acceptable terms, if at all, which would have a material adverse effect on our business.

We may be unable to protect our intellectual property rights licensed from other parties; our intellectual property rights may be inadequate to prevent third parties from using our technologies or developing competing products; and we may need to license additional intellectual property from others.

Therapeutic applications of gene silencing technologies, formulations, delivery methods and other technologies that we license from third parties are claimed in a number of pending patent applications, but there is no assurance that these applications will result

in any issued patents or that those patents would withstand possible legal challenges or protect our technologies from competition. The United States Patent and Trademark Office and patent granting authorities in other countries have upheld stringent standards for the RNAi patents that have been prosecuted so far. Consequently, pending patents that we have licensed and those that we own may continue to experience long and difficult prosecution challenges and may ultimately issue with much narrower claims than those in the pending applications. Third parties may hold or seek to obtain additional patents that could make it more difficult or impossible for us to develop products based on our technologies without obtaining a license to such patents, which licenses may not be available on attractive terms, or at all.

In addition, others may challenge the patents or patent applications that we currently license or may license in the future or that we own and, as a result, these patents could be narrowed, invalidated or rendered unenforceable, which would negatively affect our ability to exclude others from using the technologies described in these patents. There is no assurance that these patent or other pending applications or issued patents we license or that we own will withstand possible legal challenges. Moreover, the laws of some foreign countries may not protect our proprietary rights to the same extent as do the laws of the United States. Any patents issued to us or our licensors may not provide us with any competitive advantages, and there is no assurance that the patents of others will not have an adverse effect on our ability to do business or to continue to use our technologies freely. Our efforts to enforce and maintain our intellectual property rights may not be successful and may result in substantial costs and diversion of management time. Even if our rights are valid, enforceable and broad in scope, competitors may develop products based on technology that is not covered by our licenses or patents or patent applications that we own.

There is no guarantee that future licenses will be available from third parties for our product candidates on timely or satisfactory terms, or at all. To the extent that we are required and are able to obtain multiple licenses from third parties to develop or commercialize a product candidate, the aggregate licensing fees and milestones and royalty payments made to these parties may materially reduce our economic returns or even cause us to abandon development or commercialization of a product candidate.

Our success depends upon our ability to obtain and maintain intellectual property protection for our products and technologies.

The applications based on RNAi technologies claim many different methods, compositions and processes relating to the discovery, development, delivery and commercialization of RNAi therapeutics. Because this field is so new, very few of these patent applications have been fully processed by government patent offices around the world, and there is a great deal of uncertainty about which patents will issue, when, to whom and with what claims. Although we are not aware of any blocking patents or other proprietary rights, it is likely that there will be significant litigation and other proceedings, such as interference and opposition proceedings in various patent offices, relating to patent rights in the RNAi field. It is possible that we may become a party to such proceedings.

We may not be able to obtain sufficient financing and may not be able to develop our product candidates.

We believe that our existing cash, cash equivalents and short-term investments and funding available under our equity line with Lincoln Park Capital Fund, LLC will likely be sufficient to fund our currently planned operations through the first quarter of fiscal 2017. However, in the future, we may need to incur debt or issue equity in order to fund our planned expenditures as well as to make acquisitions and other investments. We cannot assure you that debt or equity financing will be available to us on acceptable terms or at all. If we cannot, or are limited in the ability to, incur debt, issue equity or enter into strategic collaborations, we may be unable to fund the discovery and development of our product candidates, address gaps in our product offerings or improve our technology.

We anticipate that we will need to raise substantial amounts of money to fund a variety of future activities integral to the development of our business, which may include but are not limited to the following:

- To conduct research and development to successfully develop our RNAi and immunotherapy technologies;
- To obtain regulatory approval for our products;
- To file and prosecute patent applications and to defend and assess patents to protect our technologies;

- To retain qualified employees, particularly in light of intense competition for qualified scientists;
- To manufacture products ourselves or through third parties;
- To market our products, either through building our own sales and distribution capabilities or relying on third parties; and
- To acquire new technologies, licenses or products.

We cannot assure you that any needed financing will be available to us on acceptable terms or at all. If we cannot obtain additional financing in the future, our operations may be restricted and we may ultimately be unable to continue to develop and potentially commercialize our product candidates.

Future financing may be obtained through, and future development efforts may be paid for by, the issuance of debt or equity, which may have an adverse effect on our stockholders or may otherwise adversely affect our business.

If we raise funds through the issuance of debt or equity, any debt securities or preferred stock issued will have rights, preferences and privileges senior to those of holders of our common stock in the event of a liquidation. In such event, there is a possibility that once all senior claims are settled, there may be no assets remaining to pay out to the holders of common stock. In addition, if we raise funds through the issuance of additional equity, whether through private placements or public offerings, such an issuance would dilute your ownership in us.

The terms of debt securities may also impose restrictions on our operations, which may include limiting our ability to incur additional indebtedness, to pay dividends on or repurchase our capital stock, or to make certain acquisitions or investments. In addition, we may be subject to covenants requiring us to satisfy certain financial tests and ratios, and our ability to satisfy such covenants may be affected by events outside of our control.

We expect to continue to incur significant research and development expenses, which may make it difficult for us to attain profitability, and may lead to uncertainty as to our ability to continue as a going concern.

We expend substantial funds to develop our RNAi and immunotherapy technologies, and additional substantial funds will be required for further research and development, including preclinical testing and clinical trials of any product candidates, and to manufacture and market any products that are approved for commercial sale. Because the successful development of our products is uncertain, we are unable to precisely estimate the actual funds we will require to develop and potentially commercialize them. In addition, we may not be able to generate enough revenue, even if we are able to commercialize any of our product candidates, to become profitable.

If we are unable to achieve or sustain profitability or to secure additional financing, we may not be able to meet our obligations as they come due, raising substantial doubts as to our ability to continue as a going concern. Any such inability to continue as a going concern may result in our common stockholders losing their entire investment. There is no guarantee that we will become profitable or secure additional financing. Our financial statements contemplate that we will continue as a going concern and do not contain any adjustments that might result if we were unable to continue as a going concern. Changes in our operating plans, our existing and anticipated working capital needs, the acceleration or modification of our expansion plans, increased expenses, potential acquisitions or other events will all affect our ability to continue as a going concern.

We will rely upon third parties for the manufacture of our clinical product candidates.

We do not have the facilities or expertise to manufacture supplies of any of our potential product candidates for clinical trials. Accordingly, we depend on a limited number of manufacturers to obtain supplies and we will need to either develop, contract for, or otherwise arrange for the necessary manufacturers for these supplies. If for any reason we are unable to obtain the supplies for our potential product candidates, we would have to seek to obtain it from another major manufacturer. There is no assurance that we will be able to timely secure needed supply arrangements on satisfactory terms, or at all. Our failure to secure these arrangements as needed could have a material adverse effect on our ability to complete the development of our product candidates or, if we obtain regulatory approval for our product candidates, to commercialize them.

We may not be able to establish or maintain the third-party relationships that are necessary to develop or potentially commercialize some or all of our product candidates.

We expect to depend on collaborators, partners, licensees, clinical research organizations and other third parties to support our discovery efforts, to formulate product candidates, to manufacture our product candidates and to conduct clinical trials for some or all of our product candidates. We cannot guarantee that we will be able to successfully negotiate agreements for or maintain relationships with collaborators, partners, licensees, clinical investigators, vendors and other third parties on favorable terms, if at all. Our ability to successfully negotiate such agreements will depend on, among other things, potential partners' evaluation of the superiority of our technology over competing technologies, the quality of the preclinical and clinical data that we have generated and the perceived risks specific to developing our product candidates. If we are unable to obtain or maintain these agreements, we may not be able to clinically develop, formulate, manufacture, obtain regulatory approvals for or commercialize our product candidates. We cannot necessarily control the amount or timing of resources that our contract partners will devote to our research and development programs, product candidates or potential product candidates, and we cannot guarantee that these parties will fulfill their obligations to us under these arrangements in a timely fashion. We may not be able to readily terminate any such agreements with contract partners even if such contract partners do not fulfill their obligations to us.

We are subject to potential liabilities from clinical testing and future product liability claims.

If any of our future products are alleged to be defective, they may expose us to claims for personal injury by subjects in clinical trials of our products or as a result of our distribution agreement with Ethicor Ltd. If our products are approved by the FDA, users may claim that such products caused unintended adverse effects. We will seek to obtain clinical trial insurance for clinical trials that we conduct, as well as liability insurance for any products that we market. There is no assurance that we will be able to obtain insurance in the amounts we seek, or at all. We anticipate that licensees who develop our products will carry liability insurance covering the clinical testing and marketing of those products. There is no assurance, however, that any insurance maintained by us or our licensees will prove adequate in the event of a claim against us. Even if claims asserted against us are unsuccessful, they may divert management's attention from our operations and we may have to incur substantial costs to defend such claims.

Any drugs we develop may become subject to unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives, which could have a material adverse effect on our business.

If approved, we intend to sell our products to physicians, plastic surgeons and dermatologists, as well as hospitals, oncologists and clinics that receive reimbursement for the healthcare services they provide to their patients from third-party payors, such as Medicare, Medicaid and other domestic and international government programs, private insurance plans and managed care programs. Most third-party payors may deny reimbursement if they determine that a medical product was not used in accordance with cost-effective treatment methods, as determined by the third-party payor, was used for an unapproved indication or if they believe the cost of the product outweighs its benefits. Third-party payors also may refuse to reimburse for experimental procedures and devices. Furthermore, because our programs are still in development, we are unable at this time to determine their cost-effectiveness and the level or method of reimbursement for them. Increasingly, the third-party payors who reimburse patients are requiring that drug companies provide them with predetermined discounts from list prices, and are challenging the prices charged for medical products. If the price we are able to charge for any products we develop is inadequate in light of our development and other costs, our profitability could be adversely affected.

We currently expect that any drugs we develop may need to be administered under the supervision of a physician. Under currently applicable law, drugs that are not usually self-administered may be eligible for coverage by the Medicare program if:

- They are "incidental" to a physician's services;
- They are "reasonable and necessary" for the diagnosis or treatment of the illness or injury for which they are administered according to accepted standard of medical practice;
- They are not excluded as immunizations; and
- They have been approved by the FDA.

Insurers may refuse to provide insurance coverage for newly approved drugs, or insurance coverage may be delayed or be more limited than the purpose for which the drugs are approved by the FDA. Moreover, eligibility for insurance coverage does not imply that any drug will be reimbursed in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution. Interim payments for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement may be based on payments for other services and may reflect budgetary constraints or imperfections in Medicare data. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement rates. Our inability to promptly obtain coverage and profitable reimbursement rates from both government-funded and private payors for new drugs that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to develop products and our overall financial condition.

Additionally, third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for medical products and services. Levels of reimbursement may decrease in the future, and future legislation, regulation or reimbursement policies of third-party payors may adversely affect the demand for and price levels of our products. If our customers are not reimbursed for our products, they may reduce or discontinue purchases of our products, which could have a material adverse effect on our business, financial condition and results of operations.

Comprehensive healthcare reform legislation, which became law in 2010, could adversely affect our business and financial condition. Among other provisions, the legislation provides that a "biosimilar" product may be approved by the FDA on the basis of analytical tests and certain clinical studies demonstrating that such product is highly similar to an existing, approved product and that switching between an existing product and the biosimilar product will not result in diminished safety or efficacy. This abbreviated regulatory approval process may result in increased competition if we are able to bring a product to market. The legislation also includes more stringent compliance programs for companies in various sectors of the life sciences industry with which we may need to comply and enhanced penalties for non-compliance with the new healthcare regulations. Complying with new regulations may divert management resources, and inadvertent failure to comply with new regulations may result in penalties being imposed on us.

Some states and localities have established drug importation programs for their citizens, and federal drug import legislation has been introduced in Congress. The Medicare Prescription Drug Plan legislation, which became law in 2003, required the Secretary of Health and Human Services to promulgate regulations for drug reimportation from Canada into the United States under some circumstances, including when the drugs are sold at a lower price than in the United States. The Secretary, however, retained the discretion not to implement a drug reimportation plan if the Secretary finds that the benefits do not outweigh the costs, and has so far declined to approve a reimportation plan. Proponents of drug reimportation may attempt to pass legislation that would directly allow reimportation under certain circumstances. Legislation or regulations allowing the reimportation of drugs, if enacted, could decrease the price we receive for any products that we may develop and adversely affect our future revenues and prospects for profitability.

Even if we obtain regulatory approvals, our marketed drugs will be subject to ongoing regulatory review. If we fail to comply with continuing U.S. and foreign regulations, we could lose our approvals to market drugs and our business would be materially and adversely affected.

Following regulatory approval of any drugs we may develop, we will remain subject to continuing regulatory review, including the review of adverse drug experiences and clinical results that are reported after our drug products are made available to patients. This would include results from any post-marketing tests or vigilance required as a condition of approval. The manufacturer and manufacturing facilities we use to make any of our drug products will also be subject to periodic review and inspection by the FDA. The discovery of any new or previously unknown problems with the product, manufacturer or facility may result in restrictions on the drug or manufacturer or facility, including withdrawal of the drug from the market. We would continue to be subject to the FDA requirements governing the labeling, packaging, storage, advertising, promotion, recordkeeping and submission of safety and other post-market information for all of our product candidates, even those that the FDA had approved. If we fail to comply with applicable continuing regulatory requirements, we may be subject to fines, suspension or withdrawal of regulatory approval, product recalls and seizures, operating restrictions and other adverse consequences.

If we fail to attract, hire and retain qualified personnel, we may not be able to design, develop, market or sell our products or successfully manage our business.

Our business prospects are dependent on our management team and all of our employees. The loss of any of our key employees, including Drs. Cauwenbergh and Pavco, who serve as our Chief Executive Officer and our Chief Development Officer, respectively, or our inability to identify, attract, retain and integrate additional qualified key personnel, could make it difficult for us to manage our business successfully and achieve our business objectives.

Competition for skilled research, product development, regulatory and technical personnel is intense, and we may not be able to recruit and retain the personnel we need. The loss of the services of any key research, product development, regulatory and technical personnel, or our inability to hire new personnel with the requisite skills, could restrict our ability to develop our product candidates.

Risks Relating to Our Common Stock

The price of our common stock has been and may continue to be volatile.

The stock markets, in general, and the markets for drug delivery and pharmaceutical company stocks, in particular, have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. These broad market fluctuations may adversely affect the trading price of our common stock. In addition, the limited trading volume of our stock may contribute to its volatility.

In the past, following periods of volatility in the market price of a particular company's securities, litigation has often been brought against that company. If litigation of this type is brought against us, it could be extremely expensive and divert management's attention and the Company's resources.

We may not be able to regain compliance with the continued listing requirements of The Nasdaq Capital Market.

On May 7, 2015, we received written notice (the "**Notification Letter**") from the Nasdaq Stock Market ("**Nasdaq**") notifying us that we are not in compliance with the minimum bid price requirements set forth in Nasdaq Listing Rule 5550(a)(2) for continued listing on The Nasdaq Capital Market. Nasdaq Listing Rule 5550(a)(2) requires listed securities to maintain a minimum bid price of $1.00 per share, and Listing Rule 5810(c)(3)(A) provides that a failure to meet the minimum bid price requirement exists if the deficiency continues for a period of 30 consecutive business days. Based on the closing bid price of our common stock for the 30 consecutive business days prior to the date of the Notification Letter, we no longer meet the minimum bid price requirement. The Notification Letter provided an initial 180-day period to regain compliance, which was extended for a second 180-day period on November 4, 2015. As a result of the extension, we have until May 2, 2016 to regain compliance by maintaining a closing bid price of at least $1.00 per share for a minimum of 10 consecutive business days. In the event that we do not regain compliance by that date, Nasdaq may commence delisting proceedings and our common stock will trade, if at all, on the over-the counter market, such as the OTC Bulletin Board or OTCQX market, which could adversely impact us by, among other things, reducing the liquidity and market price of our common stock; reducing the number of investors willing to hold or acquire our common stock; limiting our ability to issue additional securities in the future; and limiting our ability to fund our operations.

We have issued preferred stock in the past and possibly may issue more preferred stock in the future, and the terms of the preferred stock may reduce the value of our common stock.

We are authorized to issue up to 10,000,000 shares of preferred stock in one or more series. Our Board of Directors may determine the terms of future preferred stock offerings without further action by our stockholders. The issuance of our preferred stock could affect your rights or reduce the value of our outstanding common stock. In particular, rights granted to holders of preferred stock may include voting rights, preferences as to dividends and liquidation, conversion and redemption rights and restrictions on our ability to merge with or sell our assets to a third party.

We may acquire other businesses or form joint ventures that may be unsuccessful and could dilute your ownership interest in the Company.

As part of our business strategy, we may pursue future acquisitions of other complementary businesses and technology licensing arrangements. We also may pursue strategic alliances. We have no experience with respect to acquiring other companies and limited experience with respect to the formation of collaborations, strategic alliances and joint ventures. We may not be able to integrate such acquisitions successfully into our existing business, and we could assume unknown or contingent liabilities. We also could experience adverse effects on our reported results of operations from acquisition related charges, amortization of acquired technology and other intangibles and impairment charges relating to write-offs of goodwill and other intangible assets from time to time following the acquisition. Integration of an acquired company requires management resources that otherwise would be available for ongoing development of our existing business. We may not realize the anticipated benefits of any acquisition, technology license or strategic alliance.

To finance future acquisitions, we may choose to issue shares of our common stock or preferred stock as consideration, which would dilute your ownership interest in us. Alternatively, it may be necessary for us to raise additional funds through public or private financings. Additional funds may not be available on terms that are favorable to us and, in the case of equity financings, may result in dilution to our stockholders. Any future acquisitions by us also could result in large and immediate write-offs, the incurrence of contingent liabilities or amortization of expenses related to acquired intangible assets, any of which could harm our operating results.

We do not anticipate paying cash dividends in the foreseeable future.

Our business requires significant funding. We currently plan to invest all available funds and future earnings in the development and growth of our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future. As a result, capital appreciation, if any, of our common stock will be your sole source of potential gain for the foreseeable future.

Provisions of our certificate of incorporation and bylaws and Delaware law might discourage, delay or prevent a change of control of the Company or changes in our management and, as a result, depress the trading price of our common stock.

Our certificate of incorporation and bylaws contain provisions that could discourage, delay or prevent a change of control of the Company or changes in our management that the stockholders of the Company may deem advantageous. These provisions:

- Authorize the issuance of "blank check" preferred stock that our Board of Directors could issue to increase the number of outstanding shares and to discourage a takeover attempt;
- Prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- Provide that the Board of Directors is expressly authorized to adopt, alter or repeal our bylaws; and
- Establish advance notice requirements for nominations for election to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

Although we believe these provisions collectively provide for an opportunity to receive higher bids by requiring potential acquirers to negotiate with our Board of Directors, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management team by making it more difficult for stockholders to replace members of our Board of Directors, which is responsible for appointing the members of our management.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

ITEM 1B. *UNRESOLVED STAFF COMMENTS*

None.

ITEM 2. *PROPERTIES*

On December 17, 2013, we entered into a lease (the "**Lease**") with 257 Simarano Drive, LLC, Brighton Properties, LLC, Robert Stubblebine 1, LLC and Robert Stubblebine 2, LLC to lease office and laboratory space in the building known as the "Main Building" located at 257 Simarano Drive, Marlborough, Massachusetts, covering approximately 7,581 square feet. The premises are used by the Company for office and laboratory space. The term of the Lease commenced on April 1, 2014 and continues for five years, expiring on March 31, 2019. The base rent for the premises during the first year of the Lease is $107,709.50 per annum, payable monthly. Each year thereafter, the base rent shall increase by approximately 3% over the base rent from the prior year.

We believe that our facilities are suitable for our current and future needs.

ITEM 3. *LEGAL PROCEEDINGS*

Although we are not currently involved in any legal proceedings, from time to time, we may become a party to various legal actions and complaints arising in the ordinary course of business.

ITEM 4. *MINE SAFETY DISCLOSURES*

Not applicable.

PART II.

ITEM 5. *MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES*

Market Information

Our common stock is listed on the NASDAQ Capital Market under the symbol "RXII." The following table shows the high and low per share sale prices of our common stock for the periods indicated:

	High	Low
2014		
First Quarter	$6.84	$2.82
Second Quarter	4.44	2.60
Third Quarter	3.98	1.93
Fourth Quarter	2.30	1.40
2015		
First Quarter	$1.73	$0.69
Second Quarter	0.87	0.34
Third Quarter	0.55	0.35
Fourth Quarter	0.65	0.36

Holders

At March 15, 2016, there were approximately 167 holders of record of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of individual stockholders represented by these holders of record.

Dividends

We have never paid any cash dividends and do not anticipate paying any cash dividends on our common stock in the foreseeable future. We expect to retain future earnings, if any, for use in our development activities and the operation of our business. The payment of any future dividends will be subject to the discretion of our Board of Directors and will depend, among other things, upon our results of operations, financial condition, cash requirements, prospects and other factors that our Board of Directors may deem relevant.

Securities Authorized for Issuance Under Equity Compensation Plans

The following tables provides information, as of December 31, 2015, about the securities authorized for issuance under our equity compensation plans, which consisted of our 2012 Long Term Incentive Plan and our 2013 Employee Stock Purchase Plan:

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in First Column)
Equity compensation plans approved by security holders	3,323,761	$ 3.05	1,674,246
Equity compensation plans not approved by security holders	—	—	—
Total	3,323,761	$ 3.05	1,674,246

Recent Sales of Unregistered Sales of Securities

No sales or issues of unregistered securities occurred that have not previously been disclosed in a Quarterly Report on Form 10-Q or in a Current Report on Form 8-K.

Purchases of Equity Securities by the Issuer and Affiliated Purchases

We did not repurchase any shares of our common stock during the years ended December 31, 2015 and 2014.

ITEM 6. *SELECTED FINANCIAL DATA*

As a smaller reporting company, we are not required to provide this information.

ITEM 7. *MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS*

The following discussion of our financial condition and results of operations should be read in conjunction with our financial statements and the notes to those financial statements included in Item 8 of this Annual Report on Form 10-K. This discussion contains forward-looking statements that involve significant risks and uncertainties. As a result of many factors, such as those set forth under "Risk Factors" and elsewhere in this Annual Report on Form 10-K, our actual results may differ materially from those anticipated in these forward-looking statements. Please refer to the discussion under the heading "Forward-Looking Statements" above.

Overview

RXi Pharmaceuticals Corporation ("**RXi**," "**we**," "**our**" or the "**Company**") is a clinical-stage RNAi company developing innovative therapeutics in dermatology and ophthalmology that address significant unmet medical needs. Our development programs

are based on our proprietary self-delivering RNAi (sd-rxRNA®) platform and Samcyprone™, a topical immunomodulator. Our clinical development programs include, but are not limited to, RXI-109, an sd-rxRNA for the treatment of dermal and ocular scarring, and Samcyprone™ for the treatment of such disorders as warts, alopecia areata, non-malignant skin tumors and cutaneous metastases of melanoma. In addition to these clinical programs, we have a pipeline of discovery and preclinical product candidates in our core therapeutic areas, as well as in other areas of interest. The Company's pipeline, coupled with our extensive patent portfolio, provides for product and business development opportunities across a broad spectrum of therapeutic areas.

Our RNAi therapies are designed to "silence," or down-regulate, the expression of a specific gene that may be over-expressed in a disease condition. The Company's first RNAi clinical product candidate, RXI-109, is a self-delivering RNAi compound (sd-rxRNA) that commenced human clinical trials in 2012. RXI-109 is designed to reduce the expression of connective tissue growth factor ("**CTGF**"), a critical regulator of several biological pathways involved in fibrosis, including scar formation in the skin. RXI-109 is currently being evaluated in a Phase 2 clinical trial to prevent or reduce dermal scarring following surgery or trauma.

In December 2014, the Company broadened its clinical pipeline with an exclusive, global license to Samcyprone™, our second clinical candidate. Samcyprone™ is a proprietary topical formulation of diphenylcyclopropenone ("**DPCP**"), an immunomodulator that works by initiating a T-cell response, and is currently being developed for the treatment of skin disorders such as warts, alopecia areata, non-malignant skin tumors and cutaneous metastases of melanoma. The use of Samcyprone™ allows sensitization using much lower concentrations of DPCP than are used with existing compounded DPCP solutions, avoiding hyper-sensitization to subsequent challenge doses. In March 2015, the Company was granted Orphan Drug Designation by the U.S. Food and Drug Administration for Samcyprone™ for the treatment of malignant melanoma stage IIb to IV. The Company initiated a Phase 2a clinical trial for the treatment of cutaneous warts with Samcyprone™ in December 2015.

The Company is also directing its development efforts toward advancing RXI-109 forward for the treatment of an ophthalmic indication, of which our current areas of focus include retinal and corneal scarring. To date, we have shown that CTGF protein levels are reduced in a dose-dependent manner in both the retina and cornea following an intravitreal injection of RXI-109 in monkeys. The Company holds an active investigational new drug application ("**IND**") for RXI-109 as a potential therapeutic for the scarring component of retinal diseases in the eye, such as wet age-related macular degeneration, and commenced a Phase 1/2 clinical trial for this indication in November 2015.

The Company continues to advance additional preclinical and discovery programs using our sd-rxRNA technology. In particular, within our dermatology program, the Company has selected collagenase ("**MMP1**") and tyrosinase ("**TYR**") as gene targets for our self-delivering RNAi platform. MMP1 is a matrix metalloproteinase involved in the breakdown of extracellular matrix. Reduction of MMP1 may be beneficial in the treatment of skin aging disorders, arthritis, acne scarring, blistering skin disorders, corneal erosions, endometriosis and possible cancer metastasis. TYR is a key enzyme in the synthesis of melanin. Melanin is produced by melanocytes and is the pigment that gives human skin, hair and eyes their color. The inhibition of tyrosinase can play a key role in the management of diseases including cutaneous hyperpigmentation disorders such as lentigines (freckles, age spots and liver spots) and possibly melanoma. The Company is actively evaluating similar sd-rxRNA compounds that target MMP1 and TYR for possible therapeutic development.

In October 2015, the Company announced the selection of lead compounds targeting MMP1 and TYR for cosmetic development. RXI-185, an sd-rxRNA compound targeting MMP1, and RXI-231, an sd-rxRNA compound targeting TYR, are being developed as cosmetic ingredients that may improve skin appearance. These targets, MMP1 and TYR, were selected because they have great potential as both clinically relevant pharmaceutical gene targets as well as cosmetic targets. The Company's next steps in cosmetic development include plans to complete functional and safety testing for both compounds, as well as to develop a method for skin penetration that would be compatible with our compounds.

On June 2, 2015, we sold 26,000,000 units in a public offering at a price of $0.40 per unit (the "**Offering**"). Each unit consists of one share of common stock, a 13-month overallotment purchase right to purchase one-half of one share of common stock at a price of $0.455 per full share of common stock (the "**Overallotment Purchase Rights**") and a five-year warrant to purchase one-half of one share of common stock at a price of $0.52 per full share of common stock (the "**Warrants**"). As a result of the Offering, the Company received gross proceeds of approximately $10.4 million and net proceeds of approximately $9.2 million after placement agent fees and estimated Offering expenses, and assuming the Overallotment Purchase Rights and Warrants are not exercised.

On November 6, 2015, the Company filed a Certificate Eliminating the Series A convertible preferred stock ("**Series A Preferred Stock**") from the Certificate of Incorporation of the Company and a Certificate Eliminating the Series A-1 convertible preferred stock ("**Series A-1 Preferred Stock**") from the Certificate of Incorporation of the Company with the Secretary of State of the State of Delaware, in order to eliminate from the Charter all matters set forth in the Charter, including the related certificates of designation and increase, relating to the previously issued series of preferred stock of the Company. As a result, the 15,000 shares of unissued Series A Preferred Stock and 10,000 shares of unissued Series A-1 Preferred Stock were returned to the status of authorized but unissued shares of preferred stock of the Company, without designation as to series or preferences or rights.

Since inception, we have incurred significant losses. Substantially all of our losses to date have resulted from research and development expenses in connection with our clinical and research programs and from general administrative costs. At December 31, 2015, we had an accumulated deficit of $57.1 million. We expect to continue to incur significant losses for the foreseeable future, particularly as we advance our development program for RXI-109 in dermatology and ophthalmology and commence human clinical trials with Samcyprone™.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations is based upon our financial statements, which have been prepared in accordance with United States generally accepted accounting principles ("**GAAP**"). The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to the impairment of long-lived assets, certain accrued expenses and stock-based compensation. We base our estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions and could have a material impact on our reported results. While our significant accounting policies are more fully described in the Notes to our financial statements included elsewhere in this Annual Report on Form 10-K, we believe the following accounting policies to be the most critical in understanding the judgments and estimates we use in preparing our financial statements.

Research and Development Expenses

Research and development costs are charged to expense as incurred and relate to salaries, employee benefits, facility-related expenses, supplies, stock-based compensation related to employees and non-employees involved in the Company's research and development, external services, other operating costs and overhead related to our research and development departments, costs to acquire technology licenses and expenses associated with preclinical activities and our clinical trials. Payments made by the Company in advance for research and development services not yet provided and/or for materials not yet received are recorded as prepaid expenses. Accrued liabilities are recorded related to those expenses for which vendors have not yet billed us with respect to services provided and/or materials that we have received.

Preclinical and clinical trial expenses relate to third-party services, subject-related fees at the sites where our clinical trials are being conducted, laboratory costs, analysis costs, toxicology studies and investigator fees. Costs associated with these expenses are generally payable upon the passage of time or when certain milestones are achieved. Expense is recorded during the period incurred or in the period in which a milestone is achieved. In order to ensure that we have adequately provided for preclinical and clinical expenses during the proper period, we maintain an accrual to cover these expenses. These accruals are assessed on a quarterly basis and are based on such assumptions as expected total cost, the number of subjects and clinical trial sites and length of the study. Actual results may differ from these estimates and could have a material impact on our reported results. Our historical accrual estimates have not been materially different from our actual costs.

Stock-based Compensation

We follow the provisions of Financial Accounting Standards Board ("**FASB**") Accounting Standards Codification ("**ASC**") Topic 718, "*Compensation – Stock Compensation*" ("**ASC 718**"), which requires the measurement and recognition of compensation expense for all stock-based payment awards made to employees, officers and non-employee directors, including stock options. Stock compensation expense based on the grant date fair value estimated in accordance with the provisions of ASC 718 is recognized as an expense over the requisite service period. Determining the amount of stock-based compensation to be recorded requires us to develop highly subjective estimates to be used in calculating the grant-date fair value of stock options. We use the Black-Scholes option pricing model to value our option grants and determine the related compensation expense. The use of the model requires us to make estimates of the following assumptions:

Expected volatility — Due to our limited trading history, we are responsible for estimating volatility and currently use the expected volatilities of similar entities. We have considered a number of factors in making our determination as to entities that are considered similar, such as the industry, stage of development, size of the company, and financial leverage.

Expected term — We use the simplified method to estimate the expected term assumption. The simplified method is based on the vesting period and the contractual term for each grant, or for each vesting-tranche for awards with graded vesting.

Risk-free interest rate — The yield on zero-coupon U.S. Treasury securities for a period that is commensurate with the expected term assumption is used as the risk-free interest rate.

Dividend yield — We utilize a dividend yield of zero based on the fact that we have never paid cash dividends and currently have no intention to pay cash dividends.

For stock options granted as consideration for services rendered by non-employees, the Company recognizes compensation expense in accordance with the requirements of FASB ASC Topic 505-50, "*Equity Based Payments to Non-Employees."* Non-employee option grants that do not vest immediately upon grant are recorded as an expense over the requisite service period of the underlying stock options. At the end of each financial reporting period prior to vesting, the value of these options, as calculated using the Black-Scholes option-pricing model, will be re-measured using the fair value of the Company's common stock and the non-cash compensation recognized during the period will be adjusted accordingly. Since the fair value of options granted to non-employees is subject to change in the future, the amount of the future compensation expense will include fair value re-measurements until the stock options are fully vested.

Derivative Financial Instruments

During the normal course of business we may issue warrants to vendors as consideration to perform services. We may also issue warrants as part of a debt of equity financing. Warrants and other derivative financial instruments are accounted for either as equity or as an asset or liability, depending on the characteristics of each derivative financial instrument. Warrants classified as equity are measured at fair value and recorded as additional paid in capital in stockholders' equity at the date of issuance. No further adjustments to their valuation are made. Derivative financial instruments classified as an asset or liability are measured at fair value on the issuance date and are revalued on each subsequent balance sheet date. The changes in the fair value are recognized as current period income or loss.

The Overallotment Purchase Rights and Warrants issued by the Company during the year ended December 31, 2015 in connection with the Offering were assessed and classified as stockholders' equity. The Company did not issue warrants or any other derivative financial instruments during the year ended December 31, 2014.

Results of Operations

The following data summarizes our results of operations for the following periods indicated, in thousands:

	For the Years Ended December 31,	
	2015	2014
Revenue	$ 34	$ 71
Operating expenses	(10,271)	(8,897)
Operating loss	(10,237)	(8,826)
Net loss	(10,223)	(8,800)
Net loss applicable to common stockholders	(10,432)	(12,930)

Comparison of the Years Ended December 31, 2015 and 2014

Revenue

To date, we've generated revenue through government grants. The following table summarizes our total revenues from government grants, for the periods indicated, in thousands:

	For the Years Ended December 31,	
	2015	2014
Revenue	$ 34	$ 71

Total revenues were approximately $34,000 for the year ended December 31, 2015, compared with $71,000 for the year ended December 31, 2014. The decrease of $37,000, or 52%, was due to the completion of work on the Company's outstanding government grant during the first quarter of 2015.

Operating Expenses

The following table summarizes our total operating expenses, for the periods indicated, in thousands:

	For the Years Ended December 31,	
	2015	2014
Research and development expenses	$ 6,925	$ 5,680
General and administrative expenses	3,346	3,217
Total operating expenses	$ 10,271	$ 8,897

Research and Development Expenses

Research and development expenses consist of compensation-related costs for our employees dedicated to research and development activities, fees related to our Scientific Advisory Board members, expenses related to our ongoing research and development efforts primarily related to our clinical trials, drug manufacturing, outside contract services, licensing and patent fees and laboratory supplies and services for our research programs. We expect research and development expenses to increase as we expand our discovery, preclinical and clinical activities.

Total research and development expense was approximately $6,925,000 for the year ended December 31, 2015, compared with $5,680,000 for the year ended December 31, 2014. The increase of $1,245,000, or 22%, was due to an increase of $1,449,000 in research and development expense primarily related to the drug manufacturing expense related to the manufacture of RXI-109 and Samcyprone™ drug product during the year for use in the Company's clinical trials as compared with the prior year. In addition, research and development expense increased due to research performed for the selection of our cosmetic targets and topical delivery applications for their use, as well as increases in employee-related expense due to the hire of new employees. The increase in research and development expense was offset by $204,000 in stock-based compensation due to a decrease in the valuation of stock options granted as compared to the prior year.

General and Administrative Expenses

General and administrative expenses consist primarily of compensation-related costs for our employees dedicated to general and administrative activities, legal fees, audit and tax fees, consultants, professional services and general corporate expenses.

General and administrative expense was approximately $3,346,000 for the year ended December 31, 2015, compared with $3,217,000 for the year ended December 31, 2014. The increase of $129,000, or 4%, was primarily due to an increase of $236,000 in general and administrative expenses primarily due to an increase in compensation expense, as well as professional services expense, due to the Company's focus on business development activities as one of its key corporate initiatives, offset by a decrease of $107,000 in employee stock-based compensation expense.

Series A and Series A-1 Preferred Stock Dividends

The following table summarizes our Series A and Series A-1 Preferred Stock transactions for the periods indicated, in thousands:

	For the Years Ended December 31,	
	2015	2014
Series A and Series A-1 Preferred Stock Dividends	$ 209	$ 4,130

Total Series A and Series A-1 Preferred Stock dividends were approximately $209,000 for the year ended December 31, 2015, compared with $4,130,000 for the year ended December 31, 2014. The decrease of $3,921,000, or 95%, was due to a decrease in the Company's common stock price on the dividend payment dates, the number of preferred shares earning dividends each quarter and the full conversion of the Series A and Series A-1 Preferred Stock during the quarter ended June 30, 2015, resulting in no further accumulation and payment of dividends on these series of preferred stock.

No shares of the Series A and Series A-1 Preferred Stock remained outstanding at December 31, 2015, as all outstanding shares of Series A and Series A-1 Preferred Stock were converted into common stock on May 27, 2015. On November 6, 2015, the Company filed the Certificates of Elimination with respect to the Series A and Series A-1 Preferred Stock, as described further in Item 8.

Liquidity and Capital Resources

We had cash, cash equivalents and short-term investments of approximately $10.6 million as of December 31, 2015, compared with cash and cash equivalents of approximately $8.5 million as of December 31, 2014.

On June 2, 2015, we sold 26,000,000 units in the Offering. Each unit consists of one share of common stock, an Overallotment Purchase Right and a Warrant. As a result of the Offering, the Company received gross proceeds of approximately $10,400,000 and net proceeds of approximately $9,200,000 after placement agent fees and estimated Offering expenses, and assuming the Overallotment Purchase Rights and Warrants are not exercised.

On December 18, 2014, the Company entered into a purchase agreement (the "**Purchase Agreement**") with Lincoln Park Capital Fund, LLC ("**LPC**"), pursuant to which the Company has the right to sell to LPC up to $10,800,000 in shares of the Company's common stock, subject to certain limitations and conditions set forth in the Purchase Agreement. During the year ended December 31, 2015, the Company sold a total of 50,000 shares of common stock to LPC for net proceeds of approximately $64,000 pursuant to and subject to the limitations and conditions set forth in the Purchase Agreement. There have been no other sales made to date under the Purchase Agreement. Per the terms of the Offering, the Company cannot access the equity line until the expiration of the Overallotment Purchase Rights.

We believe that our existing cash, cash equivalents and short-term investments, along with our equity facility with LPC, should be sufficient to fund our operations into at least the first quarter of fiscal 2017. We have generated significant losses to date, have not generated any product revenue to date and may not generate product revenue in the foreseeable future, or ever. We expect to incur significant operating losses as we advance our product candidates through the drug development and regulatory process. In the future, we will be dependent on obtaining funding from third parties, such as proceeds from the issuance of debt, sale of equity, funded research and development programs and payments under partnership and collaborative research and business development agreements, in order to maintain our operations and meet our obligations to licensors. There is no guarantee that debt, additional equity or other funding will be available to us on acceptable terms, or at all. If we fail to obtain additional funding when needed, we would be forced to scale back or terminate our operations or to seek to merge with or to be acquired by another company.

The following table summarizes our cash flows for the periods indicated, in thousands:

	For the Years Ended December 31,	
	2015	2014
Net cash used in operating activities	$(7,317)	$(7,758)
Net cash (used in) provided by investing activities	(5,557)	2,917
Net cash provided by financing activities	9,495	1,947
Net decrease in cash and cash equivalents	$(3,379)	$(2,894)

Net Cash Flow from Operating Activities

Net cash used in operating activities was $7,317,000 for the year ended December 31, 2015 compared with $7,758,000 for the year ended December 31, 2014. The decrease in cash used in operating activities was primarily due changes in working capital of $1,947,000 partially offset by an increase in net loss of $1,423,000.

Net Cash Flow from Investing Activities

Net cash used in investing activities was $5,557,000 for the year ended December 31, 2015 compared with net cash provided by investing activities of $2,917,000 for the year ended December 31, 2014. Net cash used in and provided by investing activities primarily relates to net purchases of short-term investments and purchases of property and equipment.

Net Cash Flow from Financing Activities

Net cash provided by financing activities was $9,495,000 for the year ended December 31, 2015 compared with $1,947,000 for the year ended December 31, 2014. Net cash provided by financing activities in 2015 was primarily due to net proceeds of $9,266,000 received in connection with the Offering and from the issuance of common stock to LPC pursuant to the Purchase Agreement and proceeds of $198,000 from the issuance of common stock upon the exercise of warrants. Net cash provided by financing activities in 2014 was primarily due to net proceeds of $1,886,000 from the issuance of common stock to LPC.

Off-Balance Sheet Arrangements

In connection with certain license agreements, we are required to indemnify the licensor for certain damages arising in connection with the intellectual property rights licensed under the agreement. In addition, we are a party to a number of agreements entered into in the ordinary course of business that contain typical provisions that obligate us to indemnify the other parties to such agreements upon the occurrence of certain events. These indemnification obligations are considered off-balance sheet arrangements in accordance with ASC Topic 460, "*Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*." To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our financial statements. See Note 6 to our financial statements for further discussion of these indemnification agreements.

ITEM 7A. ***QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK***

As a smaller reporting company, we are not required to provide this information.

ITEM 8. ***FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA***

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
RXi Pharmaceuticals Corporation
Marlborough, Massachusetts

We have audited the accompanying balance sheets of RXi Pharmaceuticals Corporation (the "Company") as of December 31, 2015 and 2014, and the related statements of operations, convertible preferred stock and stockholders' equity and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company at December 31, 2015 and 2014 and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

/s/ BDO USA, LLP

Boston, Massachusetts
March 30, 2016

RXi PHARMACEUTICALS CORPORATION
BALANCE SHEETS
(Amounts in thousands, except share data)

	Years Ended December 31,	
	2015	**2014**
ASSETS		
Current assets:		
Cash and cash equivalents	$ 5,117	$ 8,496
Restricted cash	50	50
Short-term investments	5,500	—
Prepaid expenses	311	442
Total current assets	10,978	8,988
Property and equipment, net of accumulated depreciation of $778 and $702, in 2015 and 2014, respectively	163	183
Other assets	18	18
Total assets	$ 11,159	$ 9,189
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,163	$ 285
Accrued expenses	1,106	1,002
Deferred revenue	—	47
Total current liabilities	2,269	1,334
Commitments and contingencies (Note 6)		
Convertible preferred stock:		
Series A convertible preferred stock, $0.0001 par value, no shares authorized, issued or outstanding at December 31, 2015; 15,000 shares authorized and 5,110 shares issued and outstanding at December 31, 2014 (at liquidation value)	—	5,110
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 authorized		
Series A-1 convertible preferred stock, $0.0001 par value, no shares authorized, issued or outstanding at December 31, 2015; 10,000 shares authorized and 1,578 shares issued and outstanding at December 31, 2014 (at liquidation value)	—	1,578
Common stock, $0.0001 par value, 100,000,000 shares authorized; 65,349,121 and 21,984,272 shares issued and outstanding at December 31, 2015 and 2014, respectively	7	2
Additional paid-in capital	65,988	48,047
Accumulated deficit	(57,105)	(46,882)
Total stockholders' equity	8,890	2,745
Total liabilities, convertible preferred stock and stockholders' equity	$ 11,159	$ 9,189

See accompanying notes to financial statements.

RXi PHARMACEUTICALS CORPORATION
STATEMENTS OF OPERATIONS
(Amounts in thousands, except share and per share data)

	Years Ended December 31,	
	2015	2014
Revenue	$ 34	$ 71
Operating expenses:		
Research and development expenses (1)	6,925	5,680
General and administrative expenses (1)	3,346	3,217
Total operating expenses	10,271	8,897
Operating loss	(10,237)	(8,826)
Other income:		
Interest income, net	16	17
Other income (expense), net	(2)	9
Total other income	14	26
Loss before income taxes	(10,223)	(8,800)
Provision for income taxes	—	—
Net loss	(10,223)	(8,800)
Series A and A-1 convertible preferred stock dividends	(209)	(4,130)
Net loss applicable to common stockholders	$ (10,432)	$ (12,930)
Net loss per common share applicable to common stockholders:		
Basic and diluted	$ (0.21)	$ (0.79)
Weighted average common shares: basic and diluted	49,703,822	16,362,905
(1) Non-cash stock-based compensation expenses included in operating expenses are as follows:		
Research and development	$ 632	$ 836
General and administrative	903	1,010

See accompanying notes to financial statements.

RXi PHARMACEUTICALS CORPORATION
STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(Amounts in thousands, except share data)

	Series A Convertible Preferred Stock		Series A-1 Convertible Preferred Stock		Common Stock		Additional Paid-in	Accumulated	
	Shares Issued	Amount	Shares Issued	Amount	Shares Issued	Amount	Capital	Deficit	Total
Balance at December 31, 2013	7,920	$ 7,920	2,054	$ 2,054	11,788,045	$ 1	$ 40,969	$ (38,082)	$ 4,942
Issuance of common stock under Lincoln Park Capital, LLC purchase agreement, net of offering costs of $114	—	—	—	—	700,000	—	1,886	—	1,886
Issuance of common stock under employee stock purchase plan	—	—	—	—	32,515	—	61	—	61
Stock-based compensation expense	—	—	—	—	—	—	1,846	—	1,846
Dividends issued on Series A and Series A-1 convertible preferred stock	356	356	240	240	—	—	3,534	—	3,774
Fair value of Series A and Series A-1 convertible preferred stock dividends	—	—	—	—	—	—	(4,130)	—	(4,130)
Exchange of Series A convertible preferred stock into Series A-1 convertible preferred stock	(3,000)	(3,000)	3,000	3,000	—	—	—	—	3,000
Conversions of Series A and Series A-1 convertible preferred stock into common stock	(166)	(166)	(3,716)	(3,716)	9,463,712	1	3,881	—	166
Net loss	—	—	—	—	—	—	—	(8,800)	(8,800)
Balance at December 31, 2014	5,110	5,110	1,578	1,578	21,984,272	2	48,047	(46,882)	2,745
Issuance of common stock under Lincoln Park Capital, LLC purchase agreement	—	—	—	—	50,000	—	64	—	64
Issuance of common stock in exchange for patent and technology rights	—	—	—	—	200,000	—	228	—	228
Issuance of common stock in connection with public offering, net of offering costs of $1,198	—	—	—	—	26,000,000	3	9,199	—	9,202
Issuance of common stock under employee stock purchase plan	—	—	—	—	69,546	—	31	—	31
Issuance of common stock upon exercise of warrants in connection with public offering	—	—	—	—	435,000	—	198	—	198
Stock-based compensation expense	—	—	—	—	—	—	1,535	—	1,535
Dividends issued on Series A and Series A-1 convertible preferred stock	105	105	21	21	—	—	83	—	104
Fair value of Series A and Series A-1 convertible preferred stock dividends	—	—	—	—	—	—	(209)	—	(209)
Exchange of Series A convertible preferred stock into Series A-1 convertible preferred stock	(2,000)	(2,000)	2,000	2,000	—	—	—	—	2,000
Conversions of Series A and Series A-1 convertible preferred stock into common stock	(3,215)	(3,215)	(3,599)	(3,599)	16,610,303	2	6,812	—	3,215
Net loss	—	—	—	—	—	—	—	(10,223)	(10,223)
Balance at December 31, 2015	—	$ —	—	$ —	65,349,121	$ 7	$ 65,988	$ (57,105)	$ 8,890

See accompanying notes to financial statements.

RXi PHARMACEUTICALS CORPORATION
STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	Years Ended December 31,	
	2015	**2014**
Cash flows from operating activities:		
Net loss	$ (10,223)	$ (8,800)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	77	87
Gain on disposal of property and equipment	—	(10)
Non-cash share-based compensation expense	1,535	1,846
Fair value of common stock issued in exchange for patent and technology rights	228	—
Changes in operating assets and liabilities:		
Prepaid expenses	131	(139)
Accounts payable	878	122
Accrued expenses	104	(793)
Deferred revenue	(47)	(71)
Net cash used in operating activities	(7,317)	(7,758)
Cash flows from investing activities:		
Purchase of short-term investments	(8,000)	(5,000)
Maturities of short-term investments	2,500	8,000
Cash paid for purchase of property and equipment	(57)	(95)
Proceeds from disposal of property and equipment	—	12
Net cash (used in) provided by investing activities	(5,557)	2,917
Cash flows from financing activities:		
Net proceeds from the issuance of common stock	9,266	1,886
Proceeds from the issuance of common stock upon the exercise of warrants	198	—
Proceeds from the issuance of common stock in connection with the employee stock purchase plan	31	61
Net cash provided by financing activities	9,495	1,947
Net decrease in cash and cash equivalents	(3,379)	(2,894)
Cash and cash equivalents at the beginning of period	8,496	11,390
Cash and cash equivalents at the end of period	$ 5,117	$ 8,496
Supplemental disclosure of non-cash investing and financing activities:		
Exchange of Series A convertible preferred stock into Series A-1 convertible preferred stock	$ 2,000	$ 3,000
Conversion of Series A and Series A-1 convertible preferred stock into common stock	$ 6,814	$ 3,882
Fair value of Series A and Series A-1 convertible preferred stock dividends	$ 209	$ 4,130
Series A and Series A-1 convertible preferred stock dividends	$ 126	$ 596

See accompanying notes to financial statements.

RXi PHARMACEUTICALS CORPORATION
NOTES TO FINANCIAL STATEMENTS

1. Nature of Business

RXi Pharmaceuticals Corporation ("**RXi**," "**we**," "**our**" or the "**Company**") is a clinical-stage RNAi company developing innovative therapeutics in dermatology and ophthalmology that address significant unmet medical needs. Our development programs are based on our proprietary self-delivering RNAi (sd-rxRNA®) platform and Samcyprone™, a topical immunomodulator. Our clinical development programs include, but are not limited to, RXI-109, an sd-rxRNA for the treatment of dermal and ocular scarring, and Samcyprone™ for the treatment of such disorders as warts, alopecia areata, non-malignant skin tumors and cutaneous metastases of melanoma. In addition to these clinical programs, we have a pipeline of discovery and preclinical product candidates in our core therapeutic areas, as well as in other areas of interest. The Company's pipeline, coupled with our extensive patent portfolio, provides for product development and business development opportunities across a broad spectrum of therapeutic areas.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("**GAAP**").

Uses of Estimates in Preparation of Financial Statements

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from these estimates.

Cash and Cash Equivalents

The Company considers all highly liquid debt instruments with an original maturity of three months or less to be cash equivalents. Cash equivalents consist primarily of amounts invested in certificates of deposit.

Restricted Cash

Restricted cash consists of certificates of deposit held by financial institutions as collateral for the Company's corporate credit cards.

Short-term Investments

Short-term investments consist of certificates of deposit with original maturities ranging from three months to one year.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash, cash equivalents and short-term investments. The Company maintains cash balances in several accounts with one bank, which at times are in excess of federally insured limits. The Company has established guidelines related to credit ratings and maturities intended to safeguard principal balances and maintain liquidity. The Company's investments are maintained in accordance with the Company's investment policy, which defines allowable investments, specifies credit quality standards and limits the exposure of any single issuer.

Fair Value of Financial Instruments

The carrying amounts reported in the balance sheet for cash equivalents, restricted cash, short-term investments and accounts payable approximate their fair values due to their short-term nature or market rates of interest.

Property and Equipment

Property and equipment are stated at cost and depreciated using the straight-line method based on the estimated useful lives of the related assets. The Company provides for depreciation over the assets' estimated useful lives as follows:

Computer equipment	3 years
Machinery & equipment	5 years
Office furniture	5 years

Depreciation and amortization expense for the years ended December 31, 2015 and 2014 was approximately $77,000 and $87,000, respectively.

Impairment of Long-Lived Assets

The Company reviews long-lived assets for impairment on an interim basis if an event occurs that might reduce the fair value of such assets below their carrying values. An impairment loss would be recognized based on the difference between the carrying value of the asset and its estimated fair value, which would be determined based on either discounted future cash flows or other appropriate fair value methods. The Company believes no impairment existed as of December 31, 2015 and 2014.

Revenue Recognition

Revenue is recognized when there is persuasive evidence of an arrangement, the fee is fixed or determinable, delivery has occurred or services have been rendered and collection of the related receivable is reasonably assured. The Company may generate revenue from product sales, license agreements, collaborative research and development arrangements and government grants. The Company's principal source of revenue consists of government research grants. Revenue from a government grant is recognized over the respective contract periods as the services are performed. Payments received prior to the recognition of revenue are recorded as deferred revenue.

Research and Development Expenses

Research and development costs are charged to expense as incurred and relate to salaries, employee benefits, facility-related expenses, supplies, stock-based compensation related to employees and non-employees involved in the Company's research and development, external services, other operating costs and overhead related to our research and development departments, costs to acquire technology licenses and expenses associated with preclinical activities and our clinical trials. Payments made by the Company in advance for research and development services not yet provided and/or for materials not yet received are recorded as prepaid expenses. Accrued liabilities are recorded related to those expenses for which vendors have not yet billed us with respect to services provided and/or materials that we have received.

Preclinical and clinical trial expenses relate to third-party services, subject-related fees at the sites where our clinical trials are being conducted, laboratory costs, analysis costs, toxicology studies and investigator fees. Costs associated with these expenses are generally payable on the passage of time or when certain milestones are achieved. Expense is recorded during the period incurred or in the period in which a milestone is achieved. In order to ensure that we have adequately provided for preclinical and clinical expenses during the proper period, we maintain an accrual to cover these expenses. These accruals are assessed on a quarterly basis and are based on such assumptions as expected total cost, the number of subjects and clinical trial sites and length of the study. Actual results may differ from these estimates and could have a material impact on our reported results. Our historical accrual estimates have not been materially different from our actual costs.

Although the Company believes that its patents and underlying technology have continuing value, the amount of future benefits to be derived from the patents is uncertain. Patent costs are, therefore, expensed as research and development costs as incurred.

Stock-based Compensation

The Company follows the provisions of the Financial Accounting Standards Board ("**FASB**") Accounting Standards Codification ("**ASC**") Topic 718, "*Compensation — Stock Compensation*" ("**ASC 718**"), which requires the measurement and recognition of compensation expense for all stock-based payment awards made to employees, officers and non-employee directors, including stock options. Stock compensation expense based on the grant date fair value estimated in accordance with the provisions of ASC 718 is recognized as an expense over the requisite service period.

For stock options granted as consideration for services rendered by non-employees, the Company recognizes compensation expense in accordance with the requirements of FASB ASC Topic 505-50, "*Equity Based Payments to Non-Employees*." Non-employee option grants that do not vest immediately upon grant are recorded as an expense over the requisite service period of the underlying stock options. At the end of each financial reporting period prior to vesting, the value of these options, as calculated using the Black-Scholes option-pricing model, will be re-measured using the fair value of the Company's common stock and the non-cash compensation recognized during the period will be adjusted accordingly. Since the fair market value of options granted to non-employees is subject to change in the future, the amount of the future compensation expense will include fair value re-measurements until the stock options are fully vested.

Income Taxes

The Company recognizes assets or liabilities for the deferred tax consequences of temporary differences between the tax basis of assets or liabilities and their reported amounts in the financial statements in accordance with FASB ASC Topic 740, *"Accounting for Income Taxes"* ("**ASC 740**"). These temporary differences will result in taxable or deductible amounts in future years when the reported amounts of the assets or liabilities are recovered or settled. ASC 740 requires that a valuation allowance be established when management determines that it is more likely than not that all or a portion of a deferred asset will not be realized. The Company evaluates the realizability of its net deferred income tax assets and valuation allowances as necessary, at least on an annual basis. During this evaluation, the Company reviews its forecasts of income in conjunction with other positive and negative evidence surrounding the realizability of its deferred income tax assets to determine if a valuation allowance is required. Adjustments to the valuation allowance will increase or decrease the Company's income tax provision or benefit. The recognition and measurement of benefits related to the Company's tax positions requires significant judgment, as uncertainties often exist with respect to new laws, new interpretations of existing laws, and rulings by taxing authorities. Differences between actual results and the Company's assumptions or changes in the Company's assumptions in future periods are recorded in the period they become known.

Comprehensive Loss

The Company's comprehensive loss is equal to its net loss for all periods presented.

Net loss per Share

The Company accounts for and discloses net loss per share attributable to common stockholders in accordance with FASB ASC Topic 260, "*Earnings per Share."* Basic and diluted net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding. When the effects are not anti-dilutive, diluted earnings per share is computed by dividing the Company's net earnings by the weighted average number of common shares outstanding and the impact of all dilutive potential common shares.

3. Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update ("**ASU**") 2014-09, *"Revenue from Contracts with Customers (Topic 606)."* ASU 2014-09 states that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. On July 9, 2015, the FASB voted to delay the effective date of the new revenue standard by one year but to permit entities

to choose to adopt the standard as of the original effective date. The new standard will be effective for the Company on January 1, 2018. The Company is currently evaluating the method of adoption and the potential impact the update may have on its financial position and results of operations.

In September 2015, the FASB issued ASU 2015-16, "*Simplifying the Accounting for Measurement-Period Adjustments (Topic 805).*" ASU 2015-16 states that an entity must recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. ASU 2015-16 will be effective for annual periods beginning after December 15, 2015, including interim periods within those fiscal years. The new standard will be effective for the Company on January 1, 2016. The adoption of ASU 2015-16 is not expected to have a material impact on our financial statements.

In November 2015, the FASB issued ASU 2015-17, "*Balance Sheet Classification of Deferred Taxes (Topic 740).*" ASU 2015-17 simplifies the presentation of deferred income taxes by requiring that deferred tax assets and liabilities be classified as noncurrent on the balance sheet instead of separating into current and noncurrent amounts. ASU 2015-17 will be effective for annual periods beginning on or after December 15, 2016 and may be applied either prospectively or retrospectively. Early adoption is permitted. The Company has elected to early adopt this guidance on a prospective basis. The adoption of this update did not have an effect on our financial statements.

In February 2016, the FASB issued ASU 2016-02, "*Leases (Topic 842)*", which requires companies that are lessees to recognize a right-of-use asset and lease liability for most leases that do not meet the definition of a short-term lease. For income statement purposes, leases will continue to be classified as either operating or financing. Classification will be based on criteria that are largely similar to those applied in current lease accounting. This standard will result in extensive qualitative and quantitative disclosure changes. This standard will be effective for annual reporting periods beginning after December 15, 2018, including interim periods within that reporting period. The Company is currently evaluating the impact of this ASU on its financial position and results of operations.

4. Fair Value Measurements

The Company follows the provisions of FASB ASC Topic 820, "*Fair Value Measurements and Disclosures,"* for the Company's financial assets and liabilities that are re-measured and reported at fair value at each reporting period and are re-measured and reported at fair value at least annually using a fair value hierarchy that is broken down into three levels. Level inputs are defined as follows:

Level 1 — quoted prices in active markets for identical assets or liabilities.

Level 2 — other significant observable inputs for the assets or liabilities through corroboration with market data at the measurement date.

Level 3 — significant unobservable inputs that reflect management's best estimate of what market participants would use to price the assets or liabilities at the measurement date.

The Company categorized its restricted cash, cash equivalents and short-term investments as Level 2 hierarchy. The assets classified as Level 2 have initially been valued at the applicable transaction price and subsequently valued, at the end of each reporting period, using other market observable data. Observable market data points include quoted prices, interest rates, reportable trades and other industry and economic events. Financial assets measured at fair value on a recurring basis are summarized as follows, in thousands:

Description	December 31, 2015	Quoted Prices In Active Markets (Level 1)	Other Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Restricted cash	$ 50	$ —	$ 50	$ —
Cash equivalents	2,500	—	2,500	—
Short-term investments	5,500	—	5,500	—
Total	$ 8,050	$ —	$ 8,050	$ —

Description	December 31, 2014	Quoted Prices In Active Markets (Level 1)	Other Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Restricted cash	$ 50	$ —	$ 50	$ —
Cash equivalents	4,000	—	4,000	—
Total	$ 4,050	$ —	$ 4,050	$ —

5. Accrued Expenses

Accrued expenses consist of the following, in thousands:

	December 31, 2015	December 31, 2014
Employee compensation and benefits	$ 725	$ 528
Clinical development expenses	225	186
Professional fees	126	165
Research and development costs	20	118
Other	10	5
Total accrued expenses	$1,106	$1,002

6. Commitments and Contingencies

License Commitments

The Company acquires assets under development and enters into research and development arrangements with third parties that often require milestone and royalty payments based on the progress of the asset through development stages. Milestone payments may be required, for example, upon approval of the product for marketing by a regulatory agency. In certain agreements, the Company is required to make royalty payments based upon a percentage of the sales of the products licensed pursuant to such agreements. Because of the contingent nature of these payments, they are not included in the table of contractual obligations shown below (see also Note 12).

These arrangements may be material individually, and in the unlikely event that milestones for multiple products covered by these arrangements were reached in the same period, the aggregate charge to expense could be material to the results of operations. In addition, these arrangements often give the Company the discretion to unilaterally terminate development of the product, which would allow the Company to avoid making the contingent payments; however, the Company is unlikely to cease development if the compound successfully achieves clinical testing objectives.

The Company's contractual license obligations that will require future cash payments as of December 31, 2015 are as follows, in thousands:

Year Ending December 31,	
2016	$ 200
2017	200
2018	200
2019	165
2020	165
Thereafter	966
Total	$1,896

Operating Leases

The Company leases office and laboratory space for its corporate headquarters and primary research facility in Marlborough, Massachusetts. The lease for the office and lab space will expire in March 2019. Monthly rental expense is approximately $9,500, which includes the Company's pro rata share of annual real estate taxes and operating expenses.

Total rent expense under the Company's operating leases was $118,000 and $107,500 for the years ended December 31, 2015 and 2014, respectively.

At December 31, 2015, the Company's future minimum payments required under operating leases are as follows, in thousands:

Year Ending December 31,	
2016	$120
2017	117
2018	120
2019	30
Total	$387

The Company applies the disclosure provisions of FASB ASC Topic 460, "*Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others*" ("**ASC 460**"), to its agreements that contain guarantee or indemnification clauses. The Company provides: (i) indemnifications of varying scope and size to certain investors and other parties for certain losses suffered or incurred by the indemnified party in connection with various types of third-party claims; and (ii) indemnifications of varying scope and size to officers and directors against third-party claims arising from the services they provide to us. These indemnifications give rise only to the disclosure provisions of ASC 460. To date, the Company has not incurred costs as a result of these obligations and does not expect to incur material costs in the future. Accordingly, the Company has not accrued any liabilities in its financial statements related to these indemnifications.

7. Convertible Preferred Stock

Dividends

On May 22, 2015, the Company entered into an agreement (the "**Acceleration and Conversion Agreement**") with Tang Capital Partners, L.P. ("**TCP**") pursuant to which the Company and TCP agreed to accelerate the next dividend payment date from June 30, 2015 to no later than May 29, 2015, and upon payment of such dividend immediately convert the dividend shares into common stock. In connection therewith, the dividend payment date was accelerated to May 27, 2015. There were no shares of Series A convertible preferred stock ("**Series A Preferred Stock**") outstanding after such date.

The Company paid dividends in additional shares of Series A Preferred Stock of 105 and 356 shares for the years ended December 31, 2015 and 2014, respectively. No dividends were paid on the Series A Preferred Stock after May 27, 2015, as all outstanding shares were converted into common stock on this date. Included in the Company's net loss applicable to common shareholders related to the fair value of the Series A Preferred Stock dividends was $172,000 and $2,399,000 for the years ended December 31, 2015 and 2014, respectively.

Conversion

During the year ended December 31, 2015, 3,215 shares of Series A Preferred Stock were converted into 7,837,400 shares of common stock. There were no conversions of the Series A Preferred Stock after May 27, 2015, as all outstanding shares were converted into common stock on this date. During the year ended December 31, 2014, 166 shares of Series A Preferred Stock were converted into 405,720 shares of common stock.

Elimination

On November 6, 2015, the Company filed a Certificate Eliminating the Series A Preferred Stock from the Certificate of Incorporation of the Company with the Secretary of State of the State of Delaware, in order to eliminate from the Charter all matters set forth in the Charter, including the related certificates of designation and increase, relating to the previously issued series of preferred stock of the Company. As a result, the 15,000 shares of unissued Series A Preferred Stock were returned to the status of authorized but unissued shares of preferred stock of the Company, without designation as to series or preferences or rights. As of December 31, 2015, there were no shares of Series A Preferred Stock authorized, outstanding or issued.

8. Stockholders' Equity

The Company currently has authorized for issuance 100,000,000 shares of common stock, par value $0.0001 per share, and 10,000,000 shares of preferred stock, par value $0.0001 per share.

Series A-1 Preferred Stock

Dividends

On May 22, 2015, the Company entered into the Acceleration and Conversion Agreement with TCP pursuant to which the Company and TCP agreed to accelerate the next dividend payment date from June 30, 2015 to no later than May 29, 2015, and upon payment of such dividend immediately convert the dividend shares into common stock. In connection therewith, the dividend payment date was accelerated to May 27, 2015. There were no shares of Series A-1 convertible preferred stock ("**Series A-1 Preferred Stock**") outstanding after such date.

The Company paid dividends in additional shares of Series A-1 Preferred Stock of 21 and 240 shares for the years ended December 31, 2015 and 2014, respectively. No dividends were paid on the Series A-1 Preferred Stock after May 27, 2015, as all outstanding shares were converted into common stock on this date. Included in the Company's net loss applicable to common shareholders related to the fair value of the Series A-1 Preferred Stock dividends was $37,000 and $1,731,000 for the years ended December 31, 2015 and 2014, respectively.

Conversion

During the year ended December 31, 2015, 3,599 shares of Series A-1 Preferred Stock were converted into 8,772,903 shares of common stock. There were no conversions of the Series A-1 Preferred Stock after May 27, 2015, as all outstanding shares were converted into common stock on this date. During the year ended December 31, 2014, 3,716 shares of Series A-1 Preferred Stock were converted into 9,057,992 shares of common stock.

Elimination

On November 6, 2015, the Company filed a Certificate Eliminating the Series A-1 Preferred Stock from the Certificate of Incorporation of the Company with the Secretary of State of the State of Delaware, in order to eliminate from the Charter all matters set forth in the Charter, including the related certificates of designation and increase, relating to the previously issued series of preferred stock of the Company. As a result, the 10,000 shares of unissued Series A-1 Preferred Stock were returned to the status of authorized but unissued shares of preferred stock of the Company, without designation as to series or preferences or rights. As of December 31, 2015, there were no shares of Series A-1 Preferred Stock authorized, outstanding or issued.

Common Stock

Hapten License Agreement

On December 17, 2014, the Company entered into an assignment and exclusive license agreement, (the "**Assignment and License Agreement**") with Hapten Pharmaceuticals, LLC ("**Hapten**") under which Hapten agreed, effective at a closing that occurred on February 4, 2015, to sell and assign to the Company certain patent rights and related assets and rights, including an investigational new drug application and clinical data, for Hapten's Samcyprone™ products for therapeutic and prophylactic use. Upon the closing of the Hapten Assignment and License Agreement on February 4, 2015, the Company paid to Hapten a one-time upfront cash payment of $100,000 and issued 200,000 shares of common stock, the fair value of which was determined using the quoted market price of the Company's common stock on the date of issuance. Accordingly, the cash payment of $100,000 and the fair value of the common stock of $228,000 were recorded as research and development expense during the year ended December 31, 2015.

Lincoln Park Capital Equity Line

On April 22, 2014, the Company entered into a purchase agreement (the "**Prior Purchase Agreement**") with Lincoln Park Capital Fund, LLC ("**LPC**"), pursuant to which and subject to the terms and conditions contained in the Prior Purchase Agreement, the Company had the right to sell to LPC up to $20,000,000 in shares of the Company's common stock over a 30-month term. The Prior Purchase Agreement was terminable, among other circumstances, by mutual agreement of LPC and the Company at any time. The Company and LPC executed a termination agreement dated December 18, 2014, whereby the parties mutually agreed to terminate the Prior Purchase Agreement effective immediately. During the year ended December 31, 2014, the Company sold a total of 500,000 shares of common stock for net proceeds of $1,900,000 and issued 100,000 shares of common stock at price per share of $4.00 as a commitment fee, recorded as a cost of capital, under the Prior Purchase Agreement.

On December 18, 2014, the Company entered into a purchase agreement (the "**Purchase Agreement**") with LPC, pursuant to which the Company has the right to sell to LPC up to $10,800,000 in shares of the Company's common stock, subject to certain limitations and conditions set forth in the Purchase Agreement. Pursuant to the Purchase Agreement, the Company issued 100,000 shares of common stock at price per share of $1.93 as a commitment fee, which was recorded as a cost of capital during the year ended December 31, 2014.

During the year ended December 31, 2015, the Company sold a total of 50,000 shares of common stock to LPC for net proceeds of $64,000 pursuant to and subject to the limitations and conditions set forth in the Purchase Agreement. There have been no other sales made to date under the Purchase Agreement. Per the terms of the public offering (see below), the Company cannot access the equity line until the expiration of the 13-month Overallotment Purchase Rights (defined below).

June 2015 Public Offering

On June 2, 2015, the Company sold a total of 26,000,000 units at a price of $0.40 per unit in a public offering (the "**Offering**"). Each unit consists of one share of common stock, a 13-month overallotment purchase right to purchase one-half of one share of common stock at a price of $0.455 per full share of common stock (the "**Overallotment Purchase Rights**") and a five-year warrant to purchase one-half of one share of common stock at a price of $0.52 per full share of common stock (the "**Warrants**"). As a result of the Offering, the Company received gross proceeds of approximately $10,400,000 and net proceeds of approximately $9,200,000 after placement agent fees and estimated Offering expenses, and assuming the Overallotment Purchase Rights and Warrants are not exercised.

The Company first assessed the Overallotment Purchase Rights and the Warrants under FASB ASC Topic 480, "*Distinguishing Liabilities and Equity*" ("**ASC 480**"), and determined that the Overallotment Purchase Rights and the Warrants were outside the scope of ASC 480. The Company next assessed the Overallotment Purchase Rights and Warrants under FASB ASC Topic 815, "*Derivatives and Hedging*" ("**ASC 815**"). Under the related guidance, a reporting entity shall not consider a contract to be a derivative instrument if the contract is both (1) indexed to the entity's own stock and (2) classified in stockholders' equity. The Company determined that the warrant contracts are indexed to the Company's stock, as the agreements do not contain any exercise contingencies and the warrants' settlement amount equals the difference between the fair value of the Company's common stock price and the warrant contract strike price, and the only variables which could affect the settlement amount would be inputs to the fair value for a fixed-for-fixed option on equity shares. The Company also assessed the classification in stockholders' equity and determined the warrant contracts meet all of the criteria for classification as equity under ASC 815. Based on this analysis, the Company determined that the Overallotment Purchase Rights and the Warrants should be classified as equity.

During the year ended December 31, 2015, 435,000 Overallotment Purchase Rights were exercised for gross proceeds of $198,000.

Refer to the Series A Preferred Stock and Series A-1 Preferred Stock conversions described above in this Note and Note 7 for shares issued as a result of the conversions of Series A and Series A-1 Preferred Stock during the years ended December 31, 2015 and 2014, respectively.

9. Net Loss per Share Attributable to Common Stockholders

The following table sets forth the potential common shares excluded from the calculation of net loss per common share attributable to common stockholders because their inclusion would be anti-dilutive:

	December 31,	
	2015	2014
Options to purchase common stock	3,323,761	3,000,264
Common stock underlying Series A and Series A-1 convertible preferred stock	—	16,300,969
Warrants to purchase common stock	25,569,615	4,615
Total	28,893,376	19,305,848

10. Stock-based Compensation

Stock Plans

On January 23, 2012, the Company's Board of Directors and sole stockholder adopted the RXi Pharmaceuticals Corporation 2012 Long-Term Incentive Plan (the "**2012 Incentive Plan**"). Under the 2012 Incentive Plan, the Company may grant incentive stock options, nonqualified stock options, cash awards, stock appreciation rights, restricted and unrestricted stock and stock unit awards and other stock-based awards. The Company's Board of Directors currently acts as the administrator of the Company's 2012 Incentive Plan. The administrator has the power to select participants from among the key employees, directors and consultants of and advisors to the Company, establish the terms, conditions and vesting schedule, if applicable, of each award and to accelerate vesting or exercisability of any award.

As of December 31, 2015, an aggregate of 5,000,000 shares of common stock were reserved for issuance under the Company's 2012 Incentive Plan, including 3,323,761 shares subject to outstanding common stock options granted under the 2012 Incentive Plan and 1,674,239 shares available for future grants. Stock options granted by the Company to employees may have different vesting parameters, but generally vest within 48 months after the option grant date and expire within ten years of issuance.

Stock-based Compensation

The Company uses the Black-Scholes option-pricing model to determine the fair value of all its option grants. For valuing options granted for the years ended December 31, 2015 and 2014, the following assumptions were used:

	Year Ended December 31,	
	2015	2014
Risk-free interest rate	1.47 – 2.43%	1.60 – 2.73%
Expected volatility	84.93 – 116.81%	97.91 – 107.01%
Weighted average expected volatility	89.26%	101.52%
Expected lives (in years)	5.20 – 10.00	5.20 – 10.00
Expected dividend yield	0.00%	0.00%

The weighted-average fair value of options granted during the years ended December 31, 2015 and 2014 was $0.41 and $2.43 per share, respectively.

The risk-free interest rate used for each grant was based upon the yield on zero-coupon U.S. Treasury securities with a term similar to the expected life of the related option. The Company's expected stock price volatility assumption is based upon the volatility of a composition of comparable companies. The expected life assumption for employee grants was based upon the simplified method provided for under ASC 718 and the expected life assumption for non-employees was based upon the contractual term of the option. The dividend yield assumption of zero is based upon the fact that the Company has never paid cash dividends and presently has no intention of paying cash dividends.

The following table summarizes the activity of the Company's stock option plan for the period from January 1, 2015 to December 31, 2015:

	Total Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Balance at January 1, 2015	3,000,264	$ 3.39		
Granted	405,164	0.55		
Exercised	—	—		
Cancelled	(81,667)	3.07		
Balance at December 31, 2015	3,323,761	$ 3.05	7.15 years	$ —
Exercisable at December 31, 2015	2,501,807	$ 3.29	6.78 years	$ —

Stock-based compensation expense for the years ended December 31, 2015 and 2014 was approximately $1,535,000 and $1,846,000, respectively. Of this, the Company recognized approximately $16,800 of income and $81,000 of expense related to non-employee stock options for the same period. There is no income tax benefit as the Company is currently operating at a loss and an actual income tax benefit may not be realized.

As of December 31, 2015, the compensation expense for all unvested stock options in the amount of approximately $1,200,000 will be recognized in the Company's results of operations over a weighted average period of 1.68 years.

11. Income Taxes

For the years ending December 31, 2015 and 2014, all of the Company's loss before income taxes was generated in the United States. The components of federal and state income tax expense are as follows (in thousands):

	Year Ended December 31,	
	2015	2014
Current		
Federal	$ —	$ —
State	—	—
Total current	—	—
Deferred		
Federal	(3,157)	(2,727)
State	(803)	(583)
Total deferred	(3,960)	(3,310)
Valuation allowance	3,960	3,310
Total income tax expense	$ —	$ —

The differences between the income taxes expected at the Federal statutory income tax rate and the reported income tax (benefit) expense is as follows:

	2015	2014
Federal statutory rate	34.0%	34.0%
State income taxes, net of federal benefit	4.8	4.2
Non-deductible expenses	(1.9)	(2.1)
Income tax credits	1.9	1.6
Valuation allowance	(38.8)	(37.7)
Effective tax rate	0.0%	0.0%

As of December 31, 2015, the Company elected to early adopt ASU 2015-17 issued by the FASB in November 2015. ASU 2015-17 simplifies the presentation of deferred income taxes by requiring that deferred tax assets and liabilities be classified as

noncurrent on the balance sheet. The Company early adopted the guidance on a prospective basis. There was no impact to the financial statements as a result of this change. The components of net deferred tax assets are as follows (in thousands):

	As of December 31,	
	2015	2014
Net operating loss carryforwards	$ 13,552	$ 9,805
Tax credit carryforwards	442	261
Stock-based compensation	1,744	1,392
Licensing deduction deferral	5,979	6,367
Other timing differences	178	110
Gross deferred tax assets	21,895	17,935
Valuation allowance	(21,895)	(17,935)
Net deferred tax asset	$ —	$ —

The Company's deferred tax assets at December 31, 2015 and 2014 consisted primarily of its net operating loss carryforwards, deferred compensation, tax credit carryforwards, intangible assets capitalized for federal income tax purposes and certain accruals that for tax purposes are not deductible until future payment is made. The valuation allowance increased $3,960,000 and $3,310,000 for the years ended December 31, 2015 and 2014, respectively, and is primarily attributable to an increase in net operating losses, tax credits and stock-based compensation in 2015.

The Company has incurred net operating losses since inception. At December 31, 2015, the Company had federal and state net operating loss carryforwards of approximately $35,300,000 and $29,700,000, respectively, which are available to reduce future taxable income through 2035. In addition, the Company has federal and state research credits of $331,000 and $168,000, respectively, to offset future tax expense through 2035. Based on an assessment of all available evidence including, but not limited to the Company's limited operating history in its core business and lack of profitability, uncertainties of the commercial viability of its technology, the impact of government regulation and healthcare reform initiatives, and other risks normally associated with biotechnology companies, the Company has concluded that it is more likely than not that these net operating loss carryforwards and credits will not be realized and, as a result, a full deferred income tax valuation allowance has been recorded against these assets.

Under the provisions of the Internal Revenue Code, certain substantial changes in the Company's ownership may result in a limitation on the amount of net operating loss carryforwards and research and development credit carryforwards which could be utilized annually to offset future taxable income and taxes payable. The Company has not yet performed an analysis to determine if one or multiple ownership changes may have occurred in the past.

The Company files income tax returns in the United States, Massachusetts and New Jersey. The Company is subject to tax examinations for Federal and state purposes tax years 2012 through 2015. The Company has not recorded any uncertain tax positions as of December 31, 2015 or 2014. The Company does not believe there will be any material changes in its unrecognized tax positions over the next 12 months. The Company has not incurred any interest or penalties. In the event that the Company is assessed interest or penalties at some point in the future, they will be classified in the financial statements as general and administrative expenses.

12. License Agreements

As part of its business, the Company enters into licensing agreements with third parties that often require milestone and royalty payments based on the progress of the asset through development stages. Milestone payments may be required, for example, upon approval of the product for marketing by a regulatory agency. In certain agreements, the Company is required to make royalty payments based upon a percentage of the sales of the products licensed pursuant to such agreements.

The expenditures required under these arrangements may be material individually in the event that the Company develops product candidates covered by the intellectual property licensed under any such arrangement, and in the unlikely event that milestones for multiple products covered by these arrangements were reached in the same period, the aggregate charge to expense could be material to the results of operations. In addition, these arrangements often give the Company discretion to unilaterally terminate development of the product, which would allow the Company to avoid making the contingent payments; however, the Company is unlikely to cease development if the compound successfully achieves clinical testing objectives.

Advirna. We have entered into agreements with Advirna, pursuant to which Advirna assigned to us its existing patent and technology rights related to sd-rxRNA technology in exchange for our agreement to pay Advirna an annual maintenance fee of $100,000. Pursuant to the terms of the agreement, during the year ended December 31, 2014, we paid to Advirna and recorded research and development expense of $350,000 for a one-time milestone payment upon the issuance of the first patent with valid claims covering the assigned technology. Additionally, we will be required to pay a 1% royalty to Advirna on any licensing revenue received by us with respect to future licensing of the assigned Advirna patent and technology rights. We also granted back to Advirna a license under the assigned patent and technology rights for fields of use outside human therapeutics.

Our rights under the Advirna agreement will expire upon the later of: (i) the expiration of the last-to-expire of the "patent rights" (as defined) included in the Advirna agreement; or (ii) the abandonment of the last-to-be abandoned of such patents, unless earlier terminated in accordance with the provisions of the agreement.

We may terminate the Advirna agreement at any time upon 90 days' written notice to Advirna, and Advirna may terminate the agreement upon 90 days' prior written notice in the event that we cease using commercially reasonable efforts to research, develop, license or otherwise commercialize the patent rights or "royalty-bearing products" (as defined), provided that we may refute such claim within such 90-day period by showing budgeted expenditures for the research, development, licensing or other commercialization consistent with other technologies of similar stage of development and commercial potential as the patent rights or royalty-bearing products. Further, either party at any time may provide to the other party written notice of a material breach of the agreement. If the other party fails to cure the identified breach within 90 days after the date of the notice, the aggrieved party may terminate the agreement by written notice to the party in breach.

Hapten. On December 17, 2014, the Company entered into the Assignment and License Agreement with Hapten under which Hapten agreed, effective at a closing that was subject to the satisfaction of certain closing conditions which occurred in February 2015, to sell and assign to us certain patent rights and related assets and rights, including an investigational new drug application and clinical data, for Hapten's Samcyprone™ products for therapeutic and prophylactic use. Samcyprone™ is a proprietary formulation of diphenylcyclopropenone ("**DPCP**"), an immunomodulation agent that works by initiating a T-cell response. Hapten has been developing Samcyprone™ for the treatment of warts, alopecia areata and cutaneous metastases of malignant melanoma.

Under the Assignment and License Agreement, Hapten received at closing an upfront payment from us, paid in cash and stock, and will be entitled to receive: (i) future milestone payments tied to the achievement of certain clinical and commercial objectives (all of which payments may be made at our option in cash or through the issuance of common stock); and (ii) escalating royalties based on product sales by us and any sublicensees. The Assignment and License Agreement with Hapten is described further in Note 8.

ITEM 9. *CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE*

N/A.

ITEM 9A. *CONTROLS AND PROCEDURES*

Evaluation of Disclosure Controls and Procedures

Based on an evaluation as of the end of the period covered by this report, Dr. Geert Cauwenbergh, our Chief Executive Officer and acting Chief Financial Officer, has concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) were effective as of the end of the period covered by this report to ensure that information that we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms.

Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives, and Dr. Cauwenbergh has concluded that these controls and procedures are effective at the "reasonable assurance" level. We believe that a control system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the control system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention or overriding of controls. Accordingly, even effective internal controls can provide only reasonable assurances with respect to financial statement preparation. Further, because of changes in conditions, the effectiveness of internal control may vary over time.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2015. In making this assessment, management used the criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on our assessment, the Company's Chief Executive Officer and acting Chief Financial Officer concluded that, as of December 31, 2015, our internal control over financial reporting is effective.

Attestation Report of the Registered Public Accounting Firm

This Annual Report on Form 10-K provides only management's report. As a smaller reporting company, we are not required to provide an attestation report by our independent registered public accounting firm regarding internal control over financial reporting.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. *OTHER INFORMATION*

None.

PART III

ITEM 10. *DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE*

The following table sets forth our directors and executive officers, their ages and the positions currently held by each person:

Name	Age	Position
Geert Cauwenbergh, Dr. Med. Sc.	62	President, Chief Executive Officer, acting Chief Financial Officer and Director
Pamela Pavco, Ph.D.	59	Chief Development Officer
Robert J. Bitterman	65	Chairman of the Board of Directors
Keith L. Brownlie	63	Director
H. Paul Dorman	79	Director
Curtis A. Lockshin, Ph.D.	55	Director

Geert Cauwenbergh, Dr. Med. Sc. was appointed to the Board and was elected as President and Chief Executive Officer of the Company in April 2012. Prior to joining us, from June 2011 to April 2012, Dr. Cauwenbergh was active, through his consulting

company Phases123 LLC, in advising various small biotech and healthcare companies. From July 2008 to June 2011, Dr. Cauwenbergh was the Chief Executive Officer of Rhei Pharmaceuticals HK Ltd, a Chinese company that licenses western drugs for development and commercialization in China, and Managing Director of the Center for Medical Innovation, a government subsidized center for translational medicine for the Belgian Region of Flanders. In February 2008 and May 2009, Dr. Cauwenbergh founded Phases123 LLC and Aramis LLC, a consulting company and a dermatology company, respectively. From September 2008 to March 2010, Dr. Cauwenbergh served as a member of the board of directors of DARA Biosciences, Inc., a publicly-traded biopharmaceutical company. From 2002 to 2008, Dr. Cauwenbergh served as Chief Executive Officer of Barrier Therapeutics, Inc., a publicly traded biopharmaceutical company that he founded in 2001 and where he also served as Chairman of the board of directors from 2002 to 2006. Barrier, which focused on dermatology drug development and commercialization, was acquired by Stiefel Laboratories, Inc. in 2008. Prior to founding Barrier, Dr. Cauwenbergh held a number of ascending senior management positions at Johnson & Johnson, where he was employed for 23 years. As Vice President of Research and Development for Johnson & Johnson's Skin Research Center, he was responsible for the worldwide research and development of all skin care products for the Johnson & Johnson consumer companies. He is a member of the board of directors of Moberg Derma AB, a Swedish pharmaceutical company. In February 2014, Dr. Cauwenbergh joined the board of directors of Phosphagenics Ltd., an Australian company focused on developing new transdermal delivery systems for pharmaceutical products. Dr. Cauwenbergh currently serves as chairman of the nominating and governance committee of Phosphagenics. In September 2011, Dr. Cauwenbergh also joined the board of directors of Cutanea Life Sciences, Inc., a wholly owned subsidiary of Maruho Company, LTD., which focuses on the development and commercialization of proprietary technologies to treat diseased and aging skin. In 2005, Dr. Cauwenbergh was inducted into the New Jersey High-Tech Hall of Fame, and, from 2009 to 2010, he served as Chairman of the Board of Trustees of BioNJ. He has authored more than 100 publications and has been a guest editor for numerous books addressing mycology and infectious diseases. Dr. Cauwenbergh received his Doctorate in Medical Sciences from the Catholic University of Leuven, Faculty of Medicine (Belgium), where he also completed his masters and undergraduate work. Based on Dr. Cauwenbergh's understanding of the business through his role as our Chief Executive Officer and as an incumbent member of the Board, as well as his extensive experience in dermatology and company-building, the Nominating Committee concluded that Dr. Cauwenbergh has the requisite experience, qualifications, attributes and skill necessary to serve as a member of the Board.

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

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

targeting soft tissue enhancement. Mr. Bitterman holds an A.B. degree in Economics from The College of the Holy Cross and a Master of Business Administration degree from Boston University. He also holds a Doctor of Human Letters (Honoris Causa) from the New York College of Podiatric Medicine and is a member of the Philadelphia Business Leaders Network. Based on Mr. Bitterman's significant leadership roles in other bioscience companies, including the role of chief executive officer, his experience with development stage organizations, and his knowledge of dermatology and the pharmaceutical industry, the Nominating Committee concluded that Mr. Bitterman has the requisite experience, qualifications, attributes and skill necessary to serve as a member of the Board.

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

H. Paul Dorman has served as a member of our Board of Directors since April 2013. Mr. Dorman currently serves as the Chairman and CEO of DFB Pharmaceuticals, a holdings company specializing in investing in and operating pharmaceutical businesses. From 1990 to 2012, Mr. Dorman also served as the Chairman and CEO of DPT Laboratories, a contract manufacturer and developer of pharmaceutical products. During that time, Mr. Dorman expanded DPT into a portfolio of healthcare companies that provides services and proprietary branded pharmaceutical products to the global market. Prior to acquiring DPT, Mr. Dorman was employed by Johnson & Johnson for 12 years, where he served in various positions, including Vice President and as a member of the board of directors. Prior to Johnson & Johnson, Mr. Dorman was employed by Baxter-Travenol, a large pharmaceuticals company. Mr. Dorman holds a B.S. degree in Mechanical Engineering from Tulane University and a Juris Doctor of Law from Loyola University. Based on Mr. Dorman's experience through his roles as Chairman and CEO and his deep understanding of the pharmaceutical industry in holding executive positions at large public companies, the Nominating Committee concluded that Mr. Dorman has the requisite experience, qualifications, attributes and skill necessary to serve as a member of the Board.

Curtis A. Lockshin, Ph.D. has served as a member of our Board of Directors since April 2013. Since July 2015, Dr. Lockshin has served as Chief Executive Officer and Director of SciVac Therapeutics Inc., and its subsidiary SciVac, Ltd., a biologics and vaccine company in Rehovot, Israel, where he has been serving as CEO and Director since September 2014. Dr. Lockshin has also served as the Vice President of Research and Operations of Xenetic Biosciences, Inc., a biopharmaceutical company focused on developing biologic drugs and novel oncology therapeutics since March 2014 and as the President and CEO of Guardum Pharmaceuticals, LLC, a private pharmaceutical company, since May 2013. From October 2011 to February 2013, Dr. Lockshin served as Vice President of Corporate R&D Initiatives for OPKO Health, Inc., a multinational pharmaceutical and diagnostics company, at which time he then assumed the position of consultant to OPKO until December 2013. From March 2011 until December 2013, Dr. Lockshin served as a member of the board of directors for ChromaDex, Inc., a natural products company engaged in the dietary supplement, food & beverage, cosmetic and pharmaceutical industries. From October 2009 to September 2012, Dr. Lockshin served as a member of the board of directors for Sorrento Therapeutics, Inc., a development-stage biopharmaceutical company. Since April 2004, Dr. Lockshin has also served as a member of the board of directors of the Ruth K. Broad Biomedical Research Foundation. The foundation is a Duke University Support Corporation that supports basic research related to Alzheimer's disease and neurodegeneration via intramural, extramural and international grants. Since 2003, Dr. Lockshin has worked as an independent consultant, focusing on small private companies in the healthcare, biotechnology and security sectors. From August 2002 to March 2003, Dr. Lockshin held the position of Director of Discovery Biology at Beyond Genomics, Inc. (now BG Medicine, Inc.),

a company engaged in the discovery of disease-associated biomarkers and identification of therapeutic targets. Dr. Lockshin held various positions from June 1998 to July 2002 at Sepracor, Inc. (now Sunovion Pharmaceuticals, Inc.), a pharmaceutical company that develops therapeutic products for the central nervous system and respiratory disorders. Dr. Lockshin holds a S.B. degree in Life Sciences and a Ph.D. in Biological Chemistry from the Massachusetts Institute of Technology. Based on Dr. Lockshin's industry knowledge in the biotechnology and pharmaceutical fields and his membership on the board of directors of other public companies, the Nominating Committee concluded that Dr. Lockshin has the requisite experience, qualifications, attributes and skill necessary to serve as a member of the Board.

Audit Committee

The Audit Committee is comprised of Messrs. Brownlie (Chairman) and Dorman and Dr. Lockshin. The Audit Committee selects the Company's independent registered public accounting firm, approves its compensation, oversees and evaluates the performance of the independent registered public accounting firm, oversees the accounting and financial reporting policies and internal control systems of the Company, reviews the Company's interim and annual financial statements, independent registered public accounting firm reports and management letters and performs other duties, as specified in the Audit Committee Charter, a copy of which is available on the Company's website at www.rxipharma.com. All members of the Audit Committee satisfy the current independence and experience requirements of Rule 10A-3 of the Securities Exchange Act of 1934 (the "**Exchange Act**") and the current NASDAQ independence standards, and the Board of Directors has determined that Mr. Brownlie is an "audit committee financial expert," as the SEC has defined that term in Item 407 of Regulation S-K.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires our "officers" (as defined in Rule 16a-1(f) under the Exchange Act) and directors, and persons who own more than 10% of a registered class of our equity securities to file reports of beneficial ownership and changes in beneficial ownership with the SEC. Officers, directors and greater-than-10% stockholders (the "**Reporting Persons**") are required by SEC regulations to furnish us with copies of all reports filed under Section 16(a). Based solely on our review of copies of these reports and representations of such reporting persons, we believe that during fiscal year 2015, all Reporting Persons satisfied such applicable SEC filing requirements.

Code of Business Conduct and Ethics

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

ITEM 11. *EXECUTIVE COMPENSATION*

The following describes the compensation earned in fiscal 2015 and 2014 by each of the executive officers identified below in the Summary Compensation Table, who are referred to collectively as our "named executive officers." Our named executive officers with respect to the fiscal year that ended on December 31, 2015 are Geert Cauwenbergh, Dr. Med. Sc., President, Chief Executive Officer, acting Chief Financial Officer and Director, and Pamela Pavco, Ph.D., Chief Development Officer.

Summary Compensation Table

Name and principal position	Year	Salary ($)	Option awards ($)[1]	Non-equity incentive plan compensation ($)[2]	All other compensation ($)[3]	Total ($)
Geert Cauwenbergh, Dr. Med. Sc.	2015	398,361	37,240	190,000	300	625,901
President, Chief Executive Officer and acting Chief Financial Officer	2014	381,274	305,900	114,000	552[4]	801,726
Pamela Pavco, Ph.D.	2015	363,808	18,480	104,025	300	486,613
Chief Development Officer	2014	350,577	150,480	63,000	300	564,357

(1) The amounts shown reflect the grant date fair value computed in accordance with Financial Accounting Standards Board ("**FASB**") Accounting Standards Codification ("**ASC**") 718 for the indicated year, adjusted to disregard the effects of any estimate of forfeitures related to service-based vesting. The assumptions we used in valuing options are described more fully in the "Management's Discussion and Analysis" section and the Notes to Financial Statements for the fiscal year ended December 31, 2015 included in this Annual Report on Form 10-K.

(2) The amounts shown reflect the annual cash bonus earned for performance for each respective year under the Company's Incentive Bonus Program. The annual cash bonuses were paid in February of the calendar year following the year to which the bonus relates.
(3) Represents amounts for the dollar value of life insurance premiums paid.
(4) Represents amounts for the dollar value of life insurance premiums paid and a gross-up for the related tax liability in connection with Dr. Cauwenbergh's health insurance premiums.

Nonqualified Deferred Compensation Earnings

We do not have any nonqualified deferred compensation plans.

Employment and Change of Control Agreements

Geert Cauwenbergh, Dr. Med. Sc.

Dr. Cauwenbergh was appointed Chief Executive Officer pursuant to an employment agreement, dated April 27, 2012, pursuant to which he is entitled to receive an initial base salary of $360,000 per annum, as well as a performance bonus of up to 50% of his base salary, subject to the achievement of performance goals to be established annually. On June 8, 2012, Dr. Cauwenbergh received an option entitling him to purchase 1,138,506 shares of Company common stock at an exercise price equal to the fair value of the underlying common stock on the date of grant. The option became exercisable with respect to one quarter of the underlying shares on April 27, 2013, and then vests on a ratable basis monthly thereafter over the next three years such that the option is fully vested and exercisable on April 27, 2016.

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

Pamela Pavco, Ph.D.

Dr. Pavco serves as our Chief Development Officer. Under her employment agreement dated September 24, 2011, Dr. Pavco is entitled to receive an initial annual salary of $300,000. She also received an option to purchase up to 558,091 shares of common stock at an exercise price equal to the fair value of the underlying common stock on the date of grant. The option vested in equal monthly installments over four years, beginning on October 24, 2011, such that the option became fully vested and exercisable on September 24, 2015.

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

of the unvested option shares or the portion of the unvested option shares that would have vested over the following twenty-four months, whichever is greater; and (z) continued participation, at our expense, during the twelve-month severance period in our sponsored group medical and dental plans.

Outstanding Equity Awards at Fiscal Year-End

The following table shows information regarding outstanding equity awards as of December 31, 2015 for our named executive officers. None of the named executive officers held any outstanding stock awards as of that date.

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price ($)	Option Expiration Date
Geert Cauwenbergh, Dr. Med. Sc.[1]	1,043,621	94,885	2.55	06/08/2022
	83,333	50,001	6.00	06/07/2023
	49,875	83,125	2.85	06/02/2024
	—	133,000	0.38	06/01/2025
Pamela Pavco, Ph.D.[2]	558,091	—	3.90	05/04/2022
	41,667	25,000	6.00	06/07/2023
	24,750	41,250	2.85	06/02/2024
	8,250	57,750	0.38	06/01/2025

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

(2) The option awards granted to Dr. Pavco vest in equal monthly installments over a four year period.

Director Compensation

The following table shows the compensation paid in fiscal year 2015 to the Company's non-employee directors.

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)[1][2]	Total ($)
Robert J. Bitterman	35,000	4,333	39,333
Keith L. Brownlie	35,000	4,333	39,333
H. Paul Dorman	27,500	4,333	31,833
Curtis A. Lockshin, Ph.D.	30,000	4,333	34,333

(1) The amounts shown reflect the grant date fair value computed in accordance with FASB ASC 718 for the indicated year, adjusted to disregard the effects of any estimate of forfeitures related to service-based vesting. The assumptions we used in valuing options are described more fully in the "Management's Discussion and Analysis" section and the Notes to Financial Statements for the fiscal year ended December 31, 2015 included in this Annual Report on Form 10-K.

(2) Since their service on the Board, the aggregate number of shares underlying stock options outstanding at fiscal yearend to our non-employee directors is as follows: Robert J. Bitterman – 83,332 option awards, Keith L. Brownlie 83,332 option awards, H. Paul Dorman – 66,665 option awards and Curtis A. Lockshin, Ph.D. 66,665 option awards.

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

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

Each non-employee director is entitled to receive an option award for 33,000 shares of the Company's common stock, vesting in equal quarterly installments over one year, upon initial election to our Board of Directors. In addition, each non-employee director is also entitled to receive an additional annual option award for 16,666 shares of the Company's common stock, vesting in equal quarterly installments over one year.

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

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

ITEM 12. *SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS*

Based on information available to us and filings with the Securities and Exchange Commission (the "**SEC**"), the following table sets forth certain information regarding the beneficial ownership (as defined by Rule 13d-3 under the Securities Exchange Act of 1934) of our outstanding common stock for (i) each of our directors, (ii) each of our "named executive officers," as defined in the Executive Compensation section above, (iii) all of our directors and executive officers as a group and (iv) persons known to us to beneficially own more than 5% of our outstanding common stock. The following information is presented as of March 15, 2016 or such other date as may be reflected below.

Beneficial ownership and percentage ownership are determined in accordance with the rules of the SEC and include voting or investment power with respect to shares of stock. This information does not necessarily indicate beneficial ownership for any other purpose. Under these rules, shares of common stock issuable under stock options or warrants that are exercisable within 60 days of March 15, 2016 are deemed outstanding for the purpose of computing the percentage ownership of the person holding the options or warrants, but are not deemed outstanding for the purpose of computing the percentage ownership of any other person.

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

	Shares Beneficially Owned	
Name and Address of Beneficial Owner	**Number[1]**	**Percent of Class[2]**
Greater than 5% Holders		
Broadfin Capital, LLC[3] 300 Park Avenue, 25th Floor New York, NY 10022	6,617,138	9.90%
Directors, Officers and Named Executive Officers:		
Geert Cauwenbergh, Dr. Med. Sc.[4]	1,531,957	2.30%
Robert J. Bitterman[5]	164,831	*
Keith L. Brownlie[6]	83,331	*

Name and Address of Beneficial Owner	Shares Beneficially Owned	
	Number[1]	Percent of Class[2]
H. Paul Dorman[7]	141,664	*
Curtis A. Lockshin, Ph.D.[8]	91,664	*
Pamela Pavco, Ph.D.[9]	730,705	1.11%
All current directors and executive officers as a group (six persons)	2,744,152	4.05%

* Indicates less than 1%.

(1) Represents shares of common stock and shares of restricted stock held as of March 15, 2016 plus shares of common stock that may be acquired upon exercise of options, warrants and other rights exercisable within 60 days of March 15, 2016.

(2) Based on 65,349,121 shares of the registrant's common stock that were issued and outstanding as of March 15, 2016. The percentage ownership and voting power for each person (or all directors and executive officers as a group) is calculated by assuming the exercise or conversion of all options, warrants and convertible securities exercisable or convertible within 60 days of March 15, 2016 held by such person and the non-exercise and non-conversion of all outstanding warrants, options and convertible securities held by all other persons.

(3) Based solely on information set forth in a 13G/A filed with the SEC on February 12, 2016. Voting and dispositive power with respect to the shares is shared with Broadfin Healthcare Master Fund, Ltd. and Kevin Kotler. Kevin Kotler is the Managing Member of Broadfin Capital, LLC and Director of Broadfin Healthcare Master Fund, Ltd.

(4) Consists of (a) 187,500 shares of common stock and (b) 1,299,457 shares of common stock issuable upon the exercise of options and 45,000 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 15, 2016.

(5) Consists of (a) 44,000 shares of common stock and (b) 83,331 shares of common stock issuable upon the exercise of options and 37,500 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 15, 2016.

(6) Consists of 83,331 shares of common stock issuable upon the exercise of options exercisable within 60 days of March 15, 2016.

(7) Consists of (a) 37,500 shares of common stock and (b) 66,664 shares of common stock issuable upon the exercise of options and 37,500 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 15, 2016.

(8) Consists of (a) 13,000 shares of common stock and (b) 66,664 shares of common stock issuable upon the exercise of options and 12,000 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 15, 2016.

(9) Consists of (a) 60,627 shares of common stock and (b) 657,578 shares of common stock issuable upon the exercise of options and 12,500 shares of common stock issuable upon the exercise of warrants exercisable within 60 days of March 15, 2016.

Securities Authorized for Issuance Under Equity Compensation Plans

The following tables provides information, as of December 31, 2015, about the securities authorized for issuance under our equity compensation plans, which consisted of our 2012 Long Term Incentive Plan and our 2013 Employee Stock Purchase Plan:

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in First Column)
Equity compensation plans approved by security holders	3,323,761	$ 3.05	1,674,246
Equity compensation plans not approved by security holders	—	—	—
Total	3,323,761	$ 3.05	1,674,246

ITEM 13. *CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE*

Policies and Procedures for Related Person Transactions

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

Director Independence

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

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

ITEM 14. *PRINCIPAL ACCOUNTANT FEES AND SERVICES*

The following is a summary of the fees billed to the Company by BDO USA, LLP, our independent registered public accounting firm, for professional services rendered for the fiscal years ended December 31, 2015 and 2014. These fees are for work invoiced in the fiscal years indicated.

	2015	2014
Audit Fees:		
Consists of fees billed for professional services rendered for the audit of the Company's annual financial statements and the review of the interim financial statements included in the Company's quarterly reports (together, the "**Financial Statements**") and for services normally provided in connection with statutory and regulatory filings or engagements	$190,590	$122,851
Other Fees:		
Audit-Related Fees		
Consists of fees billed for assurance and related services reasonably related to the performance of the annual audit or review of the Financial Statements	—	—
Tax Fees		
Consists of fees billed for tax compliance, tax advice and tax planning	—	—
All Other Fees		
Consists of fees billed for other products and services not described above	—	—
Total Other Fees	—	—
Total All Fees:	$190,590	$122,851

The Audit Committee reviews and pre-approves all audit and non-audit services performed by its independent registered public accounting firm, as well as the fees charged for such services. All fees incurred in fiscal years 2015 and 2014 for services rendered by BDO were approved in accordance with these policies. In its review of non-audit service fees, the Audit Committee considers, among other things, the possible impact of the performance of such services on the auditor's independence. BDO did not perform any non-audit services for fiscal years ended December 31, 2015 and 2014.

PART IV

ITEM 15. *EXHIBITS AND FINANCIAL STATEMENT SCHEDULES*

Financial Statements

Our financial statements are set forth in Item 8 to this Annual Report on Form 10-K.

Financial Statement Schedules

Certain schedules are omitted because they are not applicable, or are not required by smaller reporting companies.

Exhibits

The exhibits listed on the Exhibit Index beginning on page II-1, which is incorporated herein by reference, are filed or furnished as part of this report or are incorporated into this report by reference.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

RXi PHARMACEUTICALS CORPORATION

By: /S/ GEERT CAUWENBERGH
Geert Cauwenbergh, Dr. Med. Sc.
President, Chief Executive Officer
and acting Chief Financial Officer

Date: March 30, 2016

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ GEERT CAUWENBERGH Geert Cauwenbergh, Dr. Med. Sc.	President, Chief Executive Officer, acting Chief Financial Officer and Director (Principal Executive Officer and Principal Financial Officer)	March 30, 2016
/s/ CAITLIN KONTULIS Caitlin Kontulis	Director of Finance and Secretary (Principal Accounting Officer)	March 30, 2016
/s/ ROBERT J. BITTERMAN Robert J. Bitterman	Director	March 30, 2016
/s/ KEITH L. BROWNLIE Keith L. Brownlie	Director	March 30, 2016
/s/ H. PAUL DORMAN H. Paul Dorman	Director	March 30, 2016
/s/ CURTIS A. LOCKSHIN Curtis A. Lockshin, Ph.D.	Director	March 30, 2016

Exhibits

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference Herein	
		Form	Date
2.1	Contribution Agreement, dated as of September 24, 2011, between RXi Pharmaceuticals Corporation (formerly RNCS, Inc.) and Galena Biopharma, Inc. (formerly RXi Pharmaceuticals Corporation).	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-177498)	December 8, 2011
2.2	Securities Purchase Agreement, dated as of September 24, 2011, among RXi Pharmaceuticals Corporation (formerly RNCS, Inc.), Galena Biopharma, Inc. (formerly RXi Pharmaceuticals Corporation), Tang Capital Partners, LP and RTW Investments, LLC.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-177498)	December 8, 2011
2.3	Asset Purchase Agreement, dated March 1, 2013, between RXi Pharmaceuticals Corporation and OPKO Health, Inc. +	Quarterly Report on Form 10-Q (File No. 000-54910)	March 15, 2013
3.1	Amended and Restated Certificate of Incorporation of RXi Pharmaceuticals Corporation.	Amendment No. 4 to the Registration Statement on Form S-1 (File No. 333-177498)	February 7, 2012
3.2	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of RXi Pharmaceuticals Corporation.	Current Report on Form 8-K (File No. 000-54910)	July 22, 2013
3.3	Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock of RXi Pharmaceuticals Corporation.	Amendment No. 4 to Registration Statement Form S-1 (File No. 333-177498)	February 7, 2012
3.4	Certificate of Designations, Preferences and Rights of Series A-1 Convertible Preferred Stock of RXi Pharmaceuticals Corporation.	Quarterly Report on Form 10-Q (File No. 000-54910)	August 14, 2013
3.5	Certificate of Increase, filed with the Secretary of State of the State of Delaware on January 24, 2014.	Current Report of Form 8-K (File No. 000-54910)	January 24, 2014
3.6	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of RXi Pharmaceuticals Corporation.	Registration Statement on Form S-1 (File No. 333-203389)	April 13, 2015

3.7	Amended and Restated Bylaws of RXi Pharmaceuticals Corporation.	Quarterly Report on Form 10-Q (File No. 333-177498)	May 14, 2012
3.8	Certificate Eliminating the Series A Convertible Preferred Stock form the Certificate of Incorporation of RXi Pharmaceuticals Corporation.	Quarterly Report on Form 10-Q (File No. 001-36304)	November 12, 2015
3.9	Certificate Eliminating the Series A-1 Convertible Preferred Stock form the Certificate of Incorporation of RXi Pharmaceuticals Corporation.	Quarterly Report on Form 10-Q (File No. 001-36304)	November 12, 2015
4.1	Form of Overallotment Purchase Right.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
4.2	Form of Warrant.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
10.1	Employment Agreement, dated September 24, 2011, between RXi Pharmaceuticals Corporation (formerly, RNCS, Inc.) and Pamela Pavco, Ph.D.*	Current Report on Form 8-K of Galena Biopharma, Inc. (File No. 001-33958)	September 26, 2011
10.2	Patent and Technology Assignment Agreement between RXi Pharmaceuticals Corporation (formerly RNCS, Inc.) and Advirna, LLC, effective as of September 24, 2011.	Registration Statement on Form S-1 (File No. 333-177498)	October 25, 2011
10.3	RXi Pharmaceuticals Corporation 2012 Long Term Incentive Plan.*	Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333-177498)	January 23, 2012
10.4	Form of Incentive Stock Option Award under the Company's 2012 Long Term Incentive Plan, as amended.*	Registration Statement on Form S-1 (File No. 333-191236	September 18, 2013
10.5	Form of Non-qualified Stock Option Award under the Company's 2012 Long Term Incentive Plan, as amended.*	Registration Statement on Form S-1 (File No. 333-191236	September 18, 2013
10.6	Form of Restricted Stock Unit Award under the Company's 2012 Long Term Incentive Plan, as amended.*	Registration Statement on Form S-1 (File No. 333-191236	September 18, 2013
10.7	Amendment to RXi Pharmaceuticals Corporation Long-Term Incentive Plan.*	Registration Statement on Form S-1 (File No. 333-191236	September 18, 2013

10.8	RXi Pharmaceuticals Corporation Employee Stock Purchase Plan.*	Registration Statement on Form S-1 (File No. 333-191236	September 18, 2013
10.9	Form of Indemnification Agreement.*	Amendment No. 3 to the Registration Statement on Form S-1 (File No. 333-177498)	January 23, 2012
10.10	Employment Agreement, dated April 27, 2012, between RXi Pharmaceuticals Corporation and Geert Cauwenbergh, Dr. Med. Sc.*	Current Report on Form 8-K (File No. 333-177498)	May 3, 2012
10.11	Securities Purchase Agreement, dated as of March 6, 2013, among RXi Pharmaceuticals Corporation and the purchasers named therein.	Current Report on Form 8-K (File No. 000-54910)	March 7, 2013
10.12	Lease Agreement dated December 17, 2013 between RXi Pharmaceuticals Corporation and 257 Simarano Drive, LLC, Brighton Properties, LLC, Robert Stubblebine 1, LLC and Robert Stubblebine 2, LLC.	Current Report on Form 8-K (File No. 000-54910)	December 20, 2013
10.13	Purchase Agreement, dated as of April 22, 2014, between RXi Pharmaceuticals Corporation and Lincoln Park Capital Fund, LLC.	Current Report on Form 8-K (File No. 001-36304)	April 23, 2014
10.14	Purchase Agreement, dated as of December 18, 2014, between RXi Pharmaceuticals Corporation and Lincoln Park Capital Fund, LLC.	Current Report on Form 8-K (File No. 001-36304)	December 19, 2014
10.15	Manufacturing and Distribution Agreement, dated November 14, 2013 between RXi Pharmaceuticals Corporation and Ethicor Pharmaceuticals Ltd. +	Annual Report on Form 10-K (File No. 000-54910)	March 28, 2014
10.16	Engagement Agreement, dated February 25, 2015 between RXi Pharmaceuticals Corporation and H.C. Wainwright & Co., LLC.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
10.17	Amendment to Engagement Agreement, dated April 20, 2015 between RXi Pharmaceuticals Corporation and H.C. Wainwright & Co., LLC.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
10.18	Amendment to Engagement Agreement, dated May 19, 2015 between RXi Pharmaceuticals Corporation and H.C. Wainwright & Co., LLC.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
10.19	Form of Securities Purchase Agreement.	Amendment No. 1 to the Registration Statement on Form S-1 (File No. 333-203389)	May 21, 2015
23.1	Consent of BDO USA, LLP, an Independent Registered Public Accounting Firm.****		
31.1	Sarbanes-Oxley Act Section 302 Certification of Chief Executive Officer and Chief Financial Officer.****		

32.1	Sarbanes-Oxley Act Section 906 Certification of Chief Executive Officer and Chief Financial Officer.****
101	The following financial information from the Annual Report on Form 10-K of RXi Pharmaceuticals Corporation for the year ended December 31, 2015, formatted in XBRL (eXtensible Business Reporting Language): (1) Balance Sheets as of December 31, 2015 and December 31, 2014; (2) Statements of Operations for the years ended December 31, 2015 and 2014; (3) Statements of Convertible Preferred Stock and Statements of Stockholders' Equity for the years ended December 31, 2015 and 2014; (4) Statements of Cash Flows for the years ended December 31, 2015 and 2014; and (4) Notes to Financial Statements.****

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* Indicates a management contract or compensatory plan or arrangement.

**** Filed herewith.

\+ Confidential treatment has been requested or granted for certain portions which have been blanked out in the copy of the exhibit filed with the Securities and Exchange Commission. The omitted information has been filed separately with the Securities and Exchange Commission.

BOARD OF DIRECTORS

Robert Bitterman
Chairman of the Board and
Chairman of the Compensation Committee

President & CEO of Cutanea Life Sciences, Inc., a wholly owned subsidiary of Maruho Company, LTD., a specialty pharma development company focused on diseased and aging skin

More than 20 years of executive leadership experience in the pharmaceutical and biologic life science industry

Keith Brownlie
Chairman of the Audit Committee

Distinguished career with Ernst & Young that spanned 36 years

Held the position of Metro New York Area Life Sciences Industry Leader at Ernst & Young

H. Paul Dorman

Chairman and CEO of DFB Pharmaceuticals, a holding company that has successfully invested and operated multiple pharmaceutical businesses

More than 30 years of executive experience in the pharmaceutical industry

Curtis Lockshin, Ph.D.
Chairman of the Nominating and Governance Committee

CEO of Guardum Pharmaceuticals, a wholly owned U.S. subsidiary of PJSC Pharmsynthez

CTO of VBI Vaccines, a commercial-stage biopharmaceutical company developing a next generation of vaccines to address unmet needs in infectious disease and immuno-oncology

Ph.D. Biologist with 20 years of life sciences industry experience

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

SCIENTIFIC ADVISORY BOARD

Leroy Young, M.D.
Scientific Advisory Board

Primary Investigator for Mercy Research in Washington, Missouri

Past President of the Aesthetic Surgery Education and Research Foundation (ASERF)

Jeannette Graf, M.D.
Scientific Advisory Board

Assistant Clinical Professor of Dermatology at the Mount Sinai School of Medicine

Independent consultant and advisory board member for a number of cosmetic and pharmaceutical companies, including Neutrogena, Johnson & Johnson, RoC, Allergan, Aveeno, Merz/Bioform, Medicis, PCA Skin and Alastin Skincare

Peter Campochiaro, M.D.
Scientific Advisory Board

Dr. Peter Campochiaro is the George S. and Dolores Doré Eccles Professor of Ophthalmology and Neuroscience in the Johns Hopkins University School of Medicine

Prominent researcher, clinician and educator in the field of ophthalmology and sees patients at the Wilmer Eye Institute at Johns Hopkins

MANAGEMENT TEAM

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

Vice President, Research & Development, Johnson & Johnson's Skin Research Center

Founder, Chairman & CEO of Barrier Therapeutics, Inc. (acquired by Stiefel Laboratories, Inc.)

Chairman & CEO of Rhei Pharmaceuticals HK Ltd.

Pamela Pavco, Ph.D.
Chief Development Officer

VP of Pharmaceutical Development of Galena Biopharma, Inc.

Senior Director, R&D Project Management, Sirna Therapeutics, Inc., a subsidiary of Merck & Co., Inc.

Responsible for Sirna-027, 1st chemically modified siRNA to enter clinical trials

Karen Bulock, Ph.D.
Vice President of Research

Associate Director Discovery of Galena Biopharma, Inc.

Project Lead for program leading to discovery of RXI-109

Group Leader, Discovery/HTS of Cytrx Corp.

Annual Meeting
Thursday, December 15, 2016
10:00 am
Gibson, Dunn & Crutcher LLP
MetLife Building
200 Park Avenue
New York City, NY 10166

Transfer Agent
Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021

Auditor
BDO USA, LLP
Boston, MA

Legal Counsel
Gibson, Dunn & Crutcher LLP
San Francisco, CA

Ticker
NASDAQ: RXII

Initial Trading
May 2012

Investor Relations
Tamara McGrillen
508-929-3646
ir@rxipharma.com

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