

[Table of Contents](#)

Filed Pursuant to Rule 424(b)(3)
Registration No. 333-181534

PROSPECTUS SUPPLEMENT NO. 4
(To Prospectus dated July 6, 2012)

138,941,780 Shares



RXi Pharmaceuticals Corporation

This Prospectus Supplement No. 4 supplements the prospectus dated July 6, 2012 (as supplemented to date, the “Prospectus”), which forms a part of our Registration Statement on Form S-1 (Registration Statement No. 333-181534). The Prospectus and this prospectus supplement relate to the disposition from time to time of up to 138,941,780 shares of our common stock, which are held or may be held by the selling stockholders named in the Prospectus. We are not selling any common stock under this prospectus and will not receive any of the proceeds from the sale of shares by the selling stockholders.

This prospectus supplement should be read in conjunction with the Prospectus, which is to be delivered with this prospectus supplement. This prospectus supplement updates, amends and supplements the information included or incorporated by reference in the Prospectus. If there is any inconsistency between the information in the Prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement.

This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus, including any amendments or supplements to it.

Current Report on Form 10-Q

On August 14, 2012, we filed a Current Report on Form 10-Q with the Securities and Exchange Commission. The text of such Form 8-K is attached hereto.

Investing in our common stock involves a high degree of risk. In reviewing the Prospectus and this prospectus supplement, you should carefully consider the matters described under the heading “Risk Factors” beginning on page 5 of the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is August 14, 2012.

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2012

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: 333-177498

RXi Pharmaceuticals Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State of incorporation)

45-3215903
(I.R.S. Employer
Identification No.)

1500 West Park Drive, Suite 210, Westborough, MA 01581
(Address of principal executive office) (Zip code)

Registrant's telephone number: (508) 767-3861

60 Prescott Street, Worcester, MA 01605
(Former address)

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 such shorter time that the registrant was required to submit and post such files). Yes No

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 checkmark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of August 8, 2012, RXi Pharmaceuticals Corporation had 157,500,191 shares of common stock, \$0.0001 par value, outstanding.

[Table of Contents](#)

RXI PHARMACEUTICALS CORPORATION
FORM 10-Q — QUARTER ENDED JUNE 30, 2012

INDEX

<u>Part</u>	<u>Item No.</u>	<u>Description</u>	<u>Page No.</u>
I		FINANCIAL INFORMATION	
	1	Financial Statements (unaudited)	3
		Condensed Balance Sheets as of June 30, 2012 and December 31, 2011	3
		Condensed Statements of Expenses for the three months ended June 30, 2012 and 2011, the six months ended June 30, 2012 and 2011, and the cumulative period from January 1, 2003 (date of inception) to June 30, 2012	4
		Condensed Statements of Convertible Preferred Stock and Stockholders' Deficit for the period from September 24, 2011 to June 30, 2012, Divisional Equity for the period from April 3, 2006 to September 23, 2011 and Parent Company's Net Deficit for the period from January 1, 2003 (date of inception) to December 31, 2006	5
		Condensed Statements of Cash Flows for the six months ended June 30, 2012 and 2011 and the cumulative period from January 1, 2003 (date of inception) to June 30, 2012	8
		Notes to Condensed Financial Statements	11
	2	Management's Discussion and Analysis of Financial Condition and Results of Operations	19
	4	Controls and Procedures	23
II		OTHER INFORMATION	24
	1	Legal Proceedings	24
	1A	Risk Factors	24
	2	Unregistered Sales of Equity Securities and Use of Proceeds	24
	3	Defaults Upon Senior Securities	24
	4	Mine Safety Disclosures	24
	5	Other Information	24
	6	Exhibits	25
		Index to Exhibits	25
		Signatures	26
		EX-3.1	
		EX-31.1	
		EX-32.1	
		EX-101 INSTANCE DOCUMENT	
		EX-101 SCHEMA DOCUMENT	
		EX-101 CALCULATION LINKBASE DOCUMENT	
		EX-101 DEFINITION LINKBASE DOCUMENT	
		EX-101 LABELS LINKBASE DOCUMENT	
		EX-101 PRESENTATION LINKBASE DOCUMENT	

PART I

ITEM 1. FINANCIAL STATEMENTS

RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)CONDENSED BALANCE SHEETS
(Amounts in thousands, except share and per share data)
(Unaudited)

	June 30, 2012	December 31, 2011
ASSETS	<u>—</u>	
Current assets:		
Cash and cash equivalents	\$ 7,575	\$ 556
Due from Parent	—	597
Prepaid expenses and other current assets	162	186
Total current assets	7,737	1,339
Equipment and furnishings, net	282	355
Total assets	<u>\$ 8,019</u>	<u>\$ 1,694</u>
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	\$ 277	\$ 387
Accrued expenses and other current liabilities	610	544
Deferred revenue	468	816
Current maturities of capital lease obligations	11	29
Total current liabilities	1,366	1,776
Convertible notes payable	—	500
Capital lease obligations, net of current maturities	5	5
Total liabilities	1,371	2,281
Commitments and contingencies		
Series A convertible preferred stock, \$0.0001 par value, 10,000,000 shares authorized; 9,424 shares issued and outstanding (Liquidation preference of \$9,424 at June 30, 2012)	9,424	—
Stockholders' deficit:		
Common stock, \$0.0001 par value, 1,500,000,000 shares authorized at June 30, 2012 and December 31, 2011; 156,476,413 and 100,439,841 shares issued and outstanding at June 30, 2012 and December 31, 2011, respectively	16	10
Additional paid-in capital	11,009	3,680
Deficit accumulated during the developmental stage	(13,801)	(4,277)
Total stockholders' deficit	(2,776)	(587)
Total liabilities, convertible preferred stock and stockholders' deficit	<u>\$ 8,019</u>	<u>\$ 1,694</u>

The accompanying notes are an integral part of these financial statements.

RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)

CONDENSED STATEMENTS OF EXPENSES
(Amounts in thousands, except share and per share data)
(Unaudited)

	<u>RXi</u> <u>(Registrant)</u>	<u>Predecessor</u> <u>(RNAi)</u>	<u>RXi</u> <u>(Registrant)</u>	<u>Predecessor</u> <u>(RNAi)</u>	<u>Predecessor</u> <u>(RNAi) and</u> <u>RXi</u> <u>(Registrant)(1)</u>
	<u>For the Three</u> <u>Months Ended</u> <u>June 30,</u> <u>2012</u>	<u>For the Three</u> <u>Months Ended</u> <u>June 30,</u> <u>2011</u>	<u>For the Six</u> <u>Months Ended</u> <u>June 30,</u> <u>2012</u>	<u>For the Six</u> <u>Months Ended</u> <u>June 30,</u> <u>2011</u>	<u>Period from</u> <u>January 1,</u> <u>2003 (Date of</u> <u>Inception) to</u> <u>June 30,</u> <u>2012</u>
Expenses:					
Research and development expense	\$ 667	\$ 1,690	\$ 1,683	\$ 3,631	\$ 34,556
Research and development employee stock based compensation expense	106	146	144	392	3,064
Research and development non-employee stock based compensation expense	1	(44)	100	(75)	6,084
Fair value of common stock issued in exchange for patent and technology rights	6,173	—	6,173	—	6,173
Fair value of common stock issued in exchange for licensing rights	—	—	—	—	3,954
Total research and development expenses	6,947	1,792	8,100	3,948	53,831
General and administrative expense	650	876	1,325	2,797	26,790
General and administrative employee stock based compensation	53	165	130	1,264	9,192
Common stock warrants issued for general and administrative expenses	13	5	13	81	2,398
Fair value of common stock issued in exchange for general and administrative expenses	—	—	—	23	304
Total general and administrative expenses	716	1,046	1,468	4,165	38,684
Operating loss	(7,663)	(2,838)	(9,568)	(8,113)	(92,515)
Interest income (expense)	(6)	1	(27)	—	601
Other income	70	955	71	2,390	6,387
Net loss	\$ (7,599)	\$ (1,882)	\$ (9,524)	\$ (5,723)	\$ (85,527)
Accretion of Series A convertible preferred stock and dividends	(9,618)	—	(9,618)	—	(9,618)
Net loss applicable to common stockholders	<u>\$ (17,217)</u>	<u>\$ (1,882)</u>	<u>\$ (19,142)</u>	<u>\$ (5,723)</u>	<u>\$ (95,145)</u>
Net loss per common share applicable to common stockholders					
(Note 1):					
Basic and diluted loss per share	<u>\$ (0.13)</u>	<u>\$ (0.05)</u>	<u>\$ (0.16)</u>	<u>\$ (0.19)</u>	
Weighted average common shares outstanding:					
Basic and diluted	<u>132,203,416</u>	<u>38,568,501</u>	<u>116,321,629</u>	<u>29,492,756</u>	

(1) The statement of expenses for the period from January 1, 2003 (date of inception) to June 30, 2012 includes the results of operations of the carved-out Predecessor (RNAi) entity from the beginning of the periods presented to September 23, 2011 (\$73,466) combined with the results of operations of RXi (Registrant) for the period September 24, 2011 to June 30, 2012 (\$21,680).

The accompanying notes are an integral part of these financial statements.

RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)

**CONDENSED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT FOR THE PERIOD FROM
SEPTEMBER 24, 2011 TO
JUNE 30, 2012, DIVISIONAL EQUITY FOR THE PERIOD FROM APRIL 3, 2006 TO
SEPTEMBER 23, 2011 AND PARENT COMPANY'S NET DEFICIT FOR THE PERIOD FROM JANUARY 1,
2003 (DATE OF INCEPTION) TO DECEMBER 31, 2006
(Amounts in thousands, except share data)
(Unaudited)**

	RXi (Registrant)			Predecessor (RNAi)	Predecessor (CytRx)	Total	
	Series A Convertible Preferred Stock		Additional Paid-in Capital	Deficit Accumulated Since Incorporation	Divisional Equity		Parent Company's Net Deficit
	Shares Issued	Amount					
Inception, January 1, 2003					\$ —	\$ —	\$ —
Net loss					—	(89)	(89)
Balance at December 31, 2003					—	(89)	(89)
Net loss					—	(3,272)	(3,272)
Net transactions with Parent Company					—	2,393	2,393
Balance at December 31, 2004					—	(968)	(968)
Net loss					—	(2,209)	(2,209)
Net transactions with Parent Company					—	2,727	2,727
Balance at December 31, 2005					—	(450)	(450)
Net loss					—	(2,405)	(2,405)
Net transactions with Parent Company					—	2,587	2,587
Balance at December 31, 2006					\$ —	\$ (268)	\$ (268)
Balance at April 3, 2006					\$ —	\$ —	\$ —
Cash contributions from Parent Company					2	—	2
Balance at December 31, 2006					2	—	2
Non-cash equity adjustments from Parent Company					4,318	—	4,318
Cash contributions from Parent Company					15,679	—	15,679
Stock-based compensation expense					1,814	—	1,814
Net loss					(10,990)	—	(10,990)
Balance at December 31, 2007					10,823	—	10,823
Non-cash equity adjustments from Parent Company					750	—	750
Cash contributions from Parent Company					7,944	—	7,944
Stock based compensation					3,824	—	3,824
Net loss					(14,373)	—	(14,373)

[Table of Contents](#)

	RXi (Registrant)						Predecessor (RNAi)	Predecessor (CytRx)	Total
	Series A Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit Accumulated Since Incorporation	Divisional Equity	Parent Company's Net Deficit	
	Shares Issued	Amount	Shares Issued	Amount					
Balance at December 31, 2008							8,968	—	8,968
Non-cash equity adjustments from Parent Company, net							(1,756)	—	(1,756)
Cash contributions from Parent Company							7,714	—	7,714
Stock based compensation expense							4,202	—	4,202
Net loss							(18,387)	—	(18,387)
Balance at December 31, 2009							741	—	741
Non-cash equity adjustments from Parent Company, net							(2,326)	—	(2,326)
Cash contributions from Parent Company, net							11,640	—	11,640
Stock-based compensation expense							4,368	—	4,368
Net loss							(11,993)	—	(11,993)
Balance at December 31, 2010							2,430	—	2,430
Non-cash equity adjustments from Parent Company, net							(8,083)	—	(8,083)
Cash contributions to Parent Company, net							369	—	369
Stock-based compensation expense							1,987	—	1,987
Reclassification of derivative liability upon elimination of obligation							9,249	—	9,249
Net loss—Predecessor (RNAi)							(7,682)	—	(7,682)
Recapitalization of divisional deficit			100,439,841	\$ 10		\$ (1,740)	1,730	—	—
Stock-based compensation						122	—	—	122
Cash contribution from Parent Company						1,500	—	—	1,500
Expenses paid by Parent Company for RXi						2,058	—	—	2,058
Net loss—RXi (Registrant)						(2,537)	—	—	(2,537)
	—	—	100,439,841	10	3,680	(4,277)	—	—	(587)

[Table of Contents](#)

	RXi (Registrant)						Predecessor	Predecessor	Total
	Series A Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Deficit Accumulated Since Incorporation	Predecessor (RNAi)	Predecessor (CytRx)	
	Shares Issued	Amount	Shares Issued	Amount			Divisional Equity	Parent Company's Net Deficit	
Issuance of Series A convertible preferred stock	9,500	\$ 9,500	—	—	—	—	—	—	—
Beneficial conversion feature related to Series A convertible preferred stock	—	(9,500)	—	—	9,500	—	—	—	9,500
Accretion of beneficial conversion feature related to Series A convertible preferred stock	—	9,500	—	—	(9,500)	—	—	—	(9,500)
Issuance of common stock in exchange for patent and technology rights	—	—	41,849,934	4	6,169	—	—	—	6,173
Stock-based compensation	—	—	—	—	374	—	—	—	374
Issuance of common stock warrants in exchange for services	—	—	—	—	13	—	—	—	13
Expenses paid by Parent Company for RXi	—	—	—	—	699	—	—	—	699
Conversion of Series A convertible preferred stock to common stock	(194)	194	14,186,638	2	192	—	—	—	194
Dividends paid on Series A convertible preferred stock	118	118	—	—	(118)	—	—	—	(118)
Net loss—RXi (Registrant)	—	—	—	—	—	(9,524)	—	—	(9,524)
Balance at June 30, 2012	<u>9,424</u>	<u>\$ 9,424</u>	<u>156,476,413</u>	<u>\$ 16</u>	<u>\$ 11,009</u>	<u>\$ (13,801)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$(2,776)</u>

See accompanying notes to financial statements.

RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)

CONDENSED STATEMENTS OF CASH FLOWS
(Amounts in thousands)
(Unaudited)

	<u>RXi (Registrant)</u>	<u>Predecessor (RNAi)</u>	<u>Predecessor (RNAi) and RXi (Registrant)(1)</u>
	<u>For the Six Months Ended June 30, 2012</u>	<u>For the Six Months Ended June 30, 2011</u>	<u>Period from January 1, 2003 (Date of Inception) Through June 30, 2012</u>
Cash flows from operating activities:			
Net loss	\$ (9,524)	\$ (5,723)	\$ (85,527)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization expense	79	83	743
Loss on disposal of equipment	—	—	52
Non-cash rent expense	—	—	29
Accretion and receipt of bond discount	—	—	35
Non-cash share-based compensation	374	1,581	18,340
Fair value of common stock warrants issued in exchange for services	13	—	13
Loss on exchange of equity instruments	—	900	900
Fair value of Parent Company's shares mandatorily redeemable for cash upon exercise of warrants	—	—	(785)
Fair value of Parent Company derivatives issued in exchange for services	—	81	2,385
Fair value of Parent Company's common stock issued in exchange for services	—	23	304
Change in fair value of derivatives of Parent Company issued in connection with various equity financings	—	(3,272)	(5,604)
Fair value of common stock issued in exchange for patent and technology rights	6,173	—	6,173
Fair value of Parent Company common stock issued in exchange for licensing rights	—	—	3,954
Changes in operating assets and liabilities:			
Prepaid expenses and other current assets	24	87	(146)
Accounts payable	(110)	98	277
Due to former parent	597	—	390
Deferred revenue	(49)	578	767
Accrued expenses and other current liabilities	(232)	502	947
Net cash used in operating activities	(2,655)	(5,062)	(56,753)
Cash flows from investing activities:			
Purchase of short-term investments	—	—	(37,532)
Maturities of short-term investments	—	—	37,497
Cash paid for purchase of equipment and furnishings	(6)	(53)	(751)
Proceeds from disposal of equipment and furnishings	—	—	(1)
Cash paid for lease deposit	—	—	(45)
Net cash used in investing activities	(6)	(53)	(832)

- (1) The statement of cash flow for the period from January 1, 2003 (date of inception) to June 30, 2012 include the cash flows of the carved-out Predecessor (RNAi) entity from the beginning of the periods presented to September 23, 2011 combined with the cash flows of RXi (Registrant) for the period September 24, 2011 to June 30, 2012.

[Table of Contents](#)

	<u>RXi (Registrant)</u>	<u>Predecessor (RNAi)</u>	<u>Predecessor (RNAi) and RXi (Registrant)(1) Period from January 1, 2003 (Date of Inception) Through June 30, 2012</u>
	<u>For the Six Months Ended June 30, 2012</u>	<u>For the Six Months Ended June 30, 2011</u>	
Cash flows from financing activities:			
Cash contributions (adjustments) from (to) Parent Company, net	699	(1,730)	55,923
Proceeds from issuance of Series A convertible preferred stock	8,500	—	8,500
Proceeds from issuance of convertible notes payable	500	—	1,000
Repayments of capital lease obligations	(19)	(46)	(263)
Net cash provided by (used in) financing activities	<u>9,680</u>	<u>(1,776)</u>	<u>65,160</u>
Net increase (decrease) in cash and cash equivalents	7,019	(6,891)	7,575
Cash and cash equivalents at the beginning of period	556	6,891	—
Cash and cash equivalents at end of period	<u>\$ 7,575</u>	<u>\$ —</u>	<u>\$ 7,575</u>
Supplemental disclosure of cash flow information:			
Cash received during the period for interest	\$ —	\$ —	\$ 724
Cash paid during the period for interest	\$ —	\$ 1	\$ 8

[Table of Contents](#)

	<u>RXi (Registrant)</u>	<u>Predecessor (RNAi)</u>	<u>Predecessor (RNAi) and RXi (Registrant)(1) Period From January 1, 2003 (Date of Inception) through June 30, 2012</u>
	<u>For the Six Months Ended June 30, 2012</u>	<u>For the Six Months Ended June 30, 2011</u>	
Supplemental disclosure of non-cash investing and financing activities:			
Settlement of corporate formation expenses in exchange for common stock	\$ —	\$ —	\$ 978
Fair value of derivatives issued in connection with Parent Company common stock recorded as a cost of equity	\$ —	\$ 8,743	\$ 14,051
Fair value of Parent Company shares mandatorily redeemable for cash upon the exercise of warrants	\$ —	\$ —	\$ 785
Allocation of management expenses	\$ —	\$ —	\$ 551
Equipment and furnishings exchanged for Parent Company common stock	\$ —	\$ —	\$ 48
Equipment and furnishings acquired through capital lease	\$ —	\$ 44	\$ 277
Value of Parent Company restricted stock units issued in lieu of bonuses included in accrued expenses	\$ —	\$ 427	\$ 427
Reclassification of derivative liability upon elimination of obligation	\$ —	\$ —	\$ 9,249
Value of Parent Company restricted stock units and common stock issued in lieu of cash bonuses	\$ —	\$ —	\$ 207
Non-cash lease deposit	\$ —	\$ —	\$ 50
Fair value of Parent Company stock options modified	\$ —	\$ 960	\$ 960
Conversion of Series A convertible preferred stock into common stock	\$ 194	\$ —	\$ 194
Value of Series A convertible preferred stock beneficial conversion feature	\$ 9,500	\$ —	\$ 9,500
Accretion of Series A convertible preferred stock	\$ 9,500	\$ —	\$ 9,500
Series A convertible preferred stock dividend	\$ 118	\$ —	\$ 118
Conversion of notes payable into preferred stock	\$ 1,000	\$ —	\$ 1,000

- (1) The statement of cash flow for the period from January 1, 2003 (date of inception) to June 30, 2012 include the cash flows of the carved-out Predecessor (RNAi) entity from the beginning of the periods presented to September 23, 2011 combined with the cash flows of RXi (Registrant) for the period September 24, 2011 to June 30, 2012.

The accompanying notes are an integral part of these financial statements.

**RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)**

NOTES TO CONDENSED FINANCIAL STATEMENTS

(Unaudited)

1. Description of Business and Basis of Presentation

Prior to April 13, 2011, Galena Biopharma, Inc. (“Galena” or the “Parent Company”) (formerly known as RXi Pharmaceuticals Corporation) was engaged primarily in conducting discovery research and preclinical development activities based on RNAi, and Galena’s financial statements for periods through April 13, 2011 primarily reflected assets, liabilities and results of operations attributable to Galena’s RNAi-based assets, liabilities and results of operations. On April 13, 2011, Galena broadened its strategic direction by adding the development and commercialization of cancer therapies that utilize peptide-based immunotherapy products, including a main product candidate, NeuVax, for the treatment of various cancers. On September 24, 2011, Galena contributed to RXi Pharmaceuticals Corporation (“RXi,” “Registrant,” or the “Company”), a newly formed subsidiary of Galena, substantially all of Galena’s RNAi-related technologies and assets. The newly formed RXi was incorporated on September 8, 2011 with the issuance of 100 initial shares at a price of \$0.01 per share for total consideration of \$1.00.

As a result of these transactions, the historical financial information for the three and six months ended June 30, 2011, as well as the cumulative period from inception (January 1, 2003) through April 27, 2012, has been “carved out” of the financial statements of Galena, as our “Predecessor”. Such financial information is limited to Galena’s RNAi-related activities, assets and liabilities only, and excludes activities, assets and liabilities that are attributable to Galena’s cancer therapy activities. The financial information for the cumulative period from inception through June 30, 2012 includes Galena’s RNAi-related activities through September 23, 2011 and also includes the results of RXi for the period from September 24, 2011 to June 30, 2012. RXi was formed on September 8, 2011 and was not engaged in any activities other than its initial incorporation from September 8, 2011 to September 23, 2011.

The carved-out financial information includes both direct and indirect expenses. The historical direct expenses consist primarily of the various costs for technology license agreements, sponsored research agreements and fees paid to scientific advisors, and employee expenses of employees directly involved in RNAi-related activities. Indirect expenses represent expenses incurred by Galena on behalf of the RNAi business that have been allocated to the RNAi business. The indirect expenses are based upon (1) estimates of the percentage of time spent by individual Galena employees working on RNAi business matters and (2) allocations of various expenses associated with each employee including salary, benefits, rent associated with an employee’s office space, accounting and other general and administrative expenses. The percentage of time spent by individual Galena employees was then multiplied by the allocation of various expenses associated with those employees to develop an allocation of expense per employee and the sum of such allocations for these employees equals the total expense allocable to the RNAi business and reflected in the carved-out financial statements.

Management believes the assumptions underlying the allocations of indirect expenses in the carve-out financial information are reasonable; however, the financial position, results of operations, and cash flows may have been materially different if the RNAi business had operated as a stand-alone entity for the entire three and six months ended June 30, 2011.

RXi was formed on September 8, 2011 and was not engaged in any activities other than its initial incorporation from September 8, 2011 to September 23, 2011. The RNAi business operated as a division of Galena prior to September 24, 2011, the date on which the RNAi-related assets were contributed from Galena to RXi, as described more fully below. The balance of \$13,801,000 in deficit accumulated since incorporation at June 30, 2012 includes RXi’s net loss of \$12,061,000 for the period September 24, 2011 to June 30, 2012 and the Predecessor’s cumulative net loss of \$73,466,000 through September 23, 2011 offset by cash and non-cash equity transactions of \$71,726,000.

To date, RXi’s principal activities, including that of its Predecessor, have consisted of development activities including the manufacture of clinical drug supply, filing of an Investigational New Drug (“IND”) application and the initiation of a Phase 1 clinical trial conducting discovery research and preclinical development activities utilizing the RNAi therapeutic platform, acquiring RNAi technologies and patent rights through exclusive, co-exclusive and non-exclusive licenses, recruiting an RNAi-focused management and scientific/clinical advisory team, capital raising activities and conducting business development activities aimed at establishing research and development partnerships with pharmaceutical and larger biotechnology companies.

The Company and its Predecessor have not generated any revenues since inception nor are any revenues expected for the foreseeable future and as such the Company is considered a development stage company for accounting purposes. The Company expects to incur significant operating losses for the foreseeable future while the Company advances its future product candidates from discovery through preclinical studies and clinical trials and seeks regulatory approval and potential commercialization, even if the Company is collaborating with pharmaceutical and larger biotechnology companies. The Company will need to generate significant revenues to achieve profitability and may never do so.

[Table of Contents](#)

On September 24, 2011, RXi entered into a contribution agreement with Galena pursuant to which:

- Galena assigned and contributed to us substantially all of its RNAi-related technologies and assets, which consist primarily of novel RNAi compounds and licenses from Dharmacon, Inc., Northwestern University, the Carnegie Institute of Washington, and the University of Massachusetts Medical School relating to its RNAi technologies, as well as the lease of its Worcester, Massachusetts laboratory facility, fixed assets and other equipment located at the facility and its employment arrangements with certain scientific, corporate and administrative personnel who have become our employees, as well as research grants from the National Institute of Neurological Disorders and Stroke, National Institute of Allergy and Infectious Diseases, and the National Institute of General Medical Sciences of approximately \$800,000 that are subject to the approval of the granting institutions, which was received in 2012; and
- RXi agreed to assume certain recent accrued expenses of the RXI-109 development program and all future obligations under the contributed licenses, employment arrangements and other agreements, and RXi agreed to make future milestone payments to Galena of up to \$45 million, consisting of two one-time payments of \$15 million and \$30 million, respectively, if RXi achieves annual net sales equal to or greater than \$500 million and \$1 billion, respectively, of any covered products that may be developed with the contributed RNAi technologies.

On September 24, 2011, RXi entered into a securities purchase agreement with Galena, Tang Capital Partners, LP (“TCP”) and RTW Investments, LLC (“RTW”) pursuant to which:

- TCP and RTW agreed to purchase a total of 9,500 shares of RXi’s Series A Convertible Preferred Stock (the “Series A Preferred Stock”), for an aggregate purchase price of \$9,500,000, at the closing of the spin-off transaction (see below) and to lend RXi up to \$1,500,000 to fund RXi’s operations prior to the closing, with the outstanding principal and accrued interest on the loan converted into Series A Preferred Stock at the closing, at a conversion price of \$1,000 per share, and such conversion applied to the \$9,500,000 total investment by TCP and RTW in Series A Preferred Stock;
- RXi agreed that the Series A Preferred Stock will be convertible by TCP or RTW at any time into shares of RXi common stock, except to the extent that the holder would own more than 9.999% of the shares of RXi common stock outstanding immediately after giving effect to such conversion. Without regard to this conversion limitation, the shares of the Series A Preferred Stock to be held by TCP and RTW would, as of April 27, 2012 (the closing date of the transaction), be convertible into shares of RXi common stock representing approximately 83% of the fully-diluted shares of RXi common stock outstanding as of that date;
- Galena contributed \$1.5 million of cash to RXi;
- Galena agreed to distribute to its stockholders 8% of the fully diluted shares of common stock of RXi that will be outstanding immediately upon the completion of the spin-off transaction; and
- RXi agreed to reimburse, upon completion of the spin-off transaction, Galena for up to a total of \$300,000, and TCP and RTW for a total of up to \$100,000, of transaction costs relating to the contribution agreement with Galena, the securities purchase agreement summarized above and the transactions contemplated by those agreements.

As of April 27, 2012, the date of completion of RXi’s spin-off from Galena, the Company issued 9,500 of Series A Preferred Stock to TCP and RTW upon the conversion of the \$1,026,736 principal and accrued interest under the bridge notes and the receipt of the remaining \$8,473,624 from TCP and RTW, as provided for in the securities purchase agreement. At the closing of the spin-off transaction, RXi reimbursed Galena and TCP \$300,000 and \$100,000, respectively, for transaction related expenses. The Company believes that the cash received from the securities purchase agreement should be sufficient to fund RXi’s operations into the second quarter of 2013. In the future, RXi will be dependent on obtaining funding from third parties, such as proceeds from the sale of equity, funded research and development programs and payments under partnership and collaborative agreements, in order to maintain RXi’s operations and meet RXi’s obligations to licensors. There is no guarantee that debt, additional equity or other funding will be available to the Company on acceptable terms, or at all. If the Company fails to obtain additional funding when needed, RXi would be forced to scale back, or terminate the Company operations or to seek to merge with or to be acquired by another company.

As part of the transactions contemplated by the contribution and securities purchase agreements, on September 24, 2011, RXi entered into an agreement with Advima, LLC (“**Advirna**”), a company affiliated with the Company’s former Senior Vice President and Chief Scientific Officer, pursuant to which:

- Advima assigned to RXi its existing patent and technology rights related to sd-rxRNA technology in exchange for RXi’s agreement to pay Advima an annual \$100,000 maintenance fee and a one-time \$350,000 milestone payment upon the future issuance of the first patent with valid claims covering the assigned patent and technology rights;
- RXi will also be required to pay a 1% royalty to Advima for any licensing revenue received by RXi with respect to future licensing of the assigned Advima patent and technology rights;
- RXi has granted back to Advima a license under the assigned patent and technology for fields of use outside the fields of human therapeutics and diagnostics; and

[Table of Contents](#)

- RXi issued to Advima, upon the completion of the spin-off transaction, shares of RXi's common stock equal to approximately 5% of the fully diluted shares of RXi common stock assuming the conversion in full of all outstanding Series A Preferred Stock.

Accordingly, at the date of the completion of the spin-off, the Company issued 41,849,934 shares of common stock to Advima. The Company recorded research and development expense of \$6,173,000 to recognize the fair value of the common shares issued in exchange for the sd-rxRNA patent and technology rights assigned to RXi by Advima.

Basis of Presentation

For the period from January 1, 2003 (date of inception) to December 31, 2006, the Predecessor financial information consists of various transactions of CytRx Corporation ("CytRx"), which were identified as direct expenses related to RNAi therapeutics and disaggregated ("carved out") from CytRx's financial statements. In addition, various indirect costs related to RNAi therapeutics (mainly senior management and accounting) were estimated and included as part of the Predecessor carved-out financial information. For the period from April 3, 2006 (date of incorporation of Galena) through December 31, 2007, Galena was operating as a subsidiary of CytRx. CytRx is the former parent of Galena. Galena was formed by CytRx and four prominent RNAi researchers to pursue the development of proprietary therapeutics based on RNAi for the treatment of human diseases. The financial information for the period from April 3, 2006 (date of incorporation of Galena) to June 30, 2012 was compiled from Galena's books and records through September 23, 2011, and includes an allocation in 2007 of indirect costs from CytRx for overhead and general administrative costs provided through December 31, 2007 (that have been allocated based upon estimates developed by CytRx's management and include corporate salaries, benefits, accounting, rent and other general and administrative expenses). There are no Predecessor financial statements for the period from April 3, 2006 (date of incorporation of Galena) to December 31, 2006 as there was no activity. In addition, the cumulative period from inception (January 1, 2003) through June 30, 2012 includes the results of RXi, the registrant, for the period from September 24, 2011 to June 30, 2012. RXi was formed on September 8, 2011 and was not engaged in any activities other than its initial incorporation from September 8, 2011 to September 23, 2011. RXi's net loss applicable to common stockholders for the period September 24, 2011 to June 30, 2012, included in the financial information for the cumulative period ended June 30, 2012, was \$21,680,000.

In January 2012, the Company amended its certificate of incorporation to increase its authorized common shares from 1,000 shares to 1,500,000,000 shares and to provide for the authorization of 10,000,000 shares of preferred stock. On April 26, 2012, the Board of Directors declared a 1,004,397.41 for 1 split in the form of a stock dividend of the Company's common stock resulting in the distribution on April 26, 2012 of 100,439,841 additional shares to Galena, the Company's sole stockholder on the record date for the distribution. Contemporaneously, Galena distributed 66,959,894 shares of RXi common stock to its shareholders. The share and per share amounts for the periods prior to the April 26, 2012 stock split give retroactive effect to the stock split.

Uses of estimates in preparation of financial statements

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America 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 from these estimates.

Net loss per share

The Company accounts for and discloses net loss per common share in accordance with the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 260 "Earnings per Share." Basic net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding. Diluted net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares that would have been outstanding during the period assuming the issuance of common shares for all potential dilutive common shares outstanding.

To determine the shares outstanding for the Company for the periods prior to the distribution of the RXi common shares to the Galena stockholders, Galena's weighted average number of shares is multiplied by the distribution ratio of one share of RXi common stock for every one share of Galena common stock. Basic loss per share is computed by dividing the Company's losses by the weighted average number of shares outstanding during the period. 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 shares outstanding and the impact of all dilutive potential common shares. There were no potential dilutive common shares for all periods presented.

[Table of Contents](#)

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

	June 30,	
	2012	2011
RXi options to purchase common stock	63,097,938	—
Common stock underlying Series A Preferred Stock	689,134,734	—
Warrants to purchase common stock	138,462	—
Total	752,371,134	—

For the three and six month periods ended June 30, 2012, net loss per common share applicable to common stockholders reflects \$9.6 million in Series A Preferred Stock accretion and dividends, including \$9.5 million related to the beneficial conversion feature of the Series A Preferred Stock that has been accreted to preferred dividends.

Comprehensive Loss

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

2. Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In May 2011, the FASB issued Accounting Standards Updated ("ASU") 2011-04, *Fair Value Measurement* (Topic 820): *Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs*, a new accounting standard that clarifies the application of certain existing fair value measurement guidance and expands the disclosures for fair value measurements that are estimated using significant unobservable (Level 3) inputs. This new standard is effective on a prospective basis for annual and interim reporting periods beginning on or after December 15, 2011. The adoption of this new standard did not have a material impact on the Company's financial statements.

Recently Issued Accounting Pronouncements

In June 2011, the FASB issued ASU 2011-05, *Comprehensive Income* (Topic 220): *Presentation of Comprehensive Income*, a new accounting standard that eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders' equity, requires the consecutive presentation of the statement of net income and other comprehensive income and requires an entity to present reclassification adjustments on the face of the financial statements from other comprehensive income to net income. The amendments in this new standard do not change the items that must be reported in other comprehensive income or when an item of other comprehensive income must be reclassified to net income nor do the amendments affect how earnings per share is calculated or presented. This new standard is required to be applied retrospectively and is effective for fiscal years and interim periods within those years beginning after December 15, 2011. The adoption of this standard did not impact the Company's financial statements as the Company's comprehensive loss is equal to its net loss for all periods presented.

3. Fair Value Measurements

The Company follows the provisions of FASB ASC Topic 820, "*Fair Value Measurements and Disclosures*".

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 as 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.

Table of Contents

The Company categorized its cash equivalents as Level 1 hierarchy. The valuation for Level 1 was determined based on a “market approach” using quoted prices in active markets for identical assets. Valuations of these assets do not require a significant degree of judgment.

<u>Description</u>	<u>June 30, 2012</u>	<u>Quoted Prices in Active Markets (Level 1)</u>	<u>Significant Other Observable Inputs (Level 2)</u>	<u>Unobservable Inputs (Level 3)</u>
Assets:				
Cash equivalents	\$ 53	\$ 53	\$ —	\$ —
Total assets	\$ 53	\$ 53	\$ —	\$ —

<u>Description</u>	<u>December 31, 2011</u>	<u>Quoted Prices in Active Markets (Level 1)</u>	<u>Significant Other Observable Inputs (Level 2)</u>	<u>Unobservable Inputs (Level 3)</u>
Assets:				
Cash equivalents	\$ 53	\$ 53	\$ —	\$ —
Total assets	\$ 53	\$ 53	\$ —	\$ —

Fair Value of Financial Instruments

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

4. Preferred Stock

The Series A Preferred Stock has the rights and preferences set forth in the Certificate of Designations, Preferences and Rights of Series A Convertible Preferred Stock of the Company, or the Certificate of Designations, as summarized below.

Dividends

Holders of Series A Preferred Stock shall be entitled to receive cumulative mandatory dividends at the rate per share of seven percent (7%) of the face amount (\$1,000 per share) per annum, payable quarterly on each March 31, June 30, September 30 and December 31. Dividends shall be payable in additional shares of Series A Preferred Stock valued for this purpose at the face amount. In the event there are not sufficient authorized preferred shares available to pay such a dividend, the dividend shall instead accrete to and increase the value of the outstanding Series A Preferred Stock.

Liquidation Preference

The “Liquidation Preference” with respect to a share of Series A Preferred Stock means an amount equal to the face amount of the shares plus all accrued and unpaid dividends on the Series A Preferred Stock (as adjusted for any stock dividends, combinations, splits, recapitalizations and the like with respect to such shares). In the event of a liquidation, dissolution, or winding up, whether voluntary or involuntary, no distribution shall be made to the holders of any shares of capital stock of the Corporation (other than Senior Securities pursuant to the rights, preferences and privileges thereof) unless prior the holders of shares of Series A Preferred Stock have received the Liquidation Preference with respect to each share then outstanding.

Conversion

Each holder of shares of Series A Preferred Stock may, at any time and from time to time, convert each of its shares into a number of fully paid and non-assessable shares of common stock at the defined conversion rate. Initially each share of Series A Preferred Stock is convertible into 73,127 shares of common stock. In no event shall any holder of shares of Series A preferred stock have the right to convert shares of Series A Preferred Stock into shares of common stock to the extent that such issuance or sale or right to effect such conversion would result in the holder or any of its affiliates together beneficially owning more than 9.999% of the then issued and outstanding shares of common stock immediately prior to such purported issuance, sale, transfer or conversion.

If, at any time, the number of outstanding shares of common stock is increased by a stock split, stock dividend, combination, reclassification or other similar event (in each case, whether by merger or otherwise), then the conversion price shall be proportionately reduced. If the number of outstanding shares of common stock is decreased by a reverse stock split, combination or reclassification of shares, or other similar event (in each case, whether by merger or otherwise), then the conversion price shall be proportionately increased. Holders of Series A Preferred Stock are also entitled to adjustments to the conversion price and other rights in the event of a merger, change of control and other defined events.

[Table of Contents](#)

Voting

The holders of Series A Preferred Stock do not have any right to elect directors and have only limited voting rights, which consist primarily of the right to vote under certain protective provisions set forth in the Certificate of Designations, regarding: (i) any proposed amendment to the Series A Preferred Stock or its right and preferences; and (ii) any proposed “Deemed Liquidation Event” as defined in the Certificate of Designations.

Upon the issuance of the Series A Preferred Stock, the preferred stock was first assessed under ASC 480, “*Distinguishing Liabilities from Equity*” and it was determined that it was not within the scope of ASC 480, therefore, the Series A Preferred Stock was not considered a liability under ASC 480. The Series A Preferred Stock was then assessed under ASC 815, “*Derivatives and Hedging*”.

The Series A Preferred Stock is convertible into common stock at the holders’ option, subject to the terms of the Certificate of Designations. This embedded feature meets the definition of a derivative. The Company believes that the Series A Preferred Stock is an equity host for the purposes of assessing the embedded conversion option for potential bifurcation. The Company concluded that the conversion option feature is clearly and closely related to the preferred stock host. As such, the conversion feature did not require bifurcation under ASC 815.

The Series A Preferred Stock was then assessed under ASC 470, “*Debt with Conversion Features and Other Options*”, to determine if there was a beneficial conversion feature (BCF). The BCF compares the carrying value of the preferred stock after the value of any derivatives has been allocated from the proceeds to the transaction date value of number of shares that the holder would receive upon conversion. The calculation resulted in a BCF of \$9,500,000. The BCF was recorded in additional paid-in capital.

The Company has recorded the Series A Preferred Stock in temporary equity as, the Company may not be able to control the actions necessary to issue the maximum number of common shares needed to provide for a conversion in full of the then outstanding Series A Preferred Stock, at which time a holder of the Series A Preferred Stock may elect to redeem their preferred shares outstanding in the amount equal to the face value per share, plus unpaid accrued dividends. The initial carrying value of the Series A Preferred Stock was \$9,500,000. The conversion option of the Series A Preferred Stock is immediately exercisable, therefore the \$9,500,000 discount related to the BCF was immediately accreted to preferred dividends, resulting in an increase in the carrying value of the Series A Preferred Stock to \$9,500,000.

During June 2012, a Series A Preferred Stock holder elected to convert 194 shares of Series A Preferred Stock into 14,186,638 shares of common stock of the Company.

As of June 30, 2012 there were 9,424 shares of Series A Preferred Stock issued and outstanding.

5. Stock Based Compensation

The Company follows the provisions of the FASB 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 and non-employee directors including employee 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 vesting 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.

RXi Stock Based Compensation

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. As of June 30, 2012, a maximum of 90,000,000 shares of common stock are authorized for issuance and available for future grants under the Company’s 2012 Incentive Plan. The Company’s board of directors currently acts as the administrator of the Company’s 2012 Incentive Plan.

Table of Contents

The administrator has the power to select participants from among the key employees, directors and consultants 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. The administrator may at any time modify or amend the 2012 Incentive Plan or any award made thereunder in any respect, except where a participant's approval is required by law or where such termination or modification or amendment affects materially and adversely the rights of a participant under a previously granted award and such participant's consent has not been obtained.

The Company is currently using the Black-Scholes option-pricing model to determine the fair value of all its option grants. For option grants issued in the three and six month periods ended June 30, 2012 and 2011, the following assumptions were used:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2012	2011	2012	2011
Weighted average risk-free interest rate	0.93%	N/A	0.93%	N/A
Weighted average expected volatility	88.38%	N/A	88.38%	N/A
Weighted average expected lives (years)	6.00	N/A	6.00	N/A
Weighted average expected dividend yield	0.00%	N/A	0.00%	N/A

The weighted average fair value of options granted during the three and six month periods ended June 30, 2012 was \$0.07 and \$0.07, respectively.

RXi's expected common stock price volatility assumption is based upon the volatility of a composition of comparable companies. The expected life assumptions for employee grants were based upon the simplified method provided for under ASC 718-10. The expected life assumptions for non-employees were based upon the contractual term of the option. The dividend yield assumption of zero is based upon the fact that RXi has never paid cash dividends and presently has no intention of paying cash dividends. The risk-free interest rate used for each grant was also based upon prevailing short-term interest rates. RXi has estimated an annualized forfeiture rate of 5.0% for options granted to its employees and 0% forfeiture rate for the directors. RXi will record additional expense if the actual forfeitures are lower than estimated and will record a recovery of prior expense if the actual forfeiture rates are higher than estimated.

The following table summarizes stock option activity from January 1, 2012 through June 30, 2012:

	Total Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding at January 1, 2012	—	\$ —	
Granted	63,097,938	0.10	
Exercised	—	—	
Cancelled	—	—	
Outstanding at June 30, 2012	<u>63,097,938</u>	\$ 0.10	\$2,101,000
Options exercisable at June 30, 2012	<u>348,808</u>	\$ 0.13	\$ —

The aggregate intrinsic values of outstanding and exercisable options at June 30, 2012 were calculated based on the closing price of the Company's common stock on June 30, 2012 of \$0.13 per share less the exercise price of those shares.

Predecessor (RNAi) Stock Based Compensation Expense

The following stock based compensation information relates to stock options issued by Galena. Stock based compensation expense prior to the completion of the spin-off was allocated to the carved out financial statements based on an estimate of time spent by Galena employees, board members, scientific advisory board members, and outside consultants on RXi related matters. Galena options held by current RXi employees were cancelled at the date of the completion of the spin-off except for options to purchase an aggregate of 477,191 shares of Galena common stock. The Company will continue to recognize stock compensation expense on the non-cancelled options as they vest. Under the terms of the option awards, these options will continue to vest as long as the individuals are employed by RXi.

Table of Contents

Galena is currently using the Black-Scholes option-pricing model to determine the fair value of all its option grants. For option grants issued in the three and six month periods ended June 30, 2012 and 2011, the following assumptions were used:

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2012	2011	2012	2011
Weighted average risk-free interest rate	N/A	2.53%	1.01%	2.35%
Weighted average expected volatility	N/A	99.18%	75.96%	111.78%
Weighted average expected lives (years)	N/A	6.00	5.96	5.78
Weighted average expected dividend yield	N/A	0.00%	0.00%	0.00%

The weighted average fair value of options granted during the six month period ended June 30, 2012 and 2011 was \$0.47 and \$1.18 per share, respectively.

The weighted average fair value of options granted during the three month period ended June 30, 2011 was \$1.01 per share. There were no Galena options granted during the three month period ended June 30, 2012.

Galena's expected common stock price volatility assumption is based upon the volatility of a composition of comparable companies. The expected life assumptions for employee grants were based upon the simplified method provided for under ASC 718-10. The expected life assumptions for non-employees were based upon the contractual term of the option. The dividend yield assumption of zero is based upon the fact that Galena has never paid cash dividends and presently has no intention of paying cash dividends. The risk-free interest rate used for each grant was also based upon prevailing short-term interest rates. Galena has estimated an annualized forfeiture rate of 15.0% for options granted to its employees, 8.0% for options granted to senior management and no forfeiture rate for the directors. RXi will record additional expense if the actual forfeitures are lower than estimated and will record a recovery of prior expense if the actual forfeiture rates are higher than estimated.

The following table summarizes stock option activity from January 1, 2012 through June 30, 2012:

	Total Number of Shares	Weighted Average Exercise Price	Aggregate Intrinsic Value
Outstanding at January 1, 2012	5,153,387	\$ 3.24	
Granted	325,000	0.72	
Exercised	—	—	
Cancelled	4,877,662	3.01	
Outstanding at June 30, 2012	600,725	\$ 3.74	\$190,000
Options exercisable at June 30, 2012	481,499	\$ 4.24	\$107,487

The aggregate intrinsic values of outstanding and exercisable options at June 30, 2012 were calculated based on the closing price of Galena's common stock on June 29, 2012 of \$1.65 per share less the exercise price of those shares.

6. Subsequent Events

In accordance with ASC 855-10, "Subsequent Events," management has evaluated subsequent events through to the date these financial statements are filed. The Company did not have any material recognizable or unrecognizable subsequent events except as otherwise disclosed below and elsewhere in the notes to the financial statements.

On July 11, 2012, the Company granted an option to purchase 250,000 shares of common stock to each of the two Scientific Advisory Board members appointed to RXi's Scientific Advisory Board. The options had an exercise price of \$0.16 per share, which represented the Company's closing stock price on that date. The options vest annually over a two year period and expire not later than 10 years from the grant date.

[Table of Contents](#)

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

In this document, "we," "our," "ours," "us," "RXi" and the "Company" refer to RXi Pharmaceuticals Corporation. All references to "Galena" refer to Galena Biopharma, Inc. and Aphera, Inc., Galena's wholly owned subsidiary.

This management's discussion and analysis of financial condition as of June 30, 2012 and results of operations for the three and six months ended June 30, 2012 and 2011 should be read in conjunction with the financial statements included in our Special Financial Report on Form 10-K for the year ended December 31, 2011 which was filed with the SEC on May 7, 2012.

The discussion and analysis below includes certain forward-looking statements related to future operating losses and our potential for profitability, the sufficiency of our cash resources, our ability to obtain additional equity or debt financing, possible partnering or other strategic opportunities for the development of our products, as well as other statements related to the progress and timing of product development, present or future licensing, collaborative or financing arrangements or that otherwise relate to future periods, which are all forward-looking statements as defined by the Private Securities Litigation Reform Act of 1995. These statements represent, among other things, the expectations, beliefs, plans and objectives of management and/or assumptions underlying or judgments concerning the future financial performance and other matters discussed in this document. The words "may," "will," "should," "plan," "believe," "estimate," "intend," "anticipate," "project," and "expect" and similar expressions are intended to identify forward-looking statements. All forward-looking statements involve certain risks, uncertainties and other factors described elsewhere in this report and in our Special Financial Report on Form 10-K for the year ended December 31, 2011, that could cause our actual results of operations, performance, financial position and business prospects and opportunities for this quarter and the periods that follow to differ materially from those expressed in, or implied by, those forward-looking statements. We caution investors not to place significant reliance on the forward-looking statements contained in this report. These statements, like all statements in this report, speak only as of the date of this report (unless another date is indicated) and we undertake no obligation to update or revise forward-looking statements.

Overview

We are a biotechnology company focused on discovering, developing and commercializing innovative therapies addressing major unmet medical needs using RNAi-targeted technologies. We are pursuing proprietary therapeutics based on RNA interference ("RNAi"), a naturally occurring cellular mechanism that has the potential to effectively and selectively interfere with, or "silence," expression of targeted disease-associated genes.

Certain human diseases result from overexpression of one or more genes. We believe that these types of human diseases can potentially be treated by silencing (reducing) the overexpressed genes. While no therapeutic RNAi products have been approved by the Food and Drug Administration ("FDA") to date, there has been significant interest in the field of RNAi therapeutic development. This interest is driven by the potential ability to use RNAi to develop lead compounds that specifically and selectively inhibit single target genes, many of which are thought to be incapable of being inhibited by other modalities. RXI-109, our first RNAi product candidate, is a dermal anti-scarring investigative therapy that targets connective tissue growth factor ("CTGF"). The Company received the FDA's clearance to enter clinical trials with RXI-109, and with this clearance the Company initiated a Phase 1 clinical trial in 2012. Because abnormal overexpression of CTGF is implicated in dermal scarring and fibrotic disease, we believe that RXI-109 or other CTGF-targeting RNAi compounds may be able to treat other indications, including pulmonary fibrosis, liver fibrosis, acute spinal injury, ocular scarring and restenosis. We intend to maintain our core RNAi discovery and development capability and to develop products both on our own and through collaborations.

Research and Development

To date, our research programs have focused on identifying product candidates and optimizing the delivery method and technology necessary to make RNAi compounds available by local, systemic or oral administration, as appropriate for disease for which we intend to develop an RNAi therapeutic. 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;

[Table of Contents](#)

- 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.

Critical Accounting Policies and Estimates

Our significant accounting policies are described in Note 2 of the notes to the financial statements of our Annual Report on Form 10-K for the year ended December 31, 2012, which we filed with the SEC on May 8, 2012. Not all of these significant policies, however, fit the definition of critical accounting policies and estimates. The Company believes that the accounting policies relating to the predecessor financial statements and carve-out financial statements, research and development expenses, stock-based compensation and the accounting for convertible preferred stock fit the description of critical accounting policies and estimates.

Predecessor's Financial Statements and Carve-Out Financial Statements

Prior to April 13, 2011, Galena was engaged primarily in conducting discovery research and preclinical development activities based on RNAi, and Galena's financial statements for periods prior to April 13, 2011 reflected solely the assets, liabilities and results of operations attributable to Galena's RNAi-based assets, liabilities and results of operations. On April 13, 2011, Galena broadened its strategic direction by adding the development and commercialization of cancer therapies that utilize peptide-based immunotherapy products, including a main product candidate, NeuVax, for the treatment of various cancers. On September 24, 2011, Galena contributed to RXi, a newly formed subsidiary of Galena, substantially all of Galena's RNAi-related technologies and assets. The newly formed RXi was incorporated on September 8, 2011 with the issuance of 100 initial shares at a price of \$0.01 per share for total consideration of \$1.00. RXi was not engaged in any activities other than its initial incorporation from September 8, 2011 to September 23, 2011.

As a result of these transactions, the historical financial information for the three and six months ended June 30, 2011, as well as the cumulative period from inception (January 1, 2003) through June 30, 2012, has been "carved out" of the financial statements of Galena, as our "Predecessor". Such financial information is limited to Galena's RNAi-related activities, assets and liabilities only, and excludes activities, assets and liabilities that are attributable to Galena's cancer therapy activities. The financial information for the cumulative period from inception through June 30, 2012 includes Galena's RNAi-related activities through September 23, 2011 and also includes the results of RXi for the period from September 24, 2011 to June 30, 2012.

The carved-out financial information includes both direct and indirect expenses. The historical direct expenses consist primarily of the various costs for technology license agreements, sponsored research agreements, fees paid to scientific advisors and employee expenses of employees directly involved in RNAi-related activities. Indirect expenses represent expenses incurred by Galena that were allocable to the RNAi business. The indirect expenses are based upon (1) estimates of the percentage of time spent by Galena employees working on RNAi business matters and (2) allocations of various expenses associated with the employees, including salary, benefits, rent associated with the employees' office space, accounting and other general and administrative expenses. The percentage of time spent by Galena employees was multiplied by these allocable expenses to arrive at the total employee expenses allocable to the RNAi business and reflected in the carved out financial statements. Management believes the assumptions underlying the carve-out financial information are reasonable; however, the financial position, expenses and cash flows may have been materially different if the RNAi business had operated as a stand-alone entity during the periods presented.

Research and Development Expenses

Research and development costs are expensed as incurred. Included in research and development costs are wages, benefits, facilities, supplies, external services, and other operating costs and overhead directly related to the Company's research and development departments, as well as costs to acquire technology licenses.

Stock-based Compensation

The Company follows the provisions of ASC 718, which requires the measurement and recognition of compensation expense for all stock based payment awards made to employees and non-employee directors, including employee 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.

[Table of Contents](#)

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 vesting 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.

Convertible Preferred Stock

On April 27, 2012, the Company received net proceeds of \$8.1 million from the issuance of the convertible preferred stock (“Series A Preferred Stock”). The Company first assessed the preferred stock under ASC 480, “*Distinguishing Liabilities from Equity*”, and it was determined it was not within the scope of ASC 480. The preferred stock was then assessed under ASC 815, “*Derivatives and Hedging*”.

The preferred stock is convertible into common stock at the holders’ option, subject to the terms of the Certificate of Designations. This embedded feature meets the definition of a derivative. The Company believes that the Series A Preferred Stock is an equity host for the purposes of assessing the embedded conversion option for potential bifurcation. The Company concluded that the conversion option feature is clearly and closely related to the preferred stock host. As such, the conversion feature did not require bifurcation under ASC 815.

The preferred stock was then assessed under ASC 470, “*Debt with Conversion Features and Other Options*”, to determine if there was a beneficial conversion feature (BCF). The BCF compares the carrying value of the preferred stock after the value of any derivatives has been allocated from the proceeds to the transaction date value of number of shares that the holder would receive upon conversion. The calculation resulted in a BCF of \$9,500,000. The BCF was recorded in additional paid-in capital.

The Company has recorded the Series A Preferred Stock in temporary equity as, the Company may not be able to control the actions necessary to issue the maximum number of common shares needed to provide for a conversion in full of the then outstanding Series A Preferred Stock, at which time a holder of the Series A Preferred Stock may elect to redeem their preferred shares outstanding in the amount equal to the face value per share, plus unpaid accrued dividends. The initial carrying value of the preferred stock was \$9,500,000. The conversion option of the Series A Preferred Stock is immediately exercisable, therefore the \$9,500,000 discount related to the BCF was immediately accreted to preferred dividends, resulting in an increase in the carrying value of the Series A Preferred Stock to \$9,500,000.

Results of Operations

We have generated no revenues since our inception, and anticipate that no revenues will be generated for the six months ended June 30, 2012. Accordingly, for accounting purposes we are considered a development stage company.

The Company has not generated any revenues since inception nor are any revenues expected for the foreseeable future. The Company expects to incur significant operating losses for the foreseeable future while the Company advances its future product candidates from discovery through pre-clinical studies and clinical trials and seek regulatory approval and potential commercialization, even if the Company is collaborating with pharmaceutical and larger biotechnology companies. In addition to these increasing research and development expenses, the Company expects general and administrative costs to increase as the Company recruits additional management and administrative personnel. The Company will need to generate significant revenues to achieve profitability and may never do so.

For the Three and Six Months Ended June 30, 2012 and 2011

For the three months ended June 30, 2012, our net loss was approximately \$7,599,000 compared with a net loss of \$1,882,000 for the three months ended June 30, 2011. The loss increased by \$5,717,000 or approximately 303%. Variations in the losses between the two periods are discussed below.

For the six months ended June 30, 2012, our net loss was approximately \$9,524,000 compared with a net loss of \$5,723,000 for the six months ended June 30, 2011. The loss increased by \$3,801,000, or approximately 66%. Variations in the losses between the two periods are discussed below.

For the three months ended June 30, 2012, our net loss applicable to common stockholders was approximately \$17,217,000 compared with a net loss applicable to common stockholders of \$1,882,000 for the three months ended June 30, 2011. The loss increased by \$15,335,000 or approximately 814%. Variations in the losses between the two periods are discussed below.

For the six months ended June 30, 2012, our net loss applicable to common stockholders was approximately \$19,142,000 compared with a net loss applicable to common stockholders of \$5,723,000 for the six months ended June 30, 2011. The loss increased by \$13,419,000, or approximately 234%. Variations in the losses between the two periods are discussed below.

[Table of Contents](#)

Research and Development Expense

Research and development expense consists primarily of compensation-related costs for our employees dedicated to research and development activities and for our Scientific Advisory Board (“SAB”) members, as well as clinical trial preparation costs, licensing fees, patent prosecution costs, and the cost of lab supplies used in our research and development programs. We expect research and development expenses to increase as we expand our discovery, development and clinical activities.

Total research and development expenses were approximately \$6,947,000 for the three months ended June 30, 2012, compared with \$1,792,000 for the three months ended June 30, 2011. The increase of \$5,155,000, or 287%, was primarily due to the fair value of common stock issued in exchange for patent and technology rights of \$6,173,000 and an increase of \$45,000 in non-employee non-cash stock based compensation primarily related to the changes in Black-Scholes assumptions offset by a decrease of \$1,023,000 in research and development expenses due to lower personnel costs and a decrease of \$40,000 in employee stock based compensation.

Total research and development expenses were approximately \$8,100,000 for the six months ended June 30, 2012, compared with \$3,948,000 for the six months ended June 30, 2011. The increase of \$4,152,000, or 105%, was primarily due to the fair value of common stock issued in exchange for patent and technology rights of \$6,173,000 and an increase of \$175,000 in non-employee non-cash stock based compensation primarily related to the changes in Black-Scholes assumptions offset by a decrease of \$1,948,000 in research and development expenses due to lower personnel costs and a decrease of \$248,000 in employee stock based compensation.

General and Administrative Expense

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

General and administrative expenses were approximately \$716,000 for the three months ended June 30, 2012, compared with \$1,046,000 for the three months ended June 30, 2011. The decrease of \$330,000, or 32%, was primarily due to a decrease of \$226,000 in general and administrative expenses due to lower personnel related costs and professional and outside services, a decrease of \$112,000 in employee stock based compensation offset by an increase of \$8,000 related to the fair value of common stock warrants issued in exchange for services.

General and administrative expenses were approximately \$1,468,000 for the six months ended June 30, 2012, compared with \$4,165,000 for the three months ended June 30, 2011. The decrease of \$2,697,000, or 64%, was primarily due to a decrease of \$1,472,000 in general and administrative expenses due to lower personnel related costs and professional and outside services, a decrease of \$1,134,000 in employee stock based compensation, a decrease of \$23,000 related to the fair value of our Parent Company’s common stock issued for services, and a decrease of \$68,000 related to the fair value of common stock warrants issued in exchange for services.

Interest Income (Expense)

The key objectives of our investment policy are to preserve principal and ensure sufficient liquidity, so our invested cash may not earn as high a level of income as longer-term or higher risk securities, which generally have less liquidity and more volatility.

Interest expenses were approximately \$6,000 for the three months ended June 30, 2012, compared with interest income of \$1,000 for the three months ended June 30, 2011. The decrease of \$7,000 or 700% was primarily due to interest expense from the bridge notes funded by TCP and RTW.

Interest expenses were approximately \$27,000 for the six months ended June 30, 2012, compared with no interest expense or income for the six months ended June 30, 2011. The increase of \$27,000 was primarily due to the interest expense from the bridge notes funded by TCP and RTW. The key objectives of our investment policy are to preserve principal and ensure sufficient liquidity, so our invested cash may not earn as high a level of income as longer-term or higher risk securities, which generally have less liquidity and more volatility.

Other Income/Expense

Other income was \$70,000 the three months ended June 30, 2012, compared with \$955,000 for the three months ended June 30, 2011 which related to the change in the fair value of Galena’s derivatives potentially settleable in cash issued in connection with several financing transactions.

Other income was \$71,000 for the six months ended June 30, 2012, compared with \$2,390,000 for the six months ended June 30, 2011 which related to the change in the fair value of Galena’s derivatives potentially settleable in cash issued in connection with several financing transactions.

[Table of Contents](#)

Series A Preferred Stock Accretion and Dividends

The \$9.6 million in the accretion of Series A convertible Preferred Stock and dividends for the three and six months ended June 30, 2012, consists of \$9.5 million related to the beneficial conversion feature of the Series A Preferred Stock that we have accreted to preferred dividends, as described Note 1 to the condensed financial statements and \$0.1 million in dividends payable on shares of our Series A Preferred Stock.

Liquidity and Capital Resources

We had cash and cash equivalents of approximately \$7.6 million as of June 30, 2012, compared with \$0.6 million as of December 31, 2011. As of April 27, 2012, the Company completed the spin-off from Galena and issued 9,500 of Series A Preferred Stock to TCP and RTW upon the conversion of the \$1,026,736 principal and accrued interest under the bridge notes outstanding at this date and the receipt of the remaining \$8,473,624 from TCP and RTW, as provided for in the securities purchase agreement. At the closing of the spin-off transaction, RXi reimbursed Galena and TCP \$300,000 and \$100,000, respectively, for transaction related expenses. The Company believes that the cash available at June 30, 2012 should be sufficient to fund RXi's operations into the second quarter of 2013. We expect to incur significant operating losses as we advance our product candidates through the drug development and regulatory process. We have not generated revenue to date and may not generate product revenue in the foreseeable future, if ever. In the future, RXi will be dependent on obtaining funding from third parties, such as proceeds from the sale of equity, funded research and development programs and payments under partnership and collaborative agreements, in order to maintain RXi's operations and meet RXi's obligations to licensors. There is no guarantee that debt, additional equity or other funding will be available to the Company on acceptable terms, or at all. If the Company fails to obtain additional funding when needed, RXi would be forced to scale back, or terminate the Company operations or to seek to merge with or to be acquired by another company.

Net Cash Flow from Operating Activities

Net cash used in operating activities was approximately \$2,655,000 for the six months ended June 30, 2012, compared with \$5,062,000 for the six months ended June 30, 2011. The decrease of approximately \$2,407,000 related primarily to the Company's net loss of \$9,524,000 for the six months ended June 30, 2012 as compared to \$5,723,000, as described above, and the adjustments to net loss for non-cash items to arrive at the net cash used in operating activities. The non-cash items adjusted for the six months ended June 30, 2012 was approximately \$6,639,000, compared with (\$604,000) for the six months ended June 30, 2011. The increase from the same period in the prior year is primarily related to the fair value of common stock issued in exchange for patent and technology rights of \$6,173,000.

Net Cash Flow from Investing Activities

Net cash used in investing activities was \$6,000 for the six months ended June 30, 2012, compared with \$53,000 for the six months ended June 30, 2011. The decrease was primarily due a decrease in purchases of equipment and furnishings during the six months ended June 30, 2012 as compared with purchases for the same period in 2011.

Net Cash Flow from Financing Activities

Net cash provided by financing activities was \$9,680,000 for the six months ended June 30, 2012, compared with \$1,776,000 for the six months ended June 30, 2011. The increase was primarily due to proceeds from the issuance of preferred stock of \$8,500,000, net cash distributions to Galena in the amount of \$699,000 and proceeds of \$500,000 from a convertible note in 2012 compared with net cash contributions from Galena of \$1,730,000 for the same period in 2011.

Off-Balance Sheet Arrangements

We have not entered into off-balance sheet financing, other than operating leases.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

As of the end of the period covered by this quarterly report on Form 10-Q, Dr. Geert Cauwenbergh our Chief Executive Officer and acting Chief Financial Officer (the "Certifying Officer"), evaluated the effectiveness of our disclosure controls and procedures. Disclosure controls and procedures are controls and procedures designed to reasonably assure that information required to be disclosed in our reports filed under the Securities Exchange Act of 1934 (the "Exchange Act"), such as this Form 10-Q, is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. Disclosure controls and procedures are also designed to reasonably assure that such information is accumulated and communicated to our management, including the Certifying Officer, as appropriate to allow timely decisions regarding required disclosure. Based on these evaluations, the Certifying Officer has concluded, that, as of the end of the period covered by this quarterly report on Form 10-Q:

- (a) our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports we file or submit under the Exchange Act was recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms; and

[Table of Contents](#)

- (b) our disclosure controls and procedures were effective to provide reasonable assurance that material information required to be disclosed by us in the reports we file or submit under the Exchange Act was accumulated and communicated to our management, including the Certifying Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There has not been any change in our internal control over financial reporting that occurred during the quarterly period ended June 30, 2012 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

You should consider the "Risk Factors" included under Item 1A. of our Special Financial Report on Form 10-K for the year ended December 31, 2011 filed with the SEC on May 7, 2012.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On April 27, 2012, we issued warrants to purchase 138,462 shares of common stock to Levin & Company, Inc. in consideration of executive search services performed in connection with the employment of Dr. Geert Cauwenbergh, our Chief Executive Officer. The warrants become exercisable in equal quarterly installments, with the first installment vesting on the date of grant, at an exercise price of \$0.13 and expire on April 27, 2012. The warrants were issued pursuant to Section 4(2) of the Securities Act of 1933, as amended.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
3.1	Second Amended and Restated Bylaws.
10.1	Lease Agreement date June 27, 2012 between RXi Pharmaceuticals Corporation and Westborough Associates Building Five Limited Partnership (1)
10.2	Sublease Agreement dated June 28, 2012 between RXi Pharmaceuticals Corporation and Massachusetts Biomedical Initiatives, Inc. (1)
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 Quarterly Report on Form 10-Q of RXi Pharmaceuticals Corporation for the quarter ended June 30, 2012, formatted in XBRL (eXtensible Business Reporting Language): (1) Condensed Balance Sheets as of June 30, 2012 and December 31, 2011; (2) Condensed Statements of Expenses for the three and six months ended June 30, 2012 and 2011 and for the period from January 1, 2003 (inception) to June 30, 2012; (3) Condensed Statements of Cash Flows for the six months ended June 30, 2012 and 2011 and for the cumulative period from January 1, 2003 (inception) to June 30, 2012; and (4) Notes to Condensed Consolidated Financial Statements (Unaudited).*
(1)	Previously filed as an exhibit to the Current Report on Form 8-K (File No. 333-177498) filed on July 3, 2012 and incorporated by reference herein.
*	In accordance with Rule 406T of Regulation S-T, the XBRL-related information in Exhibit 101 to this Quarterly Report on Form 10-Q is deemed not filed or part of a registration statement or prospectus for purposes of Sections 11 and 12 of the Securities Act, is deemed not filed for purposes of Section 18 of the Exchange Act, and otherwise is not subject to liability under these sections, is not part of any registration statement or prospectus to which it relates and is not incorporated by reference into any registration statement, prospectus or other document.

SIGNATURES

Pursuant to the requirements 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 (Registrant)

By: /s/ Geert Cauwenbergh
Geert Cauwenbergh, Dr. Med. Sc.
President, Chief Executive Officer and Chief Financial
Officer

Date: August 14, 2012

**RXI PHARMACEUTICALS CORPORATION (the “Corporation”)
SECOND AMENDED & RESTATED BYLAWS**

SECTION 1 - STOCKHOLDERS

Section 1.1. Annual Meeting. An annual meeting of the stockholders for the election of directors to succeed those whose term expire and for the transaction of such other business as may properly come before the meeting shall be held at the place, if any, within or without the State of Delaware, on the date and at the time that the board of directors of the Corporation (the “Board of Directors”) shall each year fix. Unless stated otherwise in the notice of the annual meeting of the stockholders of the Corporation, such annual meeting shall be at the principal office of the Corporation.

Section 1.2. Advance Notice of Nominations and Proposals of Business.

(a) Nominations of persons for election to the Board of Directors and proposals for business to be transacted by the stockholders at an annual meeting of stockholders may be made (i) pursuant to the Corporation’s notice with respect to such meeting, (ii) by or at the direction of the Board of Directors or (iii) by any stockholder of record of the Corporation who (A) was a stockholder of record at the time of the giving of the notice contemplated in Section 1.2(b), (B) is entitled to vote at such meeting and (C) has complied with the notice procedures set forth in this Section 1.2. Clause (iii) of this Section 1.2 shall be the exclusive means for a stockholder to make nominations or propose other business (other than matters properly brought pursuant to applicable provisions of federal law, including the Securities Exchange Act of 1934 (as amended from time to time, the “Act”)) before an annual meeting of stockholders.

(b) For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of Section 1.2(a), (i) the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation with the information contemplated by Section 1.2(c), and (ii) the business must be a proper matter for stockholder action under the Delaware General Corporation Law (the “DGCL”).

(c) To be timely, a stockholder’s notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation a date (i) not fewer than 90 nor more than 120 days prior to the anniversary date of the prior year’s annual meeting or (ii) if there was no annual meeting in the prior year or if the date of the current year’s annual meeting is more than 30 days before or after the anniversary date of the prior year’s annual meeting, on or before 10 days after the day on which the date of the current year’s annual meeting is first disclosed in a public announcement. In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the delivery of such notice. Such notice from a stockholder must state (i) as to each nominee that the stockholder proposes for election or reelection as a director, (A) all information relating to such nominee that would be required to be disclosed in solicitations of proxies for the election of such nominee as a director pursuant to Regulation 14A under the Act and such nominee’s written consent to serve as a director if elected, and (B) a description of all direct and indirect

[Table of Contents](#)

compensation and other material monetary arrangements, agreements or understandings during the past three years, and any other material relationship, if any, between or concerning such stockholder and its respective affiliates or associates, or others with whom they are acting in concert, on the one hand, and the proposed nominee, and his or her respective affiliates or associates, on the other hand; (ii) as to each proposal that the stockholder seeks to bring before the meeting, a brief description of such proposal, the reasons for making the proposal at the meeting, and any material interest that the stockholder has in the proposal; (iii) (A) the name and address of the stockholder, (B) the class (and, if applicable, series) and number of shares of stock of the Corporation that are, directly or indirectly, owned beneficially or of record by the stockholder or any Stockholder Associated Person (as defined below), (C) any option, warrant, convertible security, stock appreciation right or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class (or, if applicable, series) of shares of stock of the Corporation or with a value derived in whole or in part from the value of any class (or, if applicable, series) of shares of stock of the Corporation, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of the Corporation or otherwise (each, a “Derivative Instrument”) directly or indirectly owned beneficially or of record by such stockholder or any Stockholder Associated Person and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of stock of the Corporation of the stockholder or any Stockholder Associated Person, (D) any proxy, contract, arrangement, understanding or relationship pursuant to which such stockholder or any Stockholder Associated Person has a right to vote any securities of the Corporation, (E) any proportionate interest in shares of the Corporation or Derivative Instruments held, directly or indirectly, by a general or limited partnership in which such stockholder or any Stockholder Associated Person is a general partner or beneficially owns an interest in a general partner, (F) any performance-related fees (other than an asset-based fee) that such stockholder or any Stockholder Associated Person is entitled to based on any increase or decrease in the value of the shares of stock of the Corporation or Derivative Instruments and (G) whether either the stockholder intends to deliver a proxy statement and form of proxy to holders of, in the case of a proposal, at least the percentage of the Corporation’s voting shares required under applicable law to carry the proposal or, in the case of a nomination or nominations, a sufficient number of holders of the Corporation’s voting shares reasonably believed by such stockholder to be sufficient to elect such nominee or nominees. For purposes of these bylaws, a “Stockholder Associated Person” of any stockholder means (i) any “affiliate” or “associate” (as those terms are defined in Rule 12b-2 under the Act) of the stockholder that owns beneficially or of record any capital stock or other securities of the Corporation and (ii) any person acting in concert with such stockholder or any affiliate or associate of such stockholder with respect to the capital stock or other securities of the Corporation. In addition, any nominee proposed by a stockholder shall complete a questionnaire, in a form provided by the Corporation, within 10 days of receipt of the form of questionnaire from the Corporation.

(d) Subject to the certificate of incorporation of the Corporation (as amended from time to time, the “Certificate of Incorporation”) and applicable law, only persons nominated in accordance with procedures stated in this Section 1.2 shall be eligible for election as and to serve as a member of the Board of Directors and the only business that shall be conducted at an annual meeting of stockholders is the business that has been brought before the meeting in accordance with the procedures set forth in this Section 1.2. The chairman of the

[Table of Contents](#)

meeting shall have the power and the duty to determine whether a nomination or any proposal has been made according to the procedures stated in this Section 1.2 and, if any nomination or proposal does not comply with this Section 1.2, unless otherwise required by law, the nomination or proposal shall be disregarded.

(e) For purposes of this Section 1.2, “public announcement” means disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Act.

(f) Notwithstanding the foregoing provisions of this Section 1.2, a stockholder shall also comply with all applicable requirements of the Act and the rules and regulations thereunder with respect to matters set forth in this Section 1.2. Nothing in this Section 1.2 shall affect any rights, if any, of stockholders to request inclusion of proposals in the Corporation’s proxy statement pursuant to applicable provisions of federal law, including the Act.

Section 1.3. Special Meetings: Notice.

Special meetings of the stockholders of the Corporation may be called only in the manner set forth in the Certification of Incorporation. Notice of every special meeting of the stockholders of the Corporation shall state the purpose of such meeting. Except as otherwise required by law, the business conducted at a special meeting of stockholders of the Corporation shall be limited exclusively to the business set forth in the Corporation’s notice of meeting, and the individual or group calling such meeting shall have exclusive authority to determine the business included in such notice.

Section 1.4. Notice of Meetings.

Notice of the place, if any, date and time of all meetings of stockholders of the Corporation, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such meeting, and, in the case of all special meetings of stockholders, the purpose of the meeting, shall be given, not fewer than 10 nor more than 60 days before the date on which such meeting is to be held, to each stockholder entitled to notice of the meeting.

The Corporation may postpone or cancel any annual or special meeting of stockholders of the Corporation that was previously called by the Board of Directors by making a public announcement (as defined in Section 1.2(e)) of such postponement or cancellation prior to the meeting. When a previously called annual or special meeting is postponed to another time or place, if any, notice of the place (if any), date and time of the postponed meeting and the means of remote communications, if any, by which stockholders and proxy holders may be deemed present and vote at such postponed meeting, shall be given in conformity with this Section 1.4 unless such meeting is postponed not more than 120 days after initial notice of the meeting was provided in conformity with this Section 1.4.

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time and place, if any, thereof and the means of remote communication,

Table of Contents

if any, by which stockholders and proxy holders may be deemed to be present and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken; however, if the date of any adjourned meeting is more than 30 days after the date for which the meeting was originally noticed, or if a new record date is fixed for the adjourned meeting, notice of the place, if any, date and time of the adjourned meeting and the means of remote communication, if any, by which stockholders and proxy holders may be deemed present and vote at such adjourned meeting, shall be given in conformity herewith. At any adjourned meeting, any business may be transacted that may have been transacted at the original meeting.

Section 1.5. Quorum.

At any meeting of the stockholders, the holders of shares of stock of the Corporation entitled to cast a majority of the total votes entitled to be cast by the holders of all outstanding capital stock of the Corporation, present in person or by proxy, shall constitute a quorum for all purposes, unless or except to the extent that the presence of a larger number is required by applicable law or the Certificate of Incorporation. If a separate vote by one or more classes or series is required, the holders of shares entitled to cast a majority of the total votes entitled to be cast by the holders of the shares of the class or classes or series, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to that vote on that matter.

If a quorum shall fail to attend any meeting, the chairman of the meeting may adjourn the meeting to another place, if any, date and time.

Section 1.6. Organization.

The Chairman of the Board or, in his or her absence, the person whom the Board of Directors designates or, in the absence of that person or the failure of the Board of Directors to designate a person, the Chief Executive Officer of the Corporation or, in his or her absence, the person chosen by the holders of a majority of the shares entitled to vote who are present, in person or by proxy, shall call to order any meeting of the stockholders of the Corporation and act as chairman of the meeting. In the absence of the Secretary of the Corporation, the secretary of the meeting shall be the person the chairman appoints.

Section 1.7. Conduct of Business.

The chairman of any meeting of stockholders of the Corporation shall determine the order of business and the rules of procedure for the conduct of such meeting, including the manner of voting and the conduct of discussion as he or she determines to be in order. The chairman shall have the power to adjourn the meeting to another place, if any, date and time. The date and time of the opening and closing of the polls for each matter upon which the stockholders will vote at the meeting shall be announced at the meeting.

Section 1.8. Proxies; Inspectors.

(a) At any meeting of the stockholders, every stockholder entitled to vote may vote in person or by proxy authorized by an instrument in writing or by a transmission permitted by applicable law.

[Table of Contents](#)

(b) Prior to a meeting of the stockholders of the Corporation, the Corporation shall appoint one or more inspectors to act at a meeting of stockholders of the Corporation and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the person presiding at the meeting may, and to the extent required by applicable law, shall, appoint one or more inspectors to act at the meeting. Each inspector, before beginning the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of inspectors. The inspectors shall have the duties prescribed by applicable law.

Section 1.9. Voting.

Except as otherwise required by applicable law or by the Certificate of Incorporation, all matters other than the election of directors shall be determined by a majority of the votes cast on the matter affirmatively or negatively. All elections of directors shall be determined by a plurality of the votes cast.

Section 1.10. Stock List.

A complete list of stockholders of the Corporation entitled to vote at any meeting of stockholders of the Corporation, arranged in alphabetical order for each class of stock and showing the address of each such stockholder and the number of shares registered in the name of such stockholder, shall be open to the examination of any such stockholder, for any purpose germane to a meeting of the stockholders of the Corporation, for a period of at least 10 days before the meeting (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting or (ii) during ordinary business hours at the principal place of business of the Corporation; provided, however, if the record date for determining the stockholders entitled to vote is less than 10 days before the meeting date, the list shall reflect the stockholders entitled to vote as of the 10th day before such meeting date.

The stock list shall also be open to the examination of any such stockholder during the entire meeting. The Corporation may look to this list as the sole evidence of the identity of the stockholders entitled to vote at a meeting and the number of shares held by each stockholder.

SECTION 2 - BOARD OF DIRECTORS

Section 2.1. Number of Directors; Qualifications of Directors.

The number of directors constituting the Board of Directors shall be not fewer than 1 and not more than 5, each of whom shall be a natural person; provided that after the 90th day following the Closing Date (as defined in that certain Securities Purchase Agreement dated September 24, 2011 by and among Galena Biopharma, Inc., the Corporation and the Investors named therein) the number of directors constituting the Board of Directors shall not be fewer than 2 and not more than 5. The number of directors initially shall be 1. Subject to the previous sentence and the special right of the holders of any class or series of stock to elect directors, the

[Table of Contents](#)

precise number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the total number of directors that the Corporation would have if there were no vacancies. Directors need not be stockholders to be qualified for election or service as a director of the Corporation.

Section 2.2. Removal; Resignation.

Any director or the entire Board of Directors may be removed by the holders of a majority of the shares then entitled to vote at an election of directors. Any director may resign at any time upon notice given in writing, including by electronic transmission, to the Corporation.

Section 2.3. Regular Meetings.

Regular meetings of the Board of Directors shall be held at the place (if any), on the date and at the time as shall have been established by the Board of Directors and publicized among all directors. A notice of a regular meeting, the date of which has been so publicized, shall not be required.

Section 2.4. Special Meetings.

Special meetings of the Board of Directors may be called by the President or by two or more directors then in office and shall be held at the place, if any, on the date and at the time as he, she or they shall fix. Notice of the place, if any, date and time of each special meeting shall be given to each director either (a) by mailing written notice thereof not fewer than five days before the meeting, or (b) by telephone, facsimile or electronic transmission providing notice thereof not fewer than twenty-four hours before the meeting. Unless otherwise stated in the notice thereof, any and all business may be transacted at a special meeting of the Board of Directors.

Section 2.5. Quorum.

At any meeting of the Board of Directors, a majority of the total number of directors then in office shall constitute a quorum for all purposes. If a quorum shall fail to attend any meeting, a majority of those present may adjourn the meeting to another place, if any, date or time, without further notice or waiver thereof.

Section 2.6. Participation in Meetings By Conference Telephone or Other Communications Equipment.

Members of the Board of Directors, or of any committee thereof, may participate in a meeting of the Board of Directors or committee thereof by means of conference telephone or other communications equipment by means of which all directors participating in the meeting can hear each other director, and such participation shall constitute presence in person at the meeting.

[Table of Contents](#)

Section 2.7. Conduct of Business.

At any meeting of the Board of Directors, business shall be transacted in the order and manner that the Board of Directors may from time to time determine, and all matters shall be determined by the vote of a majority of the directors present, except as otherwise provided in the Certificate of Incorporation or these bylaws or required by applicable law. The Board of Directors or any committee thereof may take action without a meeting if all members thereof consent thereto in writing or by electronic transmission, and the writing or writings, or electronic transmission or electronic transmissions, are filed with the minutes of proceedings of the Board of Directors or any committee thereof. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 2.8. Compensation of Directors.

The Board of Directors shall be authorized to fix the compensation of directors. The directors of the Corporation shall be paid their expenses, if any, of attendance at each meeting of the Board of Directors and shall be reimbursed a fixed sum for attendance at each meeting of the Board of Directors, paid an annual retainer or paid other compensation, including equity compensation, as directors of the Corporation. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation therefor. Members of committees shall be paid compensation for attending committee meetings and/or have their expenses, if any, of attendance of each meeting of such committee reimbursed.

SECTION 3 - COMMITTEES

Section 3.1. Committees of the Board of Directors.

The Board of Directors may designate committees of the Board of Directors, with such lawfully delegable powers and duties as it thereby confers, to serve at the pleasure of the Board of Directors and shall, for those committees, appoint a director or directors to serve as the member or members, designating, if it desires, other directors as alternate members who may replace any absent or disqualified member at any meeting of such committee. In the absence or disqualification of any member of any committee and any alternate member in his or her place, the member or members of the committee present at the meeting and not disqualified from voting, whether or not he or she or they constitute a quorum, may by unanimous vote appoint another member of the Board of Directors to act at the meeting in the place of the absent or disqualified member.

SECTION 4 - OFFICERS

Section 4.1. Generally.

The officers of the Corporation shall consist of a President, one or more Vice Presidents, a Secretary, a Treasurer and other officers as may from time to time be appointed by the Board of Directors. Each officer shall hold office until his or her successor is elected and qualified or until his or her earlier resignation or removal. Any number of offices may be held by the same person. The salaries of officers appointed by the Board of Directors shall be fixed from time to time by the Board of Directors or a committee thereof or by the officers as may be designated by resolution of the Board of Directors.

[Table of Contents](#)

Section 4.2. President.

Unless otherwise determined by the Board of Directors, the President shall be the Chief Executive Officer of the Corporation. Subject to the provisions of these bylaws and to the direction of the Board of Directors, he or she shall have the responsibility for the general management and control of the business and affairs of the Corporation and shall perform all duties and have all powers that are commonly incident to the office of chief executive or which are delegated to him or her by the Board of Directors. He or she shall have the power to sign all contracts and other instruments of the Corporation that are authorized and shall have general supervision and direction of all of the other officers, employees and agents of the Corporation.

Section 4.3. Vice President.

Each Vice President shall have the powers and duties delegated to him or her by the Board of Directors or the President. One Vice President may be designated by the Board of Directors to perform the duties and exercise the powers of the President in the event of the President's absence or disability.

Section 4.4. Treasurer.

The Treasurer shall have the responsibility for maintaining the financial records of the Corporation. He or she shall make such disbursements of the funds of the Corporation as are authorized and shall render from time to time an account to the Board of Directors of all such transactions and of the financial condition of the Corporation. The Treasurer shall also perform other duties as the Board of Directors may from time to time prescribe.

Section 4.5. Secretary.

The Secretary shall issue all authorized notices for, and shall keep minutes of, all meetings of the stockholders and the Board of Directors. He or she shall have charge of the corporate books and shall perform other duties as the Board of Directors may from time to time prescribe.

Section 4.6. Delegation of Authority.

The Board of Directors may from time to time delegate the powers or duties of any officer to any other officer or agent, notwithstanding any provision hereof.

Section 4.7. Removal.

The Board of Directors may remove any officer of the Corporation at any time, with or without cause.

Section 4.8. Action with Respect to Securities of Other Companies.

Unless otherwise directed by the Board of Directors, the President, or any officer of the Corporation authorized by the President, shall have power to vote and otherwise act on behalf of the Corporation, in person or by proxy, at any meeting of stockholders or equityholders of, or

[Table of Contents](#)

with respect to any action of, stockholders or equityholders of any other entity in which the Corporation may hold securities and otherwise to exercise any and all rights and powers that the Corporation may possess by reason of its ownership of securities in such other entity.

SECTION 5 - STOCK

Section 5.1. Certificates of Stock.

Shares of the capital stock of the Corporation shall be uncertificated, as permitted by the DGCL.

Section 5.2. Transfers of Stock.

Transfers of stock shall be made only upon the transfer books of the Corporation kept at an office of the Corporation (within or without the State of Delaware) or by transfer agents designated to transfer shares of the stock of the Corporation.

Section 5.3. Regulations.

The issue, transfer, conversion and registration of shares of stock of the Corporation shall be governed by other regulations as the Board of Directors may establish.

Section 5.4. Record Date.

(a) In order for the Corporation to determine the stockholders of the Corporation entitled to notice of any meeting of stockholders of the Corporation, the Board of Directors may, except as otherwise required by applicable law, fix a record date, which record date shall not precede the date on which the resolution fixing the record date is adopted and which record date shall not be more than 60 nor fewer than 10 days before the date of any meeting of stockholders. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders of the Corporation shall be at the close of business on the day next preceding the day on which notice is given or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(b) A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders of the Corporation shall apply to any postponement or adjournment of the meeting, provided, that the Board of Directors may fix a new record date for determination of the stockholders entitled to vote at a postponed or adjourned meeting, and in such case shall also fix the record date of the stockholders entitled to notice of such postponed or adjourned meeting at the same or on an earlier date as that fixed for determination of the stockholders entitled to vote at the postponed or adjourned meeting.

SECTION 6 - NOTICES

Section 6.1. Notices.

If mailed, notice to a stockholder of the Corporation shall be deemed given when deposited in the mail, postage prepaid, directed to a stockholder at such stockholder's address as it appears on the records of the Corporation. Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders of the Corporation may be given by electronic transmission in the manner provided in Section 232 of the DGCL.

Section 6.2. Waivers.

A written waiver of any notice, signed by a stockholder or director, or a waiver by electronic transmission by such person or entity, whether given before or after the time of the event for which notice is to be given, shall be deemed equivalent to the notice required to be given to such person or entity. Neither the business nor the purpose of any meeting need be specified in the waiver. Attendance at any meeting shall constitute waiver of notice except attendance for the sole purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

SECTION 7 - MISCELLANEOUS

Section 7.1. Corporate Seal.

The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary. If and when so directed by the Board of Directors, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer.

Section 7.2. Reliance upon Books, Reports, and Records.

Each director and each member of any committee designated by the Board of Directors of the Corporation shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books and records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers, agents or employees, or committees of the Board of Directors so designated, or by any other person or entity as to matters that such director or committee member reasonably believes are within such other person's or entity's professional or expert competence and that has been selected with reasonable care by or on behalf of the Corporation.

Section 7.3. Fiscal Year.

The fiscal year of the Corporation shall be as fixed by the Board of Directors.

Section 7.4. Time Periods.

In applying any provision of these bylaws that requires that an act be done or not be done a specified number of days before an event or that an act be done during a specified number of days before an event, calendar days shall be used, the day of the doing of the act shall be excluded, and the day of the event shall be included.

SECTION 8 - AMENDMENTS

These bylaws may be altered, amended or repealed in accordance with the Certificate of Incorporation.

SECTION 9 - INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 9.1. Indemnification and Advancement of Expenses.

The Corporation shall indemnify and advance expenses to, and hold harmless, to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person (an "Indemnitee") who was or is made, or is threatened to be made, a party or is otherwise involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative (a "Proceeding"), by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director or an officer of the Corporation or, while a director or an officer of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, member, trustee or agent of another corporation or of a partnership, joint venture, trust, nonprofit entity or other enterprise (including, but not limited to, service with respect to employee benefit plans), against all liability and loss suffered (including, but not limited to, expenses (including, but not limited to, attorneys' fees and expenses), judgments, fines and amounts paid in settlement and reasonably incurred by such Indemnitee). Notwithstanding the preceding sentence, the Corporation shall be required to indemnify, or advance expenses to, an Indemnitee in connection with a Proceeding (or part thereof) commenced by such Indemnitee only if the commencement of such Proceeding (or part thereof) by the Indemnitee was authorized by the Board of Directors of the Corporation or the Proceeding (or part thereof) relates to the enforcement of the Corporation's obligations under this Section 9.1.

Section 9.2. Insurance.

The Corporation shall purchase and maintain insurance on behalf of any person who is or was a director, officer, trustee, employee or agent of the Corporation, or was serving at the request of the Corporation as a director, officer, trustee, employee or agent of another corporation, partnership, joint venture, trust, non-profit entity or other enterprise (including, but not limited to, service with respect to employee benefit plans), against any liability asserted against the person and incurred by the person in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Section 9.

Section 9.3. Non-Exclusivity of Rights.

The indemnification provided by this Section 9 is not exclusive of other indemnification rights arising under any bylaw, agreement, vote of directors or stockholders or otherwise, and shall inure to the benefit of the heirs and legal representatives of such Indemnitee.

[Table of Contents](#)

Section 9.4. Fulfillment of Standard of Conduct.

Any Indemnitee shall be deemed to have met the standard of conduct required for such indemnification unless the contrary has been established by a final, non-appealable judgment by a court of competent jurisdiction.

Section 9.5. Indemnification Priority.

As between the Corporation and affiliates of the Corporation (other than its direct or indirect subsidiaries) who provide indemnification to the Indemnitees for their service to, or on behalf of, the Corporation (collectively, the "Affiliates Indemnitors") (i) the Corporation is the indemnitor of first resort with respect to all claims indemnifiable pursuant to Section 9.1 against any such Indemnitee (i.e., the Corporation's obligations to such Indemnitees are primary and any obligation of any Affiliate Indemnitor to advance expenses or to provide indemnification for the same loss or liability incurred by such Indemnitee is secondary), (ii) the Corporation shall be required to advance the full amount of expenses incurred by any such Indemnitee and shall be liable for the full amount of all liability and loss suffered by such Indemnitee (including, but not limited to, expenses (including, but not limited to, attorneys' fees and expenses), judgments, fines and amounts paid in settlement and reasonably incurred by such Indemnitee), without regard to any rights any such Indemnitee may have against any Affiliate Indemnitor, and (iii) the Corporation irrevocably waives, relinquishes and releases each Affiliate Indemnitor from any and all claims against such Affiliate Indemnitor for contribution, subrogation or any other recovery of any kind in respect thereof. The Corporation shall indemnify each Affiliate Indemnitor directly for any amounts that such Affiliate Indemnitor pays as indemnification or advancement on behalf of any such Indemnitee and for which such Indemnitee may be entitled to indemnification from the Corporation pursuant to Section 9.1. No advancement or payment by any Affiliate Indemnitor on behalf of any such Indemnitee with respect to any claim for which such Indemnitee has sought indemnification from the Corporation shall affect the foregoing and the Affiliate Indemnitors shall be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Indemnitee against the Corporation.

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Geert Cauwenbergh, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of RXi Pharmaceuticals Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. I am responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report my conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. I have disclosed, based on my most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls over financial reporting.

Dated: August 14, 2012

/s/ Geert Cauwenbergh

Geert Cauwenbergh, Dr. Med. Sc.

President, Chief Executive Officer and Chief Financial Officer

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of RXi Pharmaceuticals Corporation (the "Company") on Form 10-Q for the period ended June 30, 2012 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned officer of the Company certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the Company's financial condition and result of operations.

/s/ Geert Cauwenbergh

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

August 14, 2012