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

FORM 8-K

CURRENT REPORT

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

Date of report (Date of earliest event reported): August 15, 2012

RXi PHARMACEUTICALS CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	333-177498	45-3215903
(State or other jurisdiction of incorporation or organization)	(Commission File Number)	(I.R.S. Employer Identification No.)

1500 West Park Drive, Suite 210
Westborough, Massachusetts 01581
(Address of Principal Executive Offices) (Zip Code)

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

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 2.01 Results of Operations and Financial Condition.

On August 15, 2012, RXi Pharmaceuticals Corporation (the "Company") reported its results of operations for the quarter ended June 30, 2012. A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K (the "Report").

The information in this Item 2.02 and attached as Exhibit 99.1 to this Report will not be treated as "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section. This information will not be incorporated by reference into any filing under the Securities Act of 1933, as amended, or into another filing under the Exchange Act, unless that filing expressly incorporates this information by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

99.1 Press Release dated August 15, 2012

* * *

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 hereunto duly authorized.

RXi PHARMACEUTICALS CORPORATION

Date: August 15, 2012

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

Exhibit 99.1

RXi Pharmaceuticals Reports Financial Results for the Second Quarter of 2012

- **Creation of RXi as an independent company with strong focus on clinical development of RXI-109 results in a reduction of the net cash used in operating activities of 48% in the second quarter of 2012 as compared to the second quarter of 2011.**
- **Completion of the offering and sale of the shares of its Series A Preferred Stock.**
- **Appointment of Keith Brownlie and Robert Bitterman to the Board of Directors.**
- **Commencement of clinical study of RXi's first self-delivering RNAi product candidate, RXI-109, which targets CTGF (connective tissue growth factor), in June 2012. Enrollment is more than 60% complete.**
- **At the end of June, RXi moved its Company headquarters from Worcester, MA to Westborough, MA. The Company expects that the move will provide a substantial reduction in rental expenses.**

Westborough, MA, August 15, 2012 — RXi Pharmaceuticals Corporation (OTC: RXII), a biotechnology company focused on discovering, developing and commercializing innovative therapies addressing major unmet medical needs using RNA-targeted and immunotherapy technologies, today reported its financial results for the quarter ended June 30, 2012.

"*The new RXi has had a flying start in this recent quarter*," said Dr. Geert Cauwenbergh, President and CEO of the company. He added that: "*not only have we made the transition from a technology platform company to a clinical development company, with our IND for RXI-109 accepted by the FDA, and recruitment in our Phase 1more than 60% complete. We have also been able to reshape both our Board and our Scientific Advisory Board in line with this shift from a research to a development Company. Last but not least, we have been able to do all this while implementing significant prudence in our spending, as reflected in the reduction of net cash used in operating activities by 48%, to $2.66 million in the first half of 2012, compared to $5.06 million in the same period of 2011*".

Recent Highlights

Quarterly Financial Highlights:

Cash and Cash Equivalents

As of June 30, 2012, RXi had cash and cash equivalents of approximately $7.6 million, compared with $0.6 million as of December 31, 2011. The increase in cash and cash equivalents from December 31, 2011 is primarily attributable to the net proceeds of approximately $8.1 million received from the issuance of the Company's convertible preferred stock upon completion of the spin-off from the Company's former parent company, Galena Biopharma, Inc. on April 27, 2012. 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.

Net Loss

Net loss applicable to common stockholders for the three months ended June 30, 2012 was $17.2 million or $0.13 per basic and diluted share, compared with a net loss applicable to common stockholders of $1.9 million, or $0.05 per basic and diluted share, for the comparable period in 2011. RXi also reported a net loss applicable to common stockholders of $19.1 million, or $0.16 per basic and diluted share, for the six months ended June 30, 2012, compared with a net loss applicable to common stockholder of $5.7 million, or $0.19 per basic and diluted share for the comparable period in 2011. The increase in net loss applicable to common stockholders for the three and six months ended June 30, 2012 compared to the same periods in the prior year was primarily attributable to the non-cash

dividend of $9.6 million relating to the beneficial conversion feature as a result of the issuance of convertible preferred stock on April 27, 2012 and non-cash expense of $6.2 million relating to the fair value of common stock issued in exchange for patent and technology rights.

Loss from Operations

Loss from operations increased to $7.7 million in the second quarter of 2012 from $2.8 million in the second quarter of 2011, and increased to $9.6 million for the six months ended June 30, 2012 compared to $8.1 million for the comparable period in 2011. This increase of $4.8 million, or 171%, in loss from operations for the quarter ended June 30, 2012 compared to the quarter ended June 30, 2011 was primarily due to $6.2 million related to the fair value of common stock issued in exchange for patent and technology rights. The increase of $1.5 million, or 18%, in loss from operations for the six months ended June 30, 2012 compared to six months ended June 30, 2011 was primarily the result of $6.2 million related to the fair value of common stock issued in exchange for patent and technology rights.

Research and Development Expense

Research and development expenses were approximately $6.9 million for the three months ended June 30, 2012, compared with $1.8 million for the three months ended June 30, 2011. The increase of $5.1 million, or 283%, was primarily due to the fair value of common stock issued in exchange for patent and technology rights of $6.2 million and an increase of $0.05 million in non-employee non-cash stock based compensation primarily related to the changes in Black-Scholes assumptions offset by a decrease of $1.1 million in research and development expenses due to lower personnel costs and a decrease of $0.04 million in employee stock based compensation.

Research and development expenses were approximately $8.1 million for the six months ended June 30, 2012, compared with $3.9 million for the six months ended June 30, 2011. The increase of $4.2 million, or 108%, was primarily due to the fair value of common stock issued in exchange for patent and technology rights of $6.2 million and an increase of $0.2 million in non-employee non-cash stock based compensation primarily related to the changes in Black-Scholes assumptions offset by a decrease of $1.9 million in research and development expenses due to lower personnel costs and a decrease of $0.3 million in employee stock based compensation.

General and Administrative Expenses

General and administrative expenses were approximately $0.7 million for the three months ended June 30, 2012, compared with $1.0 million for the three months ended June 30, 2011. The decrease of $0.3 million, or 30%, was primarily due to a decrease of $0.2 million in general and administrative expenses due to lower personnel related costs compared with the same period in the prior year and professional and outside services, a decrease of $0.1 million in employee stock based compensation offset by an increase of $0.01 million related to the fair value of common stock warrants issued in exchange for services.

General and administrative expenses were approximately $1.5 million for the six months ended June 30, 2012, compared with $4.2 million for the three months ended June 30, 2011. The decrease of $2.7 million, or 64%, was primarily due to a decrease of $1.5 million in general and administrative expenses due to lower personnel related costs compared with the same period in the prior year and professional and outside services, a decrease of $1.1 million in employee stock based compensation, a decrease of $0.02 million related to the fair value of our former Parent Company's common stock issued for services, and a decrease of $0.08 million related to the fair value of common stock warrants issued in exchange for services.

Preferred Stock Accretion and Dividends

The Company recorded $9.6 million in convertible preferred stock accretion and dividends in the three and six months ended June 30, 2012, which consists of $9.5 million related to the beneficial conversion feature of the convertible preferred stock that the Company has accreted to preferred dividends and $0.1 million in dividends payable on shares of our convertible preferred stock.

Corporate Highlights

- **Completed offering and sales of its Series A Preferred Stock.** RXi completed the offering and sales of the Company's Series A Preferred Stock contemplated under the Securities Purchase Agreement, dated as of September 24, 2011, by and among the Company, Galena Biopharma, Inc., and Tang Capital Partners, LP ("Tang") and RTW Investments, LLC ("RTW" and together with Tang, the "Investors") on April 27, 2012. Pursuant to the Purchase Agreement, the Investors purchased a total of 9,500 shares of Series A Preferred Stock issued by the Company in consideration for $9.5 million, payable in cash and through the extinguishment of approximately $1 million of aggregate indebtedness owed to the Investors by the Company. RXi is now operating as an independent, publicly-traded company and believes it has sufficient resources to initiate the clinical trials of its lead product candidate, RXI-109.
- **Common Stock began trading on the OTC Bulletin Board.** On May 10, 2012, the Financial Industry Regulatory Authority, Inc., also known as FINRA, approved RXi's common stock for trading under the stock symbol "RXII" on the OTC Bulletin Board. The Company's stock began trading on the same date.
- **Appointment of the Board of Directors.** RXi appointed Robert Bitterman and Keith Brownlie to the Company's Board of Directors. Mr. Bitterman and Mr. Brownlie both bring extensive industry experience that will be instrumental to supporting RXi's growth and development initiatives.

Scientific Achievements

- **Initiated a clinical trial with RXI-109.** RXi initiated its first clinical trial with RXI-109 in June 2012. The trial evaluates the safety and tolerability of several dose levels of RXI-109 in humans and may provide preliminary evidence of surgical scar reduction. The study has been progressing very well with more than 60% of subjects enrolled in early August. As there are currently no FDA-approved drugs to prevent scar formation, a therapeutic of this type could have great benefit for trauma and surgical patients (especially relating to raised or hypertrophic scarring), as a treatment during the surgical revision of existing unsatisfactory scars, and in the treatment, removal and inhibition of keloids (scars which extend beyond the original skin injury).
- **Presented new preclinical data at the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO):** Preclinical data showing a reduction of VEGF mRNA consequent to reduction of CTGF in the rodent retina following intraocular administration of RXI-109, an anti-CTGF sd-rxRNA®, were presented at ARVO in May 2012.
- **Chaired a panel discussion at BIO International 2012.** Dr. Pamela Pavco, Chief Development Officer with RXi, chaired a panel discussion entitled '*Oligonucleotide-based Therapeutics: 20 Years from Concept to Clinical Validation*' at the June 2012 Bio International Convention in Boston, Massachusetts. The panelists included RXi's co-founder, Dr. Craig Mello, co-recipient of the Nobel Prize for RNAi in 2006 and Co-director of the RNA Therapeutics Institute, University of Massachusetts Medical School; Dr. Akshay Vaishnaw, Senior VP and Chief Medical Officer, Alnylam Pharmaceuticals; Dr. Arthur Levin, Executive VP of Research and Development, miRagen Therapeutics; and Dr. Arthur Krieg, President and CEO, RaNa Therapeutics.

About RXI-109

RXi Pharmaceuticals first clinical program centers around RXI-109, a self-delivering RNAi compound (sd-rxRNA®) developed by RXi for the reduction of dermal scarring in planned surgeries. RXI-109 is designed to reduce the expression of CTGF (connective tissue growth factor), a critical regulator of several biological pathways involved in fibrosis, including scar formation in the skin. The first clinical trial of RXI-109, initiated in June 2012, will evaluate the safety and tolerability of several dose levels of RXI-109 in humans and may provide preliminary evidence of surgical scar reduction. As there are currently no FDA-approved drugs to prevent scar formation, a therapeutic of this type could have great benefit for trauma and surgical patients (especially relating to raised or hypertrophic scarring), as a treatment during the surgical revision of existing unsatisfactory scars, and in the treatment, removal and inhibition of keloids (scars which extend beyond the original skin injury).

About RXi Pharmaceuticals Corporation

RXi Pharmaceuticals Corporation (OTC: RXII) is a biotechnology company focused on discovering, developing and commercializing innovative therapies based on its proprietary, next-generation RNAi platform. Therapeutics that use RNA interference, or "RNAi," have great promise because of their ability to "silence," or down-regulate, the expression of a specific gene that may be overexpressed in a disease condition. Building on the pioneering work of scientific founder and Nobel Laureate Dr. Craig Mello, RXi's first RNAi product candidate, RXI-109, which targets CTGF (connective tissue growth factor), entered into a human clinical trial in June 2012 to evaluate its safety, tolerability and potential efficacy for scar prevention. For more information, please visit www.rxipharma.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: "intend," "believe," "expect," "may," "will" and similar references. Such statements include, but are not limited to, statements about: our ability to successfully develop RXI-109 and our other product candidates; the future success of our first clinical trial with RXI-109; our ability to implement cost-saving measures; and our belief that we will have sufficient cash available to fund our operations until the second quarter of 2013. Forward-looking statements are neither historical facts nor assurances of future performance. Instead they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others: the risk that our clinical trial with RXI-109 may not be successful in evaluating the safety and tolerability of RXI-109 or providing preliminary evidence of surgical scar reduction; the successful and timely completion of clinical studies; uncertainties regarding the regulatory process; the availability of funds and resources to pursue our research and development projects, including our clinical trials with RXI-109; general economic conditions; and those identified under "Risk Factors" in the Company's most recently filed Annual Report on Form 10-K, Quarterly Report on Form 10-Q and in other filings the Company periodically makes with the SEC. The Company does not undertake to update any of these forward-looking statements to reflect a change in its views or events or circumstances that occur after the date of this press release.

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)

	RXi (Registrant) For the Three Months Ended June 30, 2012	RNAi (Predecessor) For the Three Months Ended June 30, 2011	RXi (Registrant) For the Six Months Ended June 30, 2012	RNAi (Predecessor) For the Six Months Ended June 30, 2011
Research and development expense	$ 6,947	$ 1,792	$ 8,100	$ 3,948
General and administrative expense	716	1,046	1,468	4,165
Operating loss	(7,663)	(2,838)	(9,568)	(8,113)
Other income, net	64	956	44	2,390
Net loss	$ (7,599)	$ (1,882)	$ (9,524)	$ (5,723)
Accretion of Series A convertible preferred stock and dividends	(9,618)	—	(9,618)	—
Net loss applicable to common stockholders	$ (17,217)	$ (1,882)	$ (19,142)	$ (5,723)
Net loss per common share:				
Basic and diluted loss per share	$ (0.13)	$ (0.05)	$ (0.16)	$ (0.19)
Weighted average common shares outstanding:				
Basic and diluted	132,203,416	38,568,501	116,321,629	29,492,756

RXi PHARMACEUTICALS CORPORATION (REGISTRANT) AND PREDECESSOR (RNAi)
(A Development Stage Company)
CONDENSED BALANCE SHEETS
(Unaudited)

	June 30, 2012	December 31, 2011
ASSETS		
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	$ 8,019	$ 1,694
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY		
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 current portion	5	5
Total liabilities	1,371	2,281
Total convertible preferred stock	9,424	—
Total stockholders' equity	(2,776)	(587)
Total liabilities, convertible preferred stock and stockholders' equity	$ 8,019	$ 1,694