

**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): April 3, 2012**

---

**RXi PHARMACEUTICALS CORPORATION**

**(Exact name of registrant as specified in its charter)**

---

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**333-177498**  
(Commission  
File Number)

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

**60 Prescott Street  
Worcester, Massachusetts 01605**  
(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 1.01 Entry into a Material Definitive Agreement.**

On April 3, 2012, RXi Pharmaceuticals Corporation (“we,” “our” or “RXi”) entered into a further amendment to the securities purchase agreement, dated as of September 24, 2011, among Galena Biopharma, Inc., and Tang Capital Partners, LP and RTW Investments, LLC (collectively, the “Investors”) in order to extend until April 11, 2012 the date after which the securities purchase agreement may be terminated by either party if the closing shall not have occurred, as well as the maturity date of the outstanding convertible promissory notes of RXi held by the Investors.

---

**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: April 9, 2012

By: /s/ Mark J. Ahn  
Mark J. Ahn, Ph.D.  
President