

RXi Pharmaceuticals Corp
Form 424B3
December 18, 2014

Filed pursuant to Rule 424(b)(3)
Registration Statement No. 333-194956

Supplement No. 1

To Prospectus Supplement, dated April 23, 2014

To Prospectus dated April 18, 2014

RXi Pharmaceuticals Corporation

Relating to

Up to \$20,400,000 of Shares of Common Stock

This supplement, dated December 18, 2014 (this Supplement), supplements our prospectus supplement dated April 23, 2014, and its accompanying prospectus dated April 18, 2014, filed as part of our Registration Statement on Form S-3, File No. 333-194956 (the Prospectus), relating to the offer and sale of up to \$20,400,000 in shares of our common stock from time to time to Lincoln Park Capital Fund, LLC (LPC) pursuant to a purchase agreement dated April 22, 2014, by and between us and LPC (the Purchase Agreement). This prospectus supplement should be read together with the prospectus and prospectus supplement to which it relates.

Effective as of December 18, 2014, we and LPC mutually terminated the Purchase Agreement. We sold a total of \$2,000,000 in shares of our common stock to LPC under the Purchase Agreement at \$4.00 per share and issued 100,000 shares of our common stock as a commitment fee under the Purchase Agreement. This Supplement amends the Prospectus to terminate the offering with respect to the \$18,000,000 unsold balance under the Purchase Agreement.

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

The date of this Supplement is December 18, 2014.