

**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 5, 2013

ACELRX PHARMACEUTICALS, INC.
(Exact name of registrant as specified in charter)

DELAWARE
(State of incorporation)

001-35068
(Commission
File No.)

41-2193603
(IRS Employer
Identification No.)

351 Galveston Drive
Redwood City, CA 94063
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (650) 216-3500

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 Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under Exchange Act (17 CFR 240.13e-4(c))

Item 1.01 Entry into a Material Definitive Agreement.

On August 5, 2013, AcelRx Pharmaceuticals, Inc. (the “Company”) and Mallinckrodt LLC (“Mallinckrodt”) entered into a Supply Agreement effective as of May 31, 2013 (the “Supply Agreement”) relating to the supply of sufentanil for use with the Company’s Sufentanil NanoTab PCA System, or Zalviso.

Under the terms of the Supply Agreement, Mallinckrodt has agreed to supply the Product and Company has agreed to purchase, subject to Mallinckrodt’s continued material compliance with the terms of the Supply Agreement, at least eighty percent (80%) of its Product requirements from Mallinckrodt during the Term (as defined below). The Company has agreed to supply Mallinckrodt, on a quarterly basis, and beginning on January 1, 2013 a rolling forecast of its requirements for Product during the next twelve (12) months.

The term of the Supply Agreement extends until December 31, 2016 and may be extended only by written agreement of both Mallinckrodt and the Company (the “Term”). In addition to usual and customary termination rights which allow each party to terminate the Supply Agreement for material, uncured breaches by the other party, if Mallinckrodt is unable to supply all quantities of Product meeting the required specifications and the other requirements of the Supply Agreement within fifteen (15) days of the delivery date specified in orders placed by the Company on two (2) or more occasions during any Contract Year (as defined in the Supply Agreement), the Company will thereafter be relieved of its obligation under the Supply Agreement to purchase at least eighty percent (80%) of its annual requirements for Product from Mallinckrodt and may purchase unlimited quantities of Product from other suppliers. Either party may terminate the Supply Agreement if the other party materially breaches the Supply Agreement and fails to cure the breach within thirty (30) days after receipt of written notice from the non-breaching party specifying the nature of such breach.

The Supply Agreement contains representations, warranties and indemnity obligations customary for agreements of this type, and establishes certain pricing for bulk Product, which pricing may be adjusted annually, as set forth in the Supply Agreement.

The foregoing is a summary of the material terms of the Supply Agreement, and does not purport to be complete and is qualified in its entirety by reference to the full text of the Supply Agreement, which will be filed as an exhibit to the Company’s Quarterly Report on Form 10-Q for the quarter ending September 30, 2013.

SIGNATURE

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.

Date: August 9, 2013

ACELRX PHARMACEUTICALS, INC.

By: /s/ James H. Welch

Name: James H. Welch

Title: Chief Financial Officer