
**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): September 24, 2014

ACELRX PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its 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 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))
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ITEM 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT.

On September 24, 2014, AcelRx Pharmaceuticals, Inc. (the “Company”) entered into an amendment (the “Amendment”) to that certain Amended and Restated Loan and Security Agreement (the “Loan Agreement”), dated as of December 16, 2013 with Hercules Technology II, L.P. and Hercules Technology Growth Capital, Inc. (together, the “Lenders”).

The Amendment extends the time period under which the Company can draw down the third tranche, of up to \$15.0 million, from March 15, 2015 to August 1, 2015, subject to the Company’s obtaining approval for Zalviso from the U.S. Food and Drug Administration.

The foregoing summary of the Amendment is not complete and is qualified in its entirety by reference to the Amendment, a copy of which will be filed as an exhibit to the Company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2014.

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.

Date: September 26, 2014

ACELRX PHARMACEUTICALS, INC.

By: /s/ Timothy E. Morris
Timothy E. Morris
Chief Financial Officer