
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

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

Delaware
(State or other jurisdiction of Incorporation or organization)

41-2193603
(I.R.S. Employer Identification No.)

25821 Industrial Boulevard, Suite 400
Hayward, CA 94545
(Address of principal executive offices) (Zip code)

Amended and Restated 2020 Equity Incentive Plan
(Full title of the plan)

Raffi Asadorian
Chief Financial Officer
AcelRx Pharmaceuticals, Inc.
25821 Industrial Boulevard, Suite 400
Hayward, CA 94545
(650) 216-3500
(Name and address of agent for service) (Telephone number, including area code, of agent for service)

Copy to:
Mark B. Weeks
John McKenna
Cooley LLP
3175 Hanover Street
Palo Alto, California 94304
(650) 843-5000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Non-accelerated filer
Emerging growth company

Accelerated filer
Smaller reporting company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)(2)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$0.001 par value per share ("Common Stock")				
- Reserved for future issuance under the Amended and Restated 2020 Equity Incentive Plan (the "Amended 2020 Plan")	4,300,000	\$0.915 (3)	\$3,934,500	\$430

- (1) Pursuant to Rule 416(a) promulgated under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's Common Stock that become issuable under the Amended 2020 Plan set forth herein by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of outstanding shares of the Registrant's Common Stock.
- (2) This Registration Statement registers the offer and sale of an aggregate of 4,300,000 shares of Common Stock of AcclRx Pharmaceuticals, Inc. (the "Registrant") that are or that may become issuable under the Amended 2020 Plan. For more details, see the Explanatory Note following this cover page.
- (3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and Rule 457(h) promulgated under the Securities Act, and based on the average of the high and low sales prices of Registrant's Common Stock as reported on The Nasdaq Global Market on August 17, 2021.

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of registering additional shares of the common stock of AcelRx Pharmaceuticals, Inc. (the “Registrant”) to be issued pursuant to the Registrant’s Amended and Restated 2020 Equity Incentive Plan. The contents of the Registrant’s registration statement on Form S-8 (SEC File No. 333-239213) filed with the Securities and Exchange Commission (the “Commission”) are incorporated by reference.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents have been filed by the Registrant with the Commission and are incorporated herein by reference:

- The Registrant’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020, filed with the Commission on [March 15, 2021](#);
- The Registrant’s Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2021 and June 30, 2021, filed with the Commission on [May 17, 2021](#) and [August 16, 2021](#), respectively;
- The Registrant’s Current Reports on Form 8-K filed with the Commission on [January 14, 2021](#) (solely with respect to Item 8.01), [January 21, 2021](#), [February 16, 2021](#), [March 9, 2021](#), [March 30, 2021](#), [March 31, 2021](#), [April 27, 2021](#), [June 17, 2021](#), [July 14, 2021](#), and [July 29, 2021](#); and
- The description of the Registrant’s Common Stock contained in the Registrant’s registration statement on Form 8-A filed with the Commission on [February 1, 2011](#), including any amendments or reports filed for the purpose of updating such description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items, prior to the filing of a post-effective amendment to this Registration Statement which indicates that all of the shares of Common Stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of the filing of such documents.

For purposes of this Registration Statement, any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 8. Exhibits.

Exhibit Number	Exhibit Description	Incorporation by Reference			
		Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation of the Registrant	8-K	001-35068	3.1	2/28/2011
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation of the Registrant	8-K	00-35068	3.1	6/25/2019
3.3	Amended and Restated Bylaws of the Registrant	S-1	333-170594	3.4	1/7/2011
4.1	Reference is made to Exhibits 3.1 through 3.3				
4.2	Specimen Common Stock Certificate of the Registrant.	S-1	333-170594	4.2	1/31/2011
5.1	Opinion of Cooley LLP				
23.1	Consent of OUM & Co. LLP, Independent Registered Public Accounting Firm.				
23.2	Consent of Cooley LLP (included in Exhibit 5.1).				
24.1	Power of Attorney. Reference is made to the signature page of this Form S-8.				
99.1+	Amended and Restated 2020 Equity Incentive Plan	8-K	001-35068	10.1	6/17/2021

+ Indicates management contract or compensatory plan

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hayward, State of California, on August 18, 2021.

ACELRX PHARMACEUTICALS, INC.

By: /s/ Vincent J. Angotti
Vincent J. Angotti
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints **VINCENT J. ANGOTTI** and **RAFFI ASADORIAN**, and each or any one of them, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Vincent J. Angotti</u> Vincent J. Angotti	Chief Executive Officer and Director (Principal Executive Officer)	August 18, 2021
<u>/s/ Raffi Asadorian</u> Raffi Asadorian	Chief Financial Officer (Principal Financial and Accounting Officer)	August 18, 2021
<u>/s/ Adrian Adams</u> Adrian Adams	Chairman	August 18, 2021
<u>/s/ Richard Afable</u> Richard Afable	Director	August 18, 2021
<u>/s/ Marina Bozilenko</u> Marina Bozilenko	Director	August 18, 2021
<u>/s/ Mark G. Edwards</u> Mark G. Edwards	Director	August 18, 2021
<u>/s/ Stephen J. Hoffman</u> Stephen J. Hoffman	Director	August 18, 2021
<u>/s/ Pamela P. Palmer</u> Pamela P. Palmer	Director	August 18, 2021
<u>/s/ Howard B. Rosen</u> Howard B. Rosen	Director	August 18, 2021
<u>/s/ Mark Wan</u> Mark Wan	Director	August 18, 2021

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference, in the Registration Statement on Form S-8 pertaining to the Amended and Restated 2020 Equity Incentive Plan of AcetRx Pharmaceuticals, Inc., of our report dated March 15, 2021, relating to the consolidated financial statements of AcetRx Pharmaceuticals, Inc. appearing in AcetRx Pharmaceuticals, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ OUM & CO. LLP

San Francisco, California
August 18, 2021