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 \Box Non-accelerated filer \boxtimes Emerging growth company \Box Accelerated filer \Box Smaller reporting company \boxtimes

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. \Box

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 AcelRx 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.

		Incorporation by Reference			
Exhibit			SEC		
Number	Exhibit Description	Form	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	<u>Certificate of Amendment of Amended and Restated Certificate of</u> <u>Incorporation of the Registrant</u>	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 <u>3.1</u> through <u>3.3</u>				
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 <u>S-8.</u>				
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
/s/ Vincent J. Angotti	Chief Executive Officer and Director	August 18, 2021
Vincent J. Angotti	(Principal Executive Officer)	
/s/ Raffi Asadorian	Chief Financial Officer	August 18, 2021
Raffi Asadorian	(Principal Financial and Accounting Officer)	
/s/ Adrian Adams	Chairman	August 18, 2021
Adrian Adams		
/s/ Richard Afable	Director	August 18, 2021
Richard Afable		
/s/ Marina Bozilenko	Director	August 18, 2021
Marina Bozilenko		
/s/ Mark G. Edwards	Director	August 18, 2021
Mark G. Edwards		
/s/ Stephen J. Hoffman	Director	August 18, 2021
Stephen J. Hoffman		
/s/ Pamela P. Palmer	Director	August 18, 2021
Pamela P. Palmer		
/s/ Howard B. Rosen	Director	August 18, 2021
Howard B. Rosen		
/s/ Mark Wan	Director	August 18, 2021
Mark Wan		-



John T. McKenna +1 650 843 5059 jmckenna@cooley.com

August 18, 2021

AcelRx Pharmaceuticals, Inc. 25821 Industrial Boulevard, Suite 400 Hayward, CA 94545

Ladies and Gentlemen:

We have acted as counsel to AcelRx Pharmaceuticals, Inc., a Delaware corporation (the "*Company*"), in connection with the filing of a Registration Statement on Form S-8 (the "*Registration Statement*") with the Securities and Exchange Commission covering the offering of up to 4,300,000 shares (the "*Shares*") of the Company's Common Stock, par value \$0.001 per share ("*Common Stock*"), issuable pursuant to the Company's Amended and Restated 2020 Equity Incentive Plan (the "*Plan*").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related prospectuses, (b) the Plan, (c) the Company's Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws, each as currently in effect, and (d) such other documents, records, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials, and the due authorization, execution and delivery by all persons other than by the Company, of all documents where due authorization, execution and delivery are a prerequisite to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not independently verified such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plan, the Registration Statement and the related prospectus, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ John T. Mckenna

John T. McKenna

Cooley LLP 3175 Hanover Street Palo Alto, CA 94304 t: (650) 843-5000 f: (650) 849-7400 cooley.com

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 AcelRx Pharmaceuticals, Inc., of our report dated March 15, 2021, relating to the consolidated financial statements of AcelRx Pharmaceuticals, Inc. appearing in AcelRx 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