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

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

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**Ultragenyx Pharmaceutical Inc.**  
*(Exact name of registrant as specified in its charter)*

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**Delaware**  
*(State or other jurisdiction of  
incorporation or organization)*

**27-2546083**  
*(I.R.S. Employer  
Identification No.)*

**60 Leveroni Court  
Novato, CA 94949**  
*(Address of principal executive offices, including Zip Code)*

**2014 Incentive Plan  
2014 Employee Stock Purchase Plan**  
*(Full title of the plan)*

**Emil D. Kakkis, M.D., Ph.D.**  
**President and Chief Executive Officer**  
**Ultragenyx Pharmaceutical Inc.**  
**60 Leveroni Court**  
**Novato, CA 94949**  
**(415) 483-8800**  
*(Name, address and telephone number, including area code, of agent for service)*

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*with copies to:*

**Karah Parschauer**  
**Executive Vice President and General Counsel**  
**Ultragenyx Pharmaceutical Inc.**  
**60 Leveroni Court**  
**Novato, CA 94949**  
**Telephone: (415) 483-8800**  
**Facsimile: (415) 483-8810**

**Ryan A. Murr, Esq.**  
**Sean Sullivan, Esq.**  
**Gibson, Dunn & Crutcher LLP**  
**555 Mission Street, Suite 3000**  
**San Francisco, CA 94105-0921**  
**Telephone: (415) 393-8200**  
**Facsimile: (415) 393-8306**

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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  Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

Emerging growth 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. o

#### CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered (1)	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 2014 Incentive Plan (as amended, the “2014 Plan”)	2,041,863	\$47.54 (2)	\$97,070,167	\$12,085.24
-Reserved for future issuance under the 2014 Employee Stock Purchase Plan (as amended, the “ESPP”)	510,465	\$40.41 (3)	\$20,627,891	\$2,568.18
Total	2,552,328			\$14,653.42

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the “Securities Act”), this registration statement shall also cover any additional shares of Common Stock that become issuable under the 2014 Plan and the ESPP by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which would result in an increase in the number of outstanding shares of Common Stock. In addition, pursuant to Rule 416(c) under the Securities Act, this registration statement shall also cover an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plans described herein.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and based on the average of the high and low sale prices of the Common Stock, as quoted on The Nasdaq Global Select Market, on February 15, 2018.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and (h) of the Securities Act, and based on 85% of the average of the high and low sale prices of the Common Stock, as quoted on The Nasdaq Global Select Market, on February 15, 2018. Pursuant to the ESPP, the purchase price of a share of Common Stock is 85% of the fair market value of the Common Stock.

## EXPLANATORY NOTE

This Registration Statement on Form S-8 registers additional shares of Common Stock to be issued pursuant to the 2014 Plan and the ESPP. The information contained in the Registrant's registration statements on Form S-8 (SEC File Nos. 333-194773, 333-201843, 333-209729, and 333-216110), together with all exhibits filed therewith or incorporated therein by reference, are hereby incorporated by reference pursuant to General Instruction E to Form S-8.

### PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 8. Exhibits.

See the Exhibit Index included in this registration statement, which is incorporated into this Item 8 by reference.

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## 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 Novato, State of California, on February 21, 2018.

ULTRAGENYX PHARMACEUTICAL INC.

By: /s/ Emil D. Kakkis

Emil D. Kakkis, M.D., Ph.D.

President and Chief Executive Officer

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints each of Emil D. Kakkis, M.D., Ph.D. and Shalini Sharp, and each of them acting individually, as his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution in each of them singly, for him or her and in his or her name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement on Form S-8 of Ultragenyx Pharmaceutical Inc., and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting to the attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in or about the premises, as full to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that the attorneys-in-fact and agents or any of each of them or their substitutes may lawfully do or cause to be done by virtue hereof.

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Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ Emil D. Kakkis</u> Emil D. Kakkis, M.D., Ph.D.	Director, President and Chief Executive Officer (Principal Executive Officer)	February 21, 2018
<u>/s/ Shalini Sharp</u> Shalini Sharp	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 21, 2018
<u>/s/ Theodore A. Huizenga</u> Theodore A. Huizenga	Vice President and Corporate Controller (Principal Accounting Officer)	February 21, 2018
<u>/s/ Daniel G. Welch</u> Daniel G. Welch	Chairman of the Board	February 21, 2018
<u>/s/ William Aliski</u> William Aliski	Director	February 21, 2018
<u>/s/ Deborah Dunsire</u> Deborah Dunsire, M.D.	Director	February 21, 2018
<u>/s/ Matthew K. Fust</u> Matthew K. Fust	Director	February 21, 2018
<u>/s/ Lars Ekman</u> Lars Ekman, M.D., Ph.D.	Director	February 21, 2018
<u>/s/ Michael Narachi</u> Michael Narachi	Director	February 21, 2018
<u>/s/ Clay B. Siegall</u> Clay B. Siegall, Ph.D.	Director	February 21, 2018

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Exhibit Index

Exhibit Number	Exhibit Description	Incorporated by Reference			
		Form	Date	Number	Filed Herewith
4.1	<a href="#">Amended and Restated Certificate of Incorporation of Ultragenyx Pharmaceutical Inc.</a>	8-K	2/5/2014	3.1	
4.2	<a href="#">Amended and Restated Bylaws of Ultragenyx Pharmaceutical Inc.</a>	8-K	2/5/2014	3.2	
4.3	<a href="#">Form of Common Stock Certificate</a>	S-1	11/8/2013	4.2	
4.4	<a href="#">2014 Incentive Plan, as amended</a>	10-K	2/16/2017	10.20	
4.5	<a href="#">2014 Employee Stock Purchase Plan, as amended</a>	10-K	2/16/2017	10.28	
5.1	<a href="#">Opinion of Gibson, Dunn &amp; Crutcher LLP</a>				X
23.1	<a href="#">Consent of Independent Registered Public Accounting Firm</a>				X
23.2	<a href="#">Consent of Gibson, Dunn &amp; Crutcher LLP (included in Exhibit 5.1)</a>				X
24.1	<a href="#">Power of Attorney (included on the signature page to this registration statement)</a>				X

February 21, 2018

Ultragenyx Pharmaceutical Inc.  
60 Leveroni Court  
Novato, CA 94949Re: Ultragenyx Pharmaceutical Inc.  
Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 (the "Registration Statement"), of Ultragenyx Pharmaceutical Inc., a Delaware corporation (the "Company") filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), in connection with the offering by the Company of up to (a) 2,041,863 shares of the Company's common stock, par value \$0.001 per share (the "Common Stock"), issuable to eligible individuals under the Company's 2014 Incentive Plan (as amended, the "2014 Plan") and (b) 510,465 shares of Common Stock issuable to eligible individuals under the Company's 2014 Employee Stock Purchase Plan (as amended, the "ESPP," and together with the 2014 Plan, the "Plans").

We have examined the Plans and the originals, or photostatic or certified copies, of such records of the Company and certificates of officers of the Company and of public officials and such other documents as we have deemed relevant and necessary as the basis for the opinions set forth below. We have also made such other investigations as we have deemed relevant and necessary or appropriate in connection with the opinion hereinafter set forth. In our examination, we have assumed the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies. We have also assumed that there are no agreements or understandings between or among the Company and any participants in the Plans that would expand, modify or otherwise affect the terms of the Plans or the respective rights or obligations of the participants thereunder. Finally, we have assumed the accuracy of all other information provided to us by the Company during the course of our investigations, on which we have relied in issuing the opinion expressed below.

Based on the foregoing examination and in reliance thereon, and subject to the assumptions stated and in reliance on statements of fact contained in the documents that we have examined, we are of the opinion that the shares of Common Stock issuable under the Plans, when issued and sold in accordance with the terms of the respective Plans and against payment therefor, and when the Registration Statement has become effective under the Securities Act, will be validly issued, fully paid and non-assessable.

We render no opinion herein as to matters involving the laws of any jurisdiction other than the Delaware General Corporation Law (the "DGCL"). We are not admitted to practice in the State of Delaware; however, we are generally familiar with the DGCL as currently in effect and have made such inquiries as we consider necessary to render the opinions above. This opinion is limited to the effect of the current state of the law of the DGCL and the facts as they currently exist. We assume no obligation to revise or supplement this opinion in the event of future changes in such law or the interpretations thereof or such facts.

We consent to the filing of this opinion as an exhibit to the Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP

Gibson, Dunn & Crutcher LLP

Beijing • Brussels • Century City • Dallas • Denver • Dubai • Frankfurt • Hong Kong • London • Los Angeles • Munich  
New York • Orange County • Palo Alto • Paris • San Francisco • São Paulo • Singapore • Washington, D.C.



**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 2014 Incentive Plan and the 2014 Employee Stock Purchase Plan of Ultragenyx Pharmaceutical Inc. of our reports dated February 21, 2018, with respect to the consolidated financial statements of Ultragenyx Pharmaceutical Inc. and the effectiveness of internal control over financial reporting of Ultragenyx Pharmaceutical Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

San Jose, California

February 21, 2018