

\$300,000,000



ULTRAGENYX PHARMACEUTICAL INC.

Common stock

Pre-funded warrants to purchase common stock

This free writing prospectus relates only to the offering described below and should be read together with the preliminary prospectus supplement dated October 17, 2023 (the "Preliminary Prospectus Supplement"), including the documents incorporated by reference therein, and the accompanying base prospectus. This free writing prospectus supplements the Preliminary Prospectus Supplement primarily to reflect the addition of certain pre-funded warrants, and the shares of common stock issuable upon the exercise of such pre-funded warrants, to the securities being offered by Ultragenyx Pharmaceutical Inc. Except as otherwise indicated, all information in this free writing prospectus and the Preliminary Prospectus Supplement assumes no exercise of outstanding options or vesting of restricted stock units or performance stock units, no exercise of the underwriters' option to purchase additional shares of our common stock and no exercise of the pre-funded warrants included in this offering.

This free writing prospectus is qualified in its entirety by reference to the Preliminary Prospectus Supplement, including the documents incorporated by reference therein, and the accompanying base prospectus. Financial information and other information presented in the Preliminary Prospectus Supplement or incorporated by reference therein is deemed to have changed to the extent affected by the changes described herein. This free writing prospectus should be read together with the Preliminary Prospectus Supplement, including the documents incorporated by reference therein, and the accompanying base prospectus, before making a decision in connection with an investment in the securities. Capitalized terms used in this free writing prospectus but not defined have the meanings given to them in the Preliminary Prospectus Supplement.

Issuer	Ultragenyx Pharmaceutical Inc.
Common stock offered by us:	\$300,000,000 of shares.
Pre-funded warrants offered by us:	We are also offering, in lieu of common stock to certain investors, pre-funded warrants to purchase shares of our common stock. The purchase price of each pre-funded warrant equals the price per share at which the shares of our common stock are being sold to the public in this offering, minus \$0.001, which is the exercise price of each pre-funded warrant per share. Each pre-funded warrant will be exercisable at any time after the date of issuance of such pre-funded warrant, subject to an ownership limitation. See "Description of Pre-Funded Warrants." This free writing prospectus and the Preliminary Prospectus Supplement also relate to the offering of the shares of our common stock issuable upon exercise of the pre-funded warrants.

The lock-up restrictions described in the Preliminary Prospectus Supplement under “Underwriting” will not apply to issuance of common stock upon the exercise of the pre-funded warrants during the 60-day period following the date of Preliminary Prospectus Supplement.

Underwriters’ option to purchase additional shares:

We have granted the underwriters an option, for a period of 30 days, to purchase additional shares of our common stock. The number of shares subject to the underwriters’ option equals 15% of the total number of shares of common stock we are offering plus the shares of common stock underlying the pre-funded warrants.

Dilution:

Dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of common stock and pre-funded warrants to purchase shares of our common stock in this offering and the as-adjusted net tangible book value per share of common stock immediately after completion of this offering. After giving effect to the sale of shares of common stock and pre-funded warrants to purchase shares of our common stock in this offering by us at a public offering price of \$ per share and \$ per pre-funded warrant (which equals the public offering price per share of the common stock less the \$0.001 per share exercise price of each such pre-funded warrant) (and excluding shares of common stock issued and any proceeds received upon exercise of the pre-funded warrants or any resulting accounting associated with the pre-funded warrants), and after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us, our as-adjusted net tangible book value as of June 30, 2023 would have been \$ million, or \$ per share. This represents an immediate increase in net tangible book value of \$ per share to existing stockholders and an immediate dilution of \$ per share to investors participating in this offering.

Listing:

Shares of our common stock are listed on the Nasdaq Global Select Market (“Nasdaq”) under the symbol “RARE.” We do not intend to list the pre-funded warrants on Nasdaq, any other nationally recognized securities exchange or any other nationally recognized trading system.

Risk Factors

There is no public market for the pre-funded warrants in this offering.

There is no established public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the pre-funded warrants on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the pre-funded warrants will be limited.

Any holder of the pre-funded warrants will have no rights as a common stockholder until such holder exercises its pre-funded warrant and acquires our common stock.

Until the holder of each pre-funded warrants exercise its pre-funded warrant and acquires shares of our common stock, such holder will have no rights with respect to the shares of our common stock underlying such pre-funded warrant. Upon exercise of their respective pre-funded warrant, the holder will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

A significant holder or beneficial holder of our common stock may not be permitted to exercise the pre-funded warrant that it holds.

A holder of a pre-funded warrant will not be entitled to exercise any portion of the pre-funded warrant that, upon giving effect to such exercise, would cause the aggregate number of shares of our common stock beneficially owned by such holder (together with its affiliates and any other persons whose beneficial ownership of Common Stock would be aggregated with the holder for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) to exceed 4.99% of the total number of then issued and outstanding shares of common stock, as such percentage ownership is determined in accordance with the terms of the pre-funded warrant and subject to such holder's rights under the pre-funded warrant to increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from such holder to us. As a result, you may not be able to exercise your pre-funded warrant for shares of our common stock at a time when it would be financially beneficial for you to do so. In such a circumstance, you could seek to sell your pre-funded warrant to realize value, but you may be unable to do so in the absence of an established trading market.

Use of Proceeds

We estimate that the net proceeds to us from the issuance and sale of shares of our common stock and pre-funded warrants in this offering will be approximately \$ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their option to purchase additional shares in full, we estimate that our net proceeds will be approximately \$ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We will receive nominal proceeds, if any, upon exercise of the pre-funded warrants.

We intend to use the net proceeds of the offering to continue to advance our late-stage clinical programs, support global commercial launch activities, and advance our preclinical pipeline through Investigational New Drug applications into clinical development. We also intend to use a portion of the net proceeds to continue investing in early-stage research capabilities to promote our pipeline growth and to further develop and support our general infrastructure. Finally, we may use a portion of the net proceeds to in-license, acquire, or invest in additional businesses, technologies, products, or assets, and to fund the development of such new acquired or in-licensed products and technologies. Any remaining proceeds will be used for other ongoing research and development, working capital and other general corporate purposes.

Description of Pre-Funded Warrants

The following summary of certain terms and provisions of the pre-funded warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which will be filed as an exhibit to a Current Report on Form 8-K in connection with this offering and incorporated by reference into the registration statement of which this prospectus supplement forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and exercise price

Each pre-funded warrant offered hereby will have an initial exercise price per share equal to \$0.001. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price.

Exercisability

The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of such holder's pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding shares of common stock immediately after exercise, except that upon at least 61 days' written prior notice from the holder to us, the holder may increase or decrease the amount of ownership of outstanding shares of common stock after exercising the holder's pre-funded warrants up to 19.99% of the number of shares of common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share.

Cashless exercise

In lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Fundamental transactions

In the event of any fundamental transaction, as described in the pre-funded warrants and generally including any merger with or into another entity, sale of all or substantially all of our assets, tender offer or exchange offer, or reclassification of our shares of common stock, then upon any subsequent exercise of a pre-funded warrant, the holder will have the right to receive as alternative consideration, for each share of common stock that would have been issuable upon such exercise immediately prior to the occurrence of such fundamental transaction, the number of shares of common stock of the successor or acquiring corporation or of our company, if it is the surviving corporation, and any additional consideration receivable upon or as a result of such transaction by a holder of the number of shares of common stock for which the pre-funded warrant is exercisable immediately prior to such event.

Transferability

Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent. The pre-funded warrants will be held in definitive form by the warrant agent. The ownership of the pre-funded warrants and any transfers of the pre-funded warrants will be registered in a warrant register maintained by the warrant agent. We will initially act as warrant agent.

Exchange listing

There is no established trading market for the pre-funded warrants. We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

Right as a stockholder

Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until such pre-funded warrants holders exercise their pre-funded warrants.

General

Additional conforming changes are hereby made to the Preliminary Prospectus Supplement to reflect the changes described in this free writing prospectus. All terms of the Preliminary Prospectus Supplement applicable to our common stock will be applicable to the shares underlying the pre-funded warrants upon issuance.

Ultragenyx Pharmaceutical Inc. has filed a registration statement (including a preliminary prospectus supplement dated October 17, 2023 and the accompanying base prospectus) with the SEC for the offering to which this communication relates. Before you invest, you should read the preliminary prospectus supplement and the accompanying base prospectus and other documents the Company has filed with the SEC for more complete information about the Company and the offering. You may get these documents for free by visiting EDGAR on the SEC website at www.sec.gov. Alternatively, copies may be obtained by contacting J.P. Morgan Securities LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, New York 11717, by telephone at 866-803-9204, or by email at prospectus- eq_fi@jpmchase.com; Goldman Sachs & Co. LLC, Prospectus Department, 200 West Street, New York, NY 10282, telephone: 1-866-471-2526, facsimile: 212-902-9316 or by emailing Prospectus-ny@ny.email.gs.com; BofA Securities, NC1-002-02-25, 201 North Tryon Street, Charlotte, NC 28255-0001, Attention: Prospectus Department, or by email at dg.prospectus_requests@bofa.com; and Cowen and Company, LLC, 599 Lexington Avenue, New York, NY 10022, by email at Prospectus_ECM@cowen.com or by telephone at (833) 297-2926.