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# Ultragenyx Announces Update to UX007 Development Program in Long-Chain Fatty Acid Oxidation Disorder Patients

## Ultragenyx to Provide Additional Information to FDA for Consideration of Possible Early Filing on Current Phase 2 Data

NOVATO, Calif., Jan. 04, 2018 (GLOBE NEWSWIRE) -- Ultragenyx Pharmaceutical Inc. (NASDAQ:RARE), a biopharmaceutical company focused on the development of novel products for rare and ultra-rare diseases, today announced an update to its development plan for UX007 in patients with long-chain fatty acid oxidation disorder (LC-FAOD). Following an end-of-phase 2 meeting with the FDA, the company is working to provide additional information to submit to FDA for consideration of an early filing based on the results from the Phase 2 study. The company is simultaneously completing the design of a Phase 3 study that could be used for registrational or confirmatory purposes. The company expects that a decision on a potential filing for approval based on Phase 2 data will be made in mid-2018.

"The discussion with FDA on the clinically-meaningful reduction in frequency and duration of hospitalizations and other major medical events in the Phase 2 study was encouraging. The FDA still prefers a randomized controlled trial be completed before filing but left open the possibility of filing on the current data if we can demonstrate through supplementary information and analyses for the Phase 2 study that the observed change was based primarily on UX007 treatment," said Emil D. Kakkis, M.D., Ph.D., Chief Executive Officer and President of Ultragenyx. "We are preparing a randomized controlled Phase 3 study protocol to confirm the Phase 2 results based on an independent adjudicated evaluation of major clinical events and we are refining the design in concert with the regulators."

The data submitted to FDA for evaluation included the Phase 2 study results, a retrospective medical record review, emergency IND cardiomyopathy cases and a randomized controlled study showing an effect on cardiac function. In the Phase 2 study, the data showed a 48.1 percent reduction in the mean annualized rate of MCEs (Major Clinical Events) and a 50.6 percent reduction in the median annualized rate of MCEs after 78 weeks of treatment, compared to the annualized rates in the 18 months prior to treatment with UX007. There was a 50.3 percent reduction in the mean annualized duration of all MCEs and a 76.7 percent reduction in the median annualized duration of MCEs following 78 weeks of UX007 treatment. The safety profile was consistent with what has been previously observed with UX007.

Dr. Jerry Vockley, Professor of Human Genetics and Chief of Medical Genetics at Children's Hospital of Pittsburgh of UPMC attended the FDA meeting and has been a principal investigator on the program noted, "I am very excited about our Phase 2 and other clinical results showing the near elimination of hypoglycemia and reduction in cardiomyopathy, addressing two of the major life-threatening symptoms in these disorders. A reduction in the frequency of episodes of rhabdomyolysis will also greatly improve the lives of our patients. I look forward to continue working with the FDA and the company to advance this development for FAOD patients."

In the end-of-phase 2 meeting, the FDA indicated that they are willing to continue to work with the company to determine if the current data could support an initial New Drug Application (NDA), provided that Ultragenyx submit additional information to support that the improvement demonstrated was likely due to UX007 and not any other changes. The clinical effect observed was considered important, but it was not clear if there were dietary or other changes in the regimen as each patient crossed over onto UX007 that might have accounted for the improvement. After this information is submitted and evaluated by FDA, Ultragenyx plans to determine with the FDA whether an early submission could be pursued.

Ultragenyx is simultaneously finalizing a full protocol for a Phase 3, randomized, controlled study examining major clinical events as the primary endpoint as discussed with the FDA. Regardless of filing timeline, the company feels this study would provide additional information that would be important in utilization and reimbursement long-term for UX007. If the FDA agrees to an early submission based on the Phase 2 study, the Phase 3 study would serve as a post-approval commitment for label expansion. Alternatively, the Phase 3 study could serve as a registrational study if an early filing is not possible.

## **About LC-FAOD and UX007**

LC-FAOD are a group of autosomal recessive genetic disorders characterized by metabolic deficiencies in which the body is

unable to convert long-chain fatty acids into energy. The inability to produce energy from fat can lead to severe depletion of glucose in the body, and serious liver, muscle, and heart disease, which can lead to hospitalizations or early death. LC-FAOD are included in newborn screening panels across the U.S. and in certain European countries. LC-FAOD patients are currently treated with the avoidance of fasting, low-fat/high carbohydrate diets, carnitine, and medium-chain triglyceride (MCT) oil, a medical food product. Despite current therapy, many patients have significant metabolic events including hospitalizations and mortality due to LC-FAOD.

UX007 is a highly purified, pharmaceutical-grade synthetic seven carbon fatty acid triglyceride created via a multi-step chemical process. It is an investigational medicine intended to provide patients with medium-length, odd-chain fatty acids that can be metabolized to increase intermediate substrates in the Krebs cycle, a key energy-generating process. Unlike typical even-chain fatty acids, UX007 can be converted to new glucose through the Krebs cycle, potentially providing an important added therapeutic effect, particularly when glucose levels are too low.

#### About Ultragenyx Pharmaceutical Inc.

Ultragenyx is a biopharmaceutical company committed to bringing to market novel products for the treatment of rare and ultra-rare diseases, with a focus on serious, debilitating genetic diseases. The Company has rapidly built and advanced a diverse portfolio of product candidates with the potential to address diseases for which the unmet medical need is high, the biology for treatment is clear, and for which there are no approved therapies.

The Company is led by a management team experienced in the development and commercialization of rare disease therapeutics. Ultragenyx's strategy is predicated upon time and cost-efficient drug development, with the goal of delivering safe and effective therapies to patients with the utmost urgency.

For more information on Ultragenyx, please visit the Company's website at www.ultragenyx.com.

### **Forward Looking Statements**

Except for the historical information contained herein, the matters set forth in this press release, including statements related to Ultragenyx's expectations regarding plans for its clinical programs, future regulatory interactions, the potential timing and success of filings for regulatory approvals, ongoing or additional studies for its product candidates and timing regarding these studies, are forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve substantial risks and uncertainties that could cause our clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, the uncertainties inherent in the clinical drug development process, such as the regulatory approval process, the timing of regulatory filings, and other matters that could affect sufficiency of existing cash, cash equivalents and short-term investments to fund operations and the availability or commercial potential of our drug candidates. Ultragenyx undertakes no obligation to update or revise any forward-looking statements. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of Ultragenyx in general, see Ultragenyx's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 3, 2017, and its subsequent periodic reports filed with the Securities and Exchange Commission.

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