

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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): October 14, 2023

Ultragenyx Pharmaceutical Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation)	001-36276 (Commission File Number)	27-2546083 (IRS Employer Identification No.)
60 Leveroni Court Novato, California (Address of Principal Executive Offices)		94949 (Zip Code)

Registrant's Telephone Number, Including Area Code: (415) 483-8800

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	RARE	Nasdaq Global Select Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

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 13(a) of the Exchange Act.

Item 2.02 Results of Operations and Financial Condition

The information contained in Item 7.01 under “Preliminary Third Quarter Revenue (unaudited)” and “Preliminary Third Quarter Ending Cash Position (unaudited)” is incorporated by reference herein.

The information set forth in this Item 2.02 shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in such filing.

Item 7.01 Regulation FD Disclosure.

Data from Phase 2 portion of Phase 2/3 Orbit study of UX143

On October 14, 2023, Ultragenyx Pharmaceutical Inc. (the “Company”) issued a press release announcing interim data from the Phase 2 portion of the Phase 2/3 *Orbit* study of UX143. The press release is attached hereto as Exhibit 99.1.

Analyst Day Update

On October 16, 2023, the Company issued a press release providing updates on its development pipeline, including setrusumab (UX143) for osteogenesis imperfecta (“OI”), GTX-102 for Angelman syndrome (“AS”), UX701 in Wilson disease and the rest of the Company’s gene therapy portfolio to be presented at an Analyst Day held in New York City and by webcast. The press release is attached hereto as Exhibit 99.2.

Preliminary Third Quarter Revenue (unaudited)

The Company’s preliminary unaudited total revenue for the third quarter of fiscal 2023 is \$96 million to \$100 million, preliminary unaudited Crysvida revenue for the third quarter is \$74 million to \$76 million and preliminary unaudited Dojolvi revenue for the third quarter is \$16 million to \$17 million. Third quarter Crysvida revenue in the United States was impacted by a decrease in channel inventory related to Kyowa Kirin Co., Ltd.’s (“KKC”) change from Ultragenyx labeled product to KKC’s labeled product as part of the transition of North America commercialization responsibilities for Crysvida from the Company to KKC. This one-time change occurred in the third quarter, and the Company expects Crysvida channel inventories to increase to more normal levels at the end of the year.

Preliminary Third Quarter Ending Cash Position (unaudited)

Cash, cash equivalents, and marketable debt securities were approximately \$525 million as of September 30, 2023.

These amounts are preliminary, have not been audited and are subject to change pending completion of the Company’s unaudited financial statements for the quarter ended September 30, 2023. Additional information and disclosures would be required for a more complete understanding of the Company’s financial position and results of operations as of September 30, 2023. The Company’s independent registered public accounting firm has not audited, reviewed or performed any procedures with respect to these preliminary results and, accordingly, does not express an opinion or any other form of assurance about them.

The information set forth in this Item 7.01 and in the press releases attached hereto as Exhibit 99.1 and Exhibit 99.2 shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, except as shall be expressly set forth by specific reference in any such filing.

Item 8.01 Other Events.

Data from Phase 2 portion of Phase 2/3 Orbit study of UX143

On October 14, 2023, the Company and Mereo BioPharma Group plc announced interim data from the Phase 2 portion of the Phase 2/3 Orbit study demonstrating that treatment with setrusumab (UX143) significantly reduced incidence of fractures in patients with osteogenesis imperfecta (“OI”) with at least six months of follow-up and continues to demonstrate ongoing and meaningful improvements in lumbar spine bone mineral density (“BMD”). The data were presented in a late-breaker presentation at the American Society for Bone and Mineral Research (“ASBMR”) 2023 Annual Meeting.

As of the cut-off date and following at least six months of treatment with setrusumab, the annualized fracture rate across all 24 patients in the Phase 2 portion of the study was reduced by 67%. In the two years prior to treatment with setrusumab all patients experienced at least one fracture. The median annualized fracture rate of 0.72 in the two years prior to treatment was reduced to 0.00 (n=24, p=0.042) during the mean treatment duration period of nine months. Following initiation of treatment with setrusumab, 20 patients experienced no radiographic-confirmed fractures, and four patients experienced seven radiographic-confirmed fractures in five separate events. These fractures exclude fractures of the fingers, toes, skull, and face consistent with the Phase 3 study design.

The reduction in annualized fracture rates was associated with a clinically meaningful increase in BMD. At the six-month timepoint, treatment with setrusumab resulted in a mean increase in lumbar spine BMD from baseline of 13% at 20 mg/kg (n=11) and 16% at 40 mg/kg (n=8), which represents the same substantial mean improvement in Z-score of +0.85 for both dose groups at six months compared to a combined mean baseline Z-score of -1.68. The small apparent difference in BMD change from baseline is likely related to differences in patients assigned to the two treated groups. There was no statistically significant difference in BMD percent change or Z-score change from baseline between the 20 and 40 mg/kg dosing cohorts.

As of the data cut-off, there were no treatment-related serious adverse events observed in the study. Reported adverse events were generally consistent with those observed in the ASTEROID study with infusion-related events and headache determined to be the most common adverse events related to the study drug. There have been no reported hypersensitivity reactions related to setrusumab. There were no notable safety-related differences observed between dosing groups or age groups.

The Phase 3 portion of the study is currently enrolling approximately 195 patients at 50 sites across 12 countries.

Analyst Day Updates

On October 16, 2023, the Company announced the following updates on its development pipeline, including setrusumab (UX143) for OI, GTX-102 for AS, UX701 in Wilson disease and the rest of the Company’s gene therapy portfolio to be presented at an Analyst Day held in New York City and by webcast:

- *UX143 (setrusumab) monoclonal antibody for OI*: Interim Phase 2 data from the Phase 2/3 Orbit study show statistically significant decrease in annualized fracture rates following at least six months of treatment.
 - Data presented at the ASBMR 2023 Annual Meeting show that treatment with setrusumab reduced the annualized fracture rate by 67% and this reduction was associated with continuing large and meaningful improvements in BMD.
 - Setrusumab was generally well tolerated with no drug related serious adverse events (“SAEs”) reported and no reports of drug-related hypersensitivity.
 - The Company plans to provide updated Phase 2 data next year.
- *GTX-102 antisense oligonucleotide for AS*: Data from the extension cohorts in the Phase 1/2 study show clinically meaningful improvements in multiple domains.
 - Quantitative data show improvements across multiple clinical domains compared to natural history data, where available, and clinical changes were associated with quantitative changes in EEG.
 - Long term data showed patients who stopped and restarted treatment reacquired previously gained developmental skills when they were re-dosed with the current regimen.
 - There have been no additional treatment-related SAEs, including lower extremity weakness, since November 2022.
 - Data from the dose expansion cohorts on at least 20 patients who have been on therapy for at least six months is anticipated in the first half of 2024.
- *UX701 AAV gene therapy for Wilson disease*: Four of five patients in the lowest-dose cohort of the Phase 1/2/3 Cypress2+ study show improvements in tapering standard of care.
 - Four out of five patients in the low-dose Cohort 1 have had reductions in urinary copper and are tapering off of chelators and/or zinc therapy, including two of three earlier treated patients in the Cohort that are now completely off standard therapy.
 - UX701 has been generally well tolerated with no treatment-related SAEs.
 - The seamless study is expected to complete dosing of all three dose cohorts in Stage 1 at the end of 2023 and these data are expected in the first half of 2024.
- The Company also provided updates on other late-stage gene therapy candidates:
 - *DTX401 AAV gene therapy for Glycogen Storage Disease Type Ia (GSDIa)*: The Phase 3 *Glucogene* study was fully enrolled in the first quarter of 2023 and the Company plans to provide preliminary data in the first half of 2024.
 - *UX111 for Sanfilippo syndrome (MPS IIIA)*: The pivotal *Transpher A* study has been fully enrolled and the Company plans to meet with the FDA in the fourth quarter of 2023.
 - *DTX301 AAV gene therapy for Ornithine Transcarbamylase (OTC) Deficiency*: The Phase 3 *Enh3ance* study is expected to complete enrollment in the first half of 2024.

Cautionary Note Regarding Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may be identified by the use of words such as, but not limited to, “anticipates,” “continue,” “will,” or other similar terms or expressions that concern the Company’s expectations, plans and intentions. Forward-looking statements include, without limitation, statements regarding its future operating results and financial performance, business plans and objectives for UX143, the clinical benefit, tolerability and safety of UX143, future clinical and regulatory developments for UX143, the clinical benefit, tolerability and safety of GTX-102, future clinical and regulatory developments for GTX-102, the clinical benefit, tolerability and safety of UX701, future clinical and regulatory developments for UX701, timing for enrollment, dosing and data for Ultragenyx’s investigational therapies and gene therapy candidates, regulatory meetings and Crysvida channel inventories. Such forward-looking statements involve substantial risks and uncertainties that could cause the Company’s clinical development programs, collaboration with third parties, 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 uncertainty of clinical drug development and unpredictability and lengthy process for obtaining regulatory approvals, risks related to serious or undesirable side effects of the Company’s product candidates, the Company’s ability to achieve its projected development goals in its expected timeframes, risks related to reliance on third party partners to conduct certain activities on the Company’s behalf, the Company’s limited experience in generating revenue from product sales, risks related to product liability lawsuits, smaller than anticipated market opportunities for the Company’s products and product candidates, manufacturing risks, competition from other therapies or products, and other matters that could affect the sufficiency of existing cash, cash equivalents and short-term investments to fund operations, the Company’s future operating results and financial performance, the timing of clinical trial activities and reporting results from same, and the availability or commercial potential of the Company’s products and drug candidates. The Company 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 the Company in general, see the Company’s Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on August 4, 2023, and its subsequent periodic reports filed with the SEC.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release, dated October 14, 2023.
99.2	Press Release, dated October 16, 2023.
99.3	GTX-102 Slide Presentation, dated October 16, 2023.
104	The cover page from the Company’s Current Report on Form 8-K dated October 14, 2023 formatted in Inline XBRL.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: October 16, 2023

Ultragenyx Pharmaceutical Inc.

By: /s/ Emil D. Kakkis

Emil D. Kakkis, M.D., Ph.D.
President and Chief Executive Officer



Ultragenyx and Mereo BioPharma Announce Interim Phase 2 Data from Phase 2/3 *Orbit* Study Demonstrating Setrusumab (UX143) Significantly Reduced Fracture Rates in Patients with Osteogenesis Imperfecta (OI)

Phase 2 data presented at ASBMR 2023 show treatment with setrusumab resulted in 67% reduction in annualized fracture rate associated with continuous and meaningful improvements in bone mineral density (BMD)

Ultragenyx hosting Analyst Day on Monday, October 16 at 8:30 a.m. ET

NOVATO, Calif., VANCOUVER, British Columbia and LONDON, UK — Oct. 14, 2023 — Ultragenyx Pharmaceutical Inc. (NASDAQ: RARE) and Mereo BioPharma Group plc (NASDAQ: MREO) today announced interim data from the Phase 2 portion of the Phase 2/3 *Orbit* study demonstrating that treatment with setrusumab (UX143) significantly reduced incidence of fractures in patients with OI with at least 6 months of follow-up and continues to demonstrate ongoing and meaningful improvements in lumbar spine bone mineral density (BMD). The data were presented in a late-breaker presentation at the American Society for Bone and Mineral Research 2023 Annual Meeting (ASBMR).

As of the cut-off date and following at least 6 months of treatment with setrusumab, the annualized fracture rate across all 24 patients in the Phase 2 portion of the study was reduced by 67%. In the 2 years prior to treatment with setrusumab all patients experienced at least 1 fracture. The median annualized fracture rate of 0.72 in the 2 years prior to treatment was reduced to 0.00 (n=24, p=0.042) during the mean treatment duration period of 9 months. Following initiation of treatment with setrusumab, 20 patients experienced no radiographic-confirmed fractures, and 4 patients experienced 7 radiographic-confirmed fractures in 5 separate events. These fractures exclude fractures of the fingers, toes, skull, and face consistent with the Phase 3 study design.

“I have not yet encountered a patient with a fragility fracture while on setrusumab, and this may result from setrusumab’s effects on the skeleton, improving the rate of new bone formation and bone quality,” said Gary Gottesman, M.D., Professor of Pediatrics and Medicine, Washington University School of Medicine. “Some of the kids feel well enough they are participating in activities that they might normally avoid and have suffered some relatively minor fractures.”

The reduction in annualized fracture rates was associated with a clinically meaningful increase in BMD. At the 6-month timepoint, treatment with setrusumab resulted in a mean increase in lumbar spine BMD from baseline of 13% at 20 mg/kg (n=11) and 16% at 40 mg/kg (n=8), which represents the same substantial mean improvement in Z-score of +0.85 for both dose groups at 6 months compared to a combined mean baseline Z-score of -1.68. The small apparent difference in BMD change from baseline is likely related to differences in patients assigned to the two treated groups. There was no statistically significant difference in BMD percent change or Z-score change from baseline between the 20 and 40 mg/kg dosing cohorts.

“These data provide compelling evidence that improved bone mineral density, resulting from this unique mechanism of action, reduced the risk of fractures and that treatment with setrusumab could allow patients with OI to lead much more active lives with fewer fractures,” said Eric Crombez, M.D., chief medical officer at Ultragenyx. “I want to acknowledge the OI community and especially thank the people living with OI and their caregivers who have aided the setrusumab development program so that we may potentially offer the first approved treatment option for this severe and disabling disease.”

As of the data cut-off, there were no treatment-related serious adverse events observed in the study. Reported adverse events were generally consistent with those observed in the *ASTEROID* study with infusion-related events and headache determined to be the most common adverse events related to the study drug. There have been no reported hypersensitivity reactions related to setrusumab. There were no notable safety-related differences observed between dosing groups or age groups.

The Phase 3 portion of the study is currently enrolling approximately 195 patients at 50 sites across 12 countries.

U.S. residents can learn more by visiting [ultraclinicaltrials.com](https://www.ultraclinicaltrials.com).

Analyst Day and Webcast Information

Ultragenyx will host an Analyst Day at 8:30 a.m. ET on Monday, October 16, 2023 to discuss these data and to provide an update on the company's development pipeline. A live video webcast of the program will be available at <https://www.webcaster4.com/Webcast/Page/359/49192>. An archived version of the remarks will also be available through the Ultragenyx website.

The Setrusumab Phase 3 Program

The global, seamless Phase 2/3 Orbit study is evaluating the effect of setrusumab on clinical fracture rate in patients aged 5 to <26 years. In the Phase 2 portion, 24 patients were randomized 1:1 to receive setrusumab at one of two doses to determine the optimal dosing strategy for Phase 3. The pivotal Phase 3 portion of the study will include approximately 195

patients at 50 sites across 12 countries, randomized 2:1 to receive setrusumab or placebo, with a primary efficacy endpoint of annualized clinical fracture rate, excluding fingers, toes, skull, and face. All patients will transition to an extension period and receive open-label setrusumab after the Phase 3 primary analysis is complete.

The global Phase 3 Cosmic study is an open-label, randomized, active-controlled study in patients aged 2 to <7 years evaluating setrusumab compared to intravenous bisphosphonates (IV-BP) therapy on reduction in total fracture rate, including morphometric vertebral fractures. The Cosmic study will enroll approximately 65 patients at more than 20 sites across 8 countries.

About Osteogenesis Imperfecta (OI)

Osteogenesis Imperfecta (OI) includes a group of genetic disorders impacting bone metabolism. Approximately 85% to 90% of OI cases are caused by mutations in the *COL1A1* or *COL1A2* genes, leading to either reduced or abnormal collagen and changes in bone metabolism. The collagen mutations in OI can result in increased bone brittleness, which contributes to a high rate of fractures. Patients with OI also exhibit inadequate production of new bone, which leads to decreased bone mass, bone fragility and weakness. OI can also lead to bone deformities, abnormal spine curvature, pain, decreased mobility, and short stature. No treatments are approved for OI, which affects approximately 60,000 people in the developed world.

About Setrusumab (UX143)

Setrusumab is a fully human monoclonal antibody that inhibits sclerostin, a negative regulator of bone formation. Blocking sclerostin is expected to increase new bone formation, bone mineral density and bone strength in OI. In mouse models of OI, the use of anti-sclerostin antibodies was shown to increase bone formation, improve bone mass to normal levels, and increase bone strength against fracture force testing to normal levels.

In 2019 Mereo BioPharma completed the Phase 2b dose-finding study (*ASTEROID*) for setrusumab in 112 adults with OI. The *ASTEROID* study demonstrated treatment with setrusumab resulted in a clear, dose-dependent and statistically significant effect on bone formation and bone density at multiple anatomical sites among adult participants with OI.

Ultragenyx and Mereo BioPharma are collaborating on the development of setrusumab globally based on the collaboration and license agreement between the parties. The companies have developed a comprehensive late-stage program to continue development of setrusumab in pediatric and young adult patients across OI sub-types I, III and IV.

About Ultragenyx

Ultragenyx is a biopharmaceutical company committed to bringing novel products to patients for the treatment of serious rare and ultra-rare genetic diseases. The company has built a diverse portfolio of approved therapies and product candidates aimed at addressing diseases with high unmet medical need and clear biology for treatment, for which there are typically no approved therapies treating the underlying disease.

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 ultragenyx.com.

About Mereo BioPharma

Mereo BioPharma is a biopharmaceutical company focused on the development of innovative therapeutics for rare diseases. The Company has two rare disease product candidates, setrusumab for the treatment of Osteogenesis Imperfecta (OI) and alvelestat primarily for the treatment of severe alpha-1-antitrypsin deficiency-associated lung disease (AATD-LD). The Company's partner, Ultragenyx Pharmaceutical, Inc., has initiated a pivotal Phase 2/3 pediatric study in young adults (5 to <26 years old) for setrusumab in OI and a Phase 3 study in pediatric patients (2 to <7 years old) in the first half of 2023. The partnership with Ultragenyx includes potential milestone payments of up to \$245 million (following the recent \$9 million milestone) and royalties to Mereo on commercial sales in Ultragenyx territories. Mereo has retained EU and UK commercial rights and will pay Ultragenyx royalties on commercial sales in those territories. Setrusumab has received orphan designation for osteogenesis imperfecta from the EMA and FDA, PRIME designation from the EMA and has pediatric disease designation from the FDA. Alvelestat has received U.S. Orphan Drug Designation for the treatment of AATD, Fast Track designation from the FDA, and positive data were reported from a Phase 2 proof-of-concept study in North America, Europe and the UK. In addition to the rare disease programs, Mereo has two oncology product candidates in clinical development. Etigilimab (anti-TIGIT) has completed enrollment in a Phase 1b/2 basket study evaluating its safety and efficacy in combination with an anti-PD-1 in a range of tumor types including three rare tumors and three gynecological carcinomas—cervical, ovarian, and endometrial and is in an ongoing Phase 1b/2 investigator led study at the MD Anderson Cancer Center in clear cell ovarian cancer; navicixizumab, for the treatment of late line ovarian cancer, has completed a Phase 1 study and has been partnered with OncXerna Therapeutics, Inc. in a global licensing agreement that includes payments of up to \$300 million in milestones and royalties.

For more information on Mereo BioPharma, please visit www.mereobiopharma.com.

Ultragenyx Forward-Looking Statements and Use of Digital Media

Except for the historical information contained herein, the matters set forth in this press release, including statements related to Ultragenyx's expectations and projections regarding its future operating results and financial performance, business plans and objectives for UX143, expectations regarding the tolerability and safety of UX143, and future clinical and regulatory developments for UX143 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, collaboration with third parties, 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 uncertainty of clinical drug development and unpredictability and lengthy process for obtaining regulatory approvals, the ability of the company and Mereo BioPharma to successfully develop UX143, the company's ability to achieve its projected development goals in its expected timeframes, risks related to adverse side effects, risks related to reliance on third party partners to conduct certain activities on the company's behalf, the potential for any license or collaboration agreement, including the company's collaboration agreement with Mereo to be terminated, smaller than anticipated market opportunities for the company's products and product candidates, manufacturing risks, competition from other therapies or products, and other matters that could affect sufficiency of existing cash, cash equivalents and short-term investments to fund operations, the company's future operating results and financial performance, the timing of clinical trial activities and reporting results from same, and the availability or commercial potential of Ultragenyx's products and 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 (SEC) on August 4, 2023, and its subsequent periodic reports filed with the SEC.

In addition to its SEC filings, press releases and public conference calls, Ultragenyx uses its investor relations website and social media outlets to publish important information about the company, including information that may be deemed material to investors, and to comply with its disclosure obligations under Regulation FD. Financial and other information about Ultragenyx is routinely posted and is accessible on Ultragenyx's Investor Relations website (<https://ir.ultragenyx.com/>) and LinkedIn website (<https://www.linkedin.com/company/ultragenyx-pharmaceutical-inc-/>).

Mereo BioPharma Forward-Looking Statements

This press release contains "forward-looking statements." All statements other than statements of historical fact contained in this press release are forward-looking statements within the meaning of Section 27A of the United States Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the United States Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements usually relate to future events and anticipated revenues, earnings, cash flows or other aspects of Mereo BioPharma's operations or operating

results. Forward-looking statements are often identified by the words “believe,” “expect,” “anticipate,” “plan,” “intend,” “foresee,” “should,” “would,” “could,” “may,” “estimate,” “outlook” and similar expressions, including the negative thereof. The absence of these words, however, does not mean that the statements are not forward-looking. These forward-looking statements are based on Mereo BioPharma’s current expectations, beliefs and assumptions concerning future developments and business conditions and their potential effect on Mereo. While management believes that these forward-looking statements are reasonable as and when made, there can be no assurance that future developments affecting Mereo BioPharma will be those that it anticipates.

All of Mereo BioPharma’s forward-looking statements involve known and unknown risks and uncertainties some of which are significant or beyond its control and assumptions that could cause actual results to differ materially from Mereo BioPharma’s historical experience and its present expectations or projections.

Such risks and uncertainties include, among others, the uncertainties inherent in the clinical development process; Mereo BioPharma’s reliance on third parties to conduct and provide funding for its clinical trials; Mereo’s dependence on enrollment of patients in its clinical trials; and Mereo’s dependence on its key executives. You should carefully consider the foregoing factors and the other risks and uncertainties that affect Mereo BioPharma’s business, including those described in the “Risk Factors” section of its latest Annual Report on Form 20-F, reports on Form 6-K and other documents furnished or filed from time to time by Mereo BioPharma with the Securities and Exchange Commission. Mereo BioPharma wishes to caution you not to place undue reliance on any forward-looking statements, which speak only as of the date hereof. Mereo BioPharma undertakes no obligation to publicly update or revise any of our forward-looking statements after the date they are made, whether as a result of new information, future events or otherwise, except to the extent required by law.

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Ultragenyx Announces Program and Pipeline Updates at Analyst Day Including Interim Data from Ongoing Studies in Osteogenesis Imperfecta (OI), Angelman Syndrome (AS) and Wilson Disease

Treatment with setrusumab (UX143) for at least 6 months resulted in 67% reduction in annualized fracture rate in patients with OI in Phase 2/3 *Orbit* study

Quantitative data from the Phase 1/2 study of GTX-102 for AS show clinically meaningful improvements in multiple domains as compared to natural history

4 of 5 patients in lowest-dose cohort of Phase 1/2/3 study of UX701 in Wilson disease are tapering off of chelators and/or zinc therapy, including 2 that are now completely off standard therapy

Ultragenyx Analyst Day live webcast available today at 8:30 a.m. ET

NOVATO, Calif. — Oct. 16, 2023 — Ultragenyx Pharmaceutical Inc. (NASDAQ: RARE) today will provide updates on its development pipeline, including setrusumab (UX143) for osteogenesis imperfecta (OI), GTX-102 for Angelman syndrome (AS), UX701 in Wilson disease and the rest of the company's gene therapy portfolio at an Analyst Day held in New York City and by webcast.

"The data we are presenting today show that these investigational therapies are having meaningful clinical effects on difficult diseases with limited or no approved treatments and are potentially transformative for people living with these diseases if proven safe and effective in Phase 3 studies," said Emil D. Kakkis, M.D., Ph.D., chief executive officer and president of Ultragenyx. "We also have one of the largest, late-stage gene therapy pipelines in rare disease with full end-to-end capabilities in-house that uniquely position us to deliver high quality robust commercial manufacturing at scale to support our large pipeline."

Analyst Day Updates

UX143 (setrusumab) monoclonal antibody for Osteogenesis Imperfecta (OI): Interim Phase 2 data from the Phase 2/3 Orbit study show statistically significant decrease in annualized fracture rates following at least 6 months of treatment

- Data presented at the American Society for Bone and Mineral Research 2023 Annual Meeting (ASBMR) show that treatment with setrusumab reduced the annualized fracture rate by 67% and this reduction was associated with continuing large and meaningful improvements in bone mineral density (BMD).

- Setrusumab was generally well tolerated with no drug related serious adverse events (SAEs) reported and no reports of drug-related hypersensitivity.
- The company plans to provide updated Phase 2 data next year.

GTX-102 antisense oligonucleotide for Angelman syndrome: Data from the extension cohorts in the Phase 1/2 study show clinically meaningful improvements in multiple domains

- Quantitative data show improvements across multiple clinical domains compared to natural history data, where available, and clinical changes were associated with quantitative changes in EEG.
- Long term data showed patients who stopped and restarted treatment reacquired previously gained developmental skills when they were re-dosed with the current regimen.
- There have been no additional treatment-related SAEs, including lower extremity weakness, since November 2022.
- Data from the dose expansion cohorts on at least 20 patients who have been on therapy for at least 6 months is anticipated in the first half of 2024.

UX701 AAV gene therapy for Wilson disease: Four of five patients in the lowest-dose cohort of the Phase 1/2/3 Cypress 2+ study show improvements in tapering standard of care

- Four out of 5 patients in the low-dose Cohort 1 have had reductions in urinary copper and are tapering off of chelators and/or zinc therapy, including 2 of 3 earlier treated patients in the Cohort that are now completely off standard therapy.
- UX701 has been generally well tolerated with no treatment-related SAEs.
- The seamless study is expected to complete dosing of all 3 dose cohorts in Stage 1 at the end of 2023 and these data are expected in the first half of 2024.

Company also provided update on other late-stage gene therapy candidates

- **DTX401 AAV gene therapy for Glycogen Storage Disease Type Ia (GSD1a):** The Phase 3 *Glucogene* study was fully enrolled in the first quarter of 2023 and the company plans to provide preliminary data in the first half of 2024.
- **UX111 for Sanfilippo syndrome (MPS IIIA):** The pivotal *Transpher A* study has been fully enrolled and the company plans to meet with the FDA in the fourth quarter of 2023.
- **DTX301 AAV gene therapy for Ornithine Transcarbamylase (OTC) Deficiency:** The Phase 3 *Enhance* study is expected to complete enrollment in the first half of 2024.

Analyst Day and Webcast Information

Ultragenyx will host an Analyst Day at 8:30 a.m. ET on Monday, October 16, 2023 to discuss these data and to provide an update on the company's development pipeline. A live video webcast of the program will be available at <https://www.webcaster4.com/Webcast/Page/359/49192>. An archived version of the remarks will also be available through the Ultragenyx website.

About Ultragenyx

Ultragenyx is a biopharmaceutical company committed to bringing novel products to patients for the treatment of serious rare and ultra-rare genetic diseases. The company has built a diverse portfolio of approved therapies and product candidates aimed at addressing diseases with high unmet medical need and clear biology for treatment, for which there are typically no approved therapies treating the underlying disease.

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 ultragenyx.com.

Ultragenyx Forward-Looking Statements and Use of Digital Media

Except for the historical information contained herein, the matters set forth in this press release, including statements related to Ultragenyx's expectations and projections regarding its future operating results and financial performance, business plans and objectives for UX143, expectations regarding the clinical benefit, tolerability and safety of UX143, future clinical and regulatory developments for UX143, the clinical benefit, tolerability and safety of GTX-102, future clinical and regulatory developments for GTX-102, the clinical benefit, tolerability and safety of UX701, future clinical and regulatory developments for UX701, timing for enrollment, dosing and data for Ultragenyx's investigational therapies and gene therapy candidates and regulatory meetings 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, collaboration with third parties, 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 uncertainty of clinical drug development and unpredictability and lengthy process for obtaining regulatory approvals, the ability of the company and Mereo BioPharma to successfully develop UX143, the company's ability to achieve its projected development goals in its expected timeframes, risks related to adverse side effects, risks related to reliance on third party partners to conduct certain activities on the company's behalf, the potential for any license or collaboration agreement, including the company's collaboration agreement with Mereo to be terminated, smaller than anticipated market opportunities for the company's products and product candidates, manufacturing risks, competition from other therapies or products, and other matters that could affect sufficiency of existing cash, cash equivalents and short-term investments to fund operations, the company's future operating results and financial performance, the timing of clinical trial activities and reporting results from same, and the availability or commercial potential of Ultragenyx's products and 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 (SEC) on August 4, 2023, and its subsequent periodic reports filed with the SEC.

In addition to its SEC filings, press releases and public conference calls, Ultragenyx uses its investor relations website and social media outlets to publish important information about the company, including information that may be deemed material to investors, and to comply with its disclosure obligations under Regulation FD. Financial and other information about Ultragenyx is routinely posted and is accessible on Ultragenyx's Investor Relations website (<https://ir.ultragenyx.com/>) and LinkedIn website (<https://www.linkedin.com/company/ultragenyx-pharmaceutical-inc-/>).

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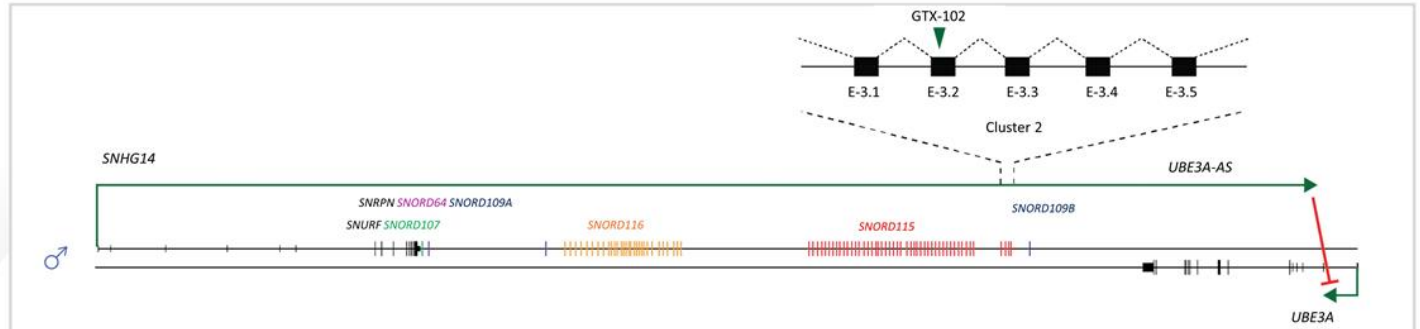
GTX-102 for Angelman Syndrome Phase 1/2 Clinical Study Update

GTX-102 for Angelman syndrome (AS)

Antisense oligonucleotide (ASO) activates UBE3A

- Devastating neurodevelopmental disorder
- Prevalence*: ~60,000
- No approved treatments
- Phase 1/2: enrolling and dosing expansion cohorts
- Targeting highly conserved region across multiple species

*Prevalence in commercially accessible geographies



GTX-102 Phase 2 Update



Multiple domains improved in Loading and Maintenance Phase compared to natural history, where available



Clinical changes associated with quantitative changes in EEG



Extension cohorts and redosed patients have demonstrated clinically meaningful changes in quantitative scores and in emerging developmental gains as reported by caregivers

Key Angelman Syndrome Domain Evaluations

Domains	Evaluation	Natural History Comparison ¹
Cognition	Bayley-4	Yes
Sleep	Angelman Severity Assessment for Sleep (ASA)	--
Receptive Communication	Bayley-4	Yes
Behavior	ASA for Behavior	--
Gross Motor	Bayley-4	Yes
Overall	ASA for Overall	--

1: Not available for all endpoints and shown as representative comparisons

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Angelman Severity Assessment (ASA) Rating Scales

ASA rate the severity of the patient's symptoms

The ratings are:

- 1 – Not at all impaired
- 2 – Borderline, slightly impaired
- 3 – Mildly impaired
- 4 – Moderately impaired
- 5 – Markedly impaired
- 6 – Severely impaired
- 7 – Among the most severely impaired

Most patients are between mildly and severely (3 and 6) impaired at baseline

Each ASA domain rating scale is anchored to 6-8 questions specific to Angelman disease severity

A decrease in score represents an improvement or lessening severity

Interim Phase 2 Data on Extension Cohorts



Cohorts 4-7
Enrolled outside of the U.S.
n=15 patients



Loading doses from 3.3 - 7.5 mg
Maintenance from 10 - 14 mg

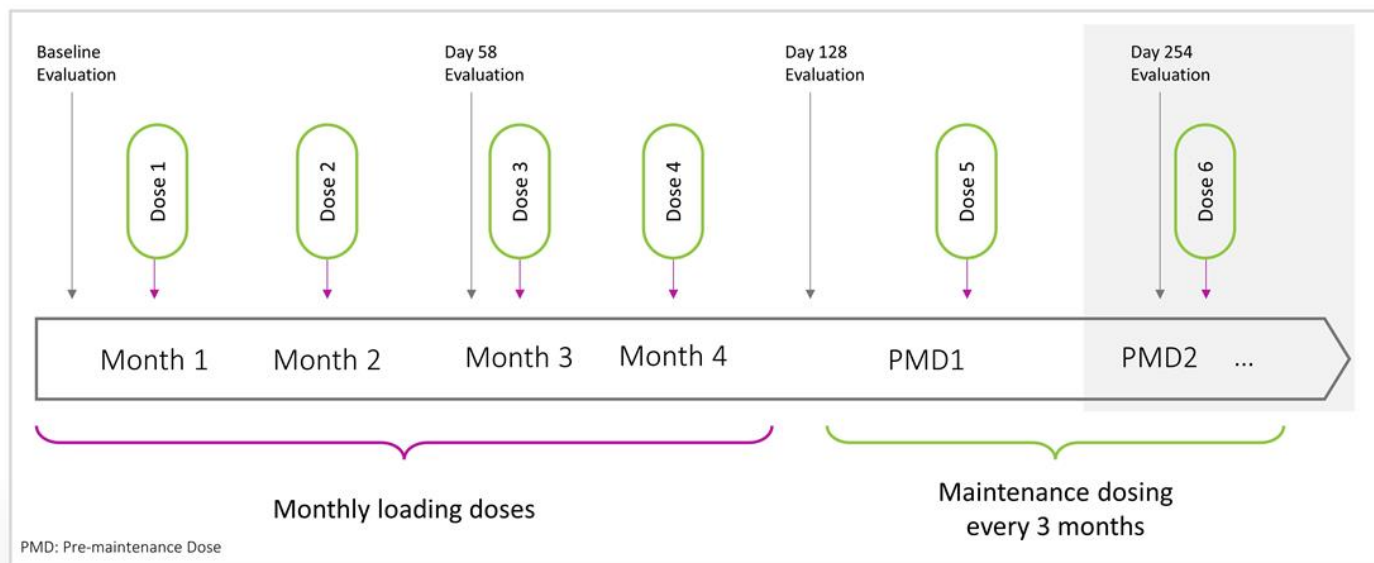


11 patients on therapy greater than
12 months, with the longest
approaching 2 years

**No additional events of
lower extremity weakness
or other safety signals**

Study Dosing Schematic for GTX-102

Loading phase through Day 254



Natural History as Comparator for GTX-102 Phase 2 Data

Comparable to GTX-102 study population age and genotype



Data from the Angelman Natural History study² is used as a comparator for the treatment effect size observed with GTX-102¹



Bayley-4 Cognition, Receptive Communication, and Gross Motor scores were compared across GTX-102 treated and natural history patients²

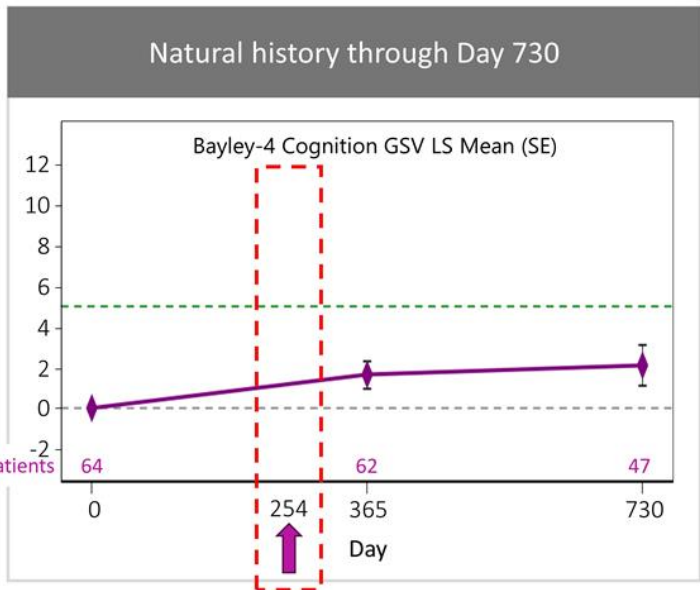
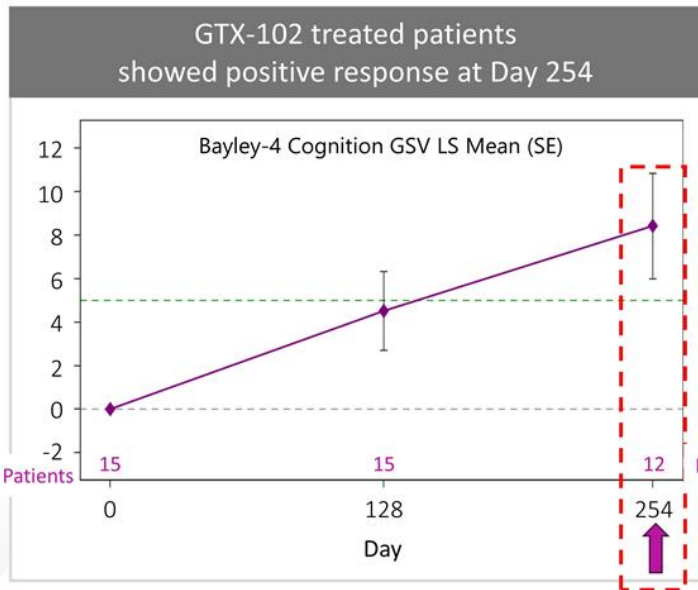


- 64 patients with deletion-type AS
- Ages 4 to 17 years
- At least 2 consecutive assessments

¹Sadhvani et al., 2021; Keute et al., 2021; Gentile et al., 2010

²Linking Angelman and Dup15q Data for Expanded Research (LADDER)

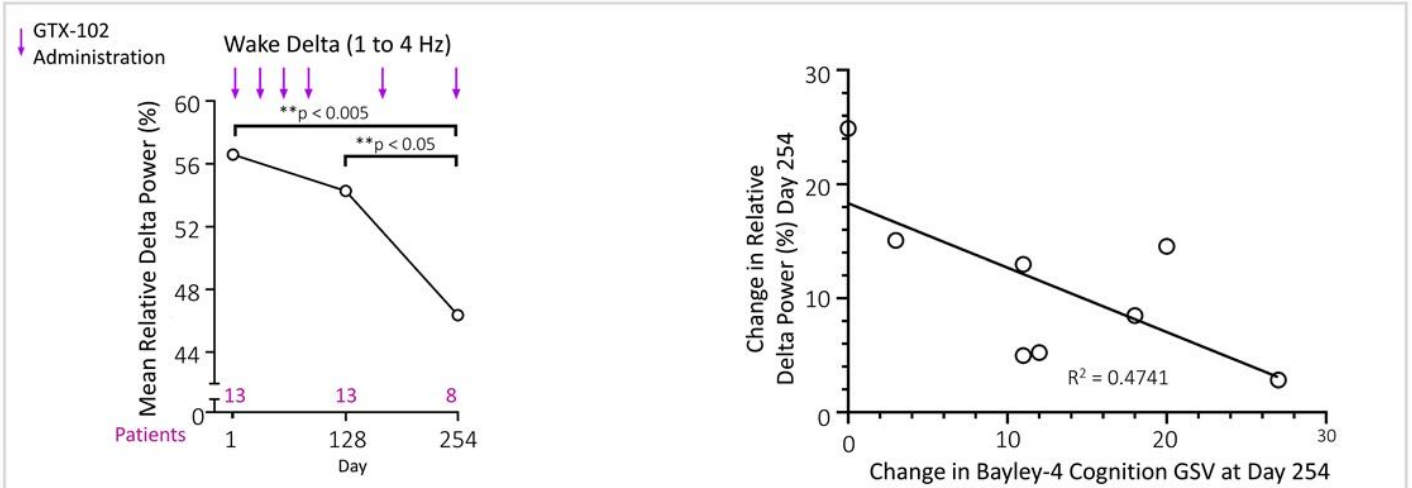
Cognition by Bayley-4 Improved Rapidly Compared to Natural History



Response threshold of ≥ 5 based on Bayley-4 administration manual
 The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

EEG Showed Rapid Positive Change for Patients on GTX-102

Reduction in delta relative power while awake correlated with improvement in Bayley-4 Cognition scores

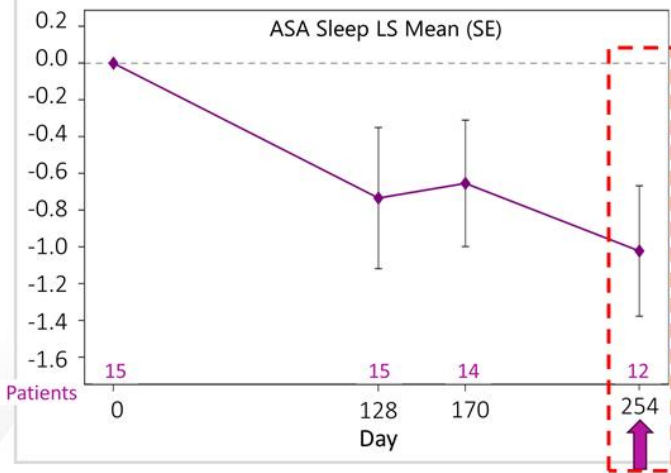


Natural History EEG data shows pathologically increased relative delta power (den Bakker et al., 2018)

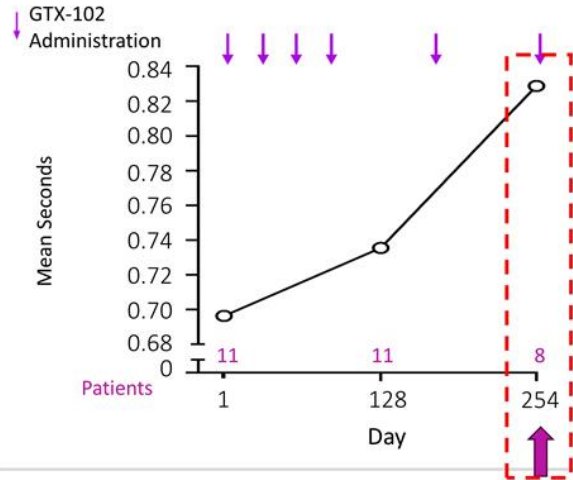
Relative delta power reliably predicts cognitive function, as assessed by the Bayley (Ostrowski et al., 2021)

Sleep by Angelman Severity Assessment (ASA) Scores Improved in Parallel with Increased Sleep Spindle Duration on EEG

ASA-Sleep improved for GTX-102 treated patients through Day 254



EEG showed increased sleep spindle duration through Day 254

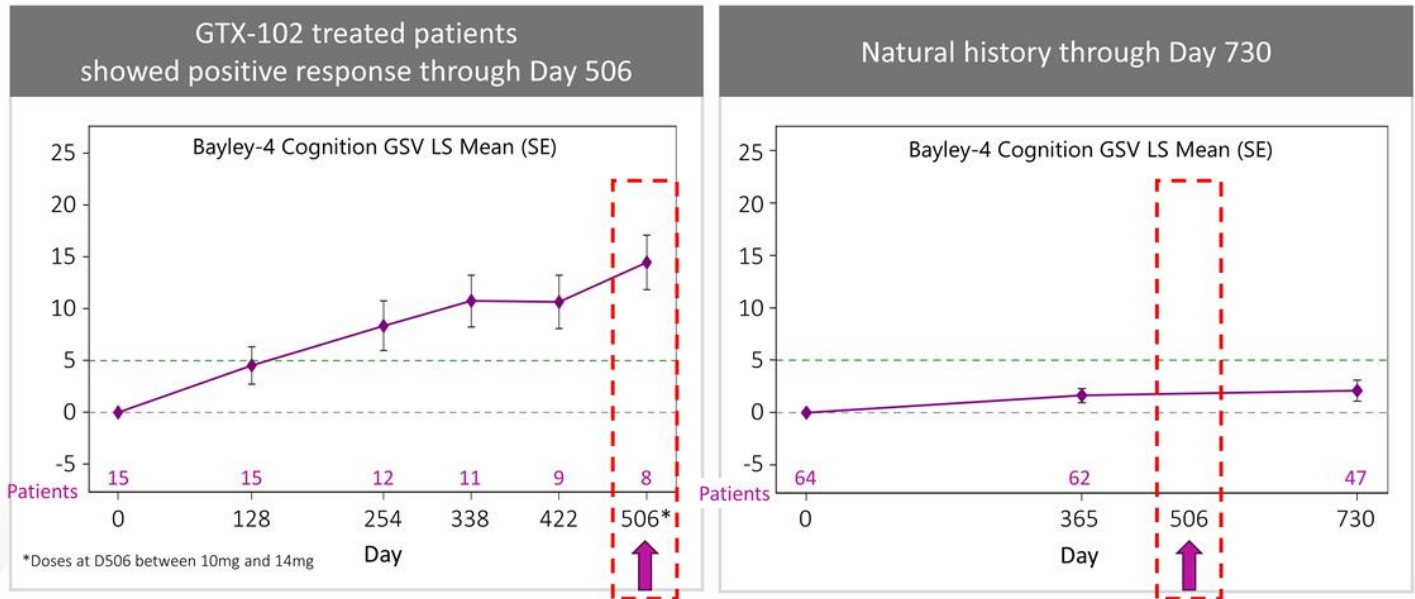


den Bakker H et al. (2018) *Mol Autism* 9: 32.
Ostrowski LM et al. (2021). *Ann Clin Transl Neurol* 8(7): 1433-1445.

GTX-102 Maintenance Phase

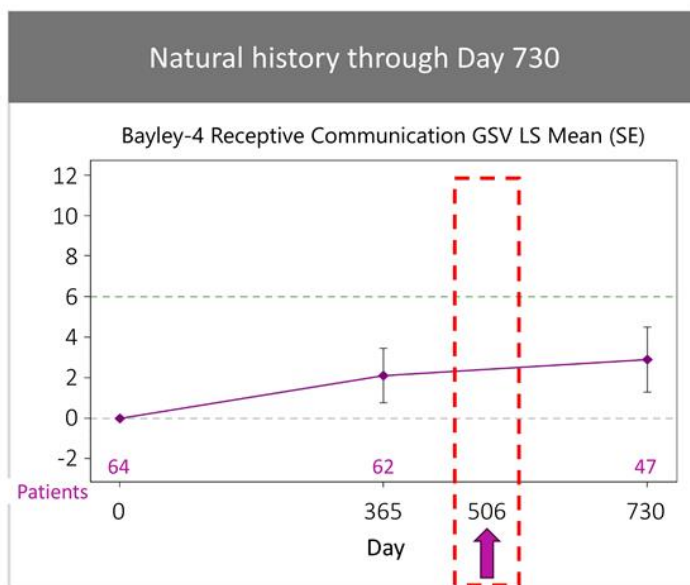
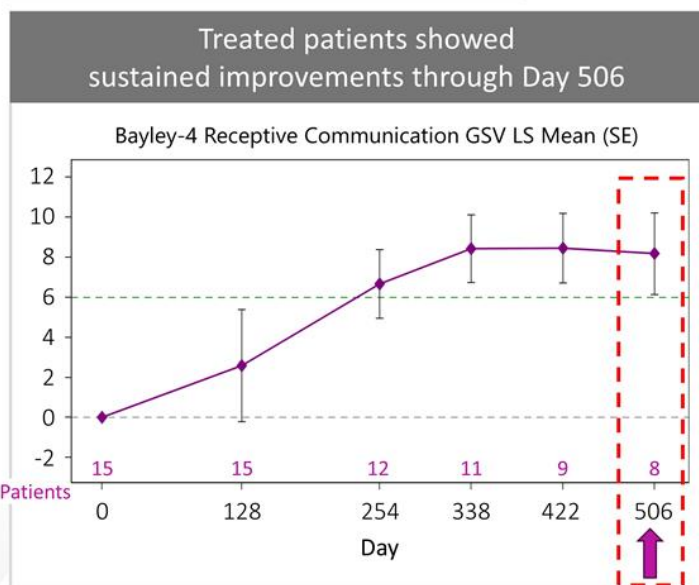
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Cognition by Bayley-4 Continued to Improve During Maintenance Phase



Response threshold of ≥ 5 based on Bayley-4 administration manual.
 The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

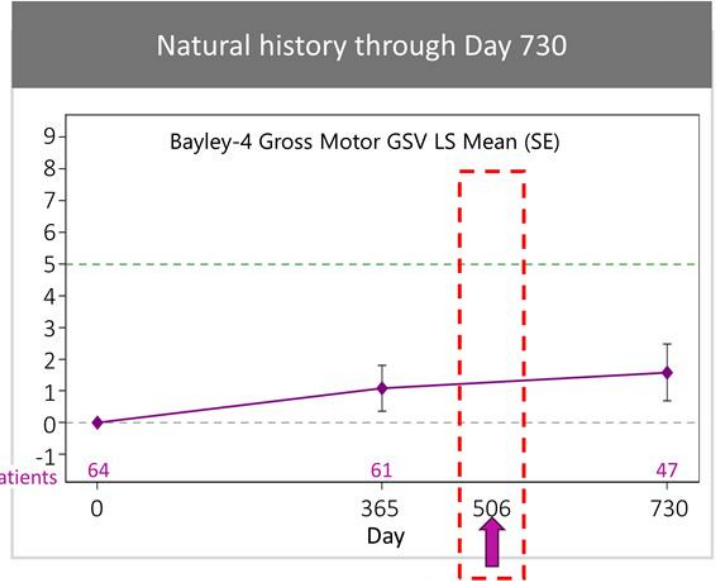
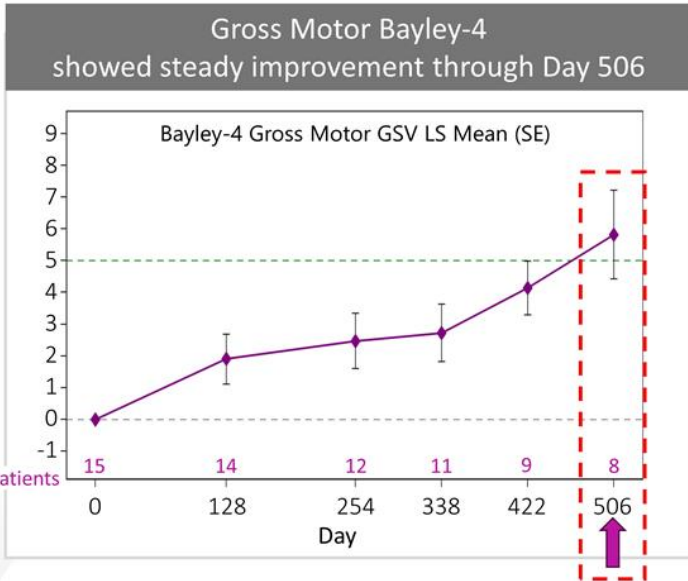
Receptive Communication by Bayley-4 Showed Sustained Improvement During Maintenance



Response threshold of ≥ 6 based on Bayley-4 administration manual.

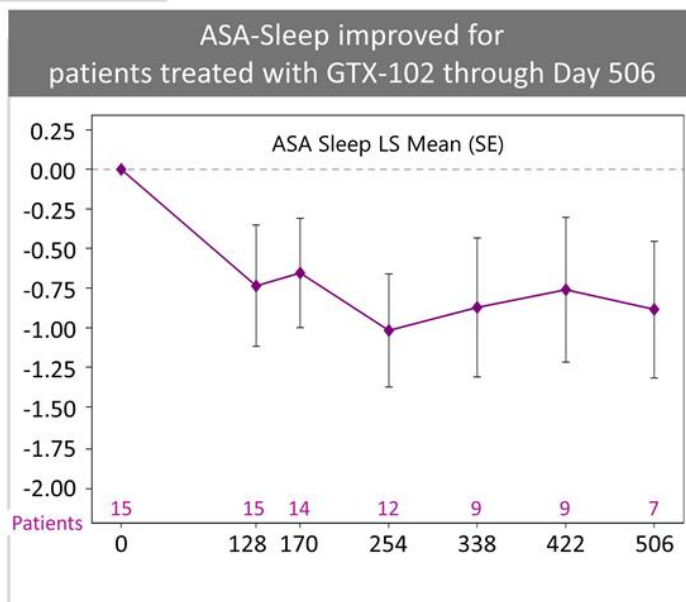
The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

Gross Motor by Bayley-4 Showed Continued Improvement Compared to Natural History



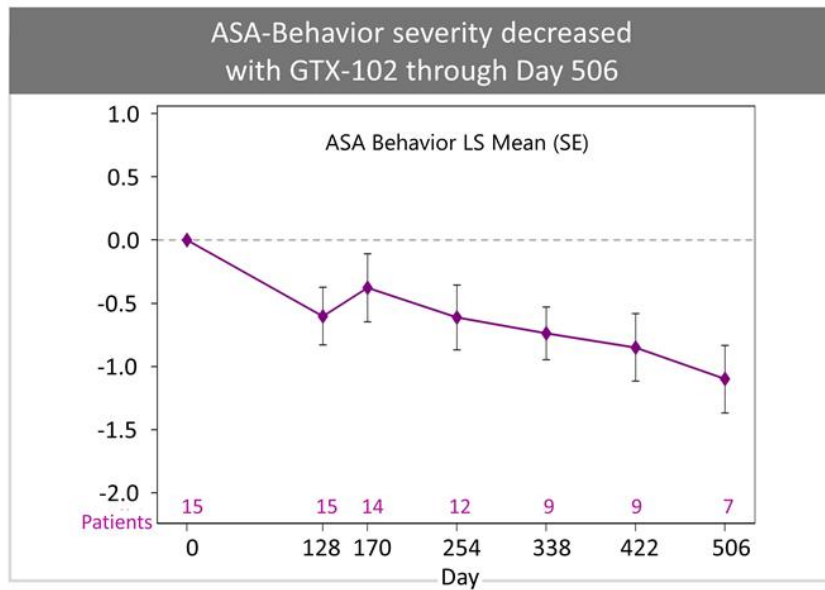
Response threshold of ≥ 5 based on Bayley-4 administration manual.
 The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

Sleep by ASA Show Continued Improvement During Maintenance



The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

Behavior by ASA Showed Continued Improvement During Maintenance



The estimated values are from a GEE model which includes all available data as the dependent variable and baseline age as a covariate, with exchangeable correlation structure.

Multi-Domain Responder Index (MDRI) Captures Broad Clinical Benefit Across Five Domains in Patients Treated with GTX-102

Patient (n=11)	ASA Sleep	ASA Behavior	Bayley-4 Receptive Comm	Bayley-4 Gross Motor	Bayley-4 Cognition	Total Net Responses*
1	1	0	1	0	3	1
2	3	2	7	3	17	4
3	1	1	16	5	20	5
4	0	0	14	3	23	2
5	1	2	6	1	4	3
6	4	0	7	1	1	2
7	2	1	10	9	16	5
8	1	1	15	6	25	5
9	2	0	23	7	11	2
10	n/a	n/a	2	1	5	1
11	0	0	3	4	16	1

Improvement

Decline

*Day 338

Minimal Important Difference (MID)

- ASA-Sleep +/- 1
- ASA-Behavior +/- 1
- Bayley-4 Receptive Communication +/- 6
- Bayley-4 Gross Motor +/- 5
- Bayley-4 Cognition +/- 5

Median Total Net Responses +2

Net Responses ≠ 0 $p^{**} = 0.001$

** P-value is from a sign test

Quantitative Analysis of Multiple Domains Showed Meaningful Improvement

Improvements far exceeding natural history

- Cognition
- Receptive Communication
- Gross Motor

Improvements in other important domains

- Sleep
- Behavior

Supportive data from

- EEG delta power and sleep spindle

Powerful change in multiple domains as demonstrated by MDRI

Emergence of New Developmental Skills Gained, Lost and Regained in Redosed Patients

	Patient A			Patient B			Patient C		
	Init dose	Off-tx	Re-dose	Init dose	Off-tx	Re-dose	Init dose	Off-tx	Re-dose
Receptive Communication									
Responds to name	No issue								
Follows 1-step directions									
Follows 2-step or complex directions									
Expressive Communication									
Babbles/consonant sounds									
Communicate wants or needs (gesture/device)									
Identifies or requests object(s)									
First word/approximation									
Multiple words									
Behavior									
Alertness									
Reduced hyperactivity									
Reduced disruptive behavior or irritability									
Reduced mouthing behavior				Data N/A					
Sleep									
Sleeping through the night	No issue			No issue					
Less frequent awakenings									
Fine Motor									
Pincer grasp									
Opening/closing doorknobs, lids									
Gross motor									
Throwing/catching a ball									
Walking up stairs or reciprocal climbing									
Reduced or eliminated falls				Data N/A					
Swimming independently									

Key

- Skill gained
- Issue, but no change
- Skill lost

Interim Safety Evaluation including Extension and Expansion Cohorts

No patients with lower extremity weakness events since Nov 2022

3 patients discontinued treatment for non-serious adverse events

No unexpected adverse events or safety concerns

Patients have received up to 11 doses of GTX-102

Most Common Adverse Events Reported

Phase 1/2 Patients (n=58)

Vomiting (anesthesia related)	18 (31%)
Pyrexia (Fever)	10 (17%)
Nasopharyngitis	8 (14%)
Coronavirus infection	6 (10%)
Fall	5 (9%)
Post-lumbar puncture syndrome	5 (9%)

Safety data as of October 3, 2023

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Next Steps Phase 2 Expansion Cohort Update



>30 patients enrolled
across Cohorts A-E
(Expansion Cohorts)



25 sites active
across 8 countries



No new lower
extremity weakness



Next data update
planned for at least
20 patients with 6
months of data
by 1H24

Expected FDA interactions in early 1Q24 to discuss Phase 3 endpoints