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): November 11, 2024

Neurogene Inc.

(Exact name of registrant as specified in its charter)

Delaware	**001-36327**	**98-0542593**
(State or other jurisdiction of incorporation or organization)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

535 W 24th Street, 5th Floor
New York, NY 10011
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (877) 237-5020

N/A
(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 (see General Instruction A.2. below):

☐ 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, $0.000001 par value	**NGNE**	**The Nasdaq Global 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 7.01 **Regulation FD Disclosure.**

On November 11, 2024, Neurogene Inc. (the "Company") issued a press release announcing initial efficacy data from the first four participants in the low-dose cohort of its ongoing Phase 1/2 gene therapy clinical trial for Rett syndrome and updated safety and tolerability data for the low-dose and high-dose pediatric cohorts from that trial. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K.

On November 11, 2024, the Company also made available a presentation regarding the clinical data described in the press release referenced above. A copy of the webcast featuring this presentation is available on the Events & Presentations page of the Investors section of the Company's website, and a copy is attached hereto as Exhibit 99.2. The information that is contained in or that can be accessed through the Company's website is not a part of this filing.

The information in this Item 7.01 and Exhibits 99.1 and 99.2 attached hereto is being furnished and shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any filing under the Exchange Act or the Securities Act of 1933, as amended, except as expressly set forth by specific reference to such filing.

Item 9.01 **Financial Statements and Exhibits.**

(d) Exhibits

Exhibit Number	Description
99.1	Press Release dated November 11, 2024
99.2	Corporate Presentation dated November 11, 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURE

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

NEUROGENE INC.

Date: November 12, 2024

By: /s/ Christine Mikail

Name: Christine Mikail

Title: President, Chief Financial Officer

Neurogene Reports Positive Interim Efficacy Data from First Four Low-Dose Pediatric Participants in NGN-401 Gene Therapy Clinical Trial for Rett Syndrome

All participants experienced a 2-point improvement in the clinician-rated Clinical Global Impression-Improvement (CGI-I) scale from baseline

All participants improved in the caregiver-completed Rett Syndrome Behavior Questionnaire (RSBQ), ranging from 28 to 52 percent improvement from baseline

All participants with disruptions in sleep, constipation, and dysphagia at baseline demonstrated objective improvements

Gains in skill and developmental milestones were consistent, durable, deepened over time and demonstrated improvements not expected based on natural history data

Low-dose NGN-401 well-tolerated with favorable safety profile

Company plans to provide an update of registrational trial design in the first half of 2025

Company to host investor/analyst webcast today, November 11, 2024, at 4:30 p.m. ET

NEW YORK – November 11, 2024 – Neurogene Inc. (Nasdaq: NGNE), a clinical-stage company founded to bring life-changing genetic medicines to patients and families affected by rare neurological diseases, today announced positive interim clinical data in the first four participants in the low-dose cohort of its ongoing Phase 1/2 open-label trial designed to evaluate NGN-401 gene therapy for the treatment of female pediatric patients with Rett syndrome. Low-dose NGN-401 has demonstrated a favorable safety profile.

“Today marks an important day for Neurogene and the Rett syndrome community as we share positive interim data for NGN-401 from our low-dose cohort that shows the first four participants demonstrated meaningful gains of skills and developmental milestones in core clinical domains of Rett syndrome, which are not expected to occur when compared to and contextualized against the natural history of Rett syndrome. Data were also concordant across multiple scales and show consistency of effect across patients, despite their unique clinical presentations at baseline,” said Rachel McMinn, Ph.D., Founder and Chief Executive Officer of Neurogene. “We are incredibly thankful to the participants, caregivers and Rett syndrome trial sites who are participating in our study.”

“Rett syndrome is a devastating neurodevelopmental disease that is incredibly challenging for patients and their caregivers given there are no treatment options available to address the underlying cause of the disease,” said Aleksandra Jacobs, M.D., Ph.D., Professor of Pediatric Neurology, Albert Einstein College of Medicine and Director of the Center for Rett Syndrome in the Children’s Hospital at Montefiore Medical Center. “The totality of the outcomes shared today with NGN-401 gene therapy have never been seen before in the treatment of Rett syndrome. Notably, these initial participants acquired developmental skills post-treatment during

the period in which the natural history of Rett syndrome indicates girls would not. I look forward to the continued progress in this program and additional data to come."

Interim Clinical Data as of Data Cut-Off Date of October 17, 2024

Interim Safety Data (N=7)*

Low-dose (1E15 vg) and high-dose (3E15 vg) NGN-401 have been well-tolerated with a favorable safety profile in the first seven pediatric participants (N=5 low-dose; N=2 high-dose):

- No treatment-related serious adverse events (SAEs)
- No signs or symptoms indicative of MeCP2 overexpression toxicity
- Most treatment-related adverse events (AEs) are known potential risks of adeno-associated virus (AAV), have been responsive to steroids, and are resolved or are resolving
- No intracerebroventricular (ICV)-related AEs
- No seizures for any participants following NGN-401 treatment

*Today, Neurogene became aware of an emerging treatment-related SAE consistent with known risks of AAV gene therapy in the third high-dose participant who was recently dosed.

Low-Dose Interim Efficacy Data (N=4)

The first four participants (age range 4-7 years old, efficacy assessments at 15, 12, 9, and 3 months post-dosing) in low-dose Cohort 1 showed consistent, concordant and durable improvements across key Rett syndrome assessments:

- All participants achieved a rating of "much improved," or a score of 2, on the clinician-rated Clinical Global Impression Scale of Improvement (CGI-I) from baseline; a score of $\leq$ 3 is considered clinically meaningful
- All participants improved in the caregiver-completed Rett Syndrome Behavior Questionnaire (RSBQ), ranging from 28 to 52 percent improvement from baseline
- All participants acquired skills and/or developmental milestones in one or more core clinical domains of Rett syndrome - hand function/fine motor, language/communication and ambulation/gross motor
    - These improvements include complex skills that are rarely learned in this population and skills that are rarely relearned after developmental regression when compared to the NIH-sponsored Rett syndrome natural history
    - New skills and milestones have increased and deepened over time

Initiation of Adolescent/Adult Cohort in NGN-401 Clinical Trial

Neurogene announced today that it has initiated an adolescent/adult Cohort 3 to gain initial data on the potential of NGN-401 to treat a broader patient population. This cohort is designed to enroll three participants ages 16 and above at the high dose.

FDA Alignment on CMC Requirements to Initiate Future Registrational Trial and Support Potential Product Launch

Neurogene also announced today that it has gained alignment with the FDA on its potency assay strategy for NGN-401, which is necessary to have in place prior to initiating a registrational trial. In addition, the FDA is aligned with Neurogene's manufacturing scale-up plans for NGN-401, which is important to support a future commercial product launch.

Completed and Upcoming Milestones for the NGN-401 Program

- Expect to complete enrollment in the low-dose pediatric Cohort 1 (N=8) in the fourth quarter of 2024
- Plans to provide an update of registrational trial design in the first half of 2025
- Plans to announce additional interim Phase 1/2 clinical data in the second half of 2025

CLN5 Batten Disease Program Update

Neurogene announced today that the Company does not expect to move forward with the NGN-101 CLN5 Batten disease gene therapy program at this time. Given the rarity of the disease, continued investment in the program was predicated on alignment on a streamlined registrational pathway with FDA. To support a streamlined pathway, Neurogene submitted a Regenerative Medicine Advance Therapy (RMAT) application to the FDA. Despite the Company's belief that the application met the standard of preliminary clinical evidence required to obtain an RMAT designation, the RMAT application was denied. Neurogene is currently evaluating options for the program.

Investor/Analyst Webcast Details

Management will host a live webcast and conference call today, November 11, 2024, at 4:30 p.m. ET to review the interim data from the NGN-401 clinical trial. Access information is available in the Investor Relations section of Neurogene's website under Events, where the webcast replay will also be available for a limited time.

About NGN-401

NGN-401 is an investigational AAV9 gene therapy being developed as a one-time treatment for Rett syndrome. It is the first clinical candidate to deliver the full-length human *MECP2* gene under the control of Neurogene's EXACT™ transgene regulation technology. EXACT technology is an important advancement in gene therapy for Rett syndrome, specifically because the disorder requires a treatment approach that enables targeted levels of *MECP2* transgene expression without causing overexpression-related toxic effects associated with conventional gene therapy.

NGN-401 was selected by the U.S. Food and Drug Administration (FDA) for its START Pilot Program and has also received Regenerative Medicine Advance Therapy (RMAT) designation, orphan drug designation, Fast Track designation and rare pediatric designation from the FDA. Neurogene was previously granted an INTERACT meeting with the FDA regarding the EXACT technology. NGN-401 also received orphan designation and advanced therapy medicinal product designation from the European Medicines Agency (EMA) and the Innovative Licensing and Application Pathway (ILAP) designation from the United Kingdom (UK) Medicines and Healthcare products Regulatory Agency (MHRA).

About Neurogene

The mission of Neurogene is to treat devastating neurological diseases to improve the lives of patients and families impacted by these rare diseases. Neurogene is developing novel approaches and treatments to address the limitations of conventional gene therapy in central nervous system disorders. This includes selecting a delivery approach to maximize distribution to target tissues and designing products to maximize potency and purity for an optimized efficacy and safety profile. The Company's novel and proprietary EXACT transgene regulation platform technology allows for the delivery of therapeutic levels while limiting transgene toxicity associated with conventional gene therapy. Neurogene has constructed a state-of-the-art gene therapy manufacturing facility in Houston, Texas. CGMP production of NGN-401 was conducted in this facility and will support pivotal clinical development activities. For more information, visit www.neurogene.com.

Cautionary Note Regarding Forward-Looking Statements

Statements in this press release which are not historical in nature are intended to be, and hereby are identified as, forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may discuss goals, intentions and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current expectations and beliefs of the management of Neurogene, as well as assumptions made by, and information currently available to, management of Neurogene, including, but not limited to, statements regarding: the therapeutic potential and utility, efficacy and clinical benefits of NGN-401; the safety and tolerability profile and efficacy results of NGN-401; anticipated future improvements for participants in the NGN-401 Phase 1/2 trial for the treatment of Rett syndrome trial designs, clinical development plans and timing for NGN-401, including anticipated timing of enrollment in and clinical trial results from the Company's NGN-401 Phase 1/2 trial for Rett syndrome and expansion of that clinical trial to a third cohort for adolescent/adult patients; expected benefits of RMAT designation and participation in the FDA's START pilot program for NGN-401, including future interactions with the FDA; the timing and success of Neurogene's plans for scale-up of commercial production of NGN-401; any potential alternatives for the future development of NGN-101; and our expected cash resources and liquidity. Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions, and include words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," "on track," and other similar expressions or the negative or plural of these words, or other similar expressions that are predictions or indicate future events or prospects, although not all forward-looking statements contain these words. Forward-looking statements are based on current beliefs and assumptions that are subject to risks, uncertainties and assumptions that are difficult to predict with regard to timing, extent, likelihood, and degree of occurrence, which could cause actual results to differ materially from anticipated results and many of which are outside of Neurogene's control. Such risks, uncertainties and assumptions include, among other things: risks related to the timing and success of enrolling patients in the expanded cohort of our Phase 1/2 clinical trial of NGN-401 for the treatment of Rett syndrome; the expected timing and results of dosing of patients in our clinical trials, including NGN-401; the potential for negative impacts to patients resulting from using a higher dose of NGN-401 in Cohort 2 of the Phase 1/2 clinical trial for the treatment of Rett syndrome; the potential for

unexpected results or negative impacts to adolescent or adult patients in Cohort 3 of the Phase 1/2 clinical trial for NGN-401; the risk that we may not be able to report additional data on the predicted timeline; risks related to our ability to obtain regulatory approval for, and ultimately commercialize, our product candidates, including NGN-401; and other risks and uncertainties identified under the heading "Risk Factors" included in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the Securities and Exchange Commission ("SEC") on March 18, 2024, or our Quarterly Report on Form 10-Q for the quarter ended June 30, 2024, and other filings that the Company has made and may make with the SEC in the future. Nothing in this communication should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that the contemplated results of any such forward-looking statements will be achieved. Forward-looking statements in this communication speak only as of the day they are made and are qualified in their entirety by reference to the cautionary statements herein. Except as required by applicable law, Neurogene undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.

This communication contains hyperlinks to information that is not deemed to be incorporated by reference into this communication.

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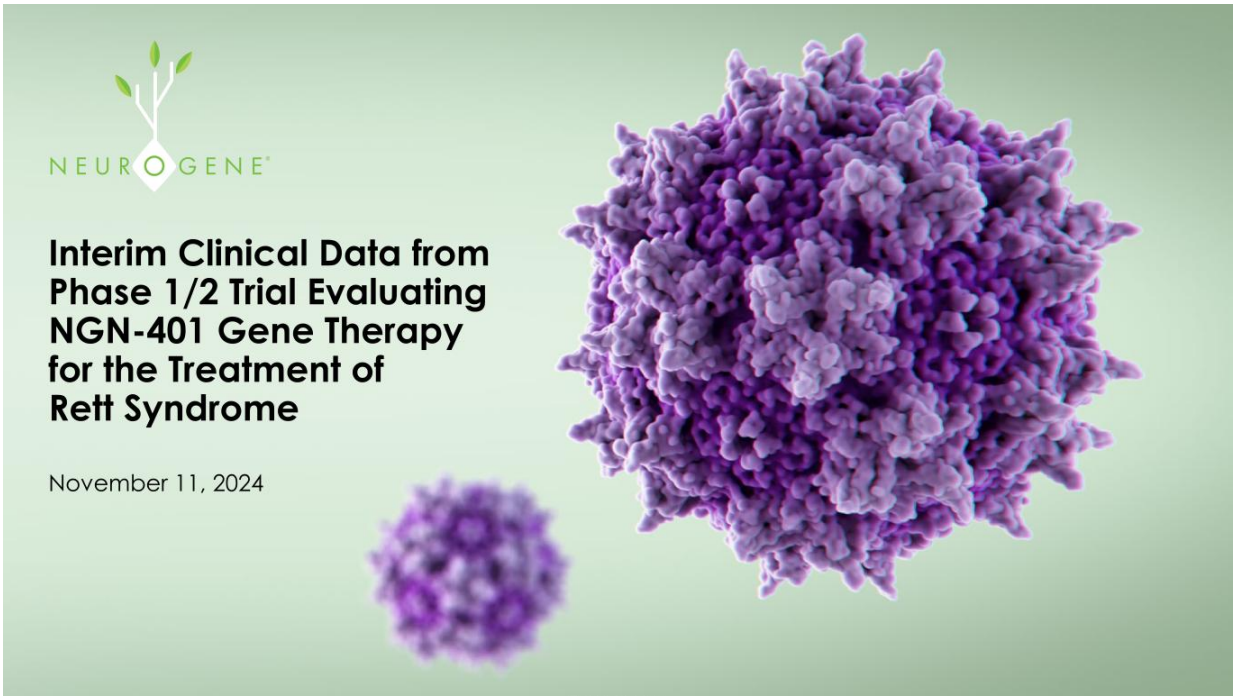

NEUROGENE
Interim Clinical Data from Phase 1/2 Trial Evaluating NGN-401 Gene Therapy for the Treatment of Rett Syndrome
November 11, 2024

Disclaimer

Forward Looking Statements

This communication contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements may discuss goals, intentions and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current expectations and beliefs of the management of Neurogene, as well as assumptions made by, and information currently available to, management of Neurogene, including, but not limited to, statements regarding the therapeutic potential and utility, efficacy and clinical benefits of its programs, including its EXACT™ technology and NGN-401; market opportunities for Neurogene's product candidates, including the potential for an increased market for NGN-401 based on the expansion of that Phase 1/2 clinical trial to include an adolescent/adult cohort; the safety and tolerability profile of NGN-401 and NGN-101; trial designs, clinical development plans and timing for NGN-401, including enrollment and dosing in all cohorts of the NGN-401 Phase 1/2 clinical trial for Rett Syndrome and anticipated additional clinical data results in NGN-401 Phase 1/2 trial for Rett syndrome, including data relating to the high dose cohorts; anticipated impact of expansion of the Phase 1/2 trial for NGN-401, including the addition of an adolescent/adult high-dose cohort; future interactions with U.S. or foreign regulatory authorities, including the anticipated benefits of the FDA's RMAT designation, participation in the FDA's START program with respect to NGN-401 and the continued alignment of the FDA with the Company's manufacturing plans for a potential pivotal trial of NGN-401; and anticipated early-stage discovery and expectations regarding the initiation of future clinical trials for programs in development. Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions, and include words such as "may," "will," "should," "would," "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," and other similar expressions or the negative or plural of these words, or other similar expressions that are predictions or indicate future events or prospects, although not all forward-looking statements contain these words. Statements that are not historical facts are forward-looking statements. Forward-looking statements are based on current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: Neurogene's limited operating history; the significant net losses incurred since inception of Neurogene; the ability to raise additional capital to finance operations; the ability of Neurogene to report its data on the predicted timeline; the ability of Neurogene to effectively used the RMAT designation or START program to accelerate development of NGN-401; the potential for negative impacts to patients dosed in the ongoing clinical trial for NGN-401, including those in the high-dose cohort; the potential for unexpected results or negative impacts to adolescent or adult patients in Cohort 3 of the Phase 1/2 clinical trial for NGN-401; ; the ability to advance product candidates through non-clinical and clinical development; the ability to obtain regulatory approval for, and ultimately commercialize, Neurogene's product candidates; Neurogene's limited experience in designing and conducting clinical trials; the ability to identify and pivot to other programs, product candidates, or indications that may be more profitable or successful than Neurogene's current product candidates; expectations regarding the market and potential for Neurogene's current product candidates; expectations regarding the potential tolerability, safety or efficacy for Neurogene's current product candidates; the ability to attract, hire, and retain skilled executive officers and employees; reliance on third parties, contract manufacturers, and contract research organizations; the ability of Neurogene to protect its intellectual property and proprietary technologies; risks related to Neurogene's ability to correctly estimate its respective operating expenses, including its projected cash runway; and legislative, regulatory, political and economic developments and general market conditions.

The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in the Company's most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q filed with the Securities and Exchange Commission (SEC), as well as risk factors associated with companies, such as Neurogene, that operate in the biopharma industry. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond Neurogene's control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Nothing in this communication should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that the contemplated results of any such forward-looking statements will be achieved. Forward-looking statements in this communication speak only as of the day they are made and are qualified in their entirety by reference to the cautionary statements herein. Except as required by applicable law, Neurogene undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.

U.S. securities laws prohibit any person who has received material, nonpublic information from an issuer from purchasing or selling securities based on such information or from communicating such information to any other person under circumstances in which it is reasonably foreseeable that such person is likely to purchase or sell securities on the basis of such information.

Industry and Market Data

Certain information contained in this Presentation relates to or is based on studies, publications, surveys and Neurogene's own internal estimates and research. In this Presentation, Neurogene relies on, and refers to, publicly available information and statistics regarding market participants in the sector in which Neurogene competes and other industry data. Any comparison of Neurogene to any other entity assumes the reliability of the information available to Neurogene. Neurogene obtained this information and statistics from third-party sources, including reports by market research firms and company filings. In addition, all of the market data included in this Presentation involve a number of assumptions and limitations, and there can be no guarantee as to the accuracy or reliability of such assumptions. Finally, while Neurogene believes its internal research is reliable, such research has not been verified by any independent source and Neurogene has not independently verified the information.

Trademarks

This Presentation may contain trademarks, service marks, trade names and copyrights of other companies, which are the property of their respective owners. Solely for convenience, some of the trademarks, service marks, trade names and copyrights referred to in this Presentation may be listed without the TM, SM © or ® symbols, but Neurogene will assert, to the fullest extent under applicable law, the rights of the applicable owners, if any, to these trademarks, service marks, trade names and copyrights.

Agenda

Introduction and NGN-401 Program Overview

Rett Syndrome Overview and Natural History

NGN-401 Phase 1/2 Clinical Trial Design

Baseline Characteristics and Safety Data

Interim Low-Dose Cohort Efficacy Data

NGN-401 Next Steps

Q&A


GIRL
GENIUS

Compelling Interim Clinical Data in Low-Dose Cohort Shows Gains of Function Across Core Domains and Improvements in Autonomic Function

- **Durable improvements observed across multiple scales, incl. two-point improvement in CGI-I in all participants, with concordance of benefit across scales**
- **Consistent gains observed across core clinical domains** of hand function, gross motor and communication, despite heterogeneous presentation
- **Clinically meaningful gain of skills and developmental milestones** beyond those observed in natural history data
- **Objective improvements in autonomic domains** of sleep and constipation
- **Rapid response** post-treatment, with **deepening of response over time**
- **Favorable safety profile** with low-dose NGN-401

NEUROGENE

As of data cut-off date of 17 October 2024

Leveraging START and RMAT to Accelerate Program to Registration; New Adult Cohort Underway

Multiple Touch Points with FDA to Accelerate Registration

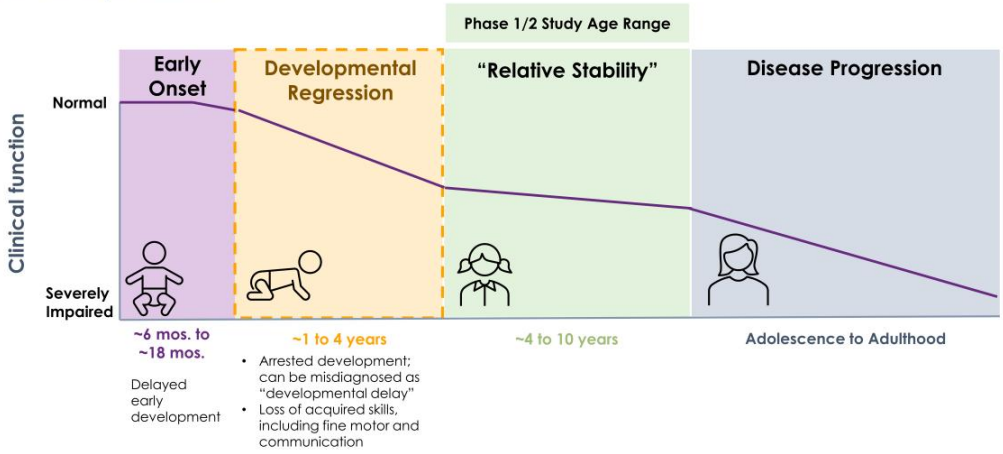
- START Program participation provides clear channel of communication with FDA to accelerate registrational planning
- RMAT designation provides eligibility for an Accelerated Approval pathway and rolling BLA and potential for Priority Review
- **FDA alignment on potency assay strategy to support future registrational trial and manufacturing scale-up plans at Neurogene Houston facility to support commercial launch plans**
- **Initiated adolescent/adult cohort at high dose to support potential for a broad label to capture higher portion of prevalent population**

NEUROGENE

Bold = New update

Rett Syndrome Overview and Natural History

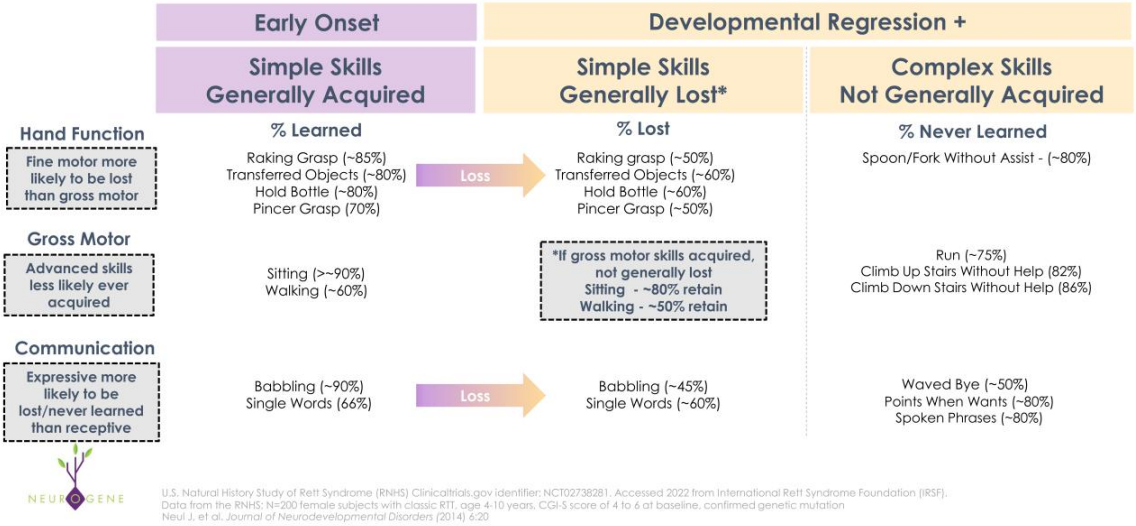
Rett Syndrome is Defined By Regression Period in Early Development



Pini G, et al. *Orphanet Journal of Rare Diseases* (2016) 11:132.
Neul J, et al. *Journal of Neurodevelopmental Disorders* (2014) 6:20
U.S. Natural History Study of Rett Syndrome (RNHS) Clinicaltrials.gov identifier: NCT02738281. Accessed 2022 from International Rett Syndrome Foundation (IRSF).

Simple Skills Are Generally Acquired but Majority Are Lost During Regression; More Complex Skills are Generally Not Acquired

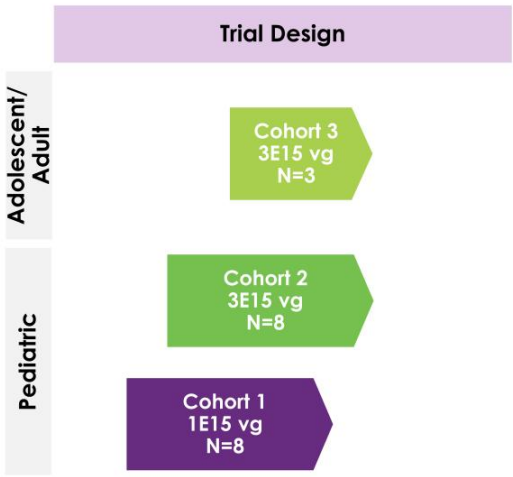
Natural History of Rett Syndrome



U.S. Natural History Study of Rett Syndrome (RNHS) Clinicaltrials.gov identifier: NCT02738281. Accessed 2022 from International Rett Syndrome Foundation (IRSF).
Data from the RNHS; N=200 female subjects with classic RTT, age 4-10 years, CGI-S score of 4 to 6 at baseline, confirmed genetic mutation
Neul J, et al. *Journal of Neurodevelopmental Disorders* (2014) 6:20

NGN-401 Phase 1/2 Trial Design and Interim Results

NGN-401 Phase 1/2 Clinical Trial Design in Females with Rett Syndrome



Key Eligibility Criteria

- Females with Classic Rett syndrome in post regression stage of illness
- Clinical diagnosis and genetic confirmation of pathogenic *MECP2* mutation
- Pediatric: 4–10 years old; Adolescent/Adult: 16+ years old
- Clinical Global Impression-Severity (CGI-S) score of 4–6

Key Efficacy Assessments

- Clinician Global Impression-Improvement (CGI-I)
- Clinician Global Impression-Severity with Rett syndrome-specific anchors (CGI-S)
- Rett Syndrome Behavior Questionnaire (RSBQ)
- Autonomic function

Cohort 1 prophylactic immunosuppression regimen includes corticosteroids
Cohorts 2 and 3 prophylactic immunosuppression regimen includes a targeted regimen of rituximab, sirolimus and shorter course of corticosteroids

Baseline Characteristics of Dosed Participants Range from Moderate to Severe Disease

	Low-Dose Cohort 1 (1E15 vg)					High-Dose Cohort 2 (3E15 vg)	
	Participant 1 (LD:1)	**Participant 2 (LD:2)**	**Participant 3 (LD:3)**	**Participant 4 (LD:4)**	**Participant 5 (LD:5)**	**Participant 1 (HD:1)**	**Participant 2 (HD:2)**
Age at Dosing in Years	7	4	6	7	6	5	7
***MECP2* Mutation Severity**	Mild	Severe	Severe	Severe	Severe	Severe	Unclassified
Baseline Disease Severity as Indicated by CGI-S Score	4 (moderately ill)	5 (markedly ill)	5 (markedly ill)	5 (markedly ill)	5 (markedly ill)	5 (markedly ill)	4 (moderately ill)
Time Post Treatment with NGN-401 in Months	~15	~12	~9	<6	~1	~5	~2

Despite Similar CGI-S Scores, Individual Baseline Presentations Vary Widely Across Core Clinical Domains

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As of data cut-off date of 17 October 2024

Functional Characteristics of LD:1 – 4 in Core Clinical Domains




	LD:1 Baseline - 7 Years Old	LD:2 Baseline - 4 Years Old	LD:3 Baseline - 6 Years Old	LD:4 Baseline - 7 Years Old
Hand Function / Fine Motor	• Raking grasp • Limited ability to feed herself • Dropped items quickly	• No functional hand use; right hand fixed in clenched position • Could not reach for, grasp, or hold items	• Raking grasp • Could not self-feed, on pureed diet due to aspiration; all meals required spoon-feeding by caregiver	• Raking grasp, some thumb use • Used adaptive utensils because of inability to grasp and hold onto a regular fork or spoon
Ambulation / Gross Motor	• Impaired, ataxic, unstable gait; often froze and walked on tiptoes • Could not go up/down stairs on own • Could not get on/off bed on own	• Impaired, ataxic, unstable gait; frequent falls • Required caregiver support to stand from seated position • Could not bend at waist and touch floor	• Could not sit, stand, or walk independently due to poor core strength and lower extremity weakness	• Could not stand or walk independently
Language / Communication	• Vocalized, could not babble • Could not communicate needs, wants, emotions, or choices • Unable to follow commands	• Rarely vocalized, could not babble • Unable to follow commands • Rarely made choices	• Vocalized, could not babble • Rarely made choices • Unable to follow commands	• Rarely vocalized, could not babble • Made choices with eye gaze device • Unable to follow commands

NEUROGENE

Images are representative of skills and are not photos of participants in the NGN-401 clinical trial

NGN-401 Has a Favorable Safety and Tolerability Profile in 7 Participants Dosed (5 Low Dose and 2 High Dose)

- No treatment-related serious adverse events (SAEs)
- No signs or symptoms indicative of MeCP2 overexpression, consistent with preclinical data
- Most AEs are known potential risks of AAV, have been responsive to corticosteroid treatment and have resolved or are resolving
- No intracerebroventricular (ICV) procedure-related AEs
- No seizures reported in any participant after treatment with NGN-401

	Low-Dose Number of Events [Number of Participants]	High-Dose Number of Events [Number of Participants]
Related TEAE	21 [4]	22 [2]
Grade 1	21 [4]	16 [2]
Grade 2	0	4 [1]
Grade 3	0	2 [1]
Related SAE	0	0
Unrelated SAE	1 [1]	2 [1]

- Grade 3 AEs were AST (7X ULN) and ALT (5X ULN) that resolved with corticosteroid treatment
- Grade 2 AEs were elevated ALT (1), AST (1), and decreased platelets (1) that all resolved with corticosteroid treatment and anorexia (1) that also resolved
- Two Grade 1 AEs of abnormal sural (sensory) nerve conduction study
  - 1 LD participant & 1 HD participant, both participants are asymptomatic
- Unrelated SAEs were urinary tract infection (2) and sepsis (1)

As of data cut-off date of 17 October 2024
TEAE = Treatment-emergent adverse event; ALT = Alanine aminotransferase; AST = Aspartate aminotransferase; ULN= Upper limit of norma

Consistent Improvement Across Key Rett Syndrome Scales, Bolstered by Functional Improvements in Core Clinical Domains

	CGI-I		CGI-S Total Score		RSBQ		Gain of Skills, Developmental Milestones and Symptom Improvement in RTT Clinical Domains				
	Improved?	How many points?*	Improved?	How many points?	Improved?	How many points? (% Change)	Hand Function	Gross Motor	Communi-cation	Autonomic	Attentive-ness
LD:1 15 mos. post-NGN-401	✓	2 pts.			✓	10 pts. (-28%)	✓	✓	✓	✓	✓
LD:2 12 mos. post-NGN-401	✓	2 pts.	✓	1 pt.	✓	32 pts. (-52%)	✓	✓	✓	✓	✓
LD:3 9 mos. post-NGN-401	✓	2 pts.			✓	5 pts. (-29%)	✓	✓		✓	✓
LD:4 3 mos. post-NGN-401	✓	2 pts.			✓	8 pts. (-28%)	✓			✓	✓

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As of data cut-off date of 17 October 2024
*Each participant achieved a 2-point improvement from "no change," or a score of 4

Understanding the CGI-I with Rett Syndrome Specific Anchors

- Clinician-rated scale assessing improvement from baseline
- 1-point improvement considered clinically meaningful (score ≤ 3)*
- Factors considered to determine change included duration, onset, durability of change, and the context of sign/symptom change across the Rett syndrome specific domains of the CGI
- CGI-I is more sensitive to change than CGI-S

Score	CGI-I
1	Very much improved
2	Much improved
3	Minimally improved
4	No change
5	Minimally worse
6	Much worse
7	Very much worse

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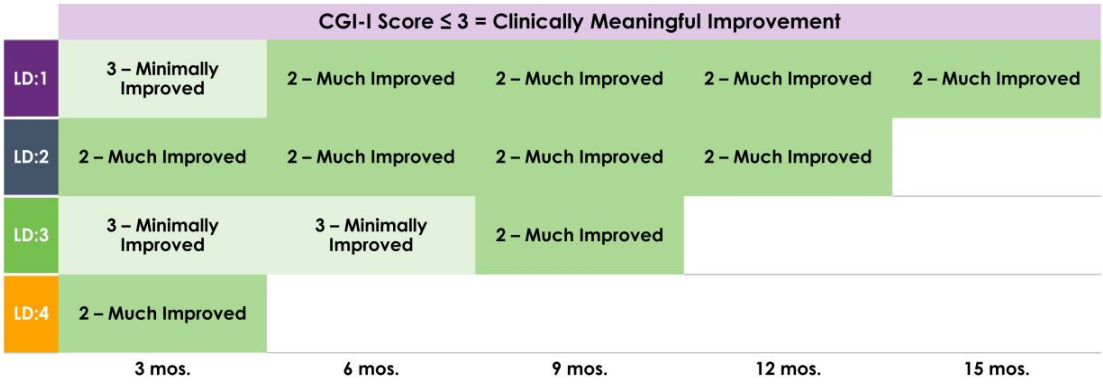
*Clinical Review Report: Brexpiprazole (Rexulti), 2017.
Neul J, et al. *J Child Neurol* (2015) 30(13):1743–1748

All Treated Participants Achieved CGI-I Rating of "Much Improved"

Clinically Meaningful Improvement Observed Early After Treatment, with Deepening Response and Durability Over Time



Post Treatment with NGN-401

As of data cut-off date of 17 October 2024

Understanding the CGI-S with Rett Syndrome Specific Anchors

- Clinician-rated scale of disease severity across 7 clinical domains
- Communication, ambulation, and hand function, have the greatest weighting on total score
- The majority of patients with Classic Rett Syndrome have a CGI-S of 4-6
- Scale not designed to be sensitive to change; substantial gains across core domains required to improve scale by 1 point

Score	CGI-S	
1	Normal, not at all ill	
2	Borderline ill	
3	Mildly ill	
4	Moderately ill	NGN-401 Clinical Trial Inclusion Criteria
5	Markedly ill	
6	Severely ill	
7	Extremely ill	

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Neul J, et al. *J Child Neurol* (2015) 30(13):1743–1748

CGI-S Clinical Domains Provide Insights Into Core Functional Areas; Scale Was Not Designed as Clinical Outcome Measure

	Clinical Domains	CGI-S 3	CGI-S 4	CGI-S 5	CGI-S 6
Core functional domains	**Language/ Communication**	Phrases-sentences. May have conversations or echolalia	<5 words Babbles Makes choices 25%-50%	No words Babbles Makes choices ≤25%	Vocalizations Occasionally screams Rarely or makes no choices
	Ambulation	Walks, able to use stairs/run May ride tricycle or climb	Walks independently Unable to use stairs or run	Walks with assistance	Stands with support or independently May walk with support Sits independently or with support
	Hand use	Bilateral pincer grasp. May use pen to write but has fine motor issues like tremor	Reaches for objects, raking grasp or unilateral pincer May use utensils/cup	Reaches No grasps	Rarely-occasionally reaches out No grasp
	Social (eye contact)	Appropriate eye contact, >30s	Eye contact <20s	Eye contact <10s	Eye contact, inconsistent 5s
Key clinical focus is breathing abnormalities	**Autonomic**	No or minimal breathing abnormalities (<5%) warm, pink extremities	Breathing dysrhythmia <50% No cynanosis Cool UE, Pink LE	Breathing dysrhythmia 50% No cynanosis Cold UE, Pink LE	Breathing dysrhythmia 50-100% May have cynanosis Cool UE or LE, may be blue
	Seizures*	None, with or without meds	Monthly-weekly	Weekly	Weekly-daily
Following commands clinically meaningful	**Attentiveness**	Attentive to conversation, follows commands	50-100%	50%	<50%

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*Treated participants to date have been stable with no seizures on study
Neul J, et al. *J Child Neurol* (2015) 30(13):1743–1748

Hand Function: All Participants Gained Meaningful Improvements and Gained Skills that Deepened Over Time

All Participants Gained Higher-level Grasping and Improvements in Self-feeding

		Baseline	3 mos.	6 mos.	9 mos.	12 mos.	15 mos.
LD:1 7 yrs. at dosing	CGI-S Domain Score	4	4	4	4	4	4
		Raking grasp; Limited self-feeding	• More consistent self-feeding, able to take multiple bites of foods without dropping	• Modified pincer grasp to self-feed	• Drinks with two hands • Able to place ball in basket on command	• Pincer grasp	• Uses fork to self-feed • Transfers objects between hands
LD:2 4 yrs. at dosing	CGI-S Domain Score	6	4	4	4	4	
		No functional hand use	• Palmer grasp	• Engages both hands	• Beginning to self-feed • Picks up and grasps blanket with both hands • Raking grasp	• Can place pacifier in own mouth	
LD:3 6 yrs. at dosing	CGI-S Domain Score	4	4	4	4		
		Raking grasp	• Modified pincer grasp	• Modified pincer grasp	• Beginning to self-feed		
LD:4 7 yrs. at dosing	CGI-S Domain Score	4	4				
		Raking grasp; Self-feeds with adaptive utensils	• Modified pincer grasp; • Uses utensils to self-feed				

Time Post Treatment with NGN-401

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As of data cut-off date of 17 October 2024

Gross Motor Function: Gains are Faster in Participants Who Walked Independently at Baseline

First Three Participants Experienced Improvements in Gross Motor Function that Led to Greater Physical Independence From Caregivers

		Baseline	3 mos.	6 mos.	9 mos.	12 mos.	15 mos.
LD:1 7 yrs. at dosing	CGI-S Domain Score	4	4	3	3	4	3
		Impaired, ataxic, unstable gait; Freezes often and walks on tip-toes; Unable to ascend or descend stairs independently	• More fluid gait, more heel-to toe	• Able to ascend stairs independently	• Can get on and off bed independently • Ascends stairs independently • Consistent heel-to-toe walking	• Able to ascend and descend stairs independently	• Able to climb out of bathtub independently • Gets down from carseat and exits car independently
LD:2 4 yrs. at dosing	CGI-S Domain Score	4	4	4	4	4	
		Impaired, ataxic unstable gait ; Frequent falls; Needs assistance to stand up from seated position	• Able to get up from seated position independently • More fluid, faster gait	• Able to get off of couch independently • Steps over objects more easily	• More stable, fluid gait • Falls reduced by ~75% • Bends over at hip to pick up blanket from floor, returns to standing	• Can step off a curb with one hand held	
LD:3 6yrs. at dosing	CGI-S Domain Score	6	6	6	6		
		Cannot sit, stand or walk independently	• Sits independently	• Sits independently	• Needs less support to get up from seated position and stand		
LD:4 7 yrs. at dosing	CGI-S Domain Score	5	5				
		Cannot sit, stand or walk independently	• Cannot sit, stand or walk independently				

Time Post Treatment with NGN-401

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As of data cut-off date of 17 October 2024

Communication: All Participants Demonstrated Improvement in Ability to Convey Choices (Slide 1 of 2)

Ability to Follow Caregiver Commands Demonstrated in Patients With Longest Follow Up

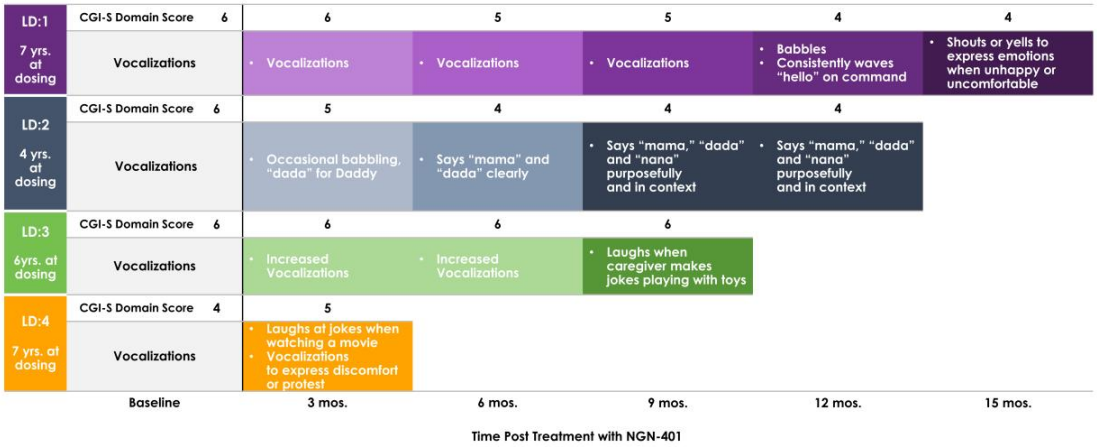
		Baseline	3 mos.	6 mos.	9 mos.	12 mos.	15 mos.
LD:1 7 yrs. at dosing	CGI-S Domain Score	6	6	5	5	4	4
		Makes choices 50% of time; Unable to follow commands	• Some choice-making	• Makes choices most of time; food 80–90% of time • Intermittently follows commands	• Makes choices nearly 100% of time for food • Follows multiple commands	• Makes choices 100% of time for food • Taps food items she wants • Follows >10 commands, many without gesture	• Consistently makes choices for food • Follows >10 commands, many without gesture • Actively seeks attention from others
LD:2 4 yrs. at dosing	CGI-S Domain Score	6	5	4	4	4	
		Rarely makes choices; Unable to follow commands	• Makes choices 25–50% of time	• Makes choices 25–50% of time	• Makes food choices 50–75% of time • Follows simple commands	• Makes choices 50% of time • Follows simple commands	
LD:3 6yrs. at dosing	CGI-S Domain Score	6	6	6	6		
		Rarely makes choices; Unable to follow commands	• Makes choices 50% of time	• Makes choices 25% of time	• Makes choices <25% of the time		
LD:4 7 yrs. at dosing	CGI-S Domain Score	4	5				
		Makes choices with eye gaze device; Unable to follow commands	• Makes choices ~25% of time				

Time Post Treatment with NGN-401

NEUROGENE

As of data cut-off date of 17 October 2024

Communication: All Participants Experiencing Improvements in Ability to Express Themselves (Slide 2 of 2)



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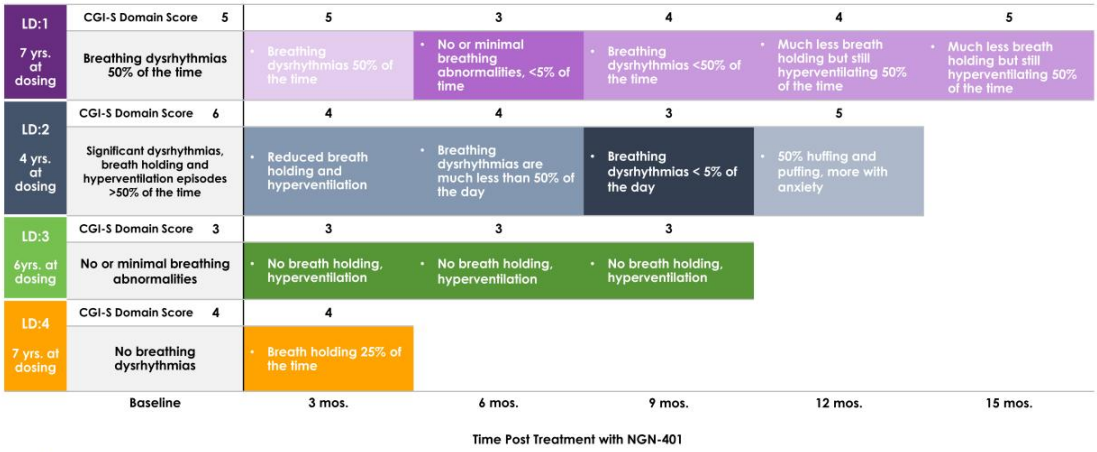
As of data cut-off date of 17 October 2024

Autonomic Function: Breathing Dysrhythmias Are Variable, Difficult to Assess Clinically Meaningful Improvements at Clinic Visits



As of data cut-off date of 17 October 2024

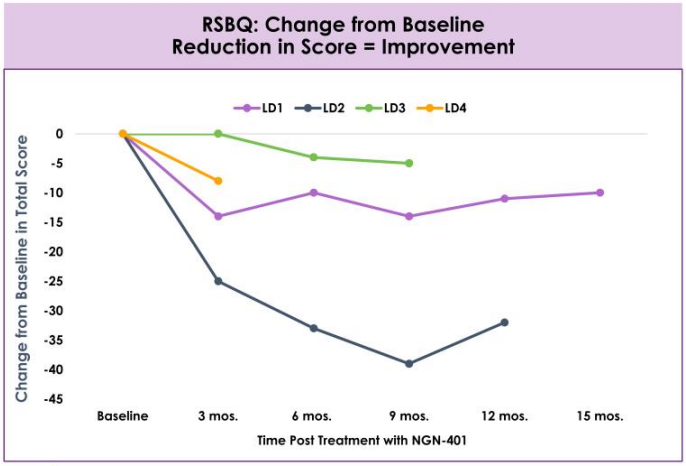
Understanding the Rett Syndrome Behavior Questionnaire (RSBQ)

- Caregiver-completed scale consisting of 45 items measuring behavior in females with RTT
- Developed as a diagnostic tool to differentiate females with Rett syndrome from those with severe intellectual disability
- Scale is limited due to no questions on communication and very limited number of questions on gross motor function
- Higher score indicates greater behavioral symptoms; scale does not correlate with disease severity

Subscales	Total Possible Points (90)
General mood	16
Breathing problems	10
Hand behaviors	12
Repetitive face movements	8
Body rocking and expressionless face	12
Nighttime behaviors	6
Fear/anxiety	8
Walking/standing	4
Other	14

Percy A, et al. *Front Pediatr* (2023)

All Participants Have Experienced Improvement in RSBQ Score



Participant	Baseline CGI-S Score	Baseline RSBQ Score	Change from Baseline	% Change
LD:1	4	39	-10	-28%
LD:2	5	62	-32	-52%
LD:3	5	17	-5	-29%
LD:4	5	29	-8	-28%

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As of data cut-off date of 17 October 2024

All Participants Experienced Improvements in Autonomic Function, as Measured by Objective Assessments

- **LD:1** and **LD:2**, who had sleep deficits at Baseline, experienced improvements in sleep parameters, as measured by a wearable device
  - LD:1 sleep efficiency increased from 83% to 90% at 6 months
  - LD:2 sleep efficiency increased from 90% to >95% at 6 months, considered ideal

- **LD:1**, **LD:2** and **LD:4** had constipation at Baseline, and experienced improvements over time as measured by the caregiver-reported modified Bristol Stool Form Scale

- **LD:3** had dysphagia, or difficulty swallowing, at Baseline, requiring a pureed diet and had to be spoon-fed by caregiver due to aspiration; she is now able to swallow liquids from a cup and chew and swallow food items

Participant Vignettes

LD:1 From Pre-Treatment to 15 Months Post NGN-401

	Baseline (7 years old)	Post Treatment with NGN-401
Hand Function / Fine Motor	• Had a raking grasp, briefly held objects, dropping items quickly, with limited ability to self-feed	• Developed a pincer grasp, able to self-feed, has begun using a fork to eat; uses both hands to drink on her own
Ambulation / Gross Motor	• Walked independently, but would stay on her tip-toes, freeze often and required a parent to help her go up/down stairs or get on/off a bed	• More fluid gait with heel to toe walking, and does the following on her own: goes up/down the stairs, climbs out of high rimmed bathtub, gets on/off furniture, climbs out of her car seat to exit the car
Language / Communication	• Unable to indicate her wishes, follow simple commands from her parents, or express emotion	• Without being told, navigates her house to the car to go to school, waves hello to her grandfather on daily video calls, taps on food items to express choices, frowns/shouts to show displeasure • Follows >10 commands such as "give a kiss," "sit down," "give it to me," "put item in trash," "open/close door," "flush toilet"

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Images are representative of skills and are not photos of participants in the NGN-401 clinical trial
As of data cut-off date of 17 October 2024

LD:1 Multi-Domain Improvements Deepened Over Time, and Not Expected Based on Rett Syndrome Natural History

	Select LD:1 Developmental Skills Post-NGN-401	Months Post-NGN-401				
		3	6	9	12	15
Fine Motor	Uses a pincer grasp		✓	✓	✓	✓
	Holds bottle or cup unpropped		✓	✓	✓	✓
	Uses spoon/fork to self-feed					✓
	Transfers objects between hands					✓
Gross Motor	Heel-to-toe walking			✓	✓	✓
	Climbs up stairs without help		✓	✓	✓	✓
	Climbs down stairs without help				✓	✓
Communication	Follows a command without gesture		✓	✓	✓	✓
	Waves hello*				✓	✓
	Taps for wants				✓	✓

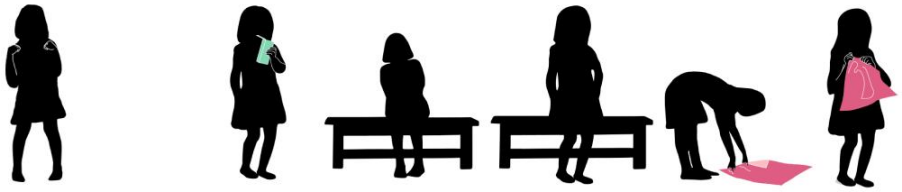
LD:1 Complex Developmental Skills Learned/Re-Learned Well Outside RNHS	
LD:1 Newly Learned Complex Skills Post-NGN-401	% Never Learned in RNHS
Climbs up stairs without help	82%
Climbs down stairs without help	86%

LD:1 Re-Learned Complex Skill Post-NGN-401	% Re-Learned in RNHS
Waves hello*	4%

Data from the RNHS; N=200 female subjects with classic RTT, age 4-10 years, CGI-S score of 4 to 6 at baseline, confirmed genetic mutation
*Skill learned is "Wave hello;" however, RNHS tracked "Waves Bye Bye"
As of data cut-off of 17 October 2024

LD:2 From Pre-Treatment to 12 Months Post NGN-401

	Baseline (4 years old)	Post Treatment with NGN-401
Hand Function / Fine Motor	• Had no functional hand use, clenched hands, could not grab, reach, hold objects	• Holds juice box and drinks, starting to self feed, frequently grabs and holds her security blanket, places pacifier in her mouth to self-soothe, turns on videos by tapping tablet
Ambulation / Gross Motor	• Walked independently, but fell frequently, couldn't stand up from seated position without being pulled up, couldn't bend over	• Faster, steadier gait with infrequent falls; on her own she can: stand from seated position, bend over and pick up her blanket from the floor, step off a curb with one hand held
Language / Communication	• No babbling, no ability to make choices, not able to follow commands	• Says "mama," "dada," and "nana" clearly and in context • Follows commands such as "come here" and "give a kiss" and more regularly choosing preferred foods



Images are representative of skills and are not photos of participants in the NGN-401 clinical trial
As of data cut-off date of 17 October 2024

LD:2 Multi-Domain Improvements from Severe Impairments at Baseline Deepened Over Time, and Not Expected Based on Rett Syndrome Natural History

	Select LD:2 Developmental Skills Post-NGN-401	Months Post-NGN-401			
		3	6	9	12
Fine Motor	Reaches for an object	✓	✓	✓	✓
	Uses raking grasp to retrieve an object			✓	✓
	Self-feeds			✓	✓
Gross Motor	Stands independently from seated position	✓	✓	✓	✓
	Bends down, touches floor, and recovers			✓	✓
	Steps off curb with help				✓
Communication	Follows a command without a gesture	✓	✓	✓	✓
	Uses words with meaning	✓	✓	✓	✓

LD:2 Developmental Skills Learned/Re-Learned Well Outside RNHS	
LD:2 Newly Learned Complex Skills Post-NGN-401	% Never Learned in RNHS
Follows a command without a gesture	64%
LD:2 Re-Learned Skills Post-NGN-401	**% Re-Learned in RNHS**
Uses raking grasp to retrieve an object	3%
Reaches for an object	13%
Uses words with meaning	8%

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Data from the RNHS; N=200 female subjects with classic RTT, age 4-10 years, CGI-S score of 4 to 6 at baseline, confirmed genetic mutation
As of data cut-off date of 17 October 2024

LD:3 From Pre-Treatment to 9 Months Post NGN-401

Hand Function / Fine Motor	• Raking grasp, required caregiver to spoon feed all meals due to inability to swallow anything safely other than pureed food	• Able to self-feed solid foods, swallow liquids
Ambulation / Gross Motor	• Could not sit, stand, or walk independently due to poor core strength and lower extremity weakness	• Sits independently, improved posture, able to stand with less support, able to advance feet forward better with support
Language / Communication	• No choice making, babbling; not able to follow commands	• Laughs at jokes made by caregiver • Makes some choices

Baseline (6 years old)

Post Treatment with NGN-401

Images are representative of skills and are not photos of participants in the NGN-401 clinical trial
As of data cut-off date of 17 October 2024

LD:3 Multi-Domain Improvements Not Expected Based on Rett Syndrome Natural History

	Select LD:3 Developmental Skills	Months Post-NGN-401		
		3	6	9
Fine Motor	Uses a pincer grasp		✓	✓
Fine Motor	Able to self-feed			✓
Gross Motor	Sits independently	✓	✓	✓

LD:3 Developmental Re-Learned Well Outside RNHS	
LD:3 Re-Learned Skills Post-NGN-401	% Re-Learned in RNHS
Uses a pincer grasp	6%
Able to self-feed	8%
Sits independently	7%

Data from the RNHS; N=200 female subjects with classic RTT, age 4-10 years, CGI-S score of 4 to 6 at baseline, confirmed genetic mutation
As of data cut-off date of 17 October 2024

LD:4 From Pre-Treatment to 3 Months Post NGN-401

	Baseline (7 years old)	Post Treatment with NGN-401
Hand Function / Fine Motor	• Raking grasp, able to use adaptive utensils to self-feed, unable to hold or use regular utensils	• Able to use regular utensils to self-feed, reaches with more precision
Ambulation / Gross Motor	• Could not stand or walk independently	• No substantial improvement observed yet at 3 months post treatment with NGN-401
Language / Communication	• No babbling, unable to follow commands, laughed out of context	• Laughs at appropriate moments while watching favorite movie or listening to an audio program • Vocalizes to express discomfort or show emotion

Images are representative of skills and are not photos of participants in the NGN-401 clinical trial
As of data cut-off date of 17 October 2024

LD:4 Early Improvements in Hand Function Not Expected Based on Rett Syndrome Natural History

Select LD:4 Developmental Skills	Months Post-NGN-401
	3
Uses a pincer grasp	✔
Can use utensils to self-feed (without assistance)	✔

LD:4 Developmental Skills Learned Well Outside RNHS	
LD:4 Newly Learned Complex Skill Post-NGN-401	% Never Learned in RNHS
Can use utensils to self-feed (without assistance)	80%

Data from the RNHS; N=200 female subjects with classic RTT, age 4-10 years, CGI-S score of 4 to 6 at baseline, confirmed genetic mutation
As of data cut-off date of 17 October 2024

Neurogene: Differentiated Clinical-Stage Company Utilizing EXACT Technology to Treat Complex Neurological Diseases

NGN-401: Best-in-Class Potential w/ Compelling Interim Data

- Potential best-in-class efficacy: Durable and concordant improvements observed across multiple scales, incl. two-point improvement in CGI-I in all participants
- Consistent gains observed across core clinical domains incl. hand function, gross motor, communication and autonomic function
- Favorable safety profile with low-dose NGN-401

Expedited Regulatory Path for NGN-401 via START and RMAT

- START Pilot Program: provides clear communication channel with FDA to accelerate registrational planning
- RMAT designation: eligibility for Accelerated Approval pathway and rolling BLA and potential for Priority Review

Recent Accomplishments

- FDA alignment on CMC potency assay strategy and manufacturing scale-up planning
- Initiated adolescent/adult high-dose cohort
- Registrational study planning underway

Wholly-owned and fully integrated in-house manufacturing capabilities designed for commercial scale

NEUROGENE

As of data cut-off date of 17 October 2024

Next Steps

Key Upcoming Anticipated Milestones and Pipeline Developments

Rett syndrome (NGN-401)

- ☑ Expand ongoing Phase 1/2 clinical trial in 1H:24 to enroll a larger cohort of pediatric patients
- ☑ Interim Phase 1/2 clinical data in pediatrics in 4Q:24
- ☑ Complete low-dose enrollment in pediatrics in 4Q:24 (N=8)
- ❑ ***Provide regulatory update in 1H:25 regarding pivotal trial design***
- ❑ Announce additional Phase 1/2 clinical data in 2H:25

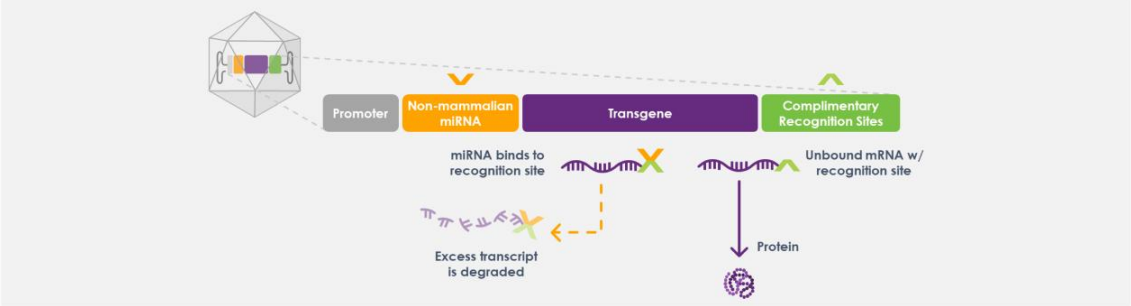
Early-stage discovery

- ❑ Advance one program into the clinic (2025)

Thank You

Presentation Appendix

NGN-401 Designed to be Best-in-Class Gene Therapy for Treatment of Rett Syndrome



Intracerebroventricular (ICV) administration delivers *MECP2* to regions of the brain involved in pathophysiology of Rett syndrome

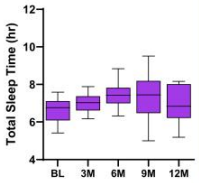
Mammalian ubiquitous promoter used broadly in approved gene therapy products

Full-length human *MECP2* gene maximizes potential for efficacy

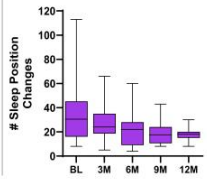
EXACT™ designed to fine-tune transgene expression to deliver consistent levels across wild type and deficient cells without overexpression toxicity

LD:1 Autonomic Function: Objective Improvements Observed in Sleep Parameters and Constipation

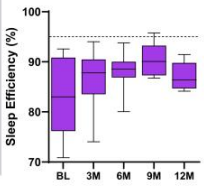
Improvements in All Sleep Parameters, as Assessed by Wearable Device



Total sleep time **increased from 6.6 to 7 hrs./night**



Number of position changes **decreased from 37 to 18** per night



Sleep efficiency* **increased from 83% to ~90%** (95% is ideal)

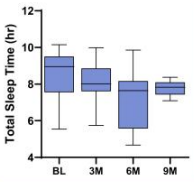
Constipation Improved Over Time, as Measured by Stool Consistency and Frequency**

NEUROGENE

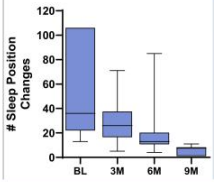
*Sleep efficiency defined as time spent asleep vs. total time spent in bed
**As measured by Caregiver on modified Bristol Stool Form Scale
As of data cut-off date of 17 October 2024

LD:2 Autonomic Function: Objective Improvements Observed in Sleep Parameters and Constipation

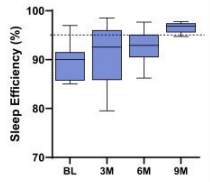
Transition to More Restful Sleep, as Assessed by Wearable Device



Total sleep time decreased; however, **more restful sleep occurring**

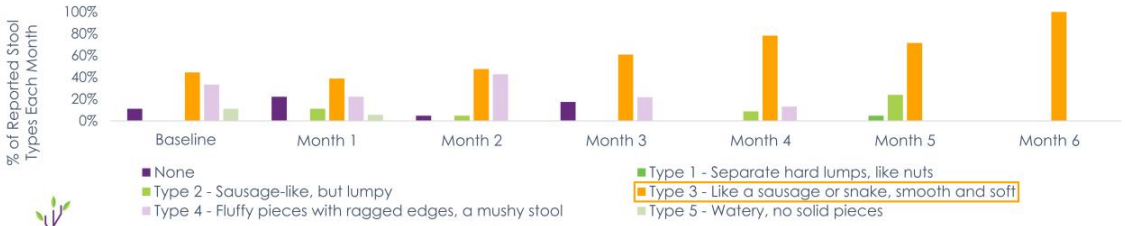


Number of position changes **decreased from 37 to 8** per night



Sleep efficiency* **increased to >95%**, which is ideal

Constipation Improved Over Time, as Measured by Stool Consistency and Frequency**



NEUROGENE

*Sleep efficiency defined as time spent asleep vs. total time spent in bed
**As measured by Caregiver on modified Bristol Stool Form Scale
As of data cut-off date of 17 October 2024

LD:3 Autonomic Function: Experienced Clinically Meaningful Improvement in Swallowing and Gained Ability to Self-feed

At Baseline, LD:3 had dysphagia requiring a pureed diet and had to be spoon-fed by caregiver due to aspiration

Beginning 3 months post-NGN-401, LD:3 could swallow liquids, such as clear soup and water from a sippy cup, and chew and swallow soft items, such as meatballs and cooked carrots, without choking

At 9 months post-NGN-401, she is now able to grasp food such as apple slices and self-feed

LD:3 did not have Baseline deficits in autonomic categories of sleep or constipation

- Sleep duration and quality maintained post-treatment
- No change in Modified Bristol Stool Form Scale scores post-treatment

LD:4 Autonomic Function: Objective Improvement Observed in Constipation

Constipation Improved in Month 4, as Measured by Stool Consistency and Frequency*

None
Type 1 - Separate hard lumps, like nuts
Type 2 - Sausage-like, but lumpy
Type 3 - Like a sausage or snake, smooth and soft
Type 4 - Fluffy pieces with ragged edges, a mushy stool
Type 5 - Watery, no solid pieces

LD:4 did not have Baseline deficits in autonomic category of sleep
Sleep quality maintained post-treatment

*As measured by Caregiver on modified Bristol Stool Form Scale
As of data cut-off date of 17 October 2024