Neurogene Announces First Participant Dosed in Embolden™ Registrational Trial of NGN-401 Gene Therapy for Rett Syndrome

November 6, 2025

Single trial to support future BLA submission for NGN-401 in patients ages ≥ 3 years

Rapid trial execution underway with 12 of 13 clinical sites initiated

Expect to complete trial enrollment in three to six months

Neurogene management to present Phase 1/2 interim data update at Stifel Healthcare Conference on November 12

NEW YORK--(BUSINESS WIRE)--Nov. 6, 2025-- 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 that the first participant was dosed in the Embolden™ registrational clinical trial of NGN-401, a gene therapy in development for the treatment of Rett syndrome. NGN-401 has the potential to be a best-in-class and first-in-class gene therapy for Rett syndrome, a neurodevelopmental disorder with significant unmet medical need.

"Dosing the first participant in the Embolden registrational trial of NGN-401 marks a major milestone in advancing a gene therapy for Rett syndrome. We prioritized operational excellence this year, doubling our U.S. site footprint and initiating 12 of 13 sites to meet patient demand, positioning us to complete enrollment within the next three to six months," said Rachel McMinn, Ph.D., Founder and Chief Executive Officer of Neurogene. "The Embolden trial is a single registrational trial designed to evaluate NGN-401 in females ages three and above, generating key insights into its potential when administered early in the disease course and supporting a broad label strategy across a wide age range."

Embolden Registrational Trial Updates and Overview

- The first participant has been dosed in Embolden, a single-arm, open-label, baseline-controlled trial evaluating the 1E15 vector genome (vg) dose of NGN-401 in 20 females ages three years and older with Rett syndrome.
- NGN-401 is delivered via a one-time intracerebroventricular (ICV) administration; in preclinical studies, NGN-401 showed greater expression of the full-length therapeutic *MECP2* transgene mRNA in key brain regions underlying Rett syndrome pathophysiology when compared to the same translationally relevant IT-L administered dose.
- Embolden is currently enrolling in the U.S., and the Company expects to complete enrollment in three to six months.

NGN-401 Phase 1/2 Interim Data Update at Stifel 2025 Healthcare Conference

Company management will present the interim data update from the Phase 1/2 trial of NGN-401 in a fireside chat at the Stifel 2025 Healthcare Conference on Wednesday, November 12 at 4:40 p.m. ET. A webcast of the fireside chat will be accessible from the Investor Relations section of Neurogene's website under events, where a replay of the event will also be available for a limited time.

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.

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 Priority Medicines (PRIME) designation, 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).

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 the Company's programs, including its EXACT technology and NGN-401; the safety and tolerability profile of NGN-401; trial designs and clinical development plans for the Company's Embolden ™ registrational clinical trial of NGN-401 for Rett syndrome, including timing of anticipated completion of enrollment in the clinical trial and the number of trial sites participating in the clinical trial; the potential for improved efficacy of NGN-401 as a treatment for Rett syndrome when compared to other treatment candidates using a different route of administration; expected future interactions with or positions of the FDA; the potential for success of the Embolden registrational clinical trial for NGN-401 for the treatment of Rett syndrome, including with respect to the goal of achieving a label that covers a wide age range; expected timing for additional interim data from the Company's NGN-401 Phase 1/2 trial for Rett syndrome; and the potential superiority of ICV administration as compared to IT-L administration, based in part on preclinical data. 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, the risk that the FDA could change its requirements for the Embolden trial and the risks and uncertainties identified under the heading "Risk Factors" included in Neurogene's Annual Report on Form 10-K for the year ended December 31, 2024, filed with the Securities and Exchange Commission (SEC) on March 24, 2025, Neurogene's Quarterly Report on Form 10-Q for the quarter ended June 30, 2025, filed with the SEC on August 11, 2025, 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.

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