Neurogene Announces FDA Breakthrough Therapy Designation for NGN-401 Gene Therapy for Rett Syndrome

February 26, 2026

Breakthrough Therapy designation granted based on interim NGN-401 Phase 1/2 data demonstrating clinically meaningful, durable and multidomain functional improvements

On track to complete dosing in Embolden™ registrational trial of NGN-401 in second quarter of 2026

Plans to present additional interim Phase 1/2 clinical data in mid-2026

NEW YORK--(BUSINESS WIRE)--Feb. 26, 2026-- 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 U.S. Food and Drug Administration (FDA) has granted Breakthrough Therapy designation to NGN-401, an investigational gene therapy in late-stage clinical development as a potential best-in-class treatment for Rett syndrome.

The Breakthrough Therapy designation was based on the FDA's review of interim efficacy and safety data from the Phase 1/2 trial as of the data cutoff date of October 30, 2025, including patient-level data and supporting video documentation, demonstrating clinically meaningful and durable functional improvements across multiple Rett syndrome domains with continued skill acquisition over time.

NGN-401 is being evaluated as a one-time treatment for Rett syndrome and is designed to deliver the full-length human *MECP2* gene under the control of Neurogene's proprietary EXACT™ transgene regulation technology. It is delivered through intracerebroventricular administration to achieve the broadest targeting directly to the brain and nervous system based on nonclinical biodistribution data. NGN-401 is currently being evaluated in the Embolden™ registrational clinical trial, with completion of dosing expected in the second quarter of 2026.

"The FDA's decision to grant Breakthrough Therapy designation validates the clinically meaningful, durable and multidomain functional improvements observed with NGN-401, including continued skill acquisition observed over time, and underscores the significant unmet medical need of those living with Rett syndrome," stated Rachel McMinn, Ph.D., Founder and Chief Executive Officer of Neurogene. "We appreciate the Agency's continued engagement, including through our participation in the START Pilot Program and now our Breakthrough Therapy designation, to support the rapid advancement of NGN-401."

Breakthrough Therapy designation is intended to expedite the development and review of medicines for the treatment of serious conditions which have shown preliminary clinical evidence indicating the potential for substantial improvement over available therapies on a clinically significant endpoint. The benefits of Breakthrough Therapy designation include eligibility for Priority Review, rolling submission of sections of the Biologics License Application and FDA's organizational commitment to help determine an efficient route to approval.

This designation for NGN-401 is the latest of several regulatory designations granted by FDA, including Regenerative Medicine Advanced Therapy (RMAT) and Rare Pediatric Disease designations, and selection for FDA's Support for Clinical Trials Advancing Rare Disease Therapeutics (START) Pilot Program.

About Neurogene

Neurogene (NASDAQ: NGNE) is a clinical-stage biotechnology company focused on developing life-changing genetic medicines for people and their families impacted by devastating neurological diseases. The Company is using a biology-first approach paired with optimized delivery to develop purpose-built genetic medicines powered by its novel and proprietary EXACT™ transgene regulation technology. Neurogene is advancing its lead gene therapy program, NGN-401, as a potential best-in-class, one-time treatment for Rett syndrome. For more information, visit neurogene.com or follow on LinkedIn.

About NGN-401

NGN-401 is an investigational AAV9 gene therapy in late-stage clinical development as a potential best-in-class, one-time treatment for Rett syndrome. It is the only clinical candidate to deliver the full-length human *MECP2* gene and includes Neurogene's EXACT™ transgene regulation technology, which is designed to deliver consistent, tightly controlled MeCP2 protein expression on a cell-by-cell basis. NGN-401 is delivered through intracerebroventricular administration to achieve the broadest targeting directly to the brain and nervous system based on nonclinical biodistribution data. NGN-401 is being evaluated in the

Embolden™ registrational clinical trial. Interim data from the Phase 1/2 trial (as of October 30, 2025) have shown that participants experienced multidomain, durable gains with continued skill acquisition observed over time, and NGN-401 at the 1E15 vg dose has been generally well-tolerated. NGN-401 has received Breakthrough Therapy, Regenerative Medicine Advanced Therapy, Fast Track, Orphan Drug and Rare Pediatric Disease designations and selection for the START Pilot Program from the U.S. Food and Drug Administration, Advanced Therapy Medicinal Product, Orphan and Priority Medicines designations from the European Medicines Agency and Innovative Licensing and Application Pathway designation from the United Kingdom Medicines and Healthcare products Regulatory Agency.

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 of NGN-401; the applicability of reported interim results from the NGN-401 Phase 1/2 clinical trial to other participants or potential participants, including adolescent or adult participants; the potential for NGN-401 to be a best-in-class gene therapy for Rett syndrome; trial designs and clinical development plans for the Company's Embolden™ registrational clinical trial of NGN-401 for Rett Syndrome, including timing of anticipated dosing and completion of participant dosing in our clinical trial; the response rate, expected durability and deepening of clinical data results from our NGN-401 clinical trials; expected timing for release of additional data from our Phase 1/2 clinical trial of NGN-401; the potential for success of the Embolden registrational clinical trial of NGN-401 for Rett Syndrome; the clinical benefit of delivering NGN-401 via intracerebroventricular administration; and expected future interactions with or positions of the FDA, including the timing and outcome of any such interaction and anticipated benefits of any regulatory designation for NGN-401, including the FDA's Breakthrough Therapy designation, Rare Pediatric Disease designation, RMAT designation, and participation in the FDA's START program. 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 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 September 30, 2025, filed with the SEC on November 13, 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.

View source version on businesswire.com: https://www.businesswire.com/news/home/20260226883579/en/

Company Contact:
Mike Devine
Executive Director, Corporate Communications
michael.devine@neurogene.com

Investor Contact:
Argot Partners
Neurogene@argotpartners.com

Source: Neurogene Inc.