Neurogene Presents Favorable Safety Data from Phase 1/2 Trial of NGN-401 Gene Therapy for Rett Syndrome during ASGCT Annual Meeting

May 7, 2024

NGN-401 has been generally well-tolerated by first three patients dosed, with three to nine months of follow-up

No signs or symptoms of overexpression toxicity, including in one patient with a mild variant predicted to result in residual MeCP2 expression

Neurogene remains on track to provide interim efficacy data from the trial in 4Q:24

NEW YORK--(BUSINESS WIRE)--May 7, 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 initial safety and tolerability data from its ongoing Phase 1/2 gene therapy clinical trial for Rett syndrome, which showed that NGN-401 was generally well-tolerated by all three patients dosed, with follow-up of approximately nine, six and three months post-dosing. These data were presented during the American Society of Gene and Cell Therapy (ASGCT) Annual Meeting.

"We designed NGN-401 to overcome the limitations of conventional gene therapy for Rett syndrome by incorporating our EXACT™ transgene regulation technology, which we believe provides tolerable and therapeutic levels of protein expression to the key areas of the brain and nervous system that drive disease," said Rachel McMinn, Ph.D., Founder and Chief Executive Officer of Neurogene. "The NGN-401 data presented at ASGCT demonstrate a favorable tolerability profile in the first three pediatric patients, including one with a mild variant predicted to result in residual MeCP2 expression, with no signs or symptoms of overexpression-related toxicity reported in any patient. We remain on track to share interim efficacy data from the first cohort of the trial in the fourth quarter of 2024."

The Phase 1/2 open-label trial is evaluating the safety, tolerability, and preliminary efficacy of two dose levels of NGN-401 delivered via one-time intracerebroventricular (ICV) infusion. Enrollment of female patients ages 4-10 years old with classic Rett Syndrome and a Clinical Global Impression-Severity (CGI-S) score of 4-6 is ongoing in low-dose Cohort 1 and high-dose Cohort 2.

The baseline demographics of the first three patients who received NGN-401 in Cohort 1 (1E15 vector genomes) include:

	Patient 1	**Patient 2**	**Patient 3**
Age at Dosing	7 years old	4 years old	6 years old
Race	Asian	White	White
***MECP2* mutation**	Mild	Severe	Severe
Time post-NGN-401 administration	~9 months	~6 months	~3 months

NGN-401 has been generally well-tolerated by all three patients. All adverse events (AEs) related to NGN-401 have been mild, or Grade 1, and transient or resolving. Most AEs are known potential risks of adeno-associated virus (AAV), including asymptomatic laboratory value changes.

There have been no signs or symptoms indicative of MeCP2 overexpression toxicity reported in any of the three patients, including the patient with a mild variant that is predicted to result in residual MeCP2 expression. There have been no treatment-emergent or ICV procedure-related serious AEs (SAEs).

"There is a high unmet need for new treatments that can address the incredible disease burden people with Rett syndrome and their families face on a daily basis," stated Bernhard Suter, M.D., Medical Director of the Blue Bird Circle Rett Center at Texas Children's Hospital, Associate Professor of Pediatrics at Baylor College of Medicine, and principal investigator in the NGN-401 clinical trial. "Gene therapy has the potential to address the underlying cause of Rett syndrome with a one-time treatment, and these interim safety data from the NGN-401 trial provide an important milestone on the path to realizing its potential for patients. I look forward to the continued work in conducting the trial as we evaluate NGN-401's safety and efficacy."

The presentation by Dr. Suter is available as an ePoster on the ASGCT Annual Meeting platform and https://ir.neurogene.com. The data cut-off date for this presentation was April 19, 2024.

Neurogene continues to expect to provide interim clinical data, including efficacy data, from Cohort 1 in the fourth quarter of 2024 and additional interim data, including from Cohort 2, in the second half of 2025.

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 that 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; and anticipated timing of interim clinical trial results from the Company's NGN-401 Phase 1/2 trial for Rett syndrome. 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 either or both of the cohorts of Neurogene's Phase 1/2 clinical trial of NGN-401 for the treatment of Rett syndrome; the expected timing and results of dosing of patients in the Company's 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, including the risk of more significant or more severe adverse events; the risk that the Company may not be able to report its data on the predicted timeline; Neurogene's limited operating history; the risk that Neurogene may not be able to raise adequate additional capital to finance its operations, complete its clinical trials and commercialize its products; risks related to Neurogene's ability to obtain regulatory approval for, and ultimately commercialize, its product candidates, including NGN-401; risks related to the outcome of non-clinical testing and early clinical trials for the Company's product candidates, including the ability of those trials to satisfy relevant governmental or regulatory requirements; risks related to Neurogene's limited experience in designing clinical trials and lack of experience in conducting clinical trials; and other risks and uncertainties identified under the heading "Risk Factors" included in the Company's 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, 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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