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Neuralstem Announces Publication of a Study Showing Benefits of Neural Stem Cell (NSC) Transplantation in a Mouse Model of Alzheimer's Disease

NSC transplantation led to improved cognition and reduced A β plaque pathology

GERMANTOWN, Md., Oct. 25, 2018 (GLOBE NEWSWIRE) -- Neuralstem, Inc. (Nasdaq:CUR), a biopharmaceutical company focused on developing novel treatments for nervous system diseases, announced the publication of a manuscript in *Scientific Reports* showing that transplantation of NSI-532.IGF1, a proprietary human neural stem cell line developed by Neuralstem (US patent no 9,750,769), mitigates disease pathology and improves cognition in a mouse model of Alzheimer's disease (AD).

The study was performed at the University of Michigan by a team led by Dr. Eva Feldman, Director of the Program for Neurology Research and Discovery, and Research Director of the University of Michigan ALS Center of Excellence. Dr. Feldman's team grafted the neural stem cell line into APP/PS1 mice that carry genes bearing mutations associated with onset of AD in humans.

NSI-532.IGF1 was implanted adjacent to the hippocampus, a structure in the brain that is critical for memory formation, and animals were evaluated for cognitive performance along with evidence of A β plaque pathology, a hallmark of AD in humans. Animals receiving neural stem cell grafts showed improved cognitive performance relative to control animals in two memory tasks that are dependent on hippocampal function, and also showed a decrease in A β plaque pathology relative to controls.

"Our leading neural stem cell therapy product in clinical development, NSI-566, has shown promise for treatment of motor deficits across three different indications—stroke, spinal cord injury, and ALS," said Karl Johe, PhD, Chief Scientific Officer at Neuralstem. "NSI-532.IGF1 is a second-generation cell therapy candidate that is engineered to combine neural stem cells with a neuroprotective protein, IGF-1, thereby targeting neurodegenerative conditions like AD. This preclinical study from Dr. Feldman's team suggests that the combined properties of neural stem cells and IGF-1 may mitigate the pathology and cognitive deficits associated with Alzheimer's disease."

"Alzheimer's disease is a leading cause of dementia and there are currently no treatments available that significantly alter the course of this disease," said Dr. Feldman. "We are encouraged by the results we have seen with human neural stem cells in this established animal model and look forward to continuing this collaboration with Neuralstem."

About Neuralstem

Neuralstem is a clinical-stage biopharmaceutical company developing novel treatments for nervous system diseases of high unmet medical need. The Company has two lead development candidates:

- NSI-566 is a neural stem cell therapy being tested for treatment of paralysis in stroke, Amyotrophic Lateral Sclerosis (ALS) and chronic spinal cord injury (cSCI).
- NSI-189, is a small molecule in clinical development for major depressive disorder (MDD) and in preclinical development for Angelman syndrome, irradiation-induced cognitive impairment, Type 1 and Type 2 diabetes, and stroke.

Neuralstem's diversified portfolio of product candidates is based on its proprietary neural stem cell technology.

Cautionary Statement Regarding Forward Looking Information

This news release contains "forward-looking statements" made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements relate to future, not past, events and may often be identified by words such as "expect," "anticipate," "intend," "plan," "believe," "seek" or "will." Forward-looking statements by their nature address matters that are, to different degrees, uncertain. Specific risks and uncertainties that could cause our actual results to differ materially from those expressed in our forward-looking statements include risks inherent in the development and commercialization of potential products, uncertainty of clinical trial results or regulatory approvals or clearances, need for future capital, dependence upon collaborators and maintenance of our intellectual property rights. Actual results may differ materially from the results anticipated in these forward-looking statements. Additional information on potential factors that could affect our results and other risks and uncertainties are detailed from time to time in Neuralstem's periodic reports, including its Annual Report on Form 10-K for the year ended December 31, 2017, and its Quarterly Report on Form 10-Q for the three and six months ended June 30, 2018, filed with the Securities and Exchange Commission (SEC), and in other reports filed with the SEC. We do not assume any obligation to update any forward-looking statements.

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