NEUROME

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Neurome announces publication of landmark paper on Alzheimer's disease in Proceedings of the National Academy of Sciences

Paper is first of its kind to describe regional brain volumetric changes in a mouse model of Alzheimer's disease

LA JOLLA, CA - Neurome, Inc. today announced the publication of its paper describing the determination of regional brain changes in the PDAPP mouse model of Alzheimer's disease using high-resolution magnetic resonance microscopy (MRM).

The paper by Jeffrey M. Redwine et al is entitled "Dentate Gyrus Volume is Reduced Before Onset of Plaque Formation in PDAPP Mice: A Magnetic Resonance Microscopy and Stereologic Analysis" and is published in the Proceedings of the National Academy of Sciences of the United States of America (PNAS), Vol. 100, No. 3, p.p.1381-1386 (2003). The paper is also available in the early online edition of PNAS at www.pnas.org.

The paper is co-authored by Jeffrey M. Redwine, Ph.D. of Neurome, Barry Kosofsky, M.D., Ph.D. (Harvard Medical School), Russell E. Jacobs, Ph.D. (Caltech), Dora Games, Ph.D. (Elan Pharmaceuticals), John F. Reilly, Ph.D. (Neurome), John H. Morrison, Ph.D. (Neurome and Mount Sinai School of Medicine), Warren G. Young, Ph.D. (Neurome) and Floyd E. Bloom, M.D. (Neurome and The Scripps Research Institute).

"We were quite surprised that pathology was evident this early in the animal's life. This is important since it suggests that at least in this animal model, therapeutic interventions can and should be tested in fairly young animals - well before the appearance of more advanced reflections of Alzheimer's Disease pathology," said Floyd E. Bloom, M.D., Founding CEO and Chairman of the Board of Neurome and Chairman of the Department of Neuropharmacology at The Scripps Research Institute. "Furthermore, this discovery demonstrates the power of modern quantitative approaches to neuropathology, since it is unlikely that we would have visualized such discrete and important changes in brain structure with more conventional approaches."

This is the first example of applying quantitative 3-D MRM to detect brain volume changes over time in a mouse model of Alzheimer's disease. The measurements taken revealed that reduced volume in certain regions of the brain

can be detected by MRM prior to the deposition of beta-amyloid, the protein that forms thick deposits, or plaques, in the brains of people with Alzheimer's disease. These findings indicate that over-expression of amyloid precursor protein and amyloid may initiate pathologic changes prior to the appearance of plaques, suggesting novel targets for the treatment of Alzheimer's disease and further reinforcing the need for early diagnosis and treatment.

Alzheimer's disease (AD) is a progressive, neurodegenerative disease of the brain characterized by memory loss, language deterioration, impaired visuospatial skills, poor judgment, indifferent attitude, but preserved motor function. Symptoms of Alzheimer's disease usually manifest after age sixty-five; however, onset may occur as early as age forty, appearing first as memory decline and, over several years, destroying cognition, personality, and ability to function. There is no known cure for Alzheimer's disease, which affects at least 20 million people worldwide.

Neurome, Inc., develops standardized, quantitative databases that accurately depict and integrate gene expression patterns in the three-dimensional context of the brain's structures, circuits, and cells, and deploys these databases in primary research directed toward the discovery and development of gene targets for enhancement of brain function and treatment of brain-based disease. Neurome performs contract brain research for pharmaceutical and biotechnology companies while at the same time pursuing its own in-house and collaborative research protocols. The data collected from these efforts will populate an evolving, comprehensive database available by subscription and useful on a broad level for analyses of mouse models of brain function and disease. In this regard, the application of the Neurome technologies will provide rigorous, quantitative data that are optimally suited to the measurement of subtle cell-type specific shifts in gene expression, as well as progression and prevention of degenerative events affecting specific cell classes and brain regions. For more information, please visit Neurome's website at www.neurome.com.