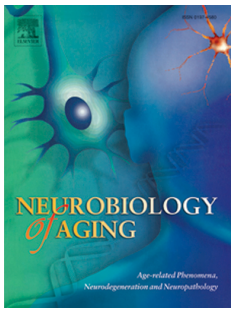
Accepted Manuscript



Laser-captured microglia in the Alzheimer's and Parkinson's brain reveal unique regional expression profiles and suggest a potential role for hepatitis B in Alzheimer's brain.

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PII: S0197-4580(17)30358-5

DOI: 10.1016/j.neurobiolaging.2017.10.019

Reference: NBA 10075

To appear in: *Neurobiology of Aging*

Received Date: 7 July 2017

Revised Date: 2 October 2017

Accepted Date: 22 October 2017

Please cite this article as: Mastroeni, D., Nolz, J., Sekar, S., Delvaux, E., Serrano, G., Cuyugan, L., Liang, W.S., Beach, T.G., Rogers, J., Coleman, P.D., Laser-captured microglia in the Alzheimer's and Parkinson's brain reveal unique regional expression profiles and suggest a potential role for hepatitis B in Alzheimer's brain., *Neurobiology of Aging* (2017), doi: 10.1016/j.neurobiolaging.2017.10.019.

Laser-captured microglia in the Alzheimer's and Parkinson's brain reveal unique regional expression profiles and suggest a potential role for hepatitis B in Alzheimer's brain.

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Abstract

Expression array data from dozens of laboratories, including our own, show significant changes in expression of many genes in Alzheimer's (AD) patients compared to normal controls (NC). These data typically rely on brain homogenates, and information about transcripts specific to microglia and other CNS cell types, which far outnumber microglia-specific transcripts, is lost. We therefore employed single cell laser capture methods to assess the full range of microglia-specific expression changes that occur in different brain regions (substantia nigra and hippocampus CA1), and disease states (AD, Parkinson's disease (PD), and NC). Two novel pathways, neuronal repair and viral processing were identified. Based on KEGG analysis, one of the most significant viruses was hepatitis B virus (HBV) (FDR<.00000001). Immunohistochemistry with HBV core antibody in HBV-positive control, amnestic mild