

PEER-REVIEW REPORT 2

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Title: Distinguishing normal brain aging from the development of Alzheimer's disease: inflammation, insulin signaling and cognition

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Reviewer's country: USA

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Your peer review comments will be published as an open peer review report. Do you agree to have your name included with the published article?

Yes

COMMENTS TO AUTHORS

The review: "Distinguishing normal brain aging from the development of Alzheimer's disease: inflammation, insulin signaling and cognition" discusses behavioral and pathological signatures between healthy aging and Alzheimer's disease (AD) to define the parameters for differentiation between these two conditions in clinic.

The authors emphasize the increase in INFg, IL-4, phosphorylated IRS-1 and impairment of special learning as main features of AD compared to normal aging.

The review is nicely written and includes the links to clinical observations. Correlations between behavioral, immunological and biochemical evidences are important.

Minor comment:

Authors emphasize Th1 cells as the main cause of INFg increase found in APP/PS1 mice compared to wild type aged mice. INFg and IL4 are largely produced by microglia and infiltrating monocyte-derived cells such as macrophages. Macrophages are inflammatory cells. Authors may comment on whether there is any link between macrophages in the CNS, inflammation and cognitive impairment in aging and AD.