OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research
Manuscript NO: NRR-D-19-00496
Title: The role of the metabolism of branched-chain amino acids in the development of Alzheimer's disease and other metabolic disorders
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Reviewer's country: Germany
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COMMENTS TO AUTHORS

This is a well-written review about putative roles of branched-chain amino acids in Alzheimers disease and other disorders. Unfortunately enough, I cannot recommend its publication in its present form, because of numerous shortcomings.

Major point:

The whole reference list must be re-done. A vast majority of sources is incomplete, lacking information about the issue of the journal and pages. Besides, what't the source of the figure?

Minor points:

1. Page 4, lines 13/14 not amine group but amino group.
2. Page 5: The authors write: Remarkably, the administration of vitamin B6 has been shown to increase the hippocampal levels of the N-methyl-D-aspartate receptor, PSD-95 protein, and improve learning and memory acquisition in isocarbophos-treated rats. This is not correct, since PSD-95 is not a NMDA receptor. Rather, it forms complexes with those receptors.
3. What is the meaning of H+ (lines 21/22 of conclusions)?
4. When discussing roles of insulin in AD, the pioneering work of Frölich et al.1999 should be mentioned.
5. Concerning urea cycle and AD: I think it would be ingenious to include the following paper: Bensemain F, Hot D, Ferreira S, Dumont J, Bombois S, Maurage CA, Huot L, Hermant X, Levillain E, Hubans C, Hansmannel F, Chapuis J, Hauw JJ, Schraen S, Lemoine Y, Buée L, Berr C, Mann D, Pasquier F, Amouyel P, Lambert JC. Evidence for induction of the ornithine transcarbamylase expression in Alzheimer's disease. Mol Psychiatry. 2009 Jan;14(1):106-16.