Reviewer's report

Title: Ameliorating effects of aged garlic extracts against amyloid beta-induced neurotoxicity and cognitive impairment

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Reviewer: Nan Wu

Reviewer's report:

In the present work, the authors studied the effect of aged garlic extracts against Aβ-induced neurotoxicity in vitro and vivo model, focusing on its antioxidant activity. This paper contains a number of interesting findings. However, there are some concerns regarding the study concept and a lot of technical aspects should be improved.

Major Compulsory Revision:
Ethyl acetate fractions from aged garlic were used in the present study. However, because aged garlic extract has already been reported to show antioxidative actions, even the physiological activities of a single active compound S-allyl-cysteine was proved, the effect of ethyl acetate fraction under the experimental settings is not very surprising. Authors conclude that this extract possess beneficial activities for Alzheimer’s disease. Is there any advantage of this extract over other antioxidants with regard to anti-amnesic effects? Comparative experiments with positive drug or with other compounds may be required in vivo test.

Minor Essential Revisions:
(1) As to statistical methods and results, lack of information of sample number and replicates, especially in vitro test.
(2) Lack of description in figure legends of Figure 1 and 2.
(3) The quality of English needs carefully editing by someone with expertise in technical English editing. Pay attention to English grammar and sentence structure.
(4) The reference are old, since only 11 of the total 44 reference cited have published in recent 4 years.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.