Reviewer's report

Title: Amyloid-beta Precursor Protein Promotes Cell Proliferation and Motility of Advanced Breast Cancer

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Reviewer: Kuniko Horie-Inoue

Reviewer's report:

- Major Compulsory Revisions

Major point

The revised manuscript has been basically improved with additional experiments and information. In the revised text, however, the authors added the discussion regarding the difference between the recent Nature report by Goodarzi et al. [ref. 43] and their findings. They concluded that the discrepancy of these studies was resulted from the difference of cellular conditions including the presence or absence of TARBP2 expression. If they would like to claim this point, it will be better to perform the gain-of-function study of APP in breast cancer cells with a milder phenotype (e.g., MCF7 or M-I cells), rather than those with an aggressive phenotype. Alternatively, the addition of exogenous APP to breast cancer cells would provide useful information as Goodarzi et al. performed in their study. The authors mentioned that APP has no oncogenic enzyme activity that can force normal breast epithelial cells to become cancerous cells in their responses, although previous literature showed that exogenous APP promoted the proliferation and migration of fibroblasts [Saitoh T et al., Cell, 1989] as well as cancer cells [Pietrzik Cu, et al., PNAS, 1998; Hansel DE et al., 2003]. Thus, it will be worth investigating whether the overexpression or addition of APP contributes to the progression of breast cancer biology.

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

Quality of written English: Acceptable

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.