Reviewer’s report

Title: The Autophagy GABARAPL1 gene is Epigenetically Regulated in Breast Cancer Models.

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Reviewer: Ming Jiang

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The manuscript, entitled “The Autophagy GABARAPL1 gene is Epigenetically Regulated in Breast Cancer Models”, by Hervouet et al demonstrated that (1) A specific decrease of GABARAPL1 expression in breast cancers was associated with both DNA methylation and histone deacetylation; (2) CREB-1 recruitment on GABARAPL1 promoter was required for GABARAPL1 expression. The authors concluded that epigenetic inhibitors and CREB-1 modulators may be used in the future to regulate autophagy in breast cancer cells.

The manuscript was well written. Most experiments were straightforward. The experimental findings were in general supportive of the authors’ conclusions. For the most part, the data interpretations were appropriate. Nonetheless, the authors do not provide enough data regarding the phenotypes of autophagy associated with the reported observations. The methods used to demonstrate the phenotypes of autophagy in human breast cancer models are limited. The manuscript can be further improved if the following concerns can be effectively addressed:

Major Compulsory Revisions:

The authors should perform additional experiments to explore the possible associations between DNA methylation-related low expression levels of GABARAPL1 proteins and autophagy phenotypes in human breast cancer tissues and cell lines.

Minor Essential Revisions:

1. Page 6 (140): consents;
2. Page 20 (486): helped draft;

Level of interest: An article of outstanding merit and interest in its field

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.