Reviewer’s report

Title: Wnt modulates MCL1 to control cell survival in triple negative breast cancer

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Reviewer: Loredana Mauro

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The results obtained from this study indicate that: 1) WNT5B is upregulated in triple negative breast cancer; 2) it controls cell growth, motility and tumorogenicity; 3) it is involved in caspase-independent apoptosis, which is caused by mitochondrial dysfunction modulated through the anti-apoptotic protein MCL1.

The study is potentially interesting. Nevertheless, the manuscript could benefit from additional experiments and controls.

1) Regarding the mammal sphere assays. MDA-MB-231 cells do not express E-cadherin and thus they do not form mammospheres. MDA-MB-231 cells form cell clumps with a limited cell viability. It is strange that the authors showed results on the formation of spheres cultured for 7 to 10 days. Could the authors address this concern?

2) It could be also interesting to evaluate the expression of Cyclin D1, whose activity is required for cell cycle G1/S transition. Moreover, cyclin D1 regulates cyclin E action and it is essential in cellular adhesion, motility and survival.

3) Since cell growth and survival are hypothesized as one of the biological outcome of the WNT5B action in triple negative breast cancer cells, a cell growth or DNA synthesis assay (MTT assay or BrdU incorporation) in the absence or presence of shWNT5B would be welcome.

Level of interest: An article of importance 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