Reviewer's report

Title: Differential expression of follistatin and follistatin-related gene in human breast proliferative disorders

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Reviewer: Michael Grusch

Reviewer's report:

The manuscript "Differential expression of follistatin and follistatin-related gene in human breast proliferative disorders" by Enrrico Bolise et al investigates the expression of follistatin and FLRG expression on mRNA and protein level in breast tissue samples from patients with florid hyperplasia without atypia, fibroadenoma, ductal carcinoma in situ and infiltrating ductal carcinoma compared to normal breast tissue. The authors find increased follistatin staining in the stromal cells of fibroadenoma and increased FLRG in infiltrating ductal carcinoma and discuss their findings with respect to the known anti-proliferative activity of activin A on breast-derived cells. The study design is adequate and the methods are fit-for-purpose. The combination of mRNA and protein analysis increases credibility of the findings. Presentation of the data is straight-forward and the conclusions seem justified. The study is suitable for BMC Cancer provided a few points are adequately addressed.

Minor Essential Revisions

1) The term “follistatin-related gene” has also been used for Fstl-1 and thus using follistatin-like 3 or FLRG in the title and keywords as in the rest of the manuscript would be more adequate and less confusing.

2) In the legends to figures 1 and 3 immunohistochemistry is abbreviated with IHQ, but on the figures is labeled IHC.

3) In the legends to figures 1 and 3 the magnification of ISHs is given as x 400 and of immunohistochemistry as x 150. From the micrographs shown I am not sure that this is correct and the authors should check.

4) While the English style is generally good all sentences describing the scores e.g. "staining was scored up to 10% (page 14 line 13)", “the area of staining was scored in more than 50% (page 15 line 5)” should be checked for correctness.

5) Please correct page 25 line 4 “in the for normal breast”, page 16 line 14 “mice model” (mouse model),

Discretionary Revision

How do the authors interpret nuclear staining of Fst and FLRG?

Level of interest: An article of importance in its field
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