Reviewer's report

Title: Human Sulfatase 2 inhibits in vivo tumor growth of MDA-MB-231 in human breast cancer xenografts

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Reviewer: Paul Foster

Reviewer's report:

The manuscript by Peterson et al. focuses on the role of human sulfatase 2 on MDA-MB-231 breast cancer growth. The research is interesting and of some importance. Furthermore, the work has been presented and written with clarity. However, there are a number of points I would like addressed before publication.

Major Compulsory Revisions

1) How do the authors explain that the S1 and S2 xenografts established tumours initially (at day 5) but then regressed (figure 4)? Why did these tumours form tumours at all considering the loss of volume over 35 days?

2) Why did the control-vector MDA-MB-231 tumours (figure 4) not grow larger by day 35? MDA-MB-231 xenografts are usually extremely aggressive and fast growing. This is why they are used routinely to produce rapid in vivo drug efficacy models. Can the authors explain why their MDA-MB-231 cells grew so slowing?

Minor Essential Revisions:

1) How were the tissue samples collected (e.g. in formalin)?

2) Can the authors clarify why the rhSulf2 was administered intratumorally? This does is not a standard approach to treatment. Would it have been more appropriate to administer rhSulf2 i.v.?

3) Throughout the document the authors use both MB 231 and MBA-MB-231. This should be standardised.

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