Reviewer's report

Title: Doxorubicin-enriched, ALDHbr mouse breast cancer stem cells are sensitive to oncolytic herpes simplex virus type 1

Version: 3 Date: 21 July 2012

Reviewer: Faris Farassati

Reviewer's report:

Overall although this is an interesting topic, the paper needs some more work and key data to reach the substantial level of quality needed.

Here are a few concerns:

Major Concerns:
1-There need to be a precise definition of the OV used in this project in the “Background”.
2-What is the mechanism of targeting for the OV in this case? Is GM-CSF expression more cytotoxic on CSCs? What is the rationale that OV will be targeting CSCs?
3-Figure 1C needs error bars.
4-Figure 3 should be labeled better. Also it needs to be complemented with panels showing the permissiveness to HSV1-hGM-CSF investigated by IHC. Is there a difference between permissiveness of MT4 cells to HSV1-GF and HSV1-hGM-CSF.
5-Is GM-CSF expressed in infected cells by the OV? This needs to be shown if the claim of targeting these cells is mainly on this basis.
6-A titration assay needs to be performed if OV is supposed to be replicative in ALDHbr cells as compared with ALDHlo cells.
7-What would be the effects of OV on expression levels of P-gp, please provide data for this as well.

Minor concerns:
Please kindly refine the English a bit more and label the existing figures with more clarity.

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

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:
N/A