Reviewer’s report

Title: Glioma stem cells are more aggressive in the recurrent tumor with malignancy progression than in the primary tumor and they both can be maintained for long-term in vitro

Version: 3 Date: 22 August 2008

Reviewer: Joerg Wischhusen

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Most of the relevant issues have been resolved. Nevertheless, some new problems arise from the revisions introduced by the authors:

1) In Fig. 3 C and F, there is a shift between the anti-CD133 and the isotype staining. However, the overlay does not show a really distinct CD133+ population - which is a common problem with anti-CD133 stainings. Can this be improved by plotting FSC against CD133?

2) In this revised version, the authors state that "GSCs cannot reach the full terminal differentiation stage" - and this strong statement seems to be based only on the incomplete differentiation in FCS-containing medium during one week. Unless they are willing to try additional ways of differentiating the cells, this statement needs to be softened (e.g. by writing that "GSCs do not reach the full terminal differentiation stage under conditions that would induce terminal differentiation in neural stem cells").

3) Language problems remain. To cite just one example: "The favorable results that 100 CD133+ tumor cells could produce tumor mass in NOD-SCID mice, while up to 100,000 CD133- tumor cells could not, evidently proved that CD133+ tumor cells were brain tumor cells, and CD133- cells were not." should probably read: "... evidently proved that CD133+ tumor cells were brain tumor initiating cells, and CD133- cells were not."

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 have no competing interests.