Reviewer's report

Title: A standardised and reproducible brain tumour model established from a consecutive material of human glioblastoma multiforme biopsies.

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Reviewer: Maria G Castro

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This article by Wang et al describes the establishment of a standardized and reproducible brain tumor model derived from human glioblastoma multiforme biopsies.

Major Compulsory Revisions

1- The authors need to clearly justify in which way their model differs from existing models developed by Sharkaria JN et al. Clin. Canc. Res. 12: 2264-2271, 2006. They should highlight the novelty and advantage of their model in light of this previous publication.

2- The results depicted in Figure 2 are confusing and do not illustrate the point the authors wish to make clearly. The authors should plot their data as Kaplan-Meier Survival curves. If they wish to do comparisons in terms of survival differences between samples, they should perform the Mantel Log-rank test.

3- In Figure 3, in order to characterize the tumors, the authors should assess the presence of pseudo-palisades, areas of necrosis, micro-vascular hyperplasia, GFAP immunoreactive tumor cells.

4- In figure 4, the images are shown at too high magnification, this results in the reader not being able to clearly differentiate tumor areas from the normal brain regions. The authors should show whole brain sections and next to these higher magnification images of the areas they wish to highlight.

5- How will the authors tackle their finding that the tumor characteristics change dramatically between low generation and high generation tumors?

6- The MRI data is superficially analyzed and not conclusive. Its use to characterize the tumor at the histological/cellular level needs to be validated in their model.

Minor Essential Revisions

1- The title is confusing; please amend to reflect the outcome of the experimental data reported. A suggestion would be to eliminate: ....a consecutive material of...

2- The reference list is incomplete, especially in the areas of currently available
GBM models, including transgenic and endogenous models. The authors need to expand on these topics and quote the relevant literature in the field.

Discretionary Revisions

1- The manuscript needs to be edited for minor typographical and grammatical errors throughout.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.