Title: Notch signaling contributes to the maintenance of both normal neural stem cells and patient-derived glioma stem cells

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Reviewer: Elizabeth Powell

Reviewer's report:

Major Compulsory Revisions
Summary: The manuscript highlights how inhibiting Notch signaling can alter proliferation and the trajectory for glioma stem cells. The critical advance of the study is the use of human primary glioma cells derived from multiple tumors. However, the data that is presented appears to be a mix of mouse and human data. Many of the experimental details are missing. The source (origin) of the presented data is not well-described. The manuscript should include a comparison of the responses of the cells derived from different tumors and from normal human tissue or human-derived stem cell lines.

Specific comments:
1. Methods for neural stem cells are missing. Species is unknown. Figure 2 legend suggests that the normal neural stem cells are from embryonic mouse.
2. For all results, the number of samples, replicates and origin of tissues/cells should be clearly stated.
3. For statistical analyses, the test and p value should be provided.
4. Neurite outgrowth measurements and analyses are missing.
5. Quantification of immunohistochemistry is missing.
6. For each tumor, the results discussed for all cells grown would greatly improve the manuscript. A summary table comparing the results would be very helpful.
7. Data in Fig 3A do not match Fig 3B, and images in Fig 3C do not match the bar graphs in Fig 3D.

Minor Essential Revisions
1. If mouse tissue was used, then animal welfare assurance should be included.
2. Is Figure 3 from mouse? Or human?
3. GFAP staining in Fig 4 is very different in pattern and cell shape compared to Fig 2, but the differences are not discussed.

Discretionary Revisions
1. Only MAP2 was used as a neuronal marker, whereas Dcx and TuJ1 are often included as early neuronal markers. No justification was provided for MAP2.
**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.