Reviewer’s report

Title: STAT6 expression in glioblastoma promotes invasive growth

Version: 1 Date: 22 November 2010

Reviewer: Ian Lorimer

Reviewer’s report:

This paper investigates the role of Stat6 in glioblastoma. While there is a good combination of cell culture and patient tissue analyses, the paper is a bit preliminary. A particular concern was the lack of controls for off-target effects in the shRNA experiments.

Major Compulsory revisions:

The chemotherapy agent temozolomide prolongs survival in GBM, when used together with radiation (reference 1 below). This should be corrected in the Introduction.

Data in Figure 5 and 6. The authors need to take some step here to ensure that the shRNA effect on proliferation is not an off-target effect. One approach is to use single shRNAs and confirm that two separate ones targeting Stat6 have the same effect on proliferation and invasion. With the method the authors used, we don’t know if the clones are all expressing the same shRNA, or different ones.

For the invasion assays, what is the evidence that the 8 h time point was sufficient to prevent the decreased proliferation from affecting the invasion assays?

For the data in figure 7, was expression also independent of grade, as was found in the TMA analysis for protein expression? What does the data look like if the analysis is restricted to GBM only?

The lack of correlation of Stat6 with tumor grade seems inconsistent with a role for Stat6 in invasion – this was not discussed.

Minor Compulsory revisions:

The abstract should make clear what type of microarray data was used in the survival analysis (i.e. expression microarray not TMA)

p. 12 Increased mRNA levels aren’t necessarily due to increased transcription – they may be due to mRNA stabilization

Data in Figure 3 are confirmatory of previous work and would better be incorporated into another figure or given as Supplementary data

“A” and “B” are referred to in some of the Figure legends, but are not present in
the figures

References


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