Reviewer's report

Title: Differential utilization of ketone bodies by neurons and glioma cell lines: a rationale for ketogenic diet as experimental glioma therapy

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Reviewer: Charles Mobbs

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This interesting manuscript describes the key observation that whereas primary hippocampal neurons can use ketones to support metabolism at low glucose concentrations, gliomas cannot, even though both cell types express similar components to metabolize ketones. While this is a very important observation, it is unfortunate that the authors did not assess if primary glial cells or other transformed cell types could metabolize ketones or if tumor cell types that are sensitive to the ketogenic diet (e.g., gastric adenocarcinoma cell line 23132/87) do metabolize ketones. Such information would enhance the value of the study. However, the results as presented are credible and important.

It would be of interest to report the relative levels of expression of the genes involved in ketone metabolism in neurons vs. gliomas, rather than simply reporting that the genes are expressed in both.

Level of interest: An article of importance in its field

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'