

OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research

Manuscript NO: NRR-D-20-00304

Title: Targeting metabolism to treat multiple sclerosis

Reviewer's Name: Ilias Kazanis

Reviewer's country: UK

Date sent for review: 2020-4-11

COMMENTS TO AUTHORS

The submitted invited commentary is well written, in terms of content and size, and touches upon freshly published results on few topics of high significance: the role of metabolic disturbances in Multiple Sclerosis (MS), the role of the gut microbiota in such metabolic changes and the possibility to target metabolism in order to treat MS.

It is clear that the author(s) know their subject and can efficiently present the relevant data. The link with other previously published work is appropriate and the overall conclusions valid.

I can only suggest a couple of things:

- 1) It would be useful to highlight more the apparent discrepancies that have appeared in the literature regarding the actual role of the gut microbiota in the development/ outcome of MS (e.g. McMurran et al., 2019, PNAS; Gödel et al., 2020, J Neuroinflammation).
- 2) I would also like to see a short expansion on the view of the author(s) regarding the specific cell types that might be affected by metabolic changes in MS and whether they might be an appropriate therapeutic target. This will highlight the complexity of the disease (e.g. Mahad et al., 2015; Lancet Neurology) with a potential focus on the immune system (e.g. Devanney et al., 2020, Exper Neurology).