OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research
Manuscript NO: NRR-D-18-00638
Title: Rosmarinic acid ameliorates hypoxia-ischemia induced cognitive deficits via promoting remyelination in neonatal rat
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COMMENTS TO AUTHORS

While most research articles focus on neuro-protection and neurons per se, this manuscript focus on myelin protection, which is equally important but often got ignored by neuroscientist. The focus is meaningful, however, the provided evidence cannot support their conclusion. More explanation is needed.

1. For all the behavior test, the rats were running from P24 to P30. Why choose these ages? Furthermore, what are the corresponding ages to human at these stages? Almost just weaned. Rats at these ages might not be able to perform all tests at a stable level. Can authors explain more on this?

2. For figure 4, the axons looks better in panel k than panel i. do the drug also have effects on axon diameters? Do authors have quantification data of how many axons are myelinated? What is the g-ratio of the remyelination?

3. In figure 4, the Vec treated axons are also myelinated and the g-ratio looks similar to RA treated corpus callosum area.

4. The authors should also stain for CC1/Olig2 and count the CC1+ mature oligodendrocyte numbers in each group. If there are more OPCs proliferate, there should be more oligodendrocytes for better remyelination.

5. Usually after injury, there are spontaneous proliferation of OPCs compared to intact control. So, Brdu+/Olig2+ cells should be up-regulated in control vs. H/I. Can the authors explain more about Figure 3?