

OPEN PEER REVIEW REPORT 1

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Title: The next-generation sphingosine-1 receptor modulator BAF312 (siponimod) improves cortical network functionality in autoimmune neurodegeneration

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COMMENTS TO AUTHORS

The authors showed that local administration of BAF312 (a next-generation sphingosine-1 receptor modulator) improves cortical network functionality in a focal EAE model. The manuscript is well written. The data are convincing and presented beautifully. However, there is a major concern. The authors did not present any histopathological data in this manuscript. It could be better to present evidence showing that focal injection of cytokines causes tissue damage in the white and grey matter of EAE mice, and that local administration of BAF312 attenuates the tissue damage in the focal EAE model. It is important to use histopathological data to support the results of the functional readouts (namely voltage sensitive dye imaging of cortical neuronal networks). Moreover, there is a minor concern. Figure 1e1 and e2 are hard to understand, lacking legend entries.