

OPEN PEER REVIEW REPORT 1

Name of journal: Neural Regeneration Research

Manuscript No.: NRR-D-19-00389

Title: Differential Neuronal Reprogramming Induced by NeuroD1 from Astrocytes in Grey Matter versus White Matter

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Reviewer's country: Spain

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COMMENTS TO AUTHORS

This manuscript titled "Differential Neuronal Reprogramming Induced by NeuroD1 from Astrocytes in Grey Matter versus White Matter", demonstrates that NeuroD1 can convert astrocytes in the grey matter into functional neurons with high efficiency, but the white matter astrocytes are rather resistant to neuronal reprogramming.

The manuscript is methodologically quite accurate, however there are some points that authors should consider in order to improve the work before accepting this manuscript for publication:

Major points:

- Human brain is the most complex structure of the Universe. Therefore, besides cells (neurons and glial cells etc), their architecture is essential for their functions. Authors should display the arrangement of these new astrocyte-converted neurons. We recommend Authors to incorporate some H&E images to show better this new grey matter in terms of neuronal distribution. On the other hand, authors might have been discover a new way of developing cortical dysplasia with all the clinical symptoms hidden behind.
- Authors have never used immunohistochemistry in this study. In material and methods, they must change the term immunohistochemistry for immunofluorescence.
- The precise number of animals used in the study should be disclosed in the text.

Minor points:

- Have animals developed any symptoms during the experiment before being sacrificed?