

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 67878

Title: Bone marrow mesenchymal stem cells therapy regulates gut microbiota to improve the post-stroke neurological function recovery in rats

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03432977

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2021-05-05

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-05-05 13:37

Reviewer performed review: 2021-05-14 13:32

Review time: 8 Days and 23 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Zhao et al. found that through various experiments, bone marrow mesenchymal transplantation can regulate the gut microbiota of rats and improve the post-stroke neurological functional recovery. This is a very interesting study, but there are still have several issues need to be improved before publication.

1. There are still some grammatical mistakes in the article. Please correct them carefully, eg: "the third generation cells" should be "the third generation of cells".
2. "OTUS", "Shannon and Chao index", "PICRUSt". Please explain in the materials and methods section of the manuscript.
3. In Figure 4B, "others" accounted for a large proportion. Which microbes did others specifically represent and what roles did others play?
3. "Predictive analysis of gut microbiota function" This part of the content is lack of experimental data support, please add relevant experiments to verify the microbiota function. For example, whether the function of lactic acid bacteria in the BMSC group was consistent with the function predicted by KEGG.
4. The figures quality is too poor, please improve the quality of the figures. I can't read the text clearly on some figures. There is a big difference between the horizontal and vertical fonts in Figure 4AB and CD. The authors need to modify it carefully.