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PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 83200

Title: Cell transplantation therapies for spinal cord injury focusing on bone marrow mesenchymal stem cells: Advances and challenges

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05536533
Position: Peer Reviewer
Academic degree: MS, PhD
Professional title: Academic Research, Assistant Professor, Research Associate
Reviewer's Country/Territory: India
Author's Country/Territory: China

Manuscript submission date: 2023-01-12

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-14 03:56

Reviewer performed review: 2023-01-14 04:00

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [Y] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Well written manuscript Add a note on neurogenic signaling mechanisms Highlight on small molecules involved in neurogenesis Add immunomodulation image Limit number of references to 120 with major references on the publications within last 5 years from 2017 to 2022

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Peer-review model: Single blind

Reviewer's code: 06408635
Position: Peer Reviewer
Academic degree: MBBS, MD
Professional title: Researcher
Reviewer's Country/Territory: India
Author's Country/Territory: China

Manuscript submission date: 2023-01-12

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-15 13:31

Reviewer performed review: 2023-01-15 13:41

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

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Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

I commend the authors effort for an extensive literature search and thorough review on the topic.

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Peer-review model: Single blind

Reviewer's code: 06479886
Position: Peer Reviewer
Academic degree: N/A

Professional title: N/A

Reviewer's Country/Territory: Russia

Author's Country/Territory: China

Manuscript submission date: 2023-01-12

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-17 07:33

Reviewer performed review: 2023-01-28 13:11

Review time: 11 Days and 5 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No creativity or innovation

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Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The manuscript by Huang et al. dedicated to the role of bone marrow derived mesenchymal stem cells (BMMSCs) in spinal cord regeneration, discussed the underlying mechanisms, prospects, and challenges of BMMSCs in spinal cord injury (SCI) therapy. The manuscript is interesting, and its data is actual and potentially can shed new light on the strategies for using MSCs in the field of regenerative medicine for SCIs. However, the manuscript needs some revision and I recommend extend some chapters. In summary, these above and subsequent major (marked as numbers) and minor (marked as letters) revisions are needed before it meets the publication criteria. 1. On what is the choice of discussing particular BMMSCs based? You claim that «...BMMSCs have low immunogenicity, easy isolation and few ethical concerns as well as reduced tumorigenesis risks». But at the same time, there is evidence (Mukhamedshina et al., 2019, doi: 10.3390/biom9120811) that MSCs obtained from adipose tissue are more accessible and have a better regenerative potential compared to MSCs obtained from bone marrow and dental pulp. I'm not saying you're wrong, I just think it needs to be discussed in the last chapter. 2. Bibliography should be expanded.

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Some key publish are missed, such as: doi: 10.3390/biom9120811 doi: 10.4103/1673-5374.244778 doi: 10.3390/biology11121853 a) Missing page numbering b) Latin designations should be in italics, for example, in situ c) “Olig 2” should be without spacing – Olig2 d) FE@EVs in chapter “Axon growth” – I didn’t understand what is it.