

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Stem Cells*

**Manuscript NO:** 87048

**Title:** Potential of dental pulp stem cells and their products in promoting peripheral nerve regeneration and their future applications

**Provenance and peer review:** Unsolicited manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 03947685

**Position:** Editorial Board

**Academic degree:** PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** Saudi Arabia

**Author's Country/Territory:** China

**Manuscript submission date:** 2023-07-30

**Reviewer chosen by:** Geng-Long Liu (Quit 2023)

**Reviewer accepted review:** 2023-08-18 10:28

**Reviewer performed review:** 2023-08-26 13:18

**Review time:** 8 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation

<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<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
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	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

Dr. Xing et al. have submitted a narrative review entitled “Application of dental pulp stem cells (DPSCs) in peripheral nerve injury” for publication in WJSC. Based on the published data, the authors conclude that DPSCs can be a superior choice for treating peripheral nerve injury. Besides, the authors also claim that DPSCs-derived paracrine secretions can be used for cell-free therapy of peripheral nerve injury. I have the following comments. • Firstly, the title of the narrative review can be improved to read more novel. • The authors have attempted to justify the superior properties of DPSCs for cell-based therapy. However, there is little comparison between MSCs derived from other tissue sources in general and bone marrow (BM) and umbilical cord (UC)-derived MSCs that have already reached the clinical setting. Authors must include a paragraph comparing MSCs from BM and UC to justify that DPSCs are superior. • The Tables need to be significantly improved in presentation. The studies included in the Tables are haphazardly organized for animal and human studies. For example, in Table 1, the first three studies are human cells followed by a rat study, and then human again. Similarly, the results/ outcome in the Tables can be more elaborate. •



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BM-MSCs are known to have rich paracrine activity, and so do DPSCs. How is their secretome similar or better in terms of bioactive molecules? How do their insoluble paracrine components (exosomes) differ in their payload? • It would be interesting if the authors included studies that directly compare the reparability of DPSCs with MSCs from other tissue sources. • The Figure quality may be improved. • The manuscript needs to be extensively revised for grammar and syntax to make it have a better flow for the reader.

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**Reviewer's code:** 05246699

**Position:** Peer Reviewer

**Academic degree:** MSc, PhD

**Professional title:** Academic Research, Researcher

**Reviewer's Country/Territory:** Iran

**Author's Country/Territory:** China

**Manuscript submission date:** 2023-07-30

**Reviewer chosen by:** Yu-Lu Chen

**Reviewer accepted review:** 2023-09-13 07:17

**Reviewer performed review:** 2023-09-21 08:29

**Review time:** 8 Days and 1 Hour

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
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<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Peer-reviewer statements</b>	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

The manuscript entitled "Application of dental pulp stem cells in peripheral nerve injury" appears to be interesting. The research presented in the current manuscript would be of interest to many scientific groups with similar scientific interests, therefore, I recommend publishing this paper, but after revisions. Title: the title is not appropriate. I suggest making up it. Abstract: The abstract is presented well with logically defined concept of the work. Introduction: Introduction part describes topic-related information and clearly discloses the object of the work. I think some parts (i.e., "Differentiation into endothelial cells") is short. Instead, the authors should elaborate more regarding new papers. The main theme of the manuscript should be represented with the help of several figures. Conclusion: Please add more comments on this section and indicate the possibilities of the practical use of the results.