

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 76207

Title: Therapeutic Potential of Dental Pulp Stem Cells and Their Derivatives: Insights from Basic Research toward Clinical Applications

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06187298

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Romania

Author's Country/Territory: China

Manuscript submission date: 2022-03-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-03-14 17:55

Reviewer performed review: 2022-03-18 19:03

Review time: 4 Days and 1 Hour

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 Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input 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 checked="" type="checkbox"/> Accept (General priority) <input 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 type="checkbox"/>] Anonymous [<input checked="" type="checkbox"/>] Onymous Conflicts-of-Interest: [<input type="checkbox"/>] Yes [<input checked="" type="checkbox"/>] No
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SPECIFIC COMMENTS TO AUTHORS

Congratulations for such a good literature review regarding the complex mechanisms of dental pulp stem cells and their derivatives in regenerative medicine. All mechanisms cited and researched in the literature are definitely complex and require deep knowledge of the cellular-based processes that make this technique a viable solution for stem cell application. I appreciate the time and effort taken to fully describe all major mechanisms involved dental pulp stem cells applications, and the fact that you took the time to carefully review a vast volume of information contained in the cited literature (178 entries); also, another key important advantage of the paper is that the literature cited is up to date, with most of the titles not older than 4 years. A minor suggestion though: please make a small change in the title of the paper so it would better reflect that this is a literature review and not a research study. I personally consider that this paper fits the profile for publication in World Journal of Stem Cells.

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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05293115

Position: Peer Reviewer

Academic degree: MD

Professional title: Associate Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: China

Manuscript submission date: 2022-03-14

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2022-05-03 10:56

Reviewer performed review: 2022-05-03 11:04

Review time: 1 Hour

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



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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
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SPECIFIC COMMENTS TO AUTHORS

Dear Authors the paper is well written and can be considered for publication. However, before acceptance, some topics have to be added. In particular you should discuss some about stem cells and dental applications, where some specific rolee were well-defined, and you don't include in your review. So, please add to your references the following papers: 1) PubMed ID32811413 2) PubMed ID33386051 3) PubMed ID32188154

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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05234011

Position: Editorial Board

Academic degree: MDS

Professional title: Assistant Professor

Reviewer's Country/Territory: India

Author's Country/Territory: China

Manuscript submission date: 2022-03-14

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2022-04-28 04:20

Reviewer performed review: 2022-05-04 09:43

Review time: 6 Days and 5 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
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
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Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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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
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SPECIFIC COMMENTS TO AUTHORS

The manuscript can be accepted in the current format for publication

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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05489967

Position: Peer Reviewer

Academic degree: PhD

Professional title: Research Scientist

Reviewer's Country/Territory: United States

Author's Country/Territory: China

Manuscript submission date: 2022-03-14

Reviewer chosen by: Dong-Mei Wang

Reviewer accepted review: 2022-04-28 15:08

Reviewer performed review: 2022-05-05 20:34

Review time: 7 Days and 5 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
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Peer-reviewer statements	Peer-Review: [<input checked="" type="radio"/>] Anonymous [<input type="radio"/>] Onymous Conflicts-of-Interest: [<input type="radio"/>] Yes [<input checked="" type="radio"/>] No
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SPECIFIC COMMENTS TO AUTHORS

Dear authors, The review is well rewritten and provides an overview of the potential application of dental pulp stem cells (DPSC) in the field of regenerative medicine. The authors explain the difference between the DPSC isolated from patients with different ages, but also how the donor's health can affect positively or negatively their curative properties. DPSC can be administrated in patient by different methodologies, by single injection, by transplanting the cells with a support, as a cell sheet or by transplanting spheroids. Also, DPSC can be genetically modified for cell and gene therapies. In a last part, the authors explain how DPSC help an organ to heal by physical interaction, by releasing paracrine factors (cytokines, extracellular vesicles) or by blocking the inflammatory reaction. I have some comments: - All latin words must be written in italic - Parts must be numbered, to facilitate the reading. -Mechanims of regeneration promoted by DPSC is long and should be separated in few parts: 1) effect, 2) paracrine effect, 3) Extracellular vesicles, 4) anti-inflammatory response (my titles are just example and should be modified by the authors). - A graph showing DPSC origin to the medical application should be added, to summarize the DPSC regenerative medicine potential. - Reference should be written as a part before the refences list. - References needs PMID and DOI to be included.