



PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56526

Title: Dental stem cells: The role of biomaterials and scaffolds in developing novel therapeutic strategies

Reviewer's code: 01851506

Position: Peer Reviewer

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: Japan

Author's Country/Territory: Germany

Manuscript submission date: 2020-05-04

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-05-06 00:21

Reviewer performed review: 2020-05-08 01:33

Review time: 2 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 Grade E: Do not publish
Language quality	<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
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" 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



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SPECIFIC COMMENTS TO AUTHORS

In this manuscript, the authors summarize the status quo of the dental stem cells (DSCs) in terms of their developmental potential and of their potential use in regenerative medicine. Furthermore, they discuss the importance of scaffold and of the materials for scaffold (native and synthetic) to optimize DSCs use in cell therapy. The contents are, in general, interesting. However, the text is somewhat redundant and complex, which lessens readability of the paper. In addition, more figures will be required for readers to follow the text, for example, a figure depicting the difference of scaffold materials and their propensity in orienting the potential of DSCs into a defined lineage, a figure or table summarizing the cell surface markers in DSCs, and a figure or table summarizing characteristics of DSCs derived from the different anatomic region. Figure legend is not sufficiently self-explanatory. Readers will not understand what the authors want to explain in the present legend. In summary the reviewer recommends to revise the text so that it is more succinct and easier to understand for non-expert readers.



PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56526

Title: Dental stem cells: The role of biomaterials and scaffolds in developing novel therapeutic strategies

Reviewer's code: 03372021

Position: Editorial Board

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Germany

Manuscript submission date: 2020-05-04

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-05-04 12:09

Reviewer performed review: 2020-05-08 17:14

Review time: 4 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
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 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

In this manuscript, the authors reviewed the current development of dental stem cells for transplantation therapy of stem cells. At the same time, the author made a comprehensive summary and review of the biomaterials used in the transplantation of dental stem cells. The article presented the classification, characteristics, and applications of dental stem cells, and analyzed the role of stem cell microenvironment. Then various biomaterials for simulating cell microenvironment in tissue engineering were introduced. According to the application of dental stem cells in different fields, including tooth regeneration, bone regeneration, and nerve injury repair, the authors simultaneously classified and analyzed the currently applied biomaterials, both natural and synthetic ones. The contents of this article are comprehensive and logical. The manuscript is well organized and adequately conducted. The authors should address the following minor issues before the consideration for publication. 1. Could you review the advantages and disadvantages of different biomaterials in detail and scaffold? 2. Could you elaborate on your personal views in the light of the pieces of literature, with regard to the current issues facing stem cells transplantation therapy, such as the targeted location of transplantation, the safety of cell differentiation, extraction and purification of dental stem cells, and the sufficient number of cell sources? 3. There are some grammatical and spelling mistakes. Besides, it's better to use less long sentences, break some long sentences into short ones that could be better? 4. "Dental stem cell" in the title should be "Dental stem cells"? Other places like this need to unify the forms of proper nouns. 5. In Page 19, "DSCs display a high expression of various neural crest-related and developmental genes", could you specify which type of dental stem cells? 6. Some of the quoted references are unnecessary and can be deleted to make paper more concise. Moreover, the recently published review or research articles should be discussed in the



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revision, for example, *Cells* 2019, 8 (8), 886; *Acta Biomaterialia* 2018, 73, 103-111;
Advanced Healthcare Materials 2019, 8 (14), 1900312.



RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56526

Title: Dental stem cells: The role of biomaterials and scaffolds in developing novel therapeutic strategies

Reviewer's code: 03372021

Position: Editorial Board

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Germany

Manuscript submission date: 2020-05-04

Reviewer chosen by: Jia-Ping Yan

Reviewer accepted review: 2020-07-06 09:55

Reviewer performed review: 2020-07-06 09:58

Review time: 1 Hour

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

SPECIFIC COMMENTS TO AUTHORS



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The manuscript is ready for publication.



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Manuscript NO: 56526

Title: Dental stem cells: The role of biomaterials and scaffolds in developing novel therapeutic strategies

Reviewer's code: 01851506

Position: Peer Reviewer

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: Japan

Author's Country/Territory: Germany

Manuscript submission date: 2020-05-04

Reviewer chosen by: Jia-Ping Yan

Reviewer accepted review: 2020-07-06 09:55

Reviewer performed review: 2020-07-07 06:35

Review time: 20 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
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
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



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The reviewer is satisfied with the revision. The authors have addressed all the issues properly.