

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 64917

Title: Application of dental stem cells in three-dimensional tissue regeneration

Reviewer's code: 00742435

Position: Editorial Board

Academic degree: PhD

Professional title: Director, Professor

Reviewer's Country/Territory: Qatar

Author's Country/Territory: Taiwan

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-03-01 14:04

Reviewer performed review: 2021-03-01 15:09

Review time: 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 Grade E: Do not publish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 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

SPECIFIC COMMENTS TO AUTHORS

The manuscript is a brief report well written.

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 64917

Title: Application of dental stem cells in three-dimensional tissue regeneration

Reviewer's code: 02445899

Position: Peer Reviewer

Academic degree: BSc, MSc, PhD

Professional title: Research Scientist

Reviewer's Country/Territory: United Kingdom

Author's Country/Territory: Taiwan

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-25 12:18

Reviewer performed review: 2021-03-11 11:40

Review time: 13 Days and 23 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 Grade E: Do not publish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 type="checkbox"/> Yes <input checked="" 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

Review Many thanks for the opportunity to review the manuscript submitted by Hsiao et al. Overall the article is quite in-depth and thoroughly referenced throughout with up-to-date, highly relevant articles. The process and reasoning behind the choice of articles reviewed in the paper is logical and well explained. Table 1 is an excellent summary of dental SCs used in 3D studies. All citations are present in the reference list. However, there are a few issues that need to be addressed if the article is to be published. • **Abstract:** SC do not regenerate into other types of cells, they differentiate. Please change this. • **Page 5:** The statement 'DPSCs cocultured with apical bud cells (ABCs) exhibited more active odontogenic differentiation ability than DPSCs cocultured with BMSCs and ABCs [12]' is incorrect or at least badly phrased – the comparison was between DPSC/ABC co-culture & BMSC/ABC (see ref 11 Yu et al. 2007) not DPSC/ABC versus DPSC/BMSC co-cultured. Please address this issue. • **Page 9:** The statement 'DPSCs were designed to be printed with...' is surely incorrect or at least confused – the DPSC were not designed to do anything, they were printed along with growth factors such as VEGF & BMP-2. Please address this. • **Page 12:** please state that the SHEDs were used in a rat model as this is not clear from the text. • Please improve or remove figure 1 – as it stands it is not particularly useful or informative. Minor issues to address: • **Abstract:** it is 'anatomical' not 'anatomic' • Change 'coculture' for co-culture' and 'cotreated' with 'co-treated.' • Check and remove first initial from citations such as p. 14 'Cho, H et al. compared the effect...' – there are a few instances of this niggling issue – please address this. Once these issues are addressed it is my opinion that this review would be a useful addition to the literature and fit for publication.

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 64917

Title: Application of dental stem cells in three-dimensional tissue regeneration

Reviewer's code: 03471723

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Malaysia

Author's Country/Territory: Taiwan

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-26 08:25

Reviewer performed review: 2021-03-17 07:25

Review time: 18 Days and 23 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 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 type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" 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

The manuscript is well written and gives an overall view on the application of Dental Stem Cells in Three-Dimensional Tissue Regeneration. The flow of information and citations are noteworthy. Just few minor corrections on the right use of terminologies are indicated. And also minor correction on the title.

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 64917

Title: Application of dental stem cells in three-dimensional tissue regeneration

Reviewer's code: 02438879

Position: Editorial Board

Academic degree: PhD

Professional title: Associate Professor, Senior Scientist

Reviewer's Country/Territory: India

Author's Country/Territory: Taiwan

Manuscript submission date: 2021-02-25

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-02-26 05:29

Reviewer performed review: 2021-03-17 07:33

Review time: 19 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input checked="" 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 type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" 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

Authors have extracted data from 88 PubMed studies and included only one third related to five different types of stem cells from dental sources such as DPSCs, SHEDs, PDLSCs, SCAPs, and DFPCs. Although authors have comprehensively reviewed 3D-culture of these cells in different studies, yet several crucial strategies mimicking with clinical applications were lacking due to limited keywords focusing mainly on stem cells. Furthermore, authors failed to provide clear road map for applying such strategies in clinical settings. There were scarcity of data for the use of decellularized biological membranes for preparing 3D-dental regenerative constructs which is a crucial approach for regenerative dentistry. Further, dental sources can't be the most suitable choice for harvesting stem cells due to increased contamination issues and less number. Authors could have also discussed alternative choices of stem cells for generating 3D-biological constructs for application in regenerative dentistry. The mechanism of action of futuristic technologies of 3D-engineered dental constructs could have been discussed in detail to provide more authentic application of dental cells and different types of scaffolds. Overall, several crucial points remained to discuss for the presented topic of interest. Authors could have shown schematic representations and important figures to exploit more of dental stem cells knowledge gaps with better clarity. In the end several formatting errors could be seen throughout the texts.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 64917

Title: Application of dental stem cells in three-dimensional tissue regeneration

Reviewer's code: 00742435

Position: Editorial Board

Academic degree: PhD

Professional title: Director, Professor

Reviewer's Country/Territory: Qatar

Author's Country/Territory: Taiwan

Manuscript submission date: 2021-02-25

Reviewer chosen by: Man Liu

Reviewer accepted review: 2021-04-08 10:42

Reviewer performed review: 2021-04-08 10:47

Review time: 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 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
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

Manuscript may be accepted