



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

ESPS manuscript NO: 14795

Title: Review: Human Dental Pulp Mesenchymal Stem Cells and their Applications in Future Regenerative Medicine

Reviewer's code: 02445937

Reviewer's country: United States

Science editor: Fang-Fang Ji

Date sent for review: 2014-10-27 16:59

Date reviewed: 2014-11-25 07:17

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input checked="" type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
<input checked="" type="checkbox"/> Grade E: Poor		BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

COMMENTS TO AUTHORS

The review article discusses the dental pulp MSCs. There are several issues about the manuscript. First, the manuscript was prepared in a sloppy manner so that there are numerous grammatical errors and typos (it is simply too many to point out). This is English, not German, but the authors capitalize words inappropriately across the manuscript. Second, the manuscript itself was rather verbose and unfocused with a poor logical flow, as pointed out below. Third, the authors do not comply with the basic rule of scientific manuscript preparation. For example, abbreviations need to be defined at the first appearance, but SHED is not even defined in the text, whereas DPSCs are defined in a multiple times. And the reference listing is not consistent.. Fourth, what are dental pulp stem cells (DPSCs)? Are they parts of MSCs? That is what the reviewer deduces from the title, but it is unclear in the text. It is now accepted that MSCs are included within perivascular cells or pericytes and thus it is understandable that MSCs are found within dental pulp; but are there any studies addressing this issue? It is also unclear the difference between DPSCs and other MSCs such as BMMSCs... What is the strength of DPSCs over other MSCs? Or are they just another type of



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MSCs and do they behave similarly? Also are PDLSCs and DFPC different to DPSCs or MSCs? Do pluripotency markers (OCT4, NANOG, SOX2) play some roles in DPSCs? The authors describe some roles in ESCs; are these relevant to DPSCs? Similarly, what is the role of LIF in DPSCs? Are DSPP and DMP1 expressed in undifferentiated DPSCs and thus are they regarded as specific markers of DPSCs? What does Fig 1 represent, MSCs or DPSCs? The authors gave two different explanations in the main text. Ref 12 is about ASCs and did not cover low frequency or age-related decline of proliferation and differentiation capability of BM-MSCs (page 5). In Fig 3 and Fig 4, the



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<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

COMMENTS TO AUTHORS

? This manuscript reviewed mainly the importance of dental pulp Mesenchymal stem cells, isolation & characterisation by cellular and molecular markers, differentiation and their applications in regenerative medicine for treatment of various diseases. This is an overall interesting and well organized review. However, there are some grammar and expression errors need to be corrected throughly in all text, such as "linage" in the sentence "Recently it has been shown that Dental pulp cells also can give rise to Mesenchymal Stem cells which can be differentiated into various lineage of cells such as Neuron.....", "used" in "they have shown great potentiality to used in regenerative Medicine.....", "area" in "Stem cells are one of the most important area of research". And, there are more time definitions in the text which are inaccurate, specifically in abstract, such as "Last Few years", "Today, Stem cells are one of the most important area of research"..... The title "Clinical status of uses of DPSCs in clinical studies" has two "clinical" and may be revised to "Status of DPSC applications in clinical studies".



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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good		<input type="checkbox"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input checked="" type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
	<input type="checkbox"/> Grade D: Rejected	BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

COMMENTS TO AUTHORS

The topic is relevant to the endodontic field and for regenerative therapies for various disease. There are some spelling errors that should be revised.



ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

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Title: Review: Human Dental Pulp Mesenchymal Stem Cells and their Applications in Future Regenerative Medicine

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Science editor: Fang-Fang Ji

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
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<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
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<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

COMMENTS TO AUTHORS

The manuscript "Human Dental Pulp Mesenchymal Stem Cells and their Applications in Future Regenerative Medicine" by Drs. Pravin and Yogita. The two authors in detail reviewed the stem cells from dental tissues including dental pulp, periodontal ligament and dental follicle. The review manuscript was focused on several areas of the human dental stem cells including (1), the stem cell sources; (2), isolation of the dental stem cells; (3), potential markers for identification of different stem cells; (4), components that control differentiation of the dental stem cells; (5), potential application of the dental stem cells in clinical trial, in particular dentin and periodontal regenerations. There are some comments as follows: 1). Each type of stem cells such as embryonic stem cells, induced pluripotency stem cells (iPSC) and adult stem cells is its own advantage and disadvantage. Compared to the embryonic and iPSC cells, the dental stem cells derived from mesenchyme have their limited capacities. Although it was reported that the dental stem cells can be differentiated into several types of epithelial cells such as neuron and Beta cells, it is being challenged. Like bone marrow stem cells (BMSC), the adult dental stem cells may prefer to differentiate into bone, cements,



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dentin and other tissues original from mesenchyme. 2). The dental stem cell behaves may be dependent on niches (environments) and stages that the stem cells are isolated. 3). One of major concerns for the stem cells is to un-control "tumour-like proliferation". 4). The review manuscript is comparatively longer, The authors maybe consider to be shorted. 5). The authors need to re-check out grammars and re-organize references. Minor errors: On page 2, line 5, the word after "their" may be added "potential". On page 2, line 7, the word "Mesenchymal" may be changed to "mesenchymal" The same issue occurs in the same and other pages. When Dental pulp stem cells (DPSCs) has mentioned in page 5, following pages, it is used as DPSCs rather than dental pulp stem cells. On page 7, line 12, the number "29" need to be changed to "29". On page 8, line 1, the "numbers "2006" may be changed to (2006). The same issue happened in the areas. On page 8, line 14, the word "determine" needs to be changed to "determination". On page 9, line 8, the words "may also" may be deleted. On page 12, line 20, the word "tale" is "tell"? On page 12, line 22, the word "para" is "paragraphs"? On page 15, line 12, the words "Jinhua Yu et al." may be changed to "Yu et al". On page 18, line 27, the words after "TGPCs" add "from the human third molar". So that it makes that readers understand where the novel multipotent progenitor cells, TGPCs come from.