

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 6648

Title: PERIOSTEUM DERIVED STEM CELLS FOR REGENERATIVE MEDICINE PROPOSALS: BOOSTING CURRENT KNOWLEDGE.

Reviewer code: 02446104

Science editor: Ma, Ya-Juan

Date sent for review: 2013-11-14 23:13

Date reviewed: 2013-12-17 09:31

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<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"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

1. The manuscript by Ferretti et al. reviewed the state of the art of osteochondral tissue engineering rested on periosteum derived progenitor cells (PDPCs), they also analyzed the hallmark of PDPCs, discussed the role of cell mechanosensing and miRNAs in endogenous tissue repair, and proposed upcoming research directions. Overall, it is an interesting review and the manuscript is well written, it provides useful information to researchers working in the field of tissue engineering and regenerative medicine. 2. The paper focused on the critical importance of periosteum in bone formation and regeneration, thus it seems more apt to change the title to "PERIOSTEUM DERIVED STEM CELLS FOR OSTEOCHONDRAL TISSUE REPAIR PROPOSALS: BOOSTING CURRENT KNOWLEDGE". 3. The authors should point out more clearly the advantages of PDPCs in osteochondral tissue engineering than other stem/progenitor cells. 4. The manuscript may be enhanced by including the authors' research results in this field.

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Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 6648

Title: PERIOSTEUM DERIVED STEM CELLS FOR REGENERATIVE MEDICINE PROPOSALS: BOOSTING CURRENT KNOWLEDGE.

Reviewer code: 01003679

Science editor: Ma, Ya-Juan

Date sent for review: 2013-11-14 23:13

Date reviewed: 2013-12-17 13:58

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<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"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

In this review, the authors represent the importance of periosteum derived progenitor cells (PDPCs) for bone development and fracture healing applications. By introducing the state of the art of PDPCs engineering, the authors discuss the upcoming research directions. In particular, regenerative potential of periosteum are analyzed by demonstrating PDPCs isolation, characterization and migration in the site of injury, as well as their differentiation. Furthermore, molecular pathways and mechanosensing in periosteum are examined by suggesting contribution to matrix organization, bone microarchitecture and bone strength. Importantly, the manuscript contains numerous recent trends of PDPCs. It could be helpful to understand the PDPCs for regenerative medical fields. So, it is suitable for publication in this journal. A minor revision is requested to edit Figure1 or 2. Although the authors introduced the trend of microRNAs for bone regeneration, there is no schematic representation of PDPCs with microRNAs for bone repair. It could also provide good understanding of bone regenerative engineering.

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Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 6648

Title: PERIOSTEUM DERIVED STEM CELLS FOR REGENERATIVE MEDICINE PROPOSALS: BOOSTING CURRENT KNOWLEDGE.

Reviewer code: 2446158

Science editor: Ma, Ya-Juan

Date sent for review: 2013-12-24 23:13

Date reviewed: 2014-1-2 13:58

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<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"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

The review submitted by Ferretti & Mattioli-Belmonte highlights the potential use of periosteum as a future TERM strategy for bone development and treatments. The review is well written, easy to understand, provide recent and updated information in the field. Accordingly, it would certainly be useful for the readers and people working in the field. Before publication, the authors should address the following concerns: 1. What are the original and differential aspects addressed in the current review as compared to the recent one published by Lin et al in September 2013 (Journal of Dental Research). These information should be clearly mentioned in the abstract; 2. The quality of the figures should be seriously improved; 3. The Table 1 should be reorganized and more original and specific features related to PDPC should be provided; 4. With respect to additional guidelines used to characterize stem/progenitor cells, authors should insert the recent paper by Keatone, Cell Stem Cell, 2012; 5. The multipotency/transdifferentiation aspect of PDPC should be more detailed; 6. Pathways related to both migration and differentiation pathways should be reorganized to support the potential use of PDPC as advanced therapy medicinal products; 7. As no miRNA results directly related to PDPCs are available except for a possible correlation with osteogenesis, I believe that no full paragraph is needed. The issue should however be presented in the perspectives; 8. What is the % of PDPCD recovery and relationship to the bone used? 9. Several typo and grammatical errors are to correct.