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PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells
Manuscript NO: 32946
Title: Modifying oxygen tension affects bone marrow stromal cell osteogenesis for regenerative medicine
Reviewer's code: 00505424
Reviewer's country: United States
Science editor: Jin-Xin Kong
Date sent for review: 2017-02-02
Date reviewed: 2017-02-13

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	Google Search:	[ ] Accept
[ ] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
[Y] Grade C: Good	[ ] Grade C: A great deal of language polishing	[ ] Duplicate publication	[ ] Rejection
[ ] Grade D: Fair	[ ] Grade D: Rejected	[ ] Plagiarism	[ ] Minor revision
[ ] Grade E: Poor		[Y] No	[Y] Major revision
		BPG Search:	
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

The paper under review aims at investigating whether modifying oxygen tension affected BMSC osteogenesis. The authors found that low oxygen pretreatment for 7 days following by 7-day treatment under normal oxygen could promote BMSCs' osteogenic differentiation in both in vitro and in vivo models. To the best of my knowledge, this study is new. Here are my comments, which I hope can help the authors to improve the manuscript. 1. Sample sizes for both in vitro and in vivo studies were missing despite the fact that n=5 and n=6 listed in the M&M were believed to be copy number for each analysis. 2. In the Discussion, the statement in line 292-293 is not consistent with the one in line 296-297. Based on the data presented in line 296-297, the statement "Contrary to our results and previous reports" (line 292) may not be correct. Please advise. 3. Since low oxygen culture increased cell number, can the authors comment on the promoted osteogenic differentiation? Is it because of increased cell number or enhanced stem cell osteogenic capacity? 4. The discussion is too short and not comprehensive.

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Preconditioning strategies have been highlighted in a recent review paper (Biomaterials. 2017 Feb;117:10-23), which might assist the authors to have an in-depth discussion.