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ESPS PEER REVIEW REPORT

Name of journal: World Journal of Stem Cells
ESPS manuscript NO: 12976
Title: ROLE OF NITRIC OXIDE ON PLURIPOTENCY AND REGULATION OF HYPOXIA RESPONSE IN STEM CELLS
Reviewer code: 02446204
Science editor: Fang-Fang Ji
Date sent for review: 2014-07-30 21:35
Date reviewed: 2014-08-27 00:36

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

COMMENTS TO AUTHORS

This review is well written, providing a large volume of information as well as in-depth considerations regarding the biological effects of nitric oxide (NO). I believe that this review will be a great guide to "the science of NO" for readers of broad fields. Nevertheless, this manuscript contains numerous grammatical errors and syntactic problems. Before publication in WJSC, the manuscript should be thoroughly checked by native speakers. Major concerns Authors describe detailed explanations regarding the distinct effects of high and low concentrations of NO, which is indeed a matter of great interest. It seems that the phrase "low concentration" indicates "physiological" or "normal" concentration, while "high concentration" indicates "pharmacological" concentration obtained by NO donors. It would be of great help for readers to understand the physiological/pathological significance of "high concentration" if authors would add some comments regarding its in vivo relevance". Minor concerns 1) In page 3, lines 6-7, the sentence "which are now considered not inert products" should be rewritten as "which are now considered as non-inert (or chemically active) products" 2) In page 3, lines 8-13, the sentence "This gas acts as second messenger and has multiple biological effects implicated in numerous physiological functions in mammals such as smooth muscle relaxation, dilation of blood vessels, neurotransmission and inhibition of platelet aggregation, vascular tone, blood pressure, immune response, and oxidation-sensitive mechanisms" seems wordy. Also, the construction of a sentence is distorted. It

should be rewritten, for example, as "In addition to serving as a germicide in the immune system and also a neurotransmitter in the central nervous system, NO acts as a second messenger and has multiple biological effects implicated in numerous physiological functions in mammals such as regulation of blood pressure via smooth muscle relaxation and an inhibition of platelet aggregation." 3) In page 3, line 21, the sentence "Critical points in the effect of NO production on cellular processes" should be rewritten as "The critical factors that influence the effects of NO on cellular processes". 4) In page 4, lines 24-25, the phrase "cyclic guanosine monophosphate dependent (cGMP) or cGMP independent" should be written as "cyclic guanosine monophosphate (cGMP) dependent or cGMP independent" 5) In page 5, line 5, the phrase "cGMP dependent effects" should be rewritten as "cGMP-dependent effects". 6) In page 5, line 20, the phrase "bone marrow stem cell pluripotency" should be rewritten as "bone marrow stem cell multipotency". 7) In page 9, line 21, the words "0,5 mM" should be rewritten as "0.5 mM". 8) In page 10, line 20, the phrase "…. function, however other signaling …" should be rewritten as "…. Function; however, other signaling …". 9) In page 11, line 18, the words "pluripotency of MAPCs" should be corrected as "multipotency of MAPCs". 10) In page 11, line 22, the words "through an independent cGMP pathway mechanism" should be rewritten as "through a cGMP-independent mechanism". 11) In page 13, line 10, the word "cito-protective genes" should be corrected as "cytoprotective genes". 12) In page 16, line 15, the phase "… pathways, that regulate…" should be corrected as "… pathways, which regulate…". 13) From page 16, lines 22 to page 17 line 1, the sentence "Pyruvate conversion to acetyl-CoA by PDH and its entry into mitochondria is blocked in hypoxic cancer cells by hypoxia inducible factor-1α (HIF1α) because induces pyruvate dehydrogenase kinase 1 (PDK1) expression and thus the inactivation of PDH phosphorylation" should be rewritten as "PDH-mediated conversion of pyruvate to acetyl-CoA and its entry into mitochondria is blocked in hypoxic cancer cells by hypoxia inducible factor-1α (HIF1α), which induces pyruvate dehydrogenase kinase 1 (PDK1) expression and inactivates PDH phosphorylation". 14) In

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Date reviewed: 2014-09-10 10:32

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		[ ] No records	[ ] Major revision

COMMENTS TO AUTHORS

The authors reviewed role of nitric oixde on regulation of stem cell, differentiation and hypoxia/HIF-related metabolic change of stem cell. In some parts, the contents were complicated, but in general, the manuscript was well organized.