

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**Manuscript NO:** 34130

**Title:** Role of aryl hydrocarbon receptor in MSC activation: A minireview

**Reviewer's code:** 02446101

**Reviewer's country:** China

**Science editor:** Fang-Fang Ji

**Date sent for review:** 2017-03-31

**Date reviewed:** 2017-04-05

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> [ Y] Accept
<input type="checkbox"/> [ Y] Grade B: Very good	<input type="checkbox"/> [ Y] 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 type="checkbox"/> [ Y] No	<input 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 type="checkbox"/> [ Y] No	

### COMMENTS TO AUTHORS

**GENERAL COMMENTS** Thank you for inviting me to evaluate the article titled "Role of aryl hydrocarbon receptor in MSC activation: A minireview". I think it is an interesting and current review in which clearly describes the important role of AhR in Mesenchymal Stem Cells (MSCs) licensing. There is plenty of detailed information on the regulation of important molecules and signaling pathways during MSCs activation, few papers analyze deeply the precise role, its molecular interactions and its influences of aryl-hydrocarbon receptor (AhR) on the biological function of MSCs. The manuscript has an integrate structure and clear thinking. Contents of this review from AhR activation pattern to MSCs function modulated by AhR activation and the underlying five mechanisms were covered. It has prevalent meaning of guidance in MSCs-based therapies and also in basic research on MSCs. Therefore, my suggestion is the article could be accepted on the condition of minor revisions.

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**Manuscript NO:** 34130

**Title:** Role of aryl hydrocarbon receptor in MSC activation: A minireview

**Reviewer's code:** 00573611

**Reviewer's country:** Taiwan

**Science editor:** Fang-Fang Ji

**Date sent for review:** 2017-03-31

**Date reviewed:** 2017-04-05

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	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 checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good		<input type="checkbox"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input 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 type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
		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

In this review article, the authors pointed out some important findings concerning MSCs licensing via AhR, highlighting that its activation by AhR is associated with improvement of its migration and immunoregulation, as well as, an increasing of its pro-regenerative potential. Comments This is an interesting review article. This manuscript is well-written. The reviewer has only one minor concern about Figure 1. In Figure 1, only the in vitro outcomes are shown. There are some ex vivo or in vivo studies about AhR and stem cells. The authors may add these ex vivo or in vivo references in the text and exhibit the outcomes in the Figure 1.

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**Manuscript NO:** 34130

**Title:** Role of aryl hydrocarbon receptor in MSC activation: A minireview

**Reviewer's code:** 03370303

**Reviewer's country:** Japan

**Science editor:** Fang-Fang Ji

**Date sent for review:** 2017-03-31

**Date reviewed:** 2017-04-06

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input 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"/> The same title	<input checked="" 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 type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
		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 minireview is interesting, illustrating the effects of AhR-dependent signaling events on immunomodulatory capacities of MSCs. The content of manuscript is excellent; however, the English level seems rather low. Before publication in World Journal of Stem Cells, the manuscript should be corrected/edited by a native speaker. This step is mandatory. I picked up some of the phrases/sentences that contain grammatical errors. There are a lot of points to be corrected in addition to the list below. 1) Inconsistency in the word form in terms of subject-verb relationship: Examples: In Abstract, "MSCs possesses..." should be corrected as either "MSCs possess..." or "The MSC possesses..." In Core tip, "This minireview, summarize .... and demonstrate ..." should be corrected as "This minireview summarizes .... and demonstrates ..." 2) Inconsistency in the word form in terms of noun-pronoun relationship: Examples: In Abstract, "MSCs possesses great therapeutic advantage considering its ...." should be corrected either as "MSCs possess a great therapeutic advantage considering their ...." or "The MSC possesses a great therapeutic advantage considering its ..." (In other parts

of this manuscript, the term “MSCs” is often used as a plural noun. For example, “MSCs were identified as...” and “MSCs are characterized by ...” in Introduction. Every term should be used in a consistent manner throughout the manuscript) 3) Inconsistency in the tense in a single sentence: Examples: In the “one study found that MSCs exposed to IFN- $\gamma$  become activated....” should be corrected as “one study found that MSCs exposed to IFN- $\gamma$  became activated....” 4) This manuscript contains a lot of verbose descriptions. They should be replaced by simpler sentences. In page 5, lines 14-15, the sentence “...., promoting an improvement in the MSC immunotherapeutic response” should be replaced by “...., improving the MSC-mediated immunotherapeutic responses” and so on. In page 6, lines 10-11, the sentence “IL-6 is a required interleukin for growth....” should be replaced by “IL-6 is required for growth....” and so on. In page 6, lines 11-12, the sentence “....its aberrant expression has also been associated with...” should be replaced by “....its aberrant expression is reportedly associated with...” and so on. In page 6, lines 19-20, “....and had the CYP1A1 and CYP1B1 expression increased and...” should be replaced by “....and increased CYP1A1 and CYP1B1 expressions and...” and so on. In page 6, line 30- page 7, line 2, “Although AhR expression had decreased in differentiated MSCs, its target gene CYP1B1, remained elevated indicating that ....” should be replaced by “Despite the decreased expression of AhR in differentiated MSCs, the expression of its target gene CYP1B1 remained elevated, indicating that ....” and so on. 5) Others: In page 7 in line 27, the phrase “in standard conditions” should be corrected as “in standard states”, “in standard situations” or “under standard conditions”. In page 8 in line 26, the phrase “it was showed” should be corrected as “it was shown”