

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 4277

Title: Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts

Reviewer code: 00646562

Science editor: Song, Xiu-Xia

Date sent for review: 2013-06-25 14:28

Date reviewed: 2013-07-10 19:39

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input checked="" type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input checked="" 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	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

The manuscript by Fakhry et al. summarizes in a constructive manner the key molecular players for osteogenic differentiation of MSCs. I have to congratulate the authors because the article is concise, very well written and at the same time comprehensive. It makes a very interesting read. My only suggestion has to do with the very first paragraph. When describing the MSCs, the authors mention the ISCT criteria for MSC identity as the currently accepted standard. However in my opinion it must be stated that, even when those restrictive criteria are applied, cultured MSCs are highly heterogenous entities, which is something that the field has been slow in recognizing. It can now be seen in several recent reviews that the criteria for MSC definition should be further strengthened (for instance see reviews in the book Mesenchymal Stromal Cells, edited by Hematti and Keating, Humana Press, NY, 2013).

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 4277

Title: Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts

Reviewer code: 02445937

Science editor: Song, Xiu-Xia

Date sent for review: 2013-06-25 14:28

Date reviewed: 2013-07-15 04:23

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	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

The review article discusses the most recent findings concerning the molecular factors that control osteoblast differentiation from human mesenchymal stem cells, including microRNAs. This review article is well-written, and the reviewer has only a few comments below. 1: In page 3, the article [4] is cited for the age-dependent MSC frequency within BM; however, the original data was generated by Arnold Caplan's group and thus it is more appropriate to cite their article such as J Pathol 2009; 217: 318-324. 2: The authors mention the controversial roles of PPAR γ in osteogenic differentiation of MSCs; however, they do not reconcile the controversies well in the manuscript except "It was proposed that full but not partial agnosit activation inhibits expression of osteoblast markers in human MSCs." The reviewer recommends the authors to discuss more about this issue.

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 4277

Title: Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts

Reviewer code: 00504828

Science editor: Song, Xiu-Xia

Date sent for review: 2013-06-25 14:28

Date reviewed: 2013-07-15 07:32

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input checked="" type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input checked="" 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

The authors described general review of signaling pathways important in osteogenic differentiation of MSCs. The manuscript is well written throughout each section, and relatively new topic, microRNAs and osteogenic differentiation is worth for readers. Table 1 is simple, but very nice resource, too. Major comments none Minor comments None. The authors may double-check some grammars although it appears to be excellent.

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 4277

Title: Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts

Reviewer code: 00998752

Science editor: Song, Xiu-Xia

Date sent for review: 2013-06-25 14:28

Date reviewed: 2013-07-15 23:22

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	BPG Search:	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

The manuscript is well written and the topic of molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts is of interest to the field. The following are a few points for the authors to consider: 1. Dexamethasone (Dex) is commonly used in the osteogenic differentiation media to induce hMSC osteogenic differentiation. However, the osteogenic differentiation media mentioned in the main text (page 3, second paragraph) does not include Dex. Authors should explain the reason that Dex is omitted in the induction media. 2. The topic of the manuscript is of interest to the field but is also frequently reviewed. The authors may want added one paragraph to explain the main differences between the current manuscript and other review articles on the topic.

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

ESPS Manuscript NO: 4277

Title: Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts

Reviewer code: 00504800

Science editor: Song, Xiu-Xia

Date sent for review: 2013-06-25 14:28

Date reviewed: 2013-07-19 22:32

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 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 checked="" type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
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<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> No records	<input type="checkbox"/> Major revision

COMMENTS TO AUTHORS

This manuscript reviewing the molecular mechanisms of MSC differentiation into osteoblasts is concise and interesting. The review of the function of microRNA is particularly timely. The manuscript requires some editing for English grammar and consistency prior to publication. There are two minor points I would like the authors to clarify: first, the role of steroids (e.g. dexamethasone) in osteoblastic differentiation should be better defined. Second, the section on PPARgamma and its functions seems a little brief and unclear; another paragraph helping to clarify the current understanding of the various roles of PPARgamma would be useful.