



**PEER-REVIEW REPORT**

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

**Manuscript NO:** 53696

**Title:** DNA methylation and demethylation link the properties of mesenchymal stem cells: Regeneration and immunomodulation

**Reviewer's code:** 03671529

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Assistant Professor, Senior Lecturer

**Reviewer's Country/Territory:** Russia

**Author's Country/Territory:** China

**Manuscript submission date:** 2020-01-12

**Reviewer chosen by:** Jin-Zhou Tang

**Reviewer accepted review:** 2020-01-18 08:17

**Reviewer performed review:** 2020-01-26 14:32

**Review time:** 8 Days and 6 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	RE-REVIEW	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept (High priority)	<input type="checkbox"/> Yes	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> Accept (General priority)	<input type="checkbox"/> No	<input type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Minor revision		<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejection	<input checked="" type="checkbox"/> Major revision		Peer-reviewer's expertise on the topic of the manuscript:
<input type="checkbox"/> Grade E: Do not publish		<input type="checkbox"/> Rejection		<input type="checkbox"/> Advanced
				<input checked="" type="checkbox"/> General
				<input type="checkbox"/> No expertise
				Conflicts-of-Interest:



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Yes

No

#### **SPECIFIC COMMENTS TO AUTHORS**

1. The authors of the article discuss the role of methylation and demethylation in adipo-, chondro- and osteogenic differentiation of MSCs. Is there evidence of the role of methylation and demethylation in the differentiation of MSCs towards other cell types?
2. One of the possible mechanisms of the immunomodulating activity of MSCs may be their effect on the population of organ macrophages. Is there evidence of the role of methylation and demethylation in the effect of MSCs on macrophages?

#### **INITIAL REVIEW OF THE MANUSCRIPT**

##### ***Google Search:***

The same title

Duplicate publication

Plagiarism

No

##### ***BPG Search:***

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[Y] No



**PEER-REVIEW REPORT**

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

**Manuscript NO:** 53696

**Title:** DNA methylation and demethylation link the properties of mesenchymal stem cells: Regeneration and immunomodulation

**Reviewer's code:** 00609434

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Associate Professor

**Reviewer's Country/Territory:** Italy

**Author's Country/Territory:** China

**Manuscript submission date:** 2020-01-12

**Reviewer chosen by:** Jin-Zhou Tang

**Reviewer accepted review:** 2020-01-20 14:46

**Reviewer performed review:** 2020-01-27 16:39

**Review time:** 7 Days and 1 Hour

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	RE-REVIEW	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept (High priority)	<input type="checkbox"/> Yes	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> Accept (General priority)	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input checked="" type="checkbox"/> Minor revision		<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision		Peer-reviewer's expertise on the topic of the manuscript:
<input type="checkbox"/> Grade E: Do not publish		<input type="checkbox"/> Rejection		<input type="checkbox"/> Advanced
				<input checked="" type="checkbox"/> General
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				Conflicts-of-Interest:



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Yes

No

#### **SPECIFIC COMMENTS TO AUTHORS**

The manuscript from Xin et al. is a review describing the importance of epigenetic regulation, in terms of DNA methylation/demethylation, in the differentiation capacity and immunomodulatory properties of mesenchymal stem cells (MSC) from various sources (i.e. adipose tissue, bone marrow). The manuscript is well written, although it could be better updated, anyway I find it worthy of publication although I would suggest to enhance the impact of the section describing adipogenic differentiation epigenetic changes in MSC which is really too short and poor of information. Here are some suggestions of papers that could be mentioned in the section, but of course there would be much more to be considered: Fujiki et al, BMC Biol, 7 (1), 2009: on the methylation and function of PPARgamma promoter during adipogenesis Melzner et al, JBC, 277 (47), 2002: on the role of Leptin demethylation and expression in adipogenic differentiation Barrand et al, BBRC, 391 (1), 2010: on the role of OCT4 regulation in adipogenesis Also the chondrogenic differentiation section could give a better description of the current literature.

#### **INITIAL REVIEW OF THE MANUSCRIPT**

**Google Search:**

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- Duplicate publication
- Plagiarism
- No

***BPG Search:***

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- No