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PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 81509

Title: Adipokine regulates mesenchymal stem cell osteogenic differentiation: a review

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

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: 2022-11-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-12 11:51

Reviewer performed review: 2022-12-21 15:54

Review time: 9 Days and 4 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The manuscript from Xu et al. is a review describing the all the known effects of adipokines on Mesenchymal Stem Cells osteogenic differentiation. A thorough analysis of the literature on the topic to date has been performed by the authors. This review is very interesting and quite well written. It is updated in the current knowledge on the influence of the vast plethora of factors released by the adipose tissue on regeneration or impairment of the bone tissue through their action on the MSCs precursors. I find it worthy of publication, although some aspects should be addressed by the authors. Here is the list: Major point: The authors in presenting each adipokine should add a reference that indeed reports the fact that, the specific factor that is reviewed for its effects on MSC osteogenic differentiation is also considered an adipokine since it is also produced in the adipose tissue. There are several examples in which this reference is not cited when presenting a specific adipokine, for example interleukins, MCP-1, TGF-beta, Gremlin-1 and others. How the Nampt, Gremlin-1 and Katepsin can be considered adipokines? Please explain better. Minor points: 1) Page 2, in the Introduction: "Adipokine is a factor secreted by adipose tissue and has multiple functions…" please use the plural Adipokines, because they are a group of proteins 2) Page 3 in the paragraph Cytokine and cytokine-like proteins: "…process of the differentiation of various stem cells, such as lipid, osteoblast, chondrogenic, and musculogenic." Please correct musculogenic with myogenic. And at page 4, same paragraph: "Epidemiological studies have reported that patients with osteoporosis have higher circulating chemicals [39], and the knockout of chemerin or its receptor CMKLR1 inhibits lipogenesis…" what are circulating chemicals, it is correct? 3) Page 4 in the paragraph Proteins of the fibrinolytic system: "Vignesh K Rangasami et al. [45] found that micellular-loaded TF

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silencing nanocoliters based on pluronon could effectively induce higher differentiation of MSCs in osteogenic and lipid-forming media." What are nanocoliters based on pluronon?

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Reviewer's code: 03067229
Position: Peer Reviewer
Academic degree: DSc
Professional title: Research Scientist
Reviewer's Country/Territory: Russia
Author's Country/Territory: China

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Reviewer chosen by: Yu-Lu Chen

Reviewer accepted review: 2023-02-10 03:27

Reviewer performed review: 2023-02-19 07:37

Review time: 9 Days and 4 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The review may be of interest as it reveals some of the fundamental aspects of osteogenesis. No comments.