

## PEER-REVIEW REPORT

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

**Manuscript NO:** 66471

**Title:** Current evidence on potential of adipose derived stem cells to enhance bone regeneration and future projection

**Reviewer's code:** 05685371

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Assistant Professor, Doctor

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

**Author's Country/Territory:** United States

**Manuscript submission date:** 2021-03-28

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-04-07 07:15

**Reviewer performed review:** 2021-04-09 08:25

**Review time:** 2 Days and 1 Hour

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## **SPECIFIC COMMENTS TO AUTHORS**

This manuscript focuses on current evidence on potential of adipose derived stem cells to enhance bone regeneration. This paper presents that the safety of ADSCs is reasonably established since they have been tested in 79 clinical trials including 580 patients total and there have been no serious adverse events reported. However, the clinical trials as well as the pre-clinical studies investigating potential of ADSCs in enhancing bone regeneration have given confounding outcomes. Then it summaries the preclinical studies involving bone regeneration induced by transplantation of ADSCs and presents the effect of FGF, VEGF, PDGF BMP, genetically manipulation, engineered scaffolds, manipulation of recipient host, allogeneic transplantation, scaffold types during osteogenic differentiation of ADSCs. At last, it presents the specific markers (CD146, AlphaV, CD200, PDPN, CD164, CXCR4 and PDGFR $\alpha$ ) could be used for selection of sub-populations of adipose derived stem cells showing superior bone forming ability.

Comment: 1.I have read your article "Current evidence on potential of adipose derived stem cells to enhance bone regeneration and future projection" and found that the subject matter is unique and worthy of conversation. This material may be of interest if you can improve on it. 2.In the paragraph of background, you should pay more attention to the ADSCs and the readers could get access to the core of this article quickly. 3 Typing and context errors may still remain in some paragraphs, such as "ASDSCs".