

## PEER-REVIEW REPORT

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

**Manuscript NO:** 56824

**Title:** Pericyte-like differentiation of human adipose-derived mesenchymal stem cells:  
An in vitro study

**Reviewer's code:** 03448879

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Professor, Surgeon

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

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

**Manuscript submission date:** 2020-05-15

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2020-05-15 23:17

**Reviewer performed review:** 2020-05-22 01:54

**Review time:** 6 Days and 2 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input 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 Grade E: Do not publish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 type="checkbox"/> Minor revision <input checked="" 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 is a well-written paper testing in vitro strategies to obtain a pericyte-like differentiation of human ASCs (hASCs). As a key cellular component of vascular structures, pericytes play a critical role in vascular development, maturation, and stabilization. Loss of pericytes is associated with microcirculation damage and inflammation processes. Study about this is important to provide a valuable therapeutic strategy for a variety of diseases. I have a few concerns: 1. How many healthy young donors undergo liposuction to provide adipose tissue? Whether there were certain inclusion and exclusion criteria? Where was the liposuction site? Whether all donors collected the same site adipose tissue? These should be provided in Material and Methods section. 2. In the co-culture experiments, what were the numbers and proportions of the two cells in different groups? 3. In Figure 3, the amount of internal control loading was obviously inconsistent among different groups, especially in Figure 3B. It is recommended to replace the figure with a better one. 4. More details about similar studies should be provided. Amos et al. 2008, Mendel et al. 2013 and Natesan et al. 2011 involved ASCs, provided good evidence that ASCs can differentiate into pericytes. In the first two studies, early passages of ASCs could spontaneously differentiate into pericytes without any specific induction. What were the advantages of this research? Higher induction success rate? 5. There was no mention of the limitations of the study, one of which can be false positive results. Please mention what measures were taken to avoid false positive results.