



PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 58291

Title: Influence of donor age on differentiation and division capacity of human adipose-derived stem cells

Reviewer's code: 03811591

Position: Peer Reviewer

Academic degree: BSc, PhD

Professional title: Research Associate

Reviewer's Country/Territory: Canada

Author's Country/Territory: Brazil

Manuscript submission date: 2020-07-16

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-07-17 00:19

Reviewer performed review: 2020-07-21 06:27

Review time: 4 Days and 6 Hours

Scientific quality	<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 Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

This manuscript describes the influence of donor age on phenotype, proliferation and differentiation potential of human adipose-derived mesenchymal stem cells (hASCs) isolated from adipose tissues by lipoaspiration. The authors found that there were no significant difference between young hASCs (yASCs) and old hASCs (oASCs) in terms of surface marker expression, proliferation, adipogenic and osteogenic potential. These results demonstrated that donor age does not affect phenotype, proliferation and differentiation potential of hASCs isolated from lipoaspirated tissues. Overall, the manuscript is well-written. However, there are several comments that the author needs to address.

1. There are many studies reporting the influence of donor age on proliferation and differentiation potential of hASCs. What was the new approach that the authors take to perform this study?
2. One of the minimal criteria of defining human mesenchymal stem cells (hMSCs) is hMSCs are capable of undergo adipogenic, osteogenic and chondrogenic differentiation. Therefore, the authors should also provide data for chondrogenic induction of hASCs used in this study.
3. I would suggest the authors to assess gene expression of osteogenic markers in yASCs and oASCs upon osteogenic induction.
4. It would be great if the authors can explain why they selected RNA polymerase II as a housekeeping gene in this study.
5. Is there any study reporting the influence of donor age on proliferation and differentiation potential of hASCs isolated from adipose tissues by lipectomy?



PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 58291

Title: Influence of donor age on differentiation and division capacity of human adipose-derived stem cells

Reviewer's code: 02521223

Position: Editorial Board

Academic degree: PhD

Professional title: Associate Professor, Director, Senior Scientist

Reviewer's Country/Territory: Viet Nam

Author's Country/Territory: Brazil

Manuscript submission date: 2020-07-16

Reviewer chosen by: AI Technique

Reviewer accepted review: 2020-07-16 22:05

Reviewer performed review: 2020-07-29 02:13

Review time: 12 Days and 4 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<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
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

Authors compared the differentiation and division capacity of ADSCs derived from young and old donors. Although the topic is interesting, major revisions are requested: 1. Authors compared the differentiation and division capacity of 2 kinds of ADSCs (y and o ADSC) at passage 4 and passage 7. However, I think that the difference will be displayed in the further passages, at 10th or 15th. 2. To compare the division capacity, authors should compare the Population Doubling Level (PDL), not PDT. 3. Please compare the differentiation as well as division capacity of ADSCs at the same PDL.