

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56054

Title: Isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct

Reviewer's code: 03701805

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Associate Professor

Reviewer's Country/Territory: China

Author's Country/Territory: United States

Manuscript submission date: 2020-04-17

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-07-22 15:32

Reviewer performed review: 2020-08-02 13:29

Review time: 10 Days and 21 Hours

Scientific quality	<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 Grade E: Do not publish
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 checked="" type="checkbox"/> Minor revision <input 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 type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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SPECIFIC COMMENTS TO AUTHORS

This review summarized the isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct. The paper is well written. However, the mechanisms of MSC on tissue regeneration are not mentioned. Furthermore, the authors mentioned that compared with BM-MSCs and AD-MSCs, CB-MSCs have superior ability to survive in hypoxic conditions while remaining biosynthetically active. This is very important. However, why? Any cytokines involved in this difference. To my knowledge, IGF-1 is very important in this process (Stem Cell Res Ther. 2020 Jan 9;11(1):22. doi: 10.1186/s13287-019-1544-y.). It is important to include a brief discussion on this topic.

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56054

Title: Isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct

Reviewer's code: 03471556

Position: Editorial Board

Academic degree: BSc, PhD

Professional title: Research Assistant Professor

Reviewer's Country/Territory: Italy

Author's Country/Territory: United States

Manuscript submission date: 2020-04-17

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-07-23 18:08

Reviewer performed review: 2020-08-02 17:25

Review time: 9 Days and 23 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

SPECIFIC COMMENTS TO AUTHORS

The manuscript review of Manuscript ID 56054 and entitled "Compact Bone Mesenchymal Stem Cells in Orthopedic Trauma" by Albert Anastasio et al., is on Mesenchymal Stem Cells sourcing, isolation and characterization techniques and on the potential application of MSC derived from compact bone in orthopaedic trauma. Several concerns and suggestions are listed in major and minor revisions. Major revisions 1. The title reported in the manuscript is different. 2. The English could be revised; some sentences are unclear. 3. Several references are not correctly cited in the text. Some references not refer to the reported text i.e ref. n. 4 no CB-MSC, ref.69 no BM-MSCs, etc; some authors mentioned in the text not correlated to the author name of the indicated reference i.e. Beaver with ref. n.18, etc; in other cases, the author names cited in the text there are not references. The authors should revise the text and the cited references. 4. The authors talk about the CB-MSCs unique ability to withstand the harsh conditions existing in the recipient tissue. Which are? They could add information in the text. 5. The figure 1 is not complete. The authors should correct it, add the title and define the acronyms used. Minor revisions - Table 1: Add the title of the table. - Check "1985" after the ref. 26 in the text. - Describe in the text the muMPC and CFU-GM acronyms. - Correct the form of the reference n. 72 in the text. - Change "pion disease" with "prion disease". - References of the text, table 1 and figure 1: the formatting is not uniform.

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56054

Title: Isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct

Reviewer's code: 03808474

Position: Editorial Board

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: Iran

Author's Country/Territory: United States

Manuscript submission date: 2020-04-17

Reviewer chosen by: Ya-Juan Ma

Reviewer accepted review: 2020-08-21 11:35

Reviewer performed review: 2020-08-30 12:01

Review time: 9 Days

Scientific quality	<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
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 checked="" type="checkbox"/> Minor revision <input 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

SPECIFIC COMMENTS TO AUTHORS

This manuscript entitles "Isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct" could be considered after revision. 1) The "Abstract section" was missed from the text. Please involve it. 2) The manuscript will be more complete if the authors use and involve the articles related to isolation of MSCs from another sources and tissues. For this purpose, you can use and refer the following paper which explained elaborately the Isolation, Immunophenotypic characterization and Multi-lineage differentiation of MSCs derived from heart and liver of zebrafish. It could be better you involved this paper in the "Sourcing of MSCs" or "Characterization techniques" section:

Immunophenotypic characterization, multi-lineage differentiation and aging of zebrafish heart and liver tissue-derived mesenchymal stem cells as a novel approach in stem cell-based therapy. *Tissue and Cell*. 2019 Apr 1;57: 15-21. 3) In the following of above comment, you can use and refer the following paper which discussed the role of stem cells in cell-based therapy and regenerative medicine in the "Clinical applications of MSCs in orthopaedic surgery": Stem cell-based regenerative medicine. *Stem Cell Investigation*. 2019;6(19). Doi: 10.21037/sci.2019.06.04.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: World Journal of Stem Cells

Manuscript NO: 56054

Title: Isolation and characterization of mesenchymal stem cells in orthopaedics and the emergence of compact bone mesenchymal stem cells as a promising surgical adjunct

Reviewer's code: 03808474

Position: Editorial Board

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: Iran

Author's Country/Territory: United States

Manuscript submission date: 2020-04-17

Reviewer chosen by: Le Zhang

Reviewer accepted review: 2020-09-27 06:31

Reviewer performed review: 2020-09-27 07:13

Review time: 1 Hour

Scientific quality	<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
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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
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

SPECIFIC COMMENTS TO AUTHORS



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Dear Sir/Madam All comments have been implemented in the revised version of the manuscript. Regards