



PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 85023

Title: Zinc enhances the cell adhesion, migration, and self-renewal potential of human umbilical cord derived mesenchymal stem cells

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer’s code: 06137947

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer’s Country/Territory: Iran

Author’s Country/Territory: Pakistan

Manuscript submission date: 2023-04-08

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-04-13 15:33

Reviewer performed review: 2023-04-13 17:08

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 Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation



Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
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

Hello In this study, the researchers investigated the effect of different concentrations of zinc on mesenchymal stem cells, and their results are interesting. They found that Zinc enhances the cell adhesion, migration, and self-renewal potential of hUC-MSCs. Some things are suggested to improve this manuscript. 1- The introduction section of the manuscript is long and it is suggested to be summarized. 2- In the methodology section, it seemed better that the researchers used mechanically and enzymatically digested tissues instead of chopped pieces of tissue to increase the number of cells obtained. 3- It is not explained in the methodology section how many times the cells were passaged. 4- To increase the study's validity, it is better for the researchers to mention the references based on which they isolated and cultured mesenchymal stem cells and determined their characteristics. 5- In the immunophenotyping section, it is better to report the companies from which the antibody was purchased. 6- It is better to report the results as standard deviation (SD) instead of the standard error of the mean (SEM). 7. In the discussion section, it is better for the author to focus on zinc and its research on stem cells and discuss less about the umbilical cord. The discussion is long 8- In the conclusion section,



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the Authors predicted: "The results also indicate the significance of the careful consumption of zinc supplements as a lower concentration of it positively regulated growth, but its higher concentration may retard or negatively affect growth and development." This study was conducted in vitro, and this prediction cannot be convincing. 9- It is better to mention the limitations of the study in the discussion section.



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Reviewer's code: 06215468

Position: Peer Reviewer

Academic degree: N/A

Professional title: N/A

Reviewer's Country/Territory: China

Author's Country/Territory: Pakistan

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-04-14 00:25

Reviewer performed review: 2023-04-21 00:18

Review time: 6 Days and 23 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
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
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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

Comments to the Author: This paper describes the effects of different concentrations and different time spans of zinc on hUC-MSCs cell proliferation, division and various cell function. Markers of different physiological processes were used to verify effects on cell cycle, proliferation and migration functions.