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PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 90346

Title: Expansion of human umbilical cord derived mesenchymal stem cells in regenerative medicine

Provenance and peer review: Invited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02492656
Position: Peer Reviewer
Academic degree: BSc, MSc, PhD
Professional title: Emeritus Professor
Reviewer's Country/Territory: United States
Author's Country/Territory: Pakistan

Manuscript submission date: 2023-11-30

Reviewer chosen by: Huo Liu

Reviewer accepted review: 2023-12-22 17:45

Reviewer performed review: 2023-12-29 01:54

Review time: 6 Days and 8 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

This is a generally excellent paper in a highly significant field of research. This reviewer has several points following: 1) Use of the word "scaling" in the title and throughout the paper is questionable. Merriam Webster says that things can be scaled according to actual need, and they can be regulated, set or estimated, and the authors have tried to do that, but without testing how the various preparations compare in in vivo experiments, we do not know if the "scaling" has been successful. Here the authors showed very clearly that human umbilical stem cells (husc) can be separated, cultured and prepared for use in trials of regenerative medicine, but the cells were not "scaled" for a specific purpose, and there is no apparent previous use of this term in any of the papers referenced by the authors. It is recommended that the authors use a different, more functional term, perhaps like deriving or preparing. 2) It would have been very nice to see just the simplest in vivo experiment using one or more of the husc preparations. What form would the hus cells take if they were injected into the peritoneal or pleural cavities of immunosuppressed mice? 3) There are a number of papers, many of them referenced here that demonstrate the preparation of husc, e.g. Todtenhaupt, P., et al., A

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robust and standardized method to isolate and expand mesenchymal stromal cells from human umbilical cord. 2023. How is this paper under review different, better, consistent or not with this 2023 paper? And this Todtenhaupt paper has an incomplete reference. 4) The use of English generally is quite good, but there are corrections that will need to be made throughout. For example, on page 3 in the last sentence of the page is the phrase "...will provide novel sight for cell-based...". Use of the word "sight" is not meaningful here, and on page 5 is the phrase "...immunological possessions..." that makes no sense. 5) The data are nicely presented, but it seems that a number of the figures could be combined into sets to be tested statistically. In other words, the histograms in Fig. 4 show remarkable consistency among the various donors. Since the data are so robust, this entire figure could be reduced to a single statistically significant data point, thus saving considerable space. In addition, the data in figures 9 and 12 show no significant differences. Thus, they again could be condensed into a statistical data point with a few microphotographs of the salient points.