

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 87405

Title: Enhanced wound healing and hemostasis with exosome-loaded gelatin sponges from human umbilical cord mesenchymal stem cells

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05051947

Position: Peer Reviewer

Academic degree: PhD

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2023-08-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-08-14 11:02

Reviewer performed review: 2023-08-19 10:18

Review time: 4 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 Grade E: Do not publish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
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 checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
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 checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

In this study, authors used a gelatin sponge loaded with hUC-MSCs exosomes and assessed its potential as a hemostatic material and a wound healing accelerator. The study comprised in vivo and in vitro assays evaluating cytotoxicity, skin irritation, hemolysis, tissue compatibility, liver defect hemostasis, and full-thickness skin defect healing. This is a comprehensive study. 1. Please add a clear scale bar in Figure 1 A. 2. Please adjust the plotting method of Figure 3B (the ordinate is hemolysis rate). 3. Try to align the scales in Figure 4A and B. Please enlarge the scale in Figure 4C or add a description. 4. Please provide macroscopic images of the BCI experiment. 5. Please use Figure 6C to clearly explain the advantages of Sponge+Exo (marking blood vessels, epithelial thickness, hair follicles, etc.). 6. Please supplement the relevant description of H&E staining in Figure 3D and enlarge the scale. 7. Related papers on this topic can be cited: <https://doi.org/10.3390/molecules28114498>, <https://doi.org/10.1016/j.ijbiomac.2023.125754>.

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 87405

Title: Enhanced wound healing and hemostasis with exosome-loaded gelatin sponges from human umbilical cord mesenchymal stem cells

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05924658

Position: Peer Reviewer

Academic degree: N/A

Professional title: N/A

Reviewer's Country/Territory: Brazil

Author's Country/Territory: China

Manuscript submission date: 2023-08-14

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-08-15 18:37

Reviewer performed review: 2023-08-20 17:49

Review time: 4 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
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 checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" 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
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 present manuscript is of great relevance in the field of wound healing. The manuscript is well written and the experiments were well designed. There are some issues that must be pointed out. 1 - In the characterization of exosomes derived from hUC-MSCs, it is necessary to detail the western-blot technique in detail, from protein extraction to data collection. 2 - The morphology of exosomes by transmission electronic microscopy seems impaired, since its shape is not uniform and the membrane is not well delimited. I ask the authors to include a better image.