



PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 82507

Title: Extracellular Vesicles: A Novel Cell-free Strategy for Regenerative Medicine

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06371759

Position: Peer Reviewer

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2022-12-20

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-21 06:50

Reviewer performed review: 2022-12-23 07:38

Review time: 2 Days

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 Grade E: Do not publish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 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	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements	Conflicts-of-Interest: [] Yes [Y] No
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SPECIFIC COMMENTS TO AUTHORS

The manuscript, "Mesenchymal Stem Cells Derived Extracellular Vesicles: A Novel Cell-Free Strategy for Regenerative Medicine" by Dianri Wang et al., summarized the studies on mesenchymal stem cells-derived extracellular vesicles. It's a good topic for the readers. Anyway, I consider that some points should be revised by authors before the articles are published. 1. Abstract: "Cell/stem cell-based therapies have made huge progress in tissue regeneration medical engineering. However, cell transplantation therapy has certain limitations including immune rejection and limited cell viability, which seriously hinder the transformation of stem cell-based tissue regeneration into clinical practice. Mesenchymal stem cells (MSCs) derived extracellular vesicles (EVs) not only possess the advantages of its derived cells, but also can avoid the risks of stem cells. MSCs-derived EVs are intelligent and controllable biomaterials that can participate in a variety of physiological and pathological activities, tissue repair and regeneration by transmitting a variety of biological signals, showing great potential in cell-free tissue regeneration." is an overly lengthy introduction of EVs produced from mesenchymal stem cells. The abstract should be revised to include the highlights of this article. 2.

Keywords: "Cell-free strategy" should be Cell-free strategy. 3. Most of the references are too old. The studies published in 2021 and 2022 should be more reference-heavy. 4. Part "1. EVs...". "Signals are communicated through vesicle membrane proteins or by vesicle contents such as mRNA." This sentence would be better if the vesicle contents were proteins, miRNAs, or lncRNAs. 5. Part "2. Repair and regeneration effects of EVs": The authors simply list the EVs of stem cells in various organs or tissues. It should be better to have some condensed discussion. The function of various EV contents should be discussed in the article. This will be interesting. 6. Part



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2.3&2.5: Human embryonic stem cells, or iPSC, are not part of the mesenchymal stem cells mentioned in the title. Therefore, the title should be improved. 7. This article should be revised to present it in a better logical way.



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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06479886

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Russia

Author's Country/Territory: China

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Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-27 11:05

Reviewer performed review: 2022-12-29 07:59

Review time: 1 Day and 20 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
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 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 type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The manuscript by Dian-Ri Wang and Jian Pan dedicated to the role of mesenchymal stem cells (MSCs) derived extracellular vesicles (EVs) in diverse tissues regeneration, discussed the underlying mechanisms, prospects, and challenges of MSCs-derived EVs. The manuscript is interesting, and its results is actual and potentially can shed new light on the novel cell-free strategy for using EVs in the field of regenerative medicine for different tissue types. However, the manuscript needs some revision and I recommend extend some chapters. In summary, these above and subsequent major (marked as numbers) and minor (marked as letters) revisions are needed before it meets the publication criteria. 1. The review considers not only EVs derived from MSCs, but also from cells of other types and origin, so the title of the review should be rephrased. 2.

Chapter 1.2, devoted to EVs isolation, should be expanded and discuss in more detail the existing methods for EVs isolation, including those induced, for example, using cytochalasin B, and discuss the advantages and limitations of currently existing methods. 3. Chapter 3 I would also recommend slightly expanding and discussing in more detail, because it is a kind of quintessence of the whole review. In addition, it



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would be better if the authors make the conclusion in a separate chapter and expanded it a little. 4. Bibliography should be expanded. Some key publish are missed, such as:
doi: 10.3389/fnins.2019.00163 doi: 10.3390/biology11121853 doi:
10.4103/1673-5374.266908 a) Unify the formatting of links in the text. It must be has
space after the main text, for example: «Text [1].» b) The same is for links to Figures
and Tables, for example: «Text (Fig.1).» c) Unify text formatting, in particular text
alignment. d) Page 2. - Keywords: «... Cell-free stragegy» - typo, strategy



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Title: Extracellular Vesicles: A Novel Cell-free Strategy for Regenerative Medicine

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Peer-review model: Single blind

Reviewer's code: 05823102

Position: Peer Reviewer

Academic degree: PhD

Professional title: Doctor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: China

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Reviewer chosen by: AI Technique

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Reviewer performed review: 2023-01-05 10:26

Review time: 5 Days and 19 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



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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 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

This is a well-designed interesting study, and the manuscript is well-written., but the authors should follow the following points: 1- The author has spoken on human embryonic stem cells, or iPSC, and those doesn not mention in title so, the title should be improved. 2-Write how we enhance amount of EVs produced



RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 82507

Title: Extracellular Vesicles: A Novel Cell-free Strategy for Regenerative Medicine

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06371759

Position: Peer Reviewer

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: China

Author's Country/Territory: China

Manuscript submission date: 2022-12-20

Reviewer chosen by: Jia-Ru Fan

Reviewer accepted review: 2023-02-21 07:15

Reviewer performed review: 2023-02-21 16:27

Review time: 9 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 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



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SPECIFIC COMMENTS TO AUTHORS

This article has been nicely revised. Before publication, the references should be cited in Table1.