

PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 82863

Title: The mechanisms of analgesic effect of mesenchymal stem cells in osteoarthritis pain

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03933399

Position: Editorial Board

Academic degree: PhD

Professional title: Director, Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Jordan

Manuscript submission date: 2022-12-28

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-29 02:06

Reviewer performed review: 2022-12-29 07:49

Review time: 5 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 Grade E: Do not publish
Novelty of 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 novelty
Creativity or innovation of 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 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 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

Authors tried to review the current progress on the mechanisms of analgesic effect of MSCs in osteoarthritis pain. The point of the review is interesting and novel. However, the presentation of literature is not clear and strong in terms of take-home message. If authors focus on analgesic effect of MSCs in osteoarthritis pain, they should emphasize the mechanisms of osteoarthritis pain by listing individual molecular causes. Then they should explain how these causes are improved by MSC or MSC-derived EV. And they should provide schematic illustration to help the readability of the review.

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Reviewer's code: 04152279

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Jordan

Manuscript submission date: 2022-12-28

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-29 08:29

Reviewer performed review: 2023-01-05 03:49

Review time: 6 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 checked="" type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
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Scientific significance of the conclusion in this manuscript	<input checked="" type="checkbox"/> Grade A: Excellent <input 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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" 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

1. Innovation, theoretical significance or application value of the manuscript Pain is the most common and troublesome manifestation of OA, and it needs to be improved due to the poor short-term effects of the current analgesics and their adverse effects. Through the overview of osteoarthritis and combined with the current treatment of osteoarthritis pain drugs paracetamol, non-steroidal anti-inflammatory drugs, steroids and other drugs, the study introduced the treatment of mesenchymal stem cells, found that bone marrow mesenchymal stem cells can produce analgesia through two peripheral mechanisms, mainly involving anti-inflammatory process and prevent or reverse the central sensitization. This study has novel ideas, clear thinking, and has certain clinical application value.

2. Suggestions on the specific content included in the manuscript (1) In the introduction of mesenchymal stem cells to osteoarthritis analgesic mechanism can be combined with some specific data or examples. (2) The key words suggest that "analgesia" should be changed to "analgesic mechanism" (3) When introducing the interaction of MSCs and immune cells, the effects of the paracrine factor-mediated mechanism and the exosome-mediated mechanism on analgesia were not detailed.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Position: Editorial Board

Academic degree: PhD

Professional title: Director, Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Jordan

Manuscript submission date: 2022-12-28

Reviewer chosen by: Geng-Long Liu

Reviewer accepted review: 2023-02-21 07:49

Reviewer performed review: 2023-02-21 08:01

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 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 checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

No more comments.