



PEER-REVIEW REPORT

Name of journal: *World Journal of Stem Cells*

Manuscript NO: 85452

Title: Mechanism of adipose-derived mesenchymal stem cell exosomes in the treatment of heart failure

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer’s code: 06081572

Position: Peer Reviewer

Academic degree: MD

Professional title: Professor

Reviewer’s Country/Territory: Germany

Author’s Country/Territory: China

Manuscript submission date: 2023-07-27

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-07-28 09:35

Reviewer performed review: 2023-08-02 08:59

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 Grade E: Do not publish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

ADSCs exo has the functions of tissue repair and regeneration, inflammation inhibition and immune regulation, however, its effect on heart failure has not been confirmed. To investigate how adipose-derived mesenchymal stem cell exosomes work to treat heart failure, Wang L et al. conducted this study. They found that the secretion of mesenchymal stem cells from adipose tissue can increase ATP level, block cardiomyocyte apoptosis, and enhance the heart function of animals susceptible to heart failure. The inhibition of Bax, caspase-3 and p53 protein expression may be related to this process. The methods are properly presented, the results are presented on 2 tables and 7 figures and are clearly discussed. The author analyzed the results from many angles. The references are quite appropriate to the subject of research. Thank you for a useful and important synopsis of this important topic. The reviewer has only one suggestion: Figure 5 and Figure 6 need to be rearranged and the last figure on P13 page should belong to Figure 5. In addition, the reviewer thinks this manuscript can further benefit from grammatical revisions.



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Title: Mechanism of adipose-derived mesenchymal stem cell exosomes in the treatment of heart failure

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Peer-review model: Single blind

Reviewer's code: 06081554

Position: Peer Reviewer

Academic degree: MD

Professional title: Associate Professor, Research Associate

Reviewer's Country/Territory: United States

Author's Country/Territory: China

Manuscript submission date: 2023-07-27

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-07-31 02:50

Reviewer performed review: 2023-08-02 09:37

Review time: 2 Days and 6 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 checked="" type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation



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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

Dear authors, thank you for submitting your paper to the World Journal of Stem Cells. In this study, the surface markers of ADSCs-EXO were identified, and Exosomes may be effectively extracted from adipose-derived mesenchymal cells and adipose tissue. After injecting ADSCs-EXO into HF rats, it was found that LVEF, LVFS and SV of rat heart function indexes were significantly increased, suggesting that ADSCs-EXO could alleviate cardiac function in rats with heart failure. Very interesting study, the authors describe the protocol and results in great detail. I only have a couple of minor comments relating to this manuscript. Comments 1: Abbreviations should have their full name at first appearance, for example, ADSCs in abstract and text. Comments 2: The full text of the writing about ADSCs needs to be unified. Now the reviewers see that some write ADSCs, some write Adscs, and some write about ADSCS. Comments 3: For Figure 5, the NOTES mention Compared with Col group * P<0.05; Compared with HF group # (P<0.05). But * and # are not seen in this Figure. Comments 4: The CONCLUSION is not well written. This section should succinctly and cowardly present the findings and implications that are within the scope of the data you have presented in the preceding



**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

Results. You should state only conclusions that are directly supported by the evidence presented and the implications of the findings presented. Comments 6: What does the Control group on page 6 and 9 mean? According to the reviewer's understanding, it may represent the ADSCS-EXO group. Such descriptions need to be consistent throughout.