

Dear editor

Thank you very much for the editorial staff and reviewers' hard-work in processing our manuscript (81044). We have carefully read the comments made by the editor and the reviewers. Also, we have revised our manuscript based on the reviewers' suggestions, and highlighted changes in the text for the reviewers' convenience. The comments are addressed below in a point-by-point manner, and this manuscript was edited for English language, grammar, punctuation, spelling and overall style by editors at Filipodia Publishing.

The revised manuscript of 81044 by Xiao Chen, Xia-Ming Liang, Jia Zheng and Yong-Hui Dong. Entitled "Stromal cell-derived factor regulates chondrogenic differentiation via activation of the Wnt/ β -catenin pathway in mesenchymal stem cells" has been resubmitted to be considered for publication in your journal. We hope the changes are satisfactory. And we also hope that we have a chance to publish the manuscript in *World Journal of Stem Cells*.

We deeply appreciate your consideration of our manuscript, and we look forward to receiving comments from the reviewers. If you have any queries, please don't hesitate to contact me at the address below.

Thank you and best regards.

Yours sincerely,

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Reviewer comment

Reviewer #1

The overall manuscript is well written however, minor corrections are needed to be incorporated

1. Abstract needs correction. Aim and methodology used are not clear in the abstract.

author response: We thank for the reviewer for insightful suggestions.

author action : In the revised manuscript, the AIM, METHODS, RESULTS and CONCLUSION part were rewritten in the **Abstract**.

2. Since most of the MSCs do not express CXCR4, authors should have considered using flow cytometry instead of immunocytochemistry as it describes more precisely the number of MSCs expressing CXCR4.

author response : We would like to thank the reviewer for the constructive comments. We agreed with reviewer's views, although flow cytometry has unique advantages in counting positive cells, the immunofluorescence method also was used to quantify the expression of CXCR4 on the cell surface of MSCs (1). In this study, we just wanted to observe whether CXCR4 was expressed on the cell surface of MSCs, thus, we used the immunofluorescence method.

3. The information mentioned in line number 286-289 is irrelevant to the manuscript.

author response: We would like to thank the reviewer for the positive opinion on our study.

author action: In the revised manuscript, we deleted relevant sentences.

4. The manuscript needs grammatical and language editing.

author response: We would like to thank the reviewer for insightful and constructive comments.

author action: In the revised manuscript, we have invited professional organization to review the article and have revised the manuscript according to your kind suggestions. This manuscript was edited for English language, grammar, punctuation, spelling and overall style

by editors at Filipodia Publishing, Certificate Service Confirmation was uploaded as an attachment.

5. Statistical analysis must be rechecked. Some graphs show a 1 to 2-fold increase compared to the control which is not corresponding to the 1-star significance.

author response: We would like to thank the reviewer for the comment. In the statistical method of this paper, we use 1-star to express $P < 0.05$ and 2-star to express $P < 0.01$.

6. Some images of the manuscript show a scale bar while some do not. Images need uniformity whereas the protein ladder is missing from figure 6.

author response : We would like to thank the reviewer for the insightful comment and carefully reading manuscript.

author action: The scale bar was supplemented to the relevant Figure. In Western blots, band size of GSK-3 β , p-GSK-3 β , β -catenin and GAPDH were 46 kDa, 46 kDa, 92 kDa and 37kDa, respectively and the band size of GSK-3 β , p-GSK-3 β and β -catenin were supplemented in Figure 6. As well, the full gels were supplemented in the **supplementary material (Western blots full gels)**.

7. The references lack uniformity.

author response: We would like to thank the reviewer for constructive comments.

author action : In the revised manuscript, the references are edited again according to Reference Citation Analysis (RCA) to make their format uniform.

Reviewer #2:

Specific Comments to Authors: Authors investigated the role of SDF-1 α in cartilage differentiation of MSCs and primary chondrocytes. MSCs were induced to differentiate in vitro along the three skeletal cell lineages of bone, cartilage, and adipose tissue. There are numerous comments and questions the authors should address, all were detailed below:

1. Some spelling mistakes are present.

author response: We would like to thank the reviewer for constructive comments. In the revised manuscript, we have invited Filipodia Publishing editor to review the article and have revised the manuscript. And correct the spelling and grammar errors in this article. Certificate Service Confirmation was uploaded as an attachment.

2. The manuscript needs punctuation correction particularly in the abstract.

author response: We would like to thank the reviewer for insightful and constructive comments.

author action: In the revised manuscript, the **Abstract** was rewritten. Hope it better.

3. What's the rational for using both MSCs and chondrocytes.

author response: We would like to thank the reviewer for the comment. This article focuses on exploring the role of SDF-1 α in cartilage differentiation of MSCs and its related mechanisms, the use of primary cartilage was to verify SDF-1 α effect on cartilage differentiation. We found that those effects of SDF-1 α on MSCs were validated in primary chondrocytes.

4. Describe the detailed component of culture media used for expansion of chondrocytes.

author response: We would like to thank the reviewer for the comment.

author action : In the revised manuscript, the sentence was supplemented: "The detailed component of culture media used for chondrogenic differentiation were DMEM high-glucose, 100 nM Dexamethasone, 10 ng/ml TGF- β 3, 50 mg/ml ascorbic acid 2-phosphate, 100 mg/ml sodium pyruvate, 40 mg/ml proline and ITS-supplement (2).

REFERENCES

1 **Zhang D, Fan GC, Zhou X, Zhao T, Pasha Z, Xu M, Zhu Y, Ashraf M, Wang Y.** Over-expression of CXCR4 on mesenchymal stem cells augments myoangiogenesis in the infarcted myocardium. *J Mol Cell Cardiol.* 2008;44:281-292. [PMID: 18201717 DOI: 10.1016/j.yjmcc.2007.11.010] [Cited by in Crossref: 208] [Cited by in RCA: 226] [Impact Index Per Article: 13.0]

2 **Mackay AM, Beck SC, Murphy JM, Barry FP, Chichester CO, Pittenger MF.** Chondrogenic differentiation of cultured human mesenchymal stem cells from marrow. *ACTA ACUST UNITED AC* 1998;4:415-28. [PMID: 9916173 DOI: 10.1089/ten.1998.4.415] [Cited by in Crossref: 981] [Cited by in RCA: 1023] [Impact Index Per Article: 40.9]