

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**Manuscript NO:** 63312

**Title:** Introduction to antler stem cells and their potential in wound healing and bone regeneration

**Reviewer's code:** 02706985

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** China

**Manuscript submission date:** 2021-02-27

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2021-03-01 02:28

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**Review time:** 8 Days and 5 Hours

<b>Scientific quality</b>	<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 Grade E: Do not publish
<b>Language quality</b>	<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
<b>Conclusion</b>	<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
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



**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>

#### **SPECIFIC COMMENTS TO AUTHORS**

1. The authors describe three different types of antler stem cells and their role during antler development, but do not combine them with Figure 2 in the beginning of the section 3. It will be easier to understand if the three axes of the antler development could be described in chronological order. 2. At the end of Page 6, the authors describe "As for the antler itself, it has been confirmed to be regenerated from PPCs". However, no references are cited here. 3. At the end of Page 7 and beginning of Page 8, Some of the mentioned markers that can be detected in AnSCs, including Tert, Nestin, S100A4, nucleostemin, and c-Myc, do not indicate what properties are the cells that specifically express these markers. 4. The header of Section 4.1 "Wound healing is not a conventional scar in deer", is unclear and difficult to understand. Please revise your manuscript for clarity and make sure concise and succinct statements are made. 5. Please cite pictures in the correct place, especially Figure 2 and Figure 4. 6. Please give some discussion of Stem Cell Res Ther. 2019 Nov 19;10(1):326.

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Stem Cells

**Manuscript NO:** 63312

**Title:** Introduction to antler stem cells and their potential in wound healing and bone regeneration

**Reviewer's code:** 04247363

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**Academic degree:** DDS, PhD

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**Reviewer's Country/Territory:** France

**Author's Country/Territory:** China

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<b>Scientific quality</b>	<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
<b>Language quality</b>	<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
<b>Conclusion</b>	<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
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	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, We have read with interest your manuscript, discovering a new field of stem cells. The overall story is well written, and easy to follow and understand (Title, Abstract, Key wordds, Background). We have some remarks/questions : 1/ Paragraph §2 « State of the art » : As the field will be unknown for many readers, it would be interesting to describe a PubMed research methodology, to give an idea about the abundance of research works on AnSC, based on a PRISMA checklist (i.e « Antler Stem Cell » in PubMed leads to 11 results, while « Adipose derived stem cell » leads to 12048 results). At that stage of AnSC, it seems possible to give an exhaustive overview of the topic. 2/ Do we have any available data about effect of aging on deer antler formation? 3/ Risk of aberant bone formation : do we have comprehensive knowledge about the specific process involved in AnSC regulation ? This question might become crucial when considering clinical application (same problem as for the direct use of pluripotent stem cells) 4/ Potential clinical applications : References 5, 31, 45 show the applicability of AnSC for preclinical use (in rabbit). But translation to human seems impossible (xenogenic graft). The use of AnSC-CM sounds promising (as described). But paragraph §6 « Future Directions » should be much more discussed-detailed, as this is the core of the manuscript : what particularity do we find in AnSC-CM content? is there a specific proteic composition explanation the interesting effects ? or is it cell-based effect ? how could we efficiently recover AnSC in GMP conditions ? Do we have to kill deer, or is it possible to collect with a limited invasive surgery ? These questions will be of prime interest for potential clinical applications.