



**ESPS PEER-REVIEW REPORT**

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

**ESPS manuscript NO:** 16743

**Title:** Spermatogonial Stem Cells: current advances in biotechnological applications in reproduction

**Reviewer’s code:** 02446204

**Reviewer’s country:** Afghanistan

**Science editor:** Fang-Fang Ji

**Date sent for review:** 2015-01-31 09:56

**Date reviewed:** 2015-02-02 12:54

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input checked="" type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

**COMMENTS TO AUTHORS**

This review (editorial) is very interesting, explaining in detail the merits and the promises of the application of SSC to broad aims including clinical purposes. Nevertheless, there are several issues to be addressed before publication in World Journal of Stem Cells. Major concerns: 1) As the author claims, SSC has a great advantage over ESCs in producing genetically modified farm animals because it can directly be applied to the fertilization step and is also free from ethical problems. However, SSC suffers from certain limitations due to a matter of imprinting. Authors should add some comments regarding this issue. 2) The SSC-based technique to produce gene manipulated animals will bring beneficial outcomes not only in the field of farm animal industries but also in the field of regenerative medicine because Professor Hitomitsu Nakauchi at Stanford School of Medicine has started his trials to produce human iPS-derived organs based on his theory of “organ niche” (Kobayashi T et al., Cell 42, 787-799, 2010) using genetically engineered pigs, for example, pancreas-ablated pigs produced by inserting hes1 transgene into the pdx1 locus. I would like to recommend the author to mention this topic. Minor concerns: 1) In line 8, page 3, the sentence “Since SSC are adult cells they do not



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bring about...." should be corrected as "Since SSC are adult cells, they do not bring about....". 2) In line 35, page 5, the sentence "However protocols need to be...." should be corrected as "However, protocols need to be....". 3) In line 19, page 6, the sentence "ES cell based transgenesis technologies are well develop ...." should be corrected as "ES cell-based transgenesis technologies are well developed ...." 4) In line 21, page 7, the sentence "This would be useful n extensive rearing animal industries, ..." should be corrected as "This would be useful in extensive rearing animal industries, ...". 5) In line 30, page 8, the words "a feeder serum free culture" should be corrected as "a feeder-free and serum-free culture" or "a feeder/serum-free culture". 6) In line 31, page 8, the phrase "which continue to improve" should be corrected as "which continues to improve".



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**Title:** Spermatogonial Stem Cells: current advances in biotechnological applications in reproduction

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input type="checkbox"/> No	

**COMMENTS TO AUTHORS**

This is useful review, which elucidates an important topics of spermatogonial stem cells use in basic science and biotechnology. However, it needs to be improved and revised intensively. First, we suggest to put SSC isolation and managing, as well as In vitro SSC differentiation just after "Introduction". Please, include topic about "pitfalls" of SSC isolation. Is this process is very easy? Does the method of isolation will limit the future use of SSCs in biotechnology? Please put together in correct order: 1. Isolation; 2 Markers of SSC, 3. in vitro differentiation and 4. plurpotency -teratomas production. Species specific difference in SSCs. 5. Gene technologies and SSC. 6. Germ cells transplantation. 7. Fertility restoration. 8. Final remarks. "Introduction" should be imporoved, make it shorter, please. In introduction should be included critical statment about SSC and iPS cells derived from SSCs. Such as teratomas production and epigenetic marks. SSC stem cell niche in vivo, please include as well as, ref. Yoshida et al., 2007. Science 371, no 5845, pp. 1722-1726.



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## ESPS PEER-REVIEW REPORT

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	PubMed Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
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		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

### COMMENTS TO AUTHORS

World Journal of Stem Cells Spermatogonial Stem Cells: current advances in biotechnical applications in reproduction Apomnte PM The manuscript is a fairly complete review on in vitro culture and differentiation of spermatogonial stem cells. The subject is well introduced and both advantages and disadvantages are being discussed. The manuscript is however written in substandard English, both in grammar and in logic. This needs to be rigorously improved before the manuscript can be considered for publication. I strongly recommend having the manuscript read and corrected by a native English speaker. The lack of line numbers makes it difficult to point out individual errors but some examples (this is far from complete): -In the title: 'in reproduction' is redundant -In the Introduction: 'When awareness that SSC were capable to derive pluripotent stem cells...' Should most likely be something like: 'When is was discovered that pluripotent stem cell lines could be derived from SSCs..' -In the Introduction 'gene delivering faculties' should be something like: 'The facility/possibility of gene targeting...' -In the Introduction: 'several techniques are totally developed' should be something like: 'several efficient techniques have been developed'



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-In the Introduction: 'is currently in the eyes of the scientific community' should be something like 'should be investigated' or 'is currently being investigated'. - Many sentences are more or less meaningless, which makes the manuscript boring to read: Sentences like : 'Transgenesis involving SSCs would then be the next step, but culture conditions had to be first explored which actually became a breakthrough in SSC technologies' and 'The advent of mGS cell research has brought important efforts that allowed advances in the field' and 'Recently, new experiments have been done to try to settle the controversy' are meaningless and redundant. This manuscript needs to be completely edited for the English language before it can be considered for publication.