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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

ESPS manuscript NO: 12660

Title: Stem cell autotomy and niche interaction in different systems

Reviewer's code: 02446104

Reviewer's country: China

Science editor: Yue-Li Tian

Date sent for review: 2014-07-20 18:23

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google 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

In this paper, the authors discussed germline stem cell (GSC) autotomy and niche interaction. It is an interesting and good review, the whole article is well-organized. All sections are clearly written and provide necessary information for understanding what the author discussed. There are some minor issues that the author should address before its publication. 1. This review focused on the GCS autotomy and GCS-niche interaction. To this reviewer, the title of this article "Stem cell autotomy and niche interaction" is not specific. 2. In general, some sections of this article are somewhat lengthy (e.g., the abstract and the first part "Early observations on stem cell-niche relationship prior to the establishment of the stem cell-niche hypothesis). The authors are suggested to shorten the contents to make it more concise.



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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

ESPS manuscript NO: 12660

Title: Stem cell autotomy and niche interaction in different systems

Reviewer's code: 02446041

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Science editor: Yue-Li Tian

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" 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"/> Duplicate publication	
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade E: Poor	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
		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

Comment: The authors wrote a comprehensive review on a novel mechanism of insect germline undifferentiated cell development. Insects use this mechanism to maintain the autotomy of male germline stem cells (GSCs) through cell special communication of vesicle movement. This GSC autotomy may involve apoptotic pathways. Over all, it's well written, informative (from morphological tissue level to cellular level), massively-researched (156 references), and with insight. Addressing the following specific comments will enhance the cohesiveness, clarity, and logic flow. Specific comments: In the subtitle: "insect male germline stem cells" compared with "mammalian erythrocyte and thrombocyte formation and axonal autodestruction." The authors should fully illustrate the difference between germline (sperms) vs. somatic stem cells. The Abstract was not written as "Abstract" - but more like an introduction. It's far too long, too wordy. I'd suggest to trim it down, to be concise to the point. The title didn't completely reflect the content. Page 33: As the signaling pathways for mammalian stem cell self-renewal is well established, can the authors offer their insight about the comparison of the insect version with the mammalian version with schematic diagrams (add Figures)? I understand that the authors focus on the morphology of insect stem cell



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development as detailed with figures (schemes). Ideally, if placed side-by-side with morphological graphs, the reader can get a better understanding of the concept. An illustrative graph for governing GSC autotomy at the molecular level will sparkle new directions of research in the field, a specialty that is relatively behind mammalian and human stem cell research. Figure 1. A subheading should be used to describe the figure instead of jumping to panel a and panel b immediately. The isolated morphology of the cell clump can't convince me that's GSCs as any cell culture may look like that. Ideally, a schematic diagram of GSC location may be applied (like Figure 2). Arrows should be used to point out what's GSC, CySC, AC. Figure 2a - "The limited light microscopical resolution caused some misinterpretation concerning the identity of cell types: the central apical cell (AC) (a) was considered to be a "germ cell" ("Keimzelle") with radial extensions. The germline stem cells (GSCs) were described as clumps of protoplasm with nuclei (c)." Besides the micrographic identification, can you elaborate any supporting data from biomarker studies? How could you define the GSCs? Any functional assay beside morphology? Figure 2. You use the figure, but you didn't explicitly write down what the abbreviations in the figure mean - write out or cross them out. Otherwise, it confuses the reader. Figure 2. An developmental description should be used to illustrate the relationship of these cell types (You'd state such is in Figure 3 - better flow of logic). It'll flow better if you switch Figure 1 with Figure 2 - from schematic to experimental. Figure 3. All those colors (red, pink, green, yellow, black and orange,) mean anything at all? Figure 4. A list of all abbreviations should be used as grouped under the figure legend, a location that is easily identified for readers. Figure 5. A figure subtitle should be used. What's the inset (IS, *) drawing from? Figure 5b - "Numerous autotomized GSC projections protrude deeply into the AC (large arrows). Some of the segregated vesicles were apparently taken up by the AC and are being digested (arrow heads)." Where is GSC and AC, respectively? Figure 6. Can you adopt the color scheme with words like Figure 9 (directly write on the scheme instead the reader needs to look for them in the text)? Figure 8. The color graphs are confusing: PH, PC, EB - all look the same (with the same color usage). Page 35: A section entitled "Conclusive remarks" will be appreciated, a summary that the reader look forward to getting