

ESPS Peer-review Report

Name of Journal: World Journal of Stem Cells

Ms: 2791

Title: Engineering Stem Cell Niches in Bioreactors

Reviewer code: 02446138

Science editor: h.h.zhai@wjgnet.com

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CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> [Y] Accept
<input type="checkbox"/> [Y] Grade B (Very good)	<input type="checkbox"/> [Y] Grade B: minor language polishing	<input type="checkbox"/> [] Existed	<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"/> [] No records	<input type="checkbox"/> [] Rejection
<input type="checkbox"/> [] Grade D (Fair)	<input type="checkbox"/> [] Grade D: rejected	<input type="checkbox"/> [] Existed	<input type="checkbox"/> [] Minor revision
<input type="checkbox"/> [] Grade E (Poor)		<input type="checkbox"/> [] No records	<input type="checkbox"/> [] Major revision

COMMENTS

COMMENTS TO AUTHORS:

Genral comments: The paper entitled "Engineering Stem Cell Niches in Bioreactors" by Liu et al. is well written and gives a nice overview of current bioreactor systems used for the cultivation and differentiation of stem cells. Specific comments: - On page 6 the subheading "Control oxygen tension in bioreactors" should be corrected to "control of oxygen tension in bioreactors". - In the section "Microfluidic devices and microbioreactors" on page 12 a system that has proven to be useful in the differentiation of many stem cells should be incorporated: Altmann et al., Chip-based tissue-engineering in microbioreactors, In: Methods in Bioreengineering, 3D-Tissue Engineering, Berthiaume & Morgan (eds), 2010. This paper shows that by the use of an actively perfused bioreactor the differentiation of retinal stem cells does not result in apoptosis as observed in the reference system. The system is also described in more detail in Rieke et al., "Tissue reconstruction in 3D-spheroids from rodent retina in a motion-free, bioreactor-based microstructure", Lab Chip, 2008, 8, 2206-2213.