

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 47333

Title: Genomic integrity of human induced pluripotent stem cells: Reprogramming, differentiation and applications

Reviewer's code: 02937551

Reviewer's country: China

Science editor: Jia-Ping Yan

Reviewer accepted review: 2019-04-24 02:31

Reviewer performed review: 2019-04-30 03:07

Review time: 6 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input checked="" type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The paper by Steichen et al describes the type of genomic abnormalities observed in hiPSCs, the impact of reprogramming parameters and differentiation protocols on the maintenance of the cellular genomic integrity, and the impact of genomic alterations on



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the possible usages of hiPSCs and their derivatives. The review is strongly recommended for publication.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 47333

Title: Genomic integrity of human induced pluripotent stem cells: Reprogramming, differentiation and applications

Reviewer's code: 00546602

Reviewer's country: Australia

Science editor: Jia-Ping Yan

Reviewer accepted review: 2019-04-25 23:41

Reviewer performed review: 2019-05-14 06:51

Review time: 18 Days and 7 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input checked="" type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This manuscript, 'The genomic integrity of human induced pluripotent stem cells (hiPSCs): from reprogramming to differentiation and its subsequent impact for hiPSC-based cell therapy' describes in a concise manner, the problems arising with iPSCs



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being prone to genetic instability and being linked to tumorigenicity, and discusses the quality control methods implemented to enforce hiPSC genomic integrity. It summarises aptly the latest developments in the field covering all aspects that were not very clear in literature before, particularly comparing data with human embryonic stem cells used as gold standard. The literature is critically analysed and is up-to-date and inferences drawn are reasonable. Highlights from this review will go a long way to assist in optimising protocols and developing therapy with these cells down the track. Strong point: The genomic integrity quality control for hiPSCs and complexities associated with predicting the subsequent impact of genomic abnormalities are very well written and covers all aspects. In terms of their own liver therapy experiment, the authors have not clearly outlined the reason behind no CNV being triggered using their in-house differentiation protocol. The review would be stronger if the authors a) Elaborate why and how no de novo CNV were triggered? b) Account for CNVs acquired during natural selection. I have no hesitation in recommending this review for publication with minor changes.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication



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[] Plagiarism

[Y] No