PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 46652

Title: Using transcription factors for direct reprogramming of neurons in vitro

Reviewer's code: 02446253

Reviewer's country: Italy

Science editor: Jia-Ping Yan

Reviewer accepted review: 2019-04-01 09:07

Reviewer performed review: 2019-04-11 07:42

Review time: 9 Days and 22 Hours

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[ ] Grade E: Do not publish		[ ] Rejection	[ ] Advanced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

SPECIFIC COMMENTS TO AUTHORS

The MS by El Wazan and Collaborators is well written and conveys useful and timely informations. I would suggest to add some figures or diagrams to better illustrate some of the key issues described, e.g. specification vs. differentiation factors, novel computational approaches, ecc.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

[   ] The same title

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[Y] No

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		[ ] Rejection	[ ] General
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			[Y] No

SPECIFIC COMMENTS TO AUTHORS

This review is worth publishing because of the importance of the aim: transcription factors that promote direct reprogramming of specific neuronal subtypes with particular focus on glutamatergic, GABAergic, dopaminergic, sensory and retinal neurons. Furthermore, we will discuss the potential. Furthermore, the manuscript is written well.

Accept

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SPECIFIC COMMENTS TO AUTHORS

This is a nice written review paper about current models used for the reprogramming of neurons. Authors have clearly described the basic mechanisms of neural lineage regulation and transcription factors required for the different neural specifications. Review is well written, and can be easily understood by general reader. The method of

computational predictions seems to be a promising approach for the neuron reprogramming. As suggestion for further improvement, I propose that Author provide a small paragraph about clinical perspectives of neuron reprogramming and challenges for clinical application of this method.

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[Y] No