

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 45091

Title: Using induced pluripotent stem cells to explore the role of mitochondrial dysfunction in Alzheimer's disease

Reviewer's code: 03773730

Reviewer's country: China

Science editor: Ying Dou

Date sent for review: 2019-01-16

Date reviewed: 2019-01-16

Review time: 4 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" 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 checked="" 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 author of this manuscript attempted to review the current cellular pathophysiology of neurodegeneration in AD and as potential platforms from drug discovery, and focus on the specific role of mitochondrial dysfunction AD. However, at present, there are still



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some concerns need to be carefully addressed before acceptance, the comments are as follow: Major concern: 1. I think the topic of this manuscript should be mainly focused on iPSC-based mitochondrial dysfunction in AD, while, from this manuscript, there are 6 pages of words describing the mechanism of AD progression, but only less than 5 pages were used to review the iPSC-based AD research, so, I think the author should make a little bit deduction of words that been used in the initial pages so that give you enough space to describe the development of iPSC-based AD research. 2. From table 1, the author only summarized the findings that reference shown, however, the comparison, or advantage and disadvantage of these different references summarize will be benefit for the readers and will give them new directions or avenues for further research. Moreover, I think you can address the different protocols generated neurons for the AD research may have some differences, in other words, human neurons generated from different groups may vary, so, some of the phenotype of the neurons may vary, which may lead to different mechanism investigation have some difference. Please mention them in the table. 3. Brain organoid have already developed by some research groups, and the author have already show some references that organoid been used for the research, I think the author should separate them as individual part so that you can highlight them the difference between iPSC-derived neurons and brain organoid based mechanism investigation. 4. As you may know, the toxicity of tau can be replicated by recombinant pre-formed fibrils, I think you can summarize them with iPSC-derived neurons or brain organoid so that expand the view of current iPSC-based AD research. 5. The author should provide clear mechanism of neuron death in AD, although the author have mentioned that there are two mainly pathway, amyloid and mitochondrial cascade, I think the best way is the figure that you can use to clearly show the potential pathway, the upstream and downstream, the mediators, and the potential result of different pathways, and then omit some words for the iPSC-derived neurons development

description. Minor concern: 1. From the abstract, I think the author omit some words which belong to the introduction part but not fit for the abstract, the abstract should be briefly summarized that iPSC-based AD mechanism research. 2. The author should mention some advantages and disadvantages of iPSC-based AD research and non-iPSC-based AD research, so that give some information to readers to make a decision to choose the ideal model or tools for their research.

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: 45091

Title: Using induced pluripotent stem cells to explore the role of mitochondrial dysfunction in Alzheimer's disease

Reviewer's code: 03370303

Reviewer's country: Japan

Science editor: Ying Dou

Date sent for review: 2019-01-16

Date reviewed: 2019-01-20

Review time: 13 Hours, 3 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input checked="" type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input checked="" type="checkbox"/> Accept	Peer-Review:
<input 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
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publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" 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 review is excellent, compactly summarizing the current understanding of the etiology of AD and the efforts and trials for iPSC-based drug discovery for the treatment of AD. This review will contribute to deepening our understanding of the significance of



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iPSCs to uncover the pathophysiology of diseases of unknown etiology.

INITIAL REVIEW OF THE MANUSCRIPT

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- ☐ No

BPG Search:

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- ☐ Plagiarism
- ☐ No