

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Stem Cells*

**Manuscript NO:** 82702

**Title:** Human pluripotent stem cell-derived extracellular vesicles: From now to the future

**Provenance and peer review:** Invited manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05402718

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Assistant Professor, Research Associate

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Brazil

**Manuscript submission date:** 2022-12-26

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-12-28 00:32

**Reviewer performed review:** 2023-01-01 03:14

**Review time:** 4 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation

<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

Bruno et al. highlight the incipient status of the studies in the significance of hPSC-EVs prospective applications as PSC-derived cell-free therapy products. It is interesting, but there are some comments for the authors. 1. "There are several advantages to using EVs instead of stem cells", I suggest authors provide some practical examples. More details should be performed to investigate the important differences. Discussion should be further improved. 2. "Despite the high potential of MSC-derived EVs (MSC-EVs), several factors limit their use", what limits the applications of MSC-EVs? What is the purpose of the review. 3. "Figure 1. Overview of studies on hPSC-EV published between 2015 and 2022." I suggest listed published between 2012 and 2022. 4. MSC-EVs should be presented more contents. 5. The differences of hESC-, hiPSC-, and hMSC-EXOs should be presented. 6. "EVs generated from KO cells" should have the CRISPR/Cas9 description.

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**Reviewer's code:** 02937551

**Position:** Editorial Board

**Academic degree:** PhD

**Professional title:** Professor, Research Fellow

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Brazil

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**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2023-01-10 13:59

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
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	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

The title of this review is very attractive, but the text is relatively simple and needs to be supplemented. 1. In the INTRODUCTION section, there is almost no introduction to hPSC and hPSC-EVs. In addition, paragraphs 2 and 3 may be deleted. 2. In the second part, "HUMAN PLURIPOTENT STEM CELLS-DERIVED EXCELLELLAR VESICLES", it is suggested to add three subtitles, focusing on the separation and identification of EVs, the applications and mechanisms of disease treatment, and adjust and supplement the relevant contents.