

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02446277

Reviewer's country: Romania

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-26 07:19

Reviewer performed review: 2019-02-27 09:21

Review time: 1 Day and 2 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 type="checkbox"/> Grade B: Very good	<input checked="" 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 checked="" type="checkbox"/> Minor revision	topic of the manuscript:
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

The manuscript "Effect of Aging on Behaviour of Mesenchymal Stem Cells", is a useful presentation of factors that influence the aging of MSC cells, important in the application of MSC based regenerative therapies. The manuscript shows that the age of MSC harvested from young tissues like umbilical cord differ to those isolated from adult bone

marrow, and presents a series of markers that can differentiate MSC age. There are presented also a series of treatments with compounds such as vitamin C, curcumin or quercetin that can reverse this senescence. Subsequently, the authors present a series of mechanisms that induce cellular senescence. However, two of the subtitles, namely “Mesenchymal stem cells and mitochondrial stress” and “Mesenchymal stem cells and autophagy” are not very clearly presented. A systematization of the factors that influence these processes would be useful. On the other hand the last part “Mesenchymal stem cell-derived extracellular vesicles” is very nice and clear presented. Additional comments: 1. Unclear phrase: “MSCs are easily isolated and amenable to culture expansion in vitro because of the natural desire to test MSCs in many diverse clinical indications, which are exemplified by the rapidly expanding literature base that includes many in vivo animal models.” 2. Minor spelling mistakes: “Non-coding like miR-1292” should be “non-coding RNA like miR-1292”, the RNA is missing; “nhibition” (page 13); “containeing” (page 13).

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

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

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism



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[Y] No

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02728252

Reviewer's country: Egypt

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-26 07:36

Reviewer performed review: 2019-02-27 10:50

Review time: 1 Day and 3 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 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

1. The title is not consistent with the content of the manuscript as the context focused mainly on the mechanisms that induce stem cells cellular senescence, please modify the title? 2. Where is the core tip? 3. Minor English language editing is required as there are certain typos and errors as the sentence "has also been also linked to mitochondrial



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fission and fusion events" in the introduction section. 4. Figure legends should be positioned at the bottom not at the top of the images.

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: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02446101

Reviewer's country: China

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-27 12:10

Reviewer performed review: 2019-02-27 12:38

Review time: 1 Hour

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 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 type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input checked="" 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

In this manuscript, the authors reviewed the biological features in the literature on MSC senescence over the last three years. The content of this manuscript is systematic and comprehensive. It can reflect the main progress of this research direction. The thesis is well written with clear hierarchy, clear logic and prominent emphasis. It could provide



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some references to the readers. However, there're still some issues which should be addressed. 1. Telomerase and cell senescence are closely related. So, the author should discuss this topic and add the relevant content. 2. The authors should compare young and old stem cells to identify the major differences (shape, function, characteristic expression of molecules, etc.) So, major revision should be recommended for this manuscript.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ [Y] No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ [Y] No

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02446319

Reviewer's country: South Korea

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-27 05:55

Reviewer performed review: 2019-03-03 10:21

Review time: 4 Days and 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 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 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

Thank you for your great manuscript about aging on behavior of mesenchymal stem cells. It's very interesting and very valuable to readers.

INITIAL REVIEW OF THE MANUSCRIPT



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Google Search:

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- ☐ No

BPG Search:

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

PEER-REVIEW REPORT

Name of journal: World Journal of Stem Cells

Manuscript NO: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 03370303

Reviewer's country: Japan

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-26 02:08

Reviewer performed review: 2019-03-04 04:35

Review time: 6 Days and 2 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 type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input 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 type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This review is excellent, compactly summarizing a large volume of valuable information regarding the mechanism of senescence as well as possible rejuvenation of MSCs. I believe this review will contribute to promoting the development of MSC- or MSC-EV-mediated regenerative medicine. Minor concerns: 1) In page 13, line 21 the



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word "nhibition" should be corrected as "inhibition". 2) In page 13, line 24 the word "containeing" should be corrected as "containing".

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: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02446114

Reviewer's country: Taiwan

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-26 01:10

Reviewer performed review: 2019-03-05 03:22

Review time: 7 Days and 2 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 type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input 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 type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This manuscript entitled "Effect of Aging on Behaviour Mesenchymal Stem Cells Effect of Aging on Behaviour Mesenchymal Stem Cells" is a review paper to discuss the aging behavior of mesenchymal stem cells (MSCs). Authors make an in-depth discussion of MSC aging including cell senescence, autophagy, mitochondrial stress and exosomal



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activity. This review paper is interesting and would attract the readers in the stem cell field.

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: 46685

Title: Effect of aging on behaviour of mesenchymal stem cells

Reviewer's code: 02445899

Reviewer's country: United Kingdom

Science editor: Fang-Fang Ji

Reviewer accepted review: 2019-02-26 10:23

Reviewer performed review: 2019-03-05 11:15

Review time: 7 Days

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 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 type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input checked="" 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 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

Thank you for the opportunity to review the manuscript by Fafian-Labora et al. On the whole the manuscript is somewhat unstructured and rambling. The manuscript requires restructuring & clear delineation of animal and human studies. Figure 1 adds little or nothing to the paper and should be removed. A table summarising the review's



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finding would be beneficial, should the revised manuscript be re-submitted or submitted elsewhere. On a more positive note this review is wide-ranging in its content and well referenced throughout: a notable omission is the work by Brohlin et al. (PLoS One. 2012;7(9):e45052. doi: 10.1371/journal.pone.0045052. Epub 2012 Sep 17) on human MSC-induced neurite outgrowth. All references are appropriate and present in both the text and reference list.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

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

BPG Search:

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