

PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

Manuscript NO: 39241

Title: NBCe1 Na⁺-HCO₃⁻ cotransporter ablation causes reduced apoptosis following cardiac ischemia-reperfusion injury in vivo

Reviewer's code: 01204088

Reviewer's country: Japan

Science editor: Fang-Fang Ji

Date sent for review: 2018-05-03

Date reviewed: 2018-05-09

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 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 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

Vairamani et al. investigated the hypothesis that cardiomyocyte-specific loss of the electrogenic NBCe1 Na⁺-HCO₃⁻ cotransporter is cardioprotective during in vivo ischemia-reperfusion (I/R) injury, and concluded that cardiac-specific loss of NBCe1



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does not impair cardiovascular performance, causes only minimal changes in gene expression patterns, and protects against I/R injury in vivo. This study is interesting, and I only have several comments. Figure 2B and Figure 4 B. Because this model is cardiomyocyte-specific conditional NBCe1 KO mice, showing the relative expression of Slc4a4 and TUNEL Positive Cells in heterozygote (flx/+)mice will be appreciated Figure 3. How about the cardiovascular performance in WT and KO mice after I/R injury?

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 Cardiology

Manuscript NO: 39241

Title: NBCe1 Na⁺-HCO₃⁻ cotransporter ablation causes reduced apoptosis following cardiac ischemia-reperfusion injury in vivo

Reviewer's code: 03650274

Reviewer's country: Italy

Science editor: Fang-Fang Ji

Date sent for review: 2018-05-03

Date reviewed: 2018-05-25

Review time: 21 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input checked="" 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 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 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 article is very interesting and apparently well-performed. I would suggest authors to study also cardiac necrosis in parallel to apoptosis. TTC staining of infarcted hearts and serum troponin have to assessed.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

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- ☐ [Y] No

BPG Search:

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- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ [Y] No

PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

Manuscript NO: 39241

Title: NBCe1 Na⁺-HCO₃⁻ cotransporter ablation causes reduced apoptosis following cardiac ischemia-reperfusion injury in vivo

Reviewer's code: 00503243

Reviewer's country: Italy

Science editor: Fang-Fang Ji

Date sent for review: 2018-05-18

Date reviewed: 2018-05-26

Review time: 8 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 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 is an excellent manuscript on a relevant topic as the consequences of NBCe1 bNa⁺-HCO₃⁻ Cotransporter ablation. In particular the authors generated a NBCe1 KO mice that were compared with wild type strain evaluating the effects of cardiac



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ischemia-reperfusion injury. The manuscript is well written, materials and methods are clear, statistical analysis is correct as well as results and discussion

INITIAL REVIEW OF THE MANUSCRIPT

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- ☐ [Y] No

BPG Search:

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- ☐ [Y] No

PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

Manuscript NO: 39241

Title: NBCe1 Na⁺-HCO₃⁻ cotransporter ablation causes reduced apoptosis following cardiac ischemia-reperfusion injury in vivo

Reviewer's code: 00227375

Reviewer's country: Japan

Science editor: Fang-Fang Ji

Date sent for review: 2018-05-25

Date reviewed: 2018-05-29

Review time: 4 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:
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			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This is an interesting manuscript about the association between genetic ablation of NBCe1 and cardio-protective effects for ischemia-reperfusion injury using an NBCe1 knockout mouse model. Loss of NBCe1 didn't impair cardiovascular performance



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under basal conditions or in response to β -adrenergic stimulation. As for gene expression patterns, it caused only limited changes. In addition, loss of NBCe1 reduced apoptosis following ischemia-reperfusion injury. The authors have demonstrated that partial inhibition of NBCe1 might be acceptable as a cardio-protective treatment strategy for ischemia-reperfusion injury. This manuscript is nicely structured and well written. I have one minor comment about this manuscript. Please consider the following comments. (Comments) Page 14, lines 11 and 14 Correct "Figure 2" to "Figure 3".

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- ☐ No