

## PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 32635

**Title:** Salvianolic acid B protected hepatocytes from H<sub>2</sub>O<sub>2</sub> injury by stabilizing lysosomal membrane

**Reviewer's code:** 02822428

**Reviewer's country:** Spain

**Science editor:** Yuan Qi

**Date sent for review:** 2017-01-19

**Date reviewed:** 2017-02-02

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good	<input checked="" type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

The paper is very interesting but needs to be edited for language. It contains numerous grammar mistakes. Moreover, whereas the authors target the effect of Sal B on the protection of the integrity of the lysosomal membrane by upregulating the expression of LAMP1, via reduction of cathepsin B/D leakage into the cytosol, and protectes hepatocytes from apoptosis. However, the validation of these interesting results in vitro should be performed either in vivo or with clinical samples.

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**Manuscript NO:** 32635

**Title:** Salvianolic acid B protected hepatocytes from H<sub>2</sub>O<sub>2</sub> injury by stabilizing lysosomal membrane

**Reviewer's code:** 03357364

**Reviewer's country:** United States

**Science editor:** Yuan Qi

**Date sent for review:** 2017-01-19

**Date reviewed:** 2017-02-03

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

The authors used H<sub>2</sub>O<sub>2</sub> to treat a mouse embryonic hepatocyte. On top of that, the authors studied whether there is any protective effectiveness of Salvianolic acid B. Several pathways have been checked, including apoptosis, protein carbonyl content, ROS and lysosome membrane, ect. The hard work is appreciated. However, the review has several major concerns: 1) What is the innovation? That Salvianolic acid B can protect H<sub>2</sub>O<sub>2</sub>-induced cytotoxicity has been reported several times, such as PMID 24780446, PMID 25855584, ect. 2) The mechanisms involved in this protection are various, involving multiple pathways. How could the authors draw the conclusion that stabilizing lysosomal membrane is the major reason or the cause? The authors merely observed that there is a correlation between drug treatment and lysosomal membrane stabilizing. But correlation obviously doesn't mean cause. The loss of lysosomal membrane permeability and/or the LMP and CatB/D Leakage could be a result of other mechanisms. The author need to find a specific drug to destroy lysosome membrane and

perform experiments with this drug. 3) The experiments are only based on one cell line and there is no in vivo data. It is recommended to extend this study to include various cell lines. It is also recommended to include in vivo ROS models. Especially it is interesting to know that Guo et al. reported that Salvianolic acid B increase ROS levels in some human cells (PMID: 28000873). Other minors: 1) Salvianolic acid B is an important drug in the Traditional Chinese Medicine. It is recommended to introduce the background of Traditional Chinese medicine in treating liver diseases. References such as PMID 26006028, PMID 25292339 should be cited. 2) After Fig. 2, there is no mention about the concentration of SAB that is used. Are they all 10 $\mu$ M? Also, the authors need to explain why this concentration is used. 3) Discussion is out of focus. From the reviewer's perspective, there is no discussion. Most of the current Discussion content can be put into the Introduction. And the others are merely repeat the results.

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**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 32635

**Title:** Salvianolic acid B protected hepatocytes from H<sub>2</sub>O<sub>2</sub> injury by stabilizing lysosomal membrane

**Reviewer's code:** 03670810

**Reviewer's country:** United States

**Science editor:** Yuan Qi

**Date sent for review:** 2017-01-19

**Date reviewed:** 2017-02-07

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input type="checkbox"/> Plagiarism	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Major revision
		BPG Search:	
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

In this contribution, the authors tried to demonstrate that the compound Sal B upregulated the expression of LAMP1, thereby protecting the integrity of the lysosomal membrane through reduced cathepsin B/D leakage into the cytosol. The authors show that this had a protective effect on hepatocytes. The study in this respect is interesting however revision is needed before publication. Please address the following questions and comments: 1) The main concern is the novelty of the use of Sal B instead of NAC. Hornick JR et al (J Exp Clin Cancer Res. 2012 May 2; 31:41. doi: 10.1186/1756-9966-31-41) have reported involvement of LMP and oxidative stress which is protected from by NAC. How the findings regarding Sal B (in light of the findings involving NAC) are novel should be explained. The experimental details/set up are not clear and more information needs to be added to materials and methods/legends. 2) Figure 1B shows that 5  $\mu$ M of Sal B is sufficient to reverse the effect of H<sub>2</sub>O<sub>2</sub> on cell viability and that concentrations > 5  $\mu$ M don't result in a further increase in cell viability. In light of this,

it is unclear why 10  $\mu$ M (and not 5  $\mu$ M) Sal B was used for subsequent experiments. 3) In figure 1B, duration of H<sub>2</sub>O<sub>2</sub> treatment is 2 hours, whereas in Figure 2, the duration is 8 hours. The reason for these different time periods of treatment is unclear. 4) Based on the above discrepancies, it is unclear how long the cells were treated with H<sub>2</sub>O<sub>2</sub> for subsequent experiments such as Figure 3, 4 and so on. Other comments: 5) The last two sentences in the section titled "Sal B Protects the Lysosome Membrane" state "The intensity of green fluorescence gradually decreased with the increasing duration of H<sub>2</sub>O<sub>2</sub> treatment. The fluorescent intensity increased with the Sal B pretreatment. NAC used here as a positive antioxidant and showed similar result as Sal B (Fig 4D-E)". Figures 4D-E don't show any data pertaining to different durations of H<sub>2</sub>O<sub>2</sub> treatment. 6) The discussion is too brief. As mentioned in Point 1, novelty of the study compared to state of the art findings of NAC should be described. Applications of the results should be discussed, for eg. Therapeutics, etc. What advantages Sal B has over NAC, if any should be mentioned. 7) For a better relevance to application, it would be useful to include some results from human hepatocytes since most cells and models show variability between species.