

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

ESPS manuscript NO: 30852

Title: Sodium selenite ameliorates the development of dextran sulfate sodium-induced chronic colitis in mice by decreasing Th1, Th17, and $\gamma\delta$ T and increasing CD4(+)CD25(+)regulatory T-cell responses

Reviewer's code: 01434943

Reviewer's country: Australia

Science editor: Ze-Mao Gong

Date sent for review: 2016-10-21 08:35

Date reviewed: 2016-10-21 13:04

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> [Y] Accept
<input checked="" 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 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 checked="" type="checkbox"/> [Y] No	<input type="checkbox"/> [] Minor revision
<input type="checkbox"/> Grade E: Poor		BPG Search:	<input type="checkbox"/> [] Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> [Y] No	

COMMENTS TO AUTHORS

This is an immunological study of selenite and its capacity to ameliorate DSS-colitis in mice. The statistical power (n=10 mice/group). **ABSTRACT:** Aim: 'the protective effects' is a little presumptive. It implies that a protective effect was assumed before the start of the study. **Methods:** Very brief. How were the various end points (cytokines etc) 'measured'? **Results:** Add p-values at least. **INTRODUCTION:** An excellent summation of the field and where the selenite intervention fits in. Suggest deleting final sentence. **METHODS:** Include numbers of mice/group. Myeloperoxidase levels would be useful as a marker of neutrophil activation. Otherwise analyses are appropriate and well described. **RESULTS and tables/figures:** Well described and presented. Figure 1C is unclear - suggest making larger or else, deleting it. **DISCUSSION:** A solid discussion of the work.

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Title: Sodium selenite ameliorates the development of dextran sulfate sodium-induced chronic colitis in mice by decreasing Th1, Th17, and $\gamma\delta$ T and increasing CD4(+)CD25(+)regulatory T-cell responses

Reviewer's code: 03254039

Reviewer's country: Japan

Science editor: Ze-Mao Gong

Date sent for review: 2016-10-21 08:35

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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
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<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 authors examined the effect of selenium in a murine DSS-induced colitis model. They showed that treatment with sodium selenite ameliorated the severity of colitis, with the concomitant suppression of various proinflammatory cytokine levels and increase in IL-10. They also demonstrated that Th1 and Th17 subsets were decreased and Treg cells were increased by sodium selenite treatment. Based on these results, the authors conclude that sodium selenite may be useful in IBD. Although various parameters are analyzed and the some results have interesting points, this study is phenomenological and no robust cause-to-effect relations are established. Thus, there are several points that should be addressed before publishing. Major comments 1. How do the authors detect the dosage of sodium selenite (2 $\mu\text{g/g}$ body weight)? Please explain why this dosage selected in this study. 2. The authors indicate that sodium selenite alleviates the DSS-induced colitis due to the induction of Tregs. In figure 4 and 5, the number of CD4+CD25+ T cells and CD4+IL-10+ T cells in Se+Chronic DSS colitis group are higher than those in Chronic DSS colitis, however Treg number



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in Se group is similar to Control group. Why sodium selenite does not affect the population of Treg cells in the normal colonic lamina propria? Furthermore, there is no direct evidence that sodium selenite induces the Tregs. The authors should show how sodium selenite increases the population of Treg cells in the colonic mucosa. For example, the effect of sodium selenite on the differentiation of Treg cells in vitro experiment supports their conclusions. 3. In the manuscript, line 213, the mRNA expression of IL-6 is described, but figure 3 is missing IL-6 data. Furthermore, in line 216, the expression of IL-22 and IL-23 were not difference between Chronic DSS colitis and Se+Chronic DSS colitis group, however IL-23 mRNA expression is decreased in Se colitis group. Please describe correctly. Minor comments 1. Line 236, the description of neutrophil and macrophages are same (CD11b+Gr1+F4/80-). Please correct.