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## PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 36608

Title: The Effect of Lactobacillus Rhamnosus GG Supernatant on Serotonin Transporter

Expression in Rats with Post-Infectious Irritable Bowel Syndrome

Reviewer's code: 01047616 Reviewer's country: Taiwan Science editor: Ze-Mao Gong Date sent for review: 2017-11-15

**Date reviewed:** 2017-11-17

Review time: 1 Day

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	Google Search:	[ ] Accept
[ ] Grade B: Very good	[ ] Grade B: Minor language	[ ] The same title	[ ] High priority for
[ Y] Grade C: Good	polishing	[ ] Duplicate publication	publication
[ ] Grade D: Fair	[Y] Grade C: A great deal of	[ ] Plagiarism	[ ] Rejection
[ ] Grade E: Poor	language polishing	[Y]No	[ ] Minor revision
	[ ] Grade D: Rejected	BPG Search:	[ Y] Major revision
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y]No	

## **COMMENTS TO AUTHORS**

The authors investigated whether peroral aministration of a probiotic (Lactobacillus Rhamnosus GG) supernatant may modulate the intestinal levels of SERT by using a post-infectious IBS rat model. The study aim is straight-forward and the experimental design is clear. The conclusion is supported by the results. However, a number of concerns regarding the analysis methods and interpretation of data to pathological significance of IBS are listed below. Major points: 1. Regarding the establishment of a PI-IBS model using male SD rats, the timing and age of the rats to conduct AWR for evaluation of visceral hypersensitivity is unclear. The authors stated that PI-IBS phase is determined after two negative tests of Campylobacter, does it mean that the AWR tests of each mice were conducted at different ages? If so, a better stratification of the parameters such as Bristol Stool, intestinal transit rate, and AWR has to be shown



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according to the ages. Or a table of the number of animals used at different ages should be shown. Moreover, the N number of animals used must be added at the end of the figure legend of each figure. 2. The introduction section has stated clinical finding that reported a decrease of SERT levels in intestinal tissues of IBS-D and PI-IBS patients. However, experimental models of SERT-KO mice have demonstrated that visceral hypersensitivity is present only in female but not male mice, suggesting male mice are not sensitive to SERT levels to show 5-HT-associated pain (Galligan JJ et al., Neurogastroenterol Motil 2013). Please discuss the gender issue in the discussion section. More references will be needed in support of the validity of the use of male animals for PI-IBS study (Ibeakanma C et al., Gastro 2011; Hsu LT et al., J Gastro Hepatol 2016). The use of undiluted, double-diluted, and triple-diluted LGG supernatant did not result in a dose-response of the expression of SERT, supposedly the undiluted supernatant with the highest concentration should stimulate highest expression of SERT as in the previous normal mouse model by the author (2015). The authors should provide their speculation in the discussion section, rather than stating information unrelated to their data in the discussion. Moreover, it is not surprising that SERT level was increased in the rat model. Have the authors looked at the SERT levels in control rats (similar to control mice data)? The important issue is that whether LGG supernant relieve pain in the PI-IBS model by Campylobacter infection. The AWR after LGG supernatant must be shown to validate the functional significance of SERT with IBS pain. Minor points: 1. There is no line numbers or page numbers in the manuscript. 2. The figure numbers stated in the result text should be at the end of the paragraph, but not at the title.



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Reviewer's code: 028218 Reviewer's country: Algeria Science editor: Ze-Mao Gong Date sent for review: 2017-11-15

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**Review time:** 9 Days

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	[ ] Grade D: Rejected	BPG Search:	[ ] Major revision
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[ Y ] No	

## **COMMENTS TO AUTHORS**

Very interesting work. The authors indicate in their model using Campylobacter jejuni 81-176 (BAA-2151, thatLGG-s could up-regulate SERT mRNA and SERT-P levels in rat intestinal tissues and has no influence in rat brain tissues. The paper is correctly presented. in section Materiel and Method, the authors must explain the control model used in once sentence The section Discussion is well written and very interesting. the authors clearly report that Immune activation of the gut mucosa plays a critical role in EC cell hyperplasia and reduced SERT activity in PI-IBS . I suggest a minor revision