July 16, 2015

Dear Editor,

Thank you for giving us the opportunity to revise our manuscript. We appreciate the encouragement and the constructive comments from the reviewers. We have revised our manuscript carefully, following the comments and suggestions. The revised sentences are marked in red in the revised manuscript. The detailed revisions are given in our Point-by-Point Response. We are now submitting the revised manuscript. We hope our revisions meet the approval of the reviewers. Please contact us if you have any questions. We look forward to hearing from you.

Thank you for your help.

Please find enclosed the edited manuscript in Word format (file name:20486-review).

Title: Dimethyl sulfoxide inhibits zymosan-induced intestinal inflammation and barrier dysfunction

Author: Yu-Meng Li, Hai-Bin Wang, Jin-Guang Zheng, Xiao-Dong Bai, Zeng-Kai Zhao, Jing-Yuan Li, Sen Hu

Name of Journal: World Journal of Gastroenterology

ESPS Manuscript NO: 20486

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated

2 Revision has been made according to the suggestions of the reviewer

(1). In Material and methods by description of Animal grouping and treatment (p. 5) it is not clear how many animals were included at the initial point of study.

In total, there are 12 subgroups , because there are four groups, and each group has three time points. Eight samples were needed from each subgroup. According to the model of a 50% mortality rate at 24 h, each subgroup consisted of 16-20 rats.

(2). The description of ELISA for determination of TNF-alfa and IL-10 levels should be more detailed. It is not clear how was the small intestinal tissue proceeded for ELISA?

Intestine tissue (100 mg) in 1 ml phosphate-buffered saline (PBS) was homogenized at 4 ℃ with a Polytron homogenizer. After centrifugation at 2500g at 4 ℃ for 10 min, the supernatants were collected. TNF-a and IL-10 in the intestine supernatants was quantified with a commercial ELISA kit (Nanjing Jiancheng Corp., China) according to the manufacturer's instructions.

(3). By description of immunofluorescence method for evaluation of epithelial tight junction protein, ZO-1 it is necessary to mention using the negative control.

The negative control incubated with PBS instead of the ZO-1 antibody and other steps are same as above.

Also it is not clear how the authors scored the intensity of positive staining for ZO-1

in the examined sections.

We didn't score the intensity of positive staining for ZO-1 in the examined sections, and we just observe the amount of ZO-1 protein expression, and we didn't score the amount.

Also, how can be explained the immunofluorescence staining of some cells (lymphocytes? dendritic cells?) in Lamina propria of intestinal villus (Figure 8, B, D, H, I)?

The immunofluorescence staining of some cells (lymphocytes, dendritic cells) is false positive.

(4). The abbreviation of DAO appears for the first time in the Abstract and on the p. 6 (by description of Blood and intestinal samples), but it explanation is later, on p.8 (diamine oxidase).

We explain the abbreviation of DAO in the Abstract instead.

Also it would be correct to explain the abbreviation of SNK-q analysis by description of Statistical analysis on p. 9 (Student–Newman–Keuls (SNK)?

Yes, it is correct to explain the abbreviation of SNK-q analysis as Student–Newman–Keuls (SNK). It used for multiple sets of mean differences between the two comparison.

(5). In the Figure 5 Legend absent the identification of groups studied: SS, SD, ZS, and ZD.

We have inserted the identification of groups studied (SS, SD, ZS, and ZD) in the Figure 5.

3 References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Gastroenterology*.

Sincerely yours,

Sen Hu, MD, PhD,

Research Laboratory of Shock and Multiple Organ Dysfunction, Burns Institute, First Hospital Affiliated to the PLA General Hospital,

No.51 Fu Cheng Road, Beijing 100048, China.

Fax: +86-10-68989139

E-mail: bs0425@163.com