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PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology
Manuscript NO: 32840
Title: Treatment with Dimethyl Fumarate ameliorates
Reviewer's code: 03536727
Reviewer's country: United States
Science editor: Yuan Qi
Date sent for review: 2017-02-14
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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[ ] Grade A: Priority publishing	Google Search:	[ ] Accept
[Y] Grade B: Very good	[Y] Grade B: Minor language polishing	[ ] The same title	[ ] High priority for publication
[ ] Grade C: Good	[ ] Grade C: A great deal of language polishing	[ ] Duplicate publication	[ ] Rejection
[ ] Grade D: Fair	[ ] Grade D: Rejected	[ ] Plagiarism	[Y] Minor revision
[ ] Grade E: Poor		[Y] No	[ ] Major revision
		BPG Search:	
		[ ] The same title	
		[ ] Duplicate publication	
		[ ] Plagiarism	
		[Y] No	

COMMENTS TO AUTHORS

In this paper, Takasu et al have examined effects of Dimethyl Fumarate (DMF) on the liver ischemia/reperfusion injury (I/RI). DMF is a FDA-approved drug which is used for the treatments of Multiple Sclerosis. DMF did not show serious side effects in these trials. Using rat model of I/RI, the authors treated rats with DMF for 2 days before initiation of the protocol and then performed ischemia for 1 hour and reperfusion for 2 hours. They found that histological tissue damage was significantly reduced in rats pre-treated with DMF. This reduction correlated with lower levels of ALT in serum, improving ATP content and endothelial nitric oxide synthase levels. The authors also detected the higher expression of antioxidant enzymes and lower levels of inflammatory mediators. The authors conclude that DMF improves liver functions and anti-oxidant and inflammation status of the liver after I/RI. This is a very important work which will be of great interest for the readers of the World Journal of Gastroenterology. However, the paper needs revisions and improvements in the presentation of results. Comments. 1) The main weakness of the paper is the lack of images and measurements of

parameters in the control rats that are un-treated with I/RI. The images of livers of un-treated rats should be shown in Fig 1 (H&E and TUNEL staining). In Figs 2-4, levels of the parameters examined in I/RI treated rats should be compared with those in rats un-treated with I/RI. Without these data, it is not clear to what degree DMF corrects/protects liver biology and functions. 2) Figure 3 shows levels of several proteins by Western blotting. Although these data look convincing, it would be important to measure and include levels of corresponding mRNAs. 3) Presentation of experimental data in section "Results" is extremely brief and it is not sufficient. This section needs to be re-written with clear statements why this particular experiment was done and it should also include connections between different sections. 4) The legends to figures are very brief. Some details for the experiments in the legends would help readers to understand the data.