

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

ESPS manuscript NO: 17125

Title: Broccoli sprout extract induces detoxification-related gene expression and attenuates acute liver injury

Reviewer's code: 02505493

Reviewer's country: Greece

Science editor: Ya-Juan Ma

Date sent for review: 2015-02-22 20:06

Date reviewed: 2015-03-13 16:18

CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" 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 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"/> 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 m/s is aiming to investigate the effect of broccoli sprout extract on liver gene expression and acute liver injury in the rat. The work is interesting, original, especially in the experimental approach, the m/s is well organized, and the presentation of the results is quite explanatory. However, the m/s is based in very old literature, i.e., the newest reference is of 2013 (in methodology) and in addition there is only one of 2012 and only one of 2011, although there is a lot of work in this subject during the last years. Major comments: In a work published recently [Mol Nutr Food Res 2014; 58(10): 1991–2000] the authors have noted a decrease in weight gain in animal fed with broccoli extract – containing diet that might be resulted to the decreased food consumption due to the bitter flavor of broccoli extract or pure sulforaphane. In the present m/s, the authors show no difference (Table 8) and an increase (Table 9) of weight gain in the animals (control vs BSE), with no difference in food consumption. This controversy should be discussed. Moreover, the authors suggest that their findings support the daily consumption of broccoli sprout extract in order to protect the liver from various types of xenobiotic substances through induction of detoxification enzymes and glutathione



BAISHIDENG PUBLISHING GROUP INC

8226 Regency Drive, Pleasanton, CA 94588, USA

Telephone: +1-925-223-8242

Fax: +1-925-223-8243

E-mail: bpgoffice@wjgnet.com

<http://www.wjgnet.com>

synthesis. Actually, they don't use a brief extract, but an extract of boiled broccoli sprout, concentrated to contain high amounts of glucoraphanin. According to this, the authors should discuss their results with the results of other studies, not cited in the m/s, like that of Perocco et al. [Mutation Research 2006; 595 (1-2): 125-136] and that of Lai et al. [Food and chemical toxicology 2008; 46 (1): 195-202]. Minor comments: Do not use the abbreviation BSE, since it is used for Bovine spongiform encephalopathy. Final Decision: The manuscript cannot be accepted in this form. The authors must carefully read the literature, especially the newest one, correct accordingly both introduction and discussion sections, and resubmit their work for review process.

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

ESPS manuscript NO: 17125

Title: Broccoli sprout extract induces detoxification-related gene expression and attenuates acute liver injury

Reviewer's code: 00573188

Reviewer's country: Spain

Science editor: Ya-Juan Ma

Date sent for review: 2015-02-22 20:06

Date reviewed: 2015-03-16 20:16

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 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 manuscript describes the effects of broccoli sprout extract (BSE) supplementation on gene expression as compared to a control diet using microarrays and verification of relevant changes by real-time PCR. In the second part of the manuscript the authors analyze the putative protective effects of BSE using two models of acute liver damage. In these animal models biochemical parameters relevant for liver function are analyzed, which indicate BSE protection against acetaminophen-induced damage, but not so clearly against D-galactosamine intoxication. In my opinion, the paper includes interesting data, although the relationship between the information provided in the two parts of the manuscript should be better connected. Precisely, the first part of the document is devoted to expression changes, a parameter that is not explored in the two animal models used in the second part. Additionally, the second part of the manuscript lacks histological data that are key to claim the beneficial effects of BSE in liver injury. Finally, a need to translate the dose of BSE used into broccoli servings will clarify the feasibility of preventing drug liver injury through the diet. Abstract 1- acetaminophen is commonly abbreviated as APAP. 2- The regime used

for drug treatment is not clearly stated in the abstract. Precisely, when are the drugs administered and the via (i.p., s.c, etc.) through which they are provided should in my opinion be clearly stated. 3- Data regarding AST and ALT should be separated to make the text more comprehensible. 4- Although a significant reduction in AST and ALT values is observed by BSE administration in D-GalN intoxication, their levels are still far over normalcy, and far over those of BSE in APAP intoxication. Hence, I would suggest the authors to state this clearly already in the abstract. 5- No mention of effects on GSH levels in the D-GalN model is made and vice versa no mention to effects on GST activity in APAP intoxication is described. 6- The conclusion in my opinion should be changed, since the authors supply the diet with a broccoli sprout extract not with broccoli sprouts. Introduction 1- lines 78-81. In my opinion, the effects investigated are not of "BSE on APAP and D-GalN", but rather on the intoxication produced by those drugs. Materials and Methods 1- There is a typing error in the section title. 2- As stated in the Introduction, "several day-old broccoli sprouts have 15-fold more glucoraphanin than mature plants". Hence, wouldn't it be better to use broccoli sprouts more than 1-day old for preparation of the extract? If there is any problem in using older sprouts could you please justify that in the text? 3- Additionally, I would like to know the equivalence between the BSE dose administered and the amount of daily broccoli servings that a man of 70 kg would need to eat to reach that level of glucoraphanin. Is the equivalent dose reasonable or it means eating a very large amount of broccoli? 4- Table 1 states the diet composition, but it seems that knowledge about additional components of the BSE extract are lacking. These components (5.9%) include protein, and hence amino acids required for GSH synthesis. Have the authors any data concerning differences in these parameters that may require additional adjustments in the diet composition? 5- lines 117-119 state that freezing of the livers was carried out just by storage at -80oC. The tissue was not flash frozen in liquid nitrogen before storage? Was the quality of the RNA not affected by a "slower" freezing process? 6- lines 130-131. It seems that words are missing in this particular sentence. 7- Was the RNA used in real-time RT-PCR treated with DNase? 8- Greek letter are missing throughout the text. 9- Table 2. Rat gene symbols should use the standard nomenclature capitalizing only the first letter. Concentrations of the primers used in real-time RT-PCR should be included. 10- lines 157-159 indicate that APAP adminis