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ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology
ESPS manuscript NO: 18549
Title: Equol induces G0/G1 arrest and apoptosis in human gastric carcinoma cells via dephosphorylation of Akt at Thr450
Reviewer's code: 00039368
Reviewer's country: Estonia
Science editor: Ya-Juan Ma
Date sent for review: 2015-04-24 16:29
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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
[ ] Grade A: Excellent	[Y] Grade A: Priority publishing	Google Search:	[ ] Accept
[Y] Grade B: Very good	[ ] 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

This experimental study considers the investigation of the effects of equol, a metabolite of daidzein produced by gut bacteria, on gastric cancer cells proliferation, cell cycle arrest, apoptosis using human gastric cancer cells line and based on different methods, like cell viability assay, qPCR, western blotting, flow cytometry and immunofluorescence assay. The main finding of this study was that equol have the effective capacity to inhibit the proliferation of human gastric cancer MGC-803 cells, which was associated with cell cycle arrest at G0/G1 phase by regulating cell cycle regulators, such as CDK2/4, Cyclin D1/E1 and P21 WAF. The important finding was that equol induced apoptotic cell death of human gastric cancer cells. This study may have also in the future important clinical outcome because allow understand better the molecular and intracellular mechanisms playing role in cell cycle, apoptosis and signaling pathway in gastric cells. This study make a contribution to studies of better understanding the molecular and intracellular mechanisms of carcinogenesis and the authors suggest equol as a novel candidate for gastric cancer chemoprevention and therapy. This is a well written and set up study. The authors give a

sufficient overview about the study background and raised clearly the hypothesis of the study. The aim of the study is fulfilled. The Results are presented sufficiently well and have been discussed well; the 7 figures give good overview about the results and are presented correctly. However, the following points need to be considered: 1.In Material and methods it would necessary to explain more detailed the principal of MTS assay. 2.It is not clear which method was used for study of Akt phosphorylation at the Thr450, Ser473 and Thr 308 sites, results of which are presented on p. 11 and on the Fig. 5A and 5B. It should be added in Material and methods. 3.In the Results are presented data about the role of Ly294002 (a PI3K-specific inhibitor) on AKT inhibition, however, there is no information about it in the Material and method as well in the Introduction. It should be added. The paper of Yang Z et al "Equol induces G0/G1 arrest and apoptosis in human gastric carcinoma cells via dephosphorylation of Akt at Thr450" is a well written study which may be classified into grade B, language grade A and could be accepted with modifications in the content as recommended.