Reviewer’s report

Title: Flax Lignan Secoisolariciresinol Diglucoside: A Potential Component addressing the Maladies

Version: 1 Date: 23 May 2015

Reviewer: Laila Meija

Reviewer’s report:

Major Compulsory Revisions

In my opinion the title is not quite appropriate. I would suggest: “Potential protective properties of flax lignan secoisolariciresinol diglucoside”.

Abstract. It is written that paper “review`s safety, bio-availability, utilization of SDG”, but in the paper these issues are almost untouched.

Background. If the authors put the emphasis on SDG, they should reveal that flaxseeds are the most important but not the only food source of SDG (it may differ from country to country). If authors are stressed on flaxseeds, they should explain that flaxseeds contain a lot of other bioactive substances that play a particular role in disease prevention. Both issues are significant.

The search of literature has to be moved to Methods part. Please describe the search and appraisal process in more detailed.

Line 76. I am afraid the information about the first identification of mammalian lignans and the reference No 14 is not correct. Please look into a paper by Herman Adlercreutz “Lignans and human health”(2007). In addition, Prof. Adlercreutz was a pioneer of this field and also an opinion leader. Inclusion of his papers is a must.

Bio-activation of SDG. There are a lot of factors influencing biological activity of lignans (formation of ENL and ENL), which still awaits explanation. Please add this information to the text of your manuscript. Some more information is needed about accessibility of lignans depending on e.g. milling or crashing of flaxseeds, and some more information on whether this factor is included in analysis of publications.

Chemopreventive properties of SDG. All this part is difficult to read and to catch the essence because studies and findings are not properly arranged (e.g. in vitro/animal experiments // intervention studies, human epidemiological studies). Quite often the authors use to strong wording like “protects”, it might be wrong here. I would like to see short summaries at the end of each paragraph.

Anti-cancer Effect. Please restructure the information you provide: add the localisation of cancer, mode of SDG action and assessment of the study. Please also include the intervention studies in prostate cancer patients (Demark-Wahnefried, 2001; 2008).

SDG and Heart Diseases. Incomplete data (e.g. effect on blood pressure, C
reactive protein described by Peterson, 2010 and in many other studies). Discussion should be at the end, authors considerations regarding protective effects or lack of protective effects of SDG, including possible effects of all biologically active substances of flaxseeds.

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I Have no competing interests below