Reviewer’s report

Title: Ethanol extract of Pinus koraiensis leaves containing lambertianic acid exerts anti-obesity and hypolipidemic effects by activating adenosine monophosphate-activated protein kinase (AMPK)

Version: 0 Date: 13 Oct 2015

Reviewer: Alessandra Ferramosca

Reviewer's report:

The study by Lee et al. proposes new anti-obesity and anti-hyperlipidemia agents. In particular, the manuscript provides novel understanding of the effects of ethanol extract of Pinus koraiensis leaves on obesity and cholesterol levels.

There are several limitations of this study which should be mentioned.

1. Title:

1.1. I think the manuscript title is too long.

2. Abstract:

2.1. Line 43: Please 1 that HFD is a high fat diet.

2.2. Lines 45-46: Please specify the role of p-AMPK, PPARγ, C/EBPα, adiponectin, FAS, SREBP-1, and HMGCR in lipid metabolism

3. Background:

3.1. Lines 83-93: Please describe also the effect of Pinus koraiensis seed oil on lipid metabolism (Effects of Pinus pinaster and Pinus koraiensis seed oil supplementation on lipoprotein metabolism in the rat. (1999) Lipids 34:39-44; Pinus koraiensis seed oil (PinnoThinTM) supplementation reduces body weight gain and lipid concentration of

4. Methods:

4.1. The paragraph "Isolation of LA" should be added.

4.2. Lines 207-213: "Measurement of total cholesterol level" and "Measurement of triglyceride level" could be rearranged in a single paragraph "Measurement of serum lipids level".

Table 2: Fatty acid composition of the experimental diets should be added.

5. Results:

5.1. Figure 1A and 1B are not described in the manuscript.

5.2. Line 336: Please modify "Figure 4E and F" with "Figure 4D and E".

6. Discussion

6.1. A Figure depicting the molecular mechanism by which EPK and LA influence lipid metabolism could help the reader.

6.2. Authors should argue in a better way the relevance of their results.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English

Please indicate the quality of language in the manuscript:

Acceptable

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