Reviewer's report

Title: Effect of cinnamon water extract on monocyte-to-macrophage differentiation and scavenger receptor activity

Version: 2

Date: 29 December 2013

Reviewer: Ming-Jiuan Wu

Reviewer's report:

This is an extension study from author’s previous study on the anti-inflammatory activity of water extract of cinnamon. The specific aim of this study is to study its effect on scavenger receptor activity and expression. However, the quality of data is much lower than the previous publication. I have some comments:

Major Compulsory Revisions

1. Authors did not analyze the active composition of water extract. This weakened the value of this report and made other labs hard to repeat.

2. Before performing any bioactivity assay, the cytotoxicity should be analyzed to ensure all the bioactivity was not due to adverse effect of the extract.

3. Figure 2: In Q-PCR the ratio was calculated by 2 **(-delta delta CT) and the value of control group will be “1”. The presentation of mRNA expression is incorrect by showing the value of target gene/actin.

4. Figure 3 and discussion: there is inconsistence in experimental conditions for activity and protein expression assays for mouse peritoneal macrophages. Authors showed that without M-CSF, peritoneal macrophages can uptake modified LDL and this activity can be inhibited by fucoidan (A-C). However, authors added M-CSF to stimulate SRA expression and then treated with water extract (D). Authors cannot simply conclude cinnamon extract can inhibit SR-A protein expression because it decreased M-CSF-induced SR-A expression. In order to claim that cinnamon can inhibit both endogenous and exogenous SR-A expression, authors should also analyze the effect in the absence of M-CSF.

There are also too many errors and problems in the manuscript, I just listed some of them:

1. Page 5: one hundred of cinnamon?

2. Page 7: concentration of thioglycollate is missing

3. Page 7: Why should authors used “a corresponding mRNA sample without RT was included as a negative control”? How would the CT value obtained from this control be incorporated in calculation.

4. Page 8: “phosphor-” should be “phospho-”

5. Page 8: Beverley, “CA”, USA should be “MA”.

6. The flow cytometry setting is strange. We usually set mean fluorescence
intensity between $10^0$ to $10^4$. Authors used rather high voltage.
7. Page 13: PME should be PMA.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**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.