Reviewer's report

Title: Acute oral toxicity of Insampaedok-san, a traditional herbal formula, in rats and its protective effects against ovalbumin-induced asthma via anti-inflammatory and antioxidant properties

Version: 3

Date: 17 February 2014

Reviewer: Jong-Choon Choon Kim

Reviewer's report:

Minor Essential Revisions

This study investigated the potential acute toxicity of an Insampaedok-san water extract in rats and the antiasthmatic effects of ISSE in a model of asthma induced by ovalbumin in mice. Generally, this paper was well written. However, the authors will need to add or correct some description, as follows.

Abstract

The 1st sentence of Methods “In a safety study, ISSE was administrated via oral gavage once daily to rats of both sexes at doses of 0 and 5000 mg/kg for 15 days.” must be modified as follows: In a safety study, ISSE was administered orally to rats of both sexes at single doses of 0 and 5000 mg/kg.

Results, line 2: “activityand” should be “activity and”

Conclusions, line 1: The sentence “ISSE is safe for human consumption” is not true. The sentence should be modified as follows: The approximate lethal dose of the ISSE is >5,000 mg/kg in rats.

Methods

Animals for acute oral toxicity study section, lines 6 and 8: please change “KRICT” to “KIT”

Under Animals and experimental procedure, the sentence that describes the treatment of each group is confusing. The authors need to include a time line of the events (OVA i.p and challenge, initiation and cessation of treatment, sacrifice, etc) for clarity purpose. A table which describes each group and what they got, when might be more useful than description of procedure.

Why was the dose (100 and 200 mg/kg) of ISSE chosen? The rationale for choosing 100 and 200 mg/kg of ISSE in present study may be explained. In addition, the authors used “montelukast” as a positive control drug. However, there was no description that montelukas is used as a positive control drug. The authors would explain why montelukast is used as a positive drug.

The number of mice per group should be presented either in the M&M or in each of the figure legends.
How was eosinophil infiltration or mucus production quantified in the histological studies? The data were not immediately obvious from the histology slides. It may be helpful to readers to highlight the areas of interest in these slides via arrows or other visual aid.

Please describe the post-hoc statistical analysis in detail.

**Level of interest:** An article of importance in its field

**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'