Reviewer's report

**Title:** Mechanisms Underlying Bronchodilatory and Anti-inflammatory Activities of Polygonatum verticillatum: Augmented by Isolated Molecules

**Version:** 2  **Date:** 15 October 2012

**Reviewer:** elizaveta fasler-kan

**Reviewer's report:**

Comments to paper “Mechanisms underlying bronchodilatory and anti-inflammatory activities of P. verticillatum: augmented by isolated molecules”.

1. Is the question posed by the authors well defined? No
2. Are the methods appropriate and well described? Yes
3. Are the data sound? more or less
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? No
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? No
9. Is the writing acceptable? No

**Major compulsory revisions**

1. The title of the work does not reflect the major results obtained by the authors. The “mechanisms” were not studied in current paper. The second part of the title: “Augmented by isolated molecules” is also misleading. The authors studied the effects of the plant extract. Two molecules (2-hydroxybenzoic acid and #-sitosterol) have been isolated from the plant Polygonatum verticillatum, but they were not used for the experiments.
2. Methods, section: isolated rabbit tracheal tissue. This section begins with the sentence “the trachea was obtained from guinea-pigs and preserved in physiological solution”. Which animals were used in this study rabbits or guinea-pigs?
3. In “Conclusions” part the authors wrote that “the bronchodilator effect of PR is
mediated possibly through the Ca+2 channel blockage, along with its anti-inflammatory activity through dual inhibition of the LOX/COX enzymatic pathways”. This sentence belongs to discussion. The authors did not provide any data indicating the inhibition of the LOX/COX pathway. This is only a hypothesis.

Minor essential revisions

1. Methods: isolated rabbit tracheal tissue: tracheal strips were maintained at 1 g constant tension during the course of the experiment. This must be explained to avoid the confusion: 1g is a force of gravity or 1g is 1 gram?

2. The sentence “to determine the possible mechanisms involved, the isolated tissues were treated with high K+ and CCh until constant responses of each agonist were achieved” needs more explanations.

3. Abstract, section methods. The sentence “the bronchodilatory activity was assesses” is not clear. The bronchodilatory activity of what?

4. Abstract, section Results. The authors wrote that “the extract caused complete inhibition of the carbachol … and was more potent against K+. It is not clear it was “more potent” than who or what?

5. Fig.2 showing the chemical formulas of two isolated molecules is not necessary for this paper.

6. English spelling and grammar must be corrected, e.g., abstract, section methods: the bronchodilatory activites was assesses in… (plural or singular?), section background: a variety of phytochemical constituents have been isolated: flavonoids and phytohormes. Are” phytohormes" phytohormones?

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests