Reviewer’s report

Title: Phytochemical Constituents and Medicinal Properties of Different Extracts of Strobilanthes crispus (L.) Bremek Grown in Different Locations of Malaysia

Version: 2
Date: 16 July 2015
Reviewer: SUJATHA RAMASAMY

Reviewer’s report:

Major compulsory revisions:

1) One of the main objective of this study is to evaluate the activity of the plant grown in different area but there is so limited information available on the sampling site and condition except the state name. The sampling location should be presented in details. Instead of only mentioning the state name, it would be better if authors can name the exact location of the area and the geographical surface/environment/habitat of the location/soil type. Authors also should highlight on the collection period and the stage that been selected for the study, e.g. the flowering stage or plant development. This will add more valid and valuable information for this study and as supportive data for discussion. Data presented in line 293-295 should be presented earlier in the text and summarized in table with other data on the sampling condition. This table can aided the reader to do a brief comparison on the three different area where the plant grows. Authors also suggested to have one separate paragraph (line 289-305) at the end of discussion to discuss on how different habitat affect the biological activity and phytochemical content of the species and to discuss more details on this matter rather than just a brief discussion.

2) The MTT in vitro cell proliferation assay is one of the assays for evaluating preliminary anticancer activity and in measure the cell viability and proliferation. The term anticancer activity used in this study is too general and did not reflect the mechanism of the assay. Authors are suggested to replace the term anticancer activity with anti proliferative activity/effect. The changes is applied throughout the manuscript.

3) Is HeLa is breast cancer or cervical cancer cell? In the method, HeLa was referring to breast cancer cell. Please check on this and provide the source of the cell line. Check the HeLa spelling in entire text.

4) For both DPPH and FRAP assay, authors was referring to the activity as DPPH activity and FRAP activity. DPPH is a chemical name and do not reflect what type activity taking place. One of the reason to have more than one antioxidant assay is, each assay represent different mechanism. Authors are advised to refer to the mechanism, e.g. for DPPH assay the activity should refer as scavenging activity/effect and reducing activity for FRAP. Thorough revision is required including Table 2. Specified the activity in Table 2.
5) In discussion, authors make the comparison of S. crispus with other plant species. There are quite a number of works had been reported on the antioxidant activity and phytochemical profile of S. crispus. Authors are suggested to make the comparison within the same species and this will be more valid discussion on the factors that contribute to the differences in the data.

6) The references are not according to the format of the journal. Refer to the instructions to authors. Scientific name should be in italic.

7) Authors are suggested to revised the title...medicinal properties replaced with biological activities.

Minor essential revisions:

Some corrections involving mechanist aspects (typo error and spelling) need to be tidied up:

1) Line 43: Remove the term various solvents. Only two solvents are used in this study.

2) Line 52-55: The term potent activity is not suitable. Extract from Kelantan did show some activity, but is low when compared to the tamoxifen, Revised line 52-55.

3) SI requires a space to be used to separate the unit symbol from the numerical value.

4) The abbreviation of the genus name (S.) should be in the same row with the species name (crispus).

5) Line 213 & 246: check spelling of Kelantan

6) Table 3: What does ND represent?

7) Figure 2 & 3: Check the spelling of Tamoxifen

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.