Reviewer's report

Title: Studies of the in vitro anticancer, antimicrobial and antioxidant potentials of selected Yemeni medicinal plants from the island Soqotra

Version: 1 Date: 5 February 2009

Reviewer: Vanessa Steenkamp

Reviewer's report:

Minor essential Revisions

Abstract:
The abstract is too long and should thus be shortened. Omit some information e.g. the list of plant names with "greatest antimicrobial activity". The latter does not mean anything without values. It could rather be stated how many plants had MIC values below a certain concentration. Include the names of the cell lines used to determine cytotoxicity. To say that a plant has good antioxidant activity means nothing a value and comparison to the control should be given. The last four lines in the abstract conclusion should be deleted as it is too speculative.

Methods:
Plant materials: refer to Table 1 here already.
Test organisms: indicate which are Gram-positive and which are Gram-negative.
Antimicrobial assay: It is not necessary to say how the agar was made. It is however essential to include the microbial concentration with which the agar was inoculated.
Broth micro-dilution assay: Performing experiments in duplicate is not acceptable. Experiments should at least be repeated in triplicate.
Why were the MIC values only determined for Gram-positive strains? This should also have been done for Gram-negative strains as activity was noted.
Determination of anticancer activity: The control - etoposide should be mentioned in the text.
Were only methanol extracts tested? This would appear so from the results? If so why were water extracts not included?
Determination of antioxidant activity: mention the control in the text.

Results:
Do not repeat in the text that is summarized in the Table. Refrain from listing all the plants, rather refer to the Table.

Discussion
The first paragraph is a repeat of that in the results.
Page 11 "A good correlation…" It is incorrect to make such a statement. Omit using words such as: "Astonishingly", "remarkable", "extraordinary" - this is a scientific report.

What are strong antioxidant and moderate antibacterial effects? Provide values or relate to the control.

Is it not possible that the results differ from those published earlier due to the solvent used to prepare the extracts? Re-visit the literature and add in the discussion.

Conclusion:
Omit from "Acacia …".

Major Compulsory revision

Table
I suggest that Table 2 be deleted, since MIC values were determined and are of relevance, not the inhibition zone. The authors could also elaborate in the text where they mention that "an inhibition zone >15 mm was considered as high antibacterial activity", that plants with zones greater than 15 mm were subjected to MIC determination.

The MIC values should be determined for the Gram-negative and multi-resistant strains. Especially since a comment was made regarding the better activity against the multi-resistant strains compared to the standard strains.

Additional work is requested: MIC determinations against all micro-organisms.

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

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.