Author's response to reviews

Title: Evaluation of antibacterial and cytotoxic activity of Artemisia nilagirica and Murraya koenigii leaf extracts against mycobacteria and macrophages

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Version: 3 Date: 22 January 2014

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Responses to reviewers comments:

Reviewer : Lyndy McGaw

Minor essential revisions:

Comment 1: When the plant species tested for antimycobacterial activity are mentioned for the first time, the family should also be included in brackets after each name.

Answer: We highly appreciate the reviewer’s comment. We have included the family names in brackets after each name (Page 02, Line 28).

Comment 2: Although the identification and deposition of voucher specimens has been described, the voucher specimen numbers allocated by the herbarium should be given for each plant species.

Answer: As per the reviewer’s suggestion, we have included the voucher number for each plant species. (Page 06, Lines 131 and 132)

Comment 3: The authors cite only their own papers to support the controversial issue of the ability of M. smegmatis to infect macrophages and it would strengthen their argument if more relevant papers from other research groups were discussed.

Answer: M. smegmatis is a model organism to study mycobacterial infection. It can be engulfed and killed by RAW264.7 macrophages. We have included two more references indicating M. smegmatis infection in macrophages (page 23, References 31 and 32).

Comment 4: In the abstract methods the impression is given that the infection of macrophages was done after treatment with plant extract were used to treat cells before and after infection. Was one group of cells treated before and another
treated after or was the same group of cells treated both before and after infection?

Answer: There are two groups of cells. One set of cells is treated with plant extract before infection (pre treated). Second set of cells is first infected with M. semgmatis for 2 h followed by treatment with plant extract (post-treated).

Comment 5: Since antimycobacterial activity and cytotoxicity assays have been done it would be useful to include the selectivity index (SI) values (ratio of toxicity to activity: SI=IC50/MIC) for the two most active plant extracts. Calculation of MIC values for plant extracts provides a much easier way of comparing activity, and involves a simple broth dilution method. Determining the SI values would provide an indication of whether or not the extracts are generally toxic or have some selective activity against the mycobacteria.

Answer: As per the reviewer’s suggestion, we have included and discussed the selectivity index values for both the plants (Page 17, Lines 371-376)

Comment 6: The references need attention as the formatting is irregular in places incorrectly beginning with the initials of the authors for some references. Reference 18 is duplicate of reference 13.

Answer: We have removed the duplicate reference (reference 18). In the revised text, all the references are written in correct format.

REVIEWER 2 HAS NO COMMENTS.