Reviewer's report

Title: Phenolic and flavonoid profile, antimycobacterial properties of six selected Turkish plants (Lamiaceae) used for tea, spice and folk remedies

Version: 2 Date: 18 September 2013

Reviewer: Cassandra Quave

Reviewers report:

Summary of comments:
This study reports on the anti-mycobacterial properties of a few crude plant extracts. Correlations between the activity observed and the phenolic content of the plants are drawn, but not really substantiated by the data presented. While this is a nice start to a study, more work is necessary. I recommend to the authors to conduct additional experiments in which they also examine the activity of the highlighted phenolics (these may be purchased). Some bioassay-guided fractionation to isolate the most active subfractions would also be useful, and could verify whether or not the activity can be attributed to one or more of these phenolics or some other unidentified compounds. Lastly, clinically-relevant isolates should also be included in the screening study. Do these findings actually have any relevance towards public health.

Major Compulsory Revisions:

• Your methods don’t describe the use of a carrier control (drug excipient control) Did you also include this?
• You discuss rosmarinic acid as the major phenolic in most of these plants – this doesn’t necessarily mean that it is the active ingredient. You should include a control of rosmarinic acid (this doesn’t have to be isolated from the plants, but may be purchased) in your MIC testing. You can then compare the anti-TB efficacy of the rosmarinic acid alone to the complex extracts. Likewise – the other major phenolics listed (caffeic acid, chorogenic acid, etc – should be tested)
  * Statistical analysis is missing? Are these data significant? p-values?

Minor Essential Revisions:

• In the methods section, you refer to “gradient grade” solvents – do you mean to say LC-grade solvents? This needs to be corrected or clarified.
• In addition to testing your extracts against 2 highly sensitive ATCC strains, it would be much more interesting (and would add more value to the paper) if you also performed some tests on clinically-relevant isolates of TB (in particular, Isoniazid -resistant strains)
• Table 3 would be better illustrated as a bar chart
Level of interest: An article of limited interest

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