Reviewer's report

Title: Antioxidant activity of rosemary (Rosmarinus officinalis L.) essential oil and its hepatoprotective potential

Version: 1 Date: 27 February 2014

Reviewer: Woo-Sik Jeong

Reviewer's report:

The authors Raskovic et al. have investigated antioxidant activity of rosemary essential oil and its hepatoprotective potential using an animal model. Overall, although this is not a mechanistic study, it is well designed, the methods are appropriate and the data are well described. There are only a few concerns to be clarified before publication.

1. The authors should provide explanations, and references if possible, on why REO 10mg/kg co-treatment resulted in a dramatic increase in bilirubin that is a maker of an impaired excretory function of the liver. In addition, among the three antioxidant enzymes why only GPx activity increased by CCl4 treatment? If this is due to upregulation of the enzyme in response to oxidative damage, why other antioxidant enzymes do not respond same way? Any references with similar results?

2. It is hard to understand that the REO contains phenolic compounds since the essential oil was collected with "Hexane" after hydrodistillation. Hexane is one of the most non-polar solvent and the polar phenolic compounds would not be extracted with hexane. Have the authors analyzed the phenolics profile? Also, give the proper rationale for measuring phenolics content in this study.

3. Related to the above question, Is the radical scavenging activity of REO from its oil components such as volatile terpenes or from the phenolics?

Miscellaneous

1. Put figure and table numbers in the proper place in the body text, for readers.

Level of interest: An article of importance in its field

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.