Reviewer’s report

Title: Topical Brazilian Propolis Improves Corneal Wound Healing and Inflammation in Rats following Alkaline Burns

Version: 2 Date: 27 August 2013

Reviewer: Andresa Berretta

Reviewer’s report:

Minor Essential Revision:

Dear Authors,

Considering some answers presented, some points are yet unclear for the better understand of the work. For example, in the cover letter, the authors presented the information below:

“ANSWER: Microemulsion was prepared with raw propolis crushed. It was prepared by solubilization of the raw extract in the concentration of 1,0% with particles of 30nm in a mixture compound by polyethylene glycol-6- caprylate / caprate, polyglyceryl-6-dioleate, glycerides caprylate / caprate (10,0%) (MACKADERM MicroExpress - McIntyre, USA), chloride benzalcone (0.01%) and water distilled deionized 100% per system MilliQ (Millipore, USA). These details of microemulsion preparation were added to the text, Methods section, page 6 and 7.”

In the methodology, the paragraph was presented:

“The propolis extract used in the present work was obtained directly from beehives using water and ethanol 70% (7:3). A 1% microemulsion of BP was then prepared by solubilization of the extract (1,0%) with 30 nm particles in a mixture of polyethylene glycol-6-caprylate/caprate, polyglyceryl-6-dioleate, glycerides caprylate/caprate (10,0%), chloride benzalcone (0.01%) and deionized water 100% per system MilliQ.”

Then, my doubt is:

1. BP microemulsion was prepared considering 1% of propolis dry matter in the final product or of 1% of the liquid extract? I imagine that the information presented in the cover letter means propolis dry matter and not raw propolis dissolved to obtain microemulsion. Is it right? Please, clarify this information in the methodology;

2. When the authors say “with 30 nm particles in a mixture of...” in the manuscript, this information refers to the microemulsion characterization? If yes, this result need to be presented in the manuscript, or, if this size refers to the raw propolis used to do the extraction process, then, the text of the manuscript need to be revised;
3. Reading the microemulsion preparation, I understand that was used 1% of propolis extract “w/v” (weight/volume), since in the discussion propolis was presented in “mg/ml” and this is a common way to formulate pharmaceutical compositions. Then, considering the composition presented in the methodology 1% of propolis, plus other ingredients concluding in 100% of the product. In this case, we have:

1 g of propolis ------- 100 ml product (1%w/v)
= 1/100 = 0.01 g/ml = 10 mg/ml

If this statement is correct, please, check the information presented in the discussion:

“It is known that red propolis causes damage to the corneal epithelial cells of rats when at concentrations of 7.81 mg/ml [18]. Thus, although there are no specific studies on corneal toxicity of BP, the concentration of 1% (0.01 mg/ml) is far below…”

Or, clarify the units in the methodology description to reach the information of 0.01 mg/ml.

**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.