Reviewer's report

Title: Evaluation of Wound Healing and Invivo anti-inflammatory Activity of Rhizomes of Rumex abyssinicus J. in Mice

Version: 4 Date: 27 February 2015

Reviewer: Andrea Aro

Reviewer's report:

Major Compulsory Revisions:

The purpose of the study was to evaluate the potential activity of the Rhizomes of Rumex abyssinicus J. in wound healing and in inflammation. Considering that the subject of the manuscript is very interesting, I believe that additional analyses should be included to become the manuscript more consistent and appropriate for publication.

Abstract section:

1) The tissue that was analyzed was not cited in the abstract. Please, include this information in this section and in the title of the manuscript.

2) The analyses that were used for the characterization of the healing activity of the plant in vivo were not described in this section. This information with the respective result could become the data more interesting if it was included.

Introduction section:

1) Line 61: correct the word “coomon” for “common”

2) Line 67: the correct form is “at least”

3) A description of the main molecular events of the wound healing in skin should be included, such as the collagen synthesis, pro-inflammatory cytokines participation and biomechanical aspects of the tissue during this process. These informations could clarify the choice of the techniques used for the evaluation of the healing potential of the plant and facilitating the data discussion.

Result section:

1) Please, include the time of wound healing process that was analyzed in each table.

M & M section:

1) Why animals of either sex were used? I believe that the hormonal variation of the female can interfere in the result, especially when it is compared with the result from male animals.

2) Please, describe the composition of the base of the ointment.
Discussion section:

1) (Line 294): It is very speculative to attribute the role of R. abyssinicus in the increasing in percentage closure of excision wounds as a result of the induction of macrophage cell proliferation, since no test was done for this. Various other components of the extracellular matrix have to be produced to close the excision wounds that should be considered in the discussion of this result.

2) (Line 304): Likewise, it is not possible to suggest that the plant has the ability to facilitate the proliferation of epithelial cells, enhancing wound contraction by enhanced epithelial migration. Histological analysis should be done for evaluate this result.

3) (Line 314) “by removing unwanted things”…what does it mean?

4) (Line 335) “the extract could be the result of its ability to inhibit the action of bradykinin and/or prostaglandins” …again is very speculative.

5) (Line 341) “The probable explanation for increased tensile strength could be due to the increase in both remodeling of collagen, and the formation of stable intra- and intermolecular crosslink”…why a simple staining with HE or some more appropriate dye for the observation of collagen organization (Ponceau S, ponceau SS, xylidine ponceau) was not done? A simple analysis under light microscopy could be done to prove the result, improving largely the data discussion.

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.