Reviewer's report

Title: In vitro anticoagulant and antioxidant activities of Jatropha gossypiifolia L. (Euphorbiaceae) leaves aiming therapeutical applications

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Reviewer: Gandhi Radis-Baptista

Reviewer's report:

Major compulsory revision.

The manuscript deals on an interesting field of the phytochemistry, the ethno-pharmacology/pharmacognosy.

However, the manuscript needs a full revision concerning to language editing, the treatment of data (with inclusion of experimental controls) and the reorganization of the data presentation and consequently the discussion.

Moreover, the article is required to be assertive and not "suggestive".

Overall, the manuscript should be completely re-made before being accepted to any journal.

For instance,
Along the text (methods) the author describe "samples at different concentrations", this should be fixed by including the range of values.

The legend of figure 1 should be improved to include how the extracts and organic fractions were used in the assay.

Also concerning to figure 1, in my view RA was able to prolong prothrombin time by 3-fold, not crude extract (CE).

The results concerning to the anticoagulant activity of the control heparin were not included in the figure 1 for comparison. This should be required for clarity of data interpretation.

The presentation of TLC data is critical, because most of identification was based on "suggestive of" identities of the compounds.

Therefore, photographies showing the pattern of fractionated and revealed compounds are essential to be included as figure in the text or supplemental material.

The authors claim that "Polar compounds such as flavonoids, tannins and sugars are poorly described in the species so far". However, in the present work such compounds were not chemically characterized (at molecular level).
The discussion is presented without of a coherent order (for instance, discussion about the extracts is after the data concerning to biological activity, then these are repeated again). Moreover the article needs language revision and editing for improvement in the text and for better comprehension fo the findings.

Some phrases in the discussion declare what is obvious., For instance: "The RA fraction was the most active, prolonging the aPTT by up to 6 times, being 2 times more active than CE. Based on this, it is possible to conclude that this fraction contains the main compounds responsible for the anticoagulant action"

Concerning to antioxidant activity, it is not clear in the discussion why only CE and RA were the fractions used for this kind of evaluation.

In addition, in practical way, what is the biological meaning of a compound that displays "an interesting AAE". Is the ascobic acid an excellent standard? Why?

In all graphics presented as figures in the manuscript, controls (negative and positive) are not included.

In table 3, controls are again not included.

The discussion is based on suggestion, it is necessary to be assertive and precise.

About the cytotoxic assays, by calculating the concentration of RBC for the test the correct (calculated value is 0,2%) not 20%, as written.

In this concentration of RBC (0,2%), hemolytic activity is difficult to be measured. Moreover, water is not usually used to cause 100% of lysis, but triton X-100.

Discussion about the biological function of RBC is unnecessary to justify the use of this test for the evaluation described in the work.

The hemolytic test with standard conditions and controls is required in this work to adequaltely realized and included.

In cytotoxic assay using cells, the FBS concentration should be indicated and experimentally controlled, whenever samples are being tested. FBS concentration can influence on the activity of a drug/treatment.

Data from both cytotoxic assays (hemolysis and MTT) should be presented in the manuscript with controls included (at least in the suplemental materials).

Many more weak points can be found in this research article that compromise the quality of the manuscript for publication in the actual version.

**Level of interest:** An article whose findings are important to those with closely
related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
'I declare that I have no competing interests'