Reviewer's report

Title: CCl4 induced genotoxicity and DNA oxidative damages in rats: Hepatoprotective effect of Sonchus arvensis

Version: 3 Date: 27 June 2014

Reviewer: Nitin Gandhi

Reviewer's report:

Review Report on the MS entitled: “CCl4 induced ....Sonchus arvensis" by Alkreathy et al

The MS describes the hepatoprotective effects of methanolic extract Sonchus arvensis. While the experiment description and presentation of the MS is straightforward, the MS is poorly written.

Major revisions:
1. The authors have not given the full description of the extract, from which part of the plant the extract is prepared and what was the yield?
2. The authors have not dwelt upon the plant extract or its constituents. The authors have not evaluated the plant content in their laboratory nor have they mentioned clearly from literature the possible active ingredients.
3. The author should make the formal identification of the plant material used to prepare the methanolic extract. Whether the specimen of the plant deposited in any herbarium?
4. If not the full identification of the ingredients in SME -authors should have at least given the signature HPLC graph for future reproducibility of the plant extract preparation.
5. How do the authors decided to use the dosage? Was there any toxicity study done?
6. Although the Silymarin is used as the positive control (probably) there is no mention of the effects of Silymarin in the text.
7. How do the authors correlate the DNA damaging activity (and its protection by SME) with hepatotoxicity?
8. Treatment protocol of CCl4 is not described.

Minor Essential Revisions

1. The MS is poorly written, the readability of the MS can be increased if the authors give the thorough details about the plant extract, from where it is extracted, its constituents (if known), its dosage extrapolated to humans and toxicity of the compound.
2. How the authors see the outcome of the research work when it goes to actual
application during the liver toxicity?

3. Sigma chemicals is now Sigma-Aldrich

4. SME - expand at first appearance in MS.

5. Background: “Carbon tetrachloride…and blood” seems to be incomplete sentence

6. Assessment of oxidative stress: “The entire chemicals….from sigma” redundant please remove.

7. DNA fragmentation % assay : % can be removed

8. Also in same paragraph “read at 620 nm at…” kindly rectify the sentence.

9. Discussion line 10 “chelat” can be replaced with “scavenging”.

10. Some of the references are improperly formatted for example: 5, 6 and 7, or format all as per journal guidelines.

11. Reference numbers in text is in BOLD should not be so.

12. Under “Animals and treatment” second line “were kept in” could be “were housed in”

13. There are several plant extract described in literature demonstrating the CCl4 induced hepatotoxicity, how does authors compare SME with them?

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**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