Reviewer's report

Title: Antioxidant and Cytotoxic Activities of Three Species of Tropical Seaweeds

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Reviewer: Kalaivani Thiagarajan

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Comments

1. Is the question posed by the authors well defined?
   Yes

2. Are the methods appropriate and well described?
   Methods are appropriate.
   i. But in some of the analysis positive control is not included.
   ii. While comparing cytotoxic property of any plant, it should be compared with normal cell line, which is missing in the present manuscript.
   iii. Maceration method is not suitable for preparation of extracts of this type of analysis. Authors should use soxhlet extraction method or some other methods of extraction.

3. Are the data sound?
   o.k. But different extracts are significant in each of the assay. By using this, one can not conclude, which extract is having more potent antioxidant or antiproliferative property.
   In all the assays, the results were compared with the data reported by reference number 29, which is not required.

4. Do the figures appear to be genuine, i.e. without evidence of manipulation?
   No manipulation. But some clarifications required in these two figures.
   a. In fig 1 – Why the author has mentioned GR activity as percent inhibition?
   b. In fig 3- the results does not seem to be comparable to positive control. Why there is time dependent decrease in caspase activities?

5. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   a. positive control and normal cell line to be included in table 1. and Fig -1.
   b. In table 2, Total phenolic content is already represented as GAE, there is no need for positive control. The authors have used 3 positive controls in this assay.
   c. in the same way, TFC content is to be expressed as catechin equivalents as catechin is used for calibration curve.
   d. The activities of SOD, CAT and GR for all three samples were found to be reduced in comparison to the untreated cells. The reduction in CAT activity is considered as a general response to stress. This statement is not correct. There
should be elevation of these enzymes due to any type of stress. But the authors have reported that there is a reduction in the level of these enzymes. Authors should recheck the values.

d. In Table 3 Antiproliferative activity of column chromatographic pooled fractions of P. tetrastractoma, C. racemosa and T. ornate. In this title, the extract of the plants used to be mentioned.

6. Are the discussion and conclusions well balanced and adequately supported by the data?
Discussion part can be reduced. It is very lengthy paper.

8. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes

9. Do the title and abstract accurately convey what has been found?
Yes.

10. Is the writing acceptable?
a. o.k. In introduction section, traditional uses of the sea weeds to be mentioned.
b. In some of the places, typographical errors are seen.
c. Some of the sentences need to be modified (for eg) Different TPC values might be due to the dilution of phenolic concentration per gram extract by extracted matter other than phenolics with methanol being an effective solvent for the extraction of phenolics and also other compounds [28]. All three samples showed significantly higher TPC (ranging from 6.4 to 71.3 mg GAE/g) than the methanolic-chloroform, petroleum ether, ethyl acetate, butanol and aqueous extracts (ranging from 2.8 to 33.4 mg GAE/g) of five brown seaweeds [29].
d. Polyphenols such as phenolic acids, stilbenes, lignans, alkaloids, essential oils, ascorbic acid, tocopherols, carotenoids and steroids (this sentence need to be corrected because all these are not phenolics.
e. Line number 496 and 497, The scavenging activity of the green seaweed, C. racemosa, on the other hand, might be due to the presence of polyphenols such as ascorbic acid, folic acid, Vitamin A and B1 – they are not polyphenols.