Reviewer's report

Title: Fucoidan present in brown algae induces apoptosis of HT-29 human colon cancer cells

Version: 1 Date: 7 June 2010

Reviewer: Nancy Turner

Reviewer's report:

General comments:
This is a well-written paper that provides a thorough evaluation of apoptosis induction in colon cancer cells by fucoidan. However, there are a few issues that need to be resolved and discussed further by the authors.

Major compulsory revisions

1. The use of serum-deprivation medium in order to stabilize cells in the cell cycle is completely understandable. However, the authors must describe why they continued to use serum-deprivation medium during the treatment phase of the experiment. This alone will severely limit cell growth and promote apoptosis. How are you able to establish and compare the effect that fucoidan would have in vivo, in a non-limiting condition, to the effects reported here?
2. Hopefully, the final figures will be of higher quality than those included for review. As they are currently presented it is very hard to read the text and numbers.

Minor essential revisions

1. The protein levels of survivin do not decrease in a dose-dependent manner (p 13, l 13-14).
2. According to the author’s citations, this isn’t the first paper documenting the effect of fucoidan on colon cancer cell lines and newer references for in vivo data, and there is information concerning its effects on colitis. As such, they need to remove their assertion that it is the first throughout the paper.
3. What are the differences in the data shown in figure 2, panel C for living cells and the data in figure 1?

Discretionary revisions

Specific comments:

Page Line
5 3 It is the second leading cause of cancer death when the data for both genders are combined, which is what the sentence suggests the authors are referring to.
5 11 I am not sure what the authors mean by “reverse progression to invasive
cancer”.

9 8 You need to indicate the FBS was charcoal-stripped.

9 23 Instead of saying “as described above” throughout the paper, give us the specifics of the treatment regimen for each purpose.

10 13 You need to indicate the concentration of fucoidan used, time of administration, etc.

29 12 This is true, except for caspase 3, in which 1 is set at 5 µg/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'.