Reviewer’s report

Title: The natural triterpene maslinic acid induces apoptosis in HT29 colon cancer cells by JNK-p53 dependent mechanism.

Version: 1 Date: 29 January 2010

Reviewer: Abderraouf kenani

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Major Compulsory Revisions:
The manuscript by Fernando et al. describes an in vitro study on the induction of apoptosis in HT29 colon cancer cells, by the natural triterpene maslinic acid. A mechanism for apoptosis induction is proposed.

Overall, the manuscript deals with an issue of interest, since a better knowledge of mechanisms that regulate apoptosis in tumor cells, could lead to the development of new therapeutic strategies against cancer.

The authors find that the natural triterpene maslinic acid is genotoxic (Comet assay) and causes apoptosis (Hoechst). They also show an earlier and significant increase in JNK expression. P53 is over expressed. The signal transduction pathway was studied through Western blotting. The results apply to one human cell line, originating from colon cancer (HT29 cells).

However, there are methodological aspects that should be considered and/or further clarified during revision of this manuscript.

1-A major point: Why the authors did not study the expression of Bax, Bcl-2, cyt c, and caspases at 12h and 24h?? It is indispensable to “propose a perfect synchronized sequential mechanism”.

Authors should better discuss some points:

1- At high dose of maslinic acid (IC80) and after 24h, no clastogenic effect was observed. Does it mean that in these conditions cells died? DNA lesions are repaired?

2- Based on references 3 and 4 the authors suggest that Bid activation could be mediated by JNK. Does it mean that Bid could be activated through phosphorylation? Or that JNK could act as a protease?

3- A mechanism is proposed in Fig 5. Authors should insist that is a PROBABLE mechanism.

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.