Author's response to reviews

Title: Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro

Authors:

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Version: 3
Date: 17 April 2015

Author's response to reviews: see over
Dear Editor,

BMC, Complementary and Alternative Medicine

Enclosed is a manuscript titled “Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro”.

Thank you for the opportunity to review our work.

The research reported in this manuscript has been carried out by me, a young researcher at the beginning of my career, together with renowned researchers who has published in both local and international journals. To the best of our knowledge, this is the first report from literatures on the mechanism of action of Pleiocarpa pycnantha and its constituents on colorectal adenocarcinoma cell lines.

This paper has demonstrated significant findings and we have been able to close some scientific gap by the result of our findings.

Below are the changes made to the submission as suggested by the reviewers.

**Reviewer's report**

**Title:** Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro

**Version:** 2

**Date:** 21 February 2015

**Reviewer:** G.K. K Jayaprakasha

**Reviewer's report:**

Comments for the manuscript entitled “Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro”

1. The abstract should be presented using results not general statements.
2. L. No. 11, Give compound names, before abbreviations. This has been sorted, see L11-14 for details.
3. Give more details of isolation of ethanolic extract in one separate paragraph. The cited paper not easily accessible for all readers. The authors are of the opinion that this may not be necessary, since this paper is not about isolation. It is basically on the biology of the isolated compound, furthermore the paper is published in an open access journal which is easily accessible to all users.
4. L. No. 23, needs more details of compounds treated and explain the outcome. The results has been updated; see L26-31 for this.
5. L. NO. 83-84, give what concentration used for cells treatment. Don’t give general statements in whole manuscript. This is not review paper.

The methodology has been amended, please check L102-103 for the amendment.
6. L. No. 95, explain what is extract P? Give name of the compound not isolated compound, since this paper does not tell about isolation. What is the vehicle used in this study for the treatment.
The extract P has already been defined as the ethanolic extract of Pleiocarpa pycnantha leaves as shown in L81-82. DMSO was used as a vehicle. It has been demonstrated to be save at low concentrations in our previous experiments.

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

Quality of written English: Acceptable

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

Declaration of competing interests: NO

Reviewer's report

Title: Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro

Version: 2

Date: 3 March 2015

Reviewer: Wojciech Krol

Reviewer's report:

MS ID: 9009947791542990

Title: Pleiocarpa pycnantha leaves and its triterpenes induce apoptotic cell death in Caco-2 cells in vitro.

Authors: Olubunmi Adenike Omoyeni, Ahmed Hussein, Ivan Robert Green and Emmanuel Iwuoha

Neoplasms are the main cause of death worldwide. Each year tumors are diagnosed in about 11 million people, ending with death in 7.6 million; the number forecasted for 2030 reaches 13.1 million. The major ways of cancer treatment are chemotherapy and radiotherapy, which unfortunately proved toxic to other living cells of the body. Therefore, numerous studies have focused on application of natural products to prevent and to treat cancer. Among bioactive compounds, an important group is that of triterpenes, which show cytotoxic properties against tumor cells at low activity toward normal cells.

Triterpenes are naturally occurring alkenes of vegetable, animal and also fungal origin, classified among an extensive and structurally diverse group of natural substances, referred to as triterpenoids. Their structure includes 30 elements of carbon and they are constituted by isoprene units. Taking into consideration the structure, triterpenes may be divided into linear ones-mainly derivatives of squalene, tetracyclic and pentacyclic, containing respectively four and five cycles, as well as two- and tricyclic ones. Representatives of those show anti-cancer properties as well as anti-inflammatory, anti-oxidative, anti-viral, anti-bacterial and anti-fungal ones. A good example could be the betulinic acid and its derivatives which have been investigated for their strong cytotoxic properties. Other important representatives are the compounds originating from squalene, dammarane, lanostane, oleane (e.g., oleanolic acid), lupane (e.g., lupeol), ursane (e.g., ursolic acid) or triterpenoid sapogenins, for example cycloartane, friedelane, flicanic and cucurbitane triterpenoids.

I would suggest in the introduction to add information on the triterpenes as potentially cytotoxic compounds of 2015.

The introduction has been updated, please see L46-66.

The manuscript is the first report from literatures on the mechanism of action of Pleiocarpa pycnantha and its triterpenes on induce apoptotic cell death in Caco-2 cells in vitro.

Is the question posed by the authors is good.

The methods appropriate and well described OK.
The figures appear to be genuine, without evidence of manipulation. The authors clearly acknowledge any work upon which they are building, both published and unpublished. The title and abstract accurately convey what has been found. The article is interesting.

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This paper (or closely related research) has not been published or accepted for publication. It is not under consideration at another journal.

Thanks for your favourable consideration. Please address all correspondence concerning this manuscript to me at my University and feel free to correspond with me by e-mail.

Sincerely,

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