Reviewer's report

Title: Modulation of Expression of Heat Shock Proteins and Apoptosis by Flueggea leucopyrus (Willd) decoction in three breast cancer phenotypes.

Version: 4  Date: 26 June 2015

Reviewer: Andy Göbel

Reviewer's report:

Third report on the manuscript “Modulation of Heat Shock Proteins and Apoptosis by Flueggea leucopyrus (Willd) decoction: possible mechanisms mediating cytotoxicity to three breast cancer phenotypes”

The study by Mendis et al. focusses on the anti-cancer potential of a natural decoction isolated from Flueggea leucopyrus in three different breast cancer phenotypes. The experiments show an induction of apoptosis highlighted by caspase 3/7 activity and DNA fragmentation as well as a decrease of HSP70/90 proteins. This third report contains some additional minor points before the manuscript should be considered for publication. However as this topic is worthy for further investigations, future experiments should be planned and organized more accurately which is a general advice.

Minor Essential Revisions

1. Line 44 contains a mistake: “…MD-MBA-231”
2. No logic rationale for mentioning “expression of HSP 70 and 90 are early indicators of apoptosis” in line 151 as this is the method description part
3. Line 250 contains a mistake: “…of paclitaxel has been utilised” should be changed to “of paclitaxel have been utilized”
4. Line 275-277: This result is not supported by data. At least a picture of HSP90/70 staining should be shown. Otherwise, exclude this statement.
5. Figure 4 should be supported by a respective staining as it was shown for the three breast cancer phenotypes
6. Line 377 contains a mistake: “…HSP70 suppress apoptosis” should be changed to “HSP70 suppresses apoptosis”
7. Lines 632-634: Do not include a conclusion of the result as it is a figure legend. All the other figure legends do not contain any conclusions as it should be.

Discretionary Revisions

1. The manuscript could benefit from mentioning the sequence of all the primers that were used to assess gene expressions.
Level of interest: An article whose findings are important to those with closely related research interests

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.