Reviewer's report

Title: The natural compound Guttiferone F sensitizes prostate cancer to starvation induced apoptosis via calcium and JNK elevation

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Reviewer: Qihan Dong

Reviewer's report:

This is an interesting study by investigating the anti-cancer effects of the natural compounds (GF) purified from Garcinia. We have seen many natural products possessing anti-cancer properties but the mechanisms of actions of the compounds have often not been investigated. The authors address the question: what is the effect of GF on prostate cancer cells in the culture medium with or without serum. The main finding is that GF could increase apoptotic signal in a mitochondria-dependent manner when serum is removed from the culture medium in vitro. In animal study, the authors show that caloric restriction could enhance the antitumor effect of GF in xenograft model.

The methods are appropriate and well described. The overall data are sound. The manuscript adheres to the relevant standards for reporting and data deposition. The discussion and conclusions are balanced and supported by the data.

Minor Essential Revisions

The limitation, which needs to be acknowledged, is to equate the caloric restriction to serum withdrawal. Caloric restriction is achieved mainly by the removal of macronutrients such as proteins, lipids and carbohydrates. The described culture condition in the study is the removal of the 10% of serum. The consequence of which is the removal of growth factor in the serum not macronutrients. The culture medium RPMI in this case still contains macronutrients.

For animal study, not sure why not to have the group of caloric restriction + 20 mg/kg of GF. Only then, it is possible to compare the result from caloric restriction alone (group 2) and GF treatment (20 mg/kg) alone (group 3).

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