Author’s response to reviews

Title: Defatting of acetone leaf extract of Acacia karroo (Hayne) enhances its hypoglycaemic potential

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Reviewer reports:

Ephrem Engidawork, PhD (Reviewer 1):

* Page 17, Line 45: plants not "pants"

Response

Thanks. The error has been rectified in the manuscript.

* Capitalize first letter in citing Tables.
Response

Rectified

* I am not happy with the explanation given for the seemingly antagonistic activity of the combination of insulin and the extract. It is evident that glucose uptake by the combination is significantly lower than the individual agents. However, this is not translated into the kinase activities. Akt1 expression is ablated by the extract and it is not surprising to see a decreased Akt1 with the combination. That does not, however, indicate that the extract wouldn't act via the Akt pathway, as it was capable of increasing other isoforms of Akt and it is known that there is redundancy of Akt in insulin signalling. One could also see that the combination produced a better effect in other measurements (for example, GSk-3β). Given that, why did the combination produced such an effect on glucose uptake? Could it be because of some sort of interaction between insulin and the extract during the experiment?

Response

Indeed, given the fact that an insulin and extract combination was employed in the study, the possibility of an interaction between the two can be envisaged. Such an interaction could possibly ablate insulin activity or the extract may suppress the proteins upstream Akt or Akt itself. Although this was not the emphasis in this study, it will be interesting in further studies to look at whether the extract acts directly on insulin or proteins upstream Akt and downstream receptor substrates.