Reviewer’s report

Title: Curcumin activates the podocyte p38MAPK-HSP25 pathway in vitro but does not attenuate streptozotocin-induced diabetic nephropathy in vivo

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Reviewer: Kulbhushan Tikoo

Reviewer’s report:

In the present study the authors had explored the potential of curcumin as a treatment regimen against diabetes mellitus (DM) both in vitro and in vivo. It is interesting study in a way as it raises doubts about other studies which shows protective role of curcumin in diabetic nephropathy. But before the acceptance of this manuscript, there are certain critical points to be addressed.

Major revisions

1) My major concern is with the quality of the western blots. The blots shown in the manuscript are not from the single blot for different treatment groups. This makes it inconvenient to compare the results for different treatment groups and thus pose a question on the reliability of the data. Level of p38 and hsp25 in normal control animals should be included in figure 6.

2) From the present results, it seems that curcumin at higher dose is actually increasing the plasma glucose level and urinary 12-HETE/cr excretion in vivo. The authors should explain the possible reason for the same in discussion.

3) In statistical analysis, for various results, if the authors have set the value of NG treatment group as 1 every time and then comparing the effects in other treatment groups relative to NG, then they should not have a SEM for NG. The authors should explain these calculations in detail.

Minor revisions

1) There are some contradictory statements in the results, like “there was no measurable curcuminoid in mice fed Cur0 or Cur5,000 diets. Urinary curcuminoid was abundantly detected in mice fed the Cur5,000 diet” The authors should rectify the same.

2) There are too many values in the results. The inclusion of tables for comparing values like blood glucose etc., makes the reader to easily understand the results.