Reviewer's report

**Title:** Polygonum cuspidatum inhibits pancreatic lipase activity and adipogenesis via attenuation of lipid accumulation

**Version:** 1  **Date:** 3 August 2013

**Reviewer:** Narkunaraja Shanmugam

**Reviewer's report:**

In this manuscript, YS Kim et al. have studied the anti-adipogenic activity of Polygonum cuspidatum plant extract using pre-adipocyte cell line. Based on the pancreatic lipase inhibitory activity of different extracts, they have chosen n-butanol extract for its best IC50 value and tested its cytotoxic activity. Then effect of this n-butanol extract on adipocyte differentiation has been studied with relevant to lipid droplet accumulation inhibition studies and adipocyte differentiation specific transcription factors like PPAR-## and C/EBP-#. In addition effect of plant extract on AMPK kinase activation has also been studied.

On the whole, this study is well designed and executed and consists of some novel findings. Manuscript is fairly written and the results are interpreted and discussed with related key issues regarding the pathogenic and therapeutic mechanism.

However, the manuscript has some minor errors should be corrected:
1) Abbreviations should be expanded wherever needed (Ex. BCA method, DHAP, WAT, etc.)
2) Typographical errors - Page no.9: line 3 – Tukey’s t test?
   - In figure1A- DMEM-10% CS ?
   - Page7 – line-8-450*nm?
3) In figure1A) Axis title font sizes are not same
4) Syntax errors in Page no.9 – lines 10 and 11
Page no. 10 line 11

**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:**

No declaration.