Reviewer’s report

**Title:** The Tibetan herbal medicines Padma 28 and Padma Circosan inhibit the formation of advanced glycation endproducts (AGE) and advanced oxidation protein products (AOPP) in vitro.

**Version:** 1  
**Date:** 30 May 2014

**Reviewer:** Johanna Gostner

**Reviewer’s report:**

The study examines the effects of two polyherbal preparations on the formation of advanced glycation endproducts (AGE) and advanced oxidation protein products (AOPP). The authors propose a suppressive effect of the polyherbal preparations on both AGE and AOPP and discuss their findings regarding a potential protective role in the treatment of circulatory disorders and diabetes.

The authors made interesting observations, however at this stage an adequate interpretation of data is not possible due to insufficient experimental replicates and/or missing indication of error bars. Additionally, presented data are derived from in vitro experiments only, using BSA as a model protein with a sole treatment dose, which limits the power of the study.

**Major revisions:**

- Introduction: Please include additional study references for use of herbal medicines in diabetes management and the effect of botanical preparations on blood glucose levels, AGE formation and antibacterial properties.
- Experiments should be performed with different ratios of protein to extracts to glucose. The amount of glucose in the assay should be compared to clinically relevant blood glucose levels.
- Experiments must be performed with three independent replicates and error bars must be introduced in the figures.
- Introduction as well as discussion should focus also on the multifactorial background of diseases such as diabetes and circulatory disorders.

Consequently, the question on the expectable effectiveness of antioxidative therapies in general could be discussed. As Vitamin C showed comparable effectiveness regarding prevention of AOPP formation as the extracts, also vitamin supplementation could be discussed.

**Minor revisions:**

- The relevance of the suggested mechanism should be analyzed in more detail in relevant cell models, e.g. by investigation AGE/AOPP mediated receptor activation.
- Figure legends should be written in a more informative manner.
- Some language corrections are needed
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.