Reviewer's report

Title: Acute reduction of serum 8-iso-PGF2-alpha and advanced oxidation protein products in vivo by a polyphenol-rich beverage; a pilot clinical study with phytochemical and in vitro antioxidant characterization.

Version: 1 Date: 11 April 2011

Reviewer: Gitte S Jensen

Reviewer's report:

The research question addressed in the manuscript's straightforward: Does consumption of a single dose of active test product (polyphenol-rich juice) lead to a quantifiable improvement in antioxidant status and reduced inflammatory markers? The data clearly shows some benefits.

Overall, the article is clear and well-balanced, and the data provide solid documentation for beneficial effects after consumption of a single acute dose of a polyphenol-rich juice (where one of the main ingredients is coffee-berry).

The study design is randomized double-blinded placebo-controlled and involved 31 people; with post-hoc sub-group analysis of the 10 people in each group with highest inflammatory marker at study baseline.

Minor essential revisions:

1. Abstract must be edited to be a stronger stand-alone description of the study. It must contain a better description of the number of subjects in each group and sub-group analysis.
2. The discussion must include a comment on the fact that for some test parameters, the starting (baseline) averages between placebo and test product groups seemed large and possibly statistically significant.

Clarification that the authors may wish to add to the discussion: For the sake of future reference, a cross-over study design may yield higher significance in some of the antioxidant parameters:

- Subjects arrive after 12-hour fasting, first blood draw 7AM, then only water for another 4 hours. The metabolic stress developing after over 16 hours of fasting may be highly individual. If people had been tested twice: Once on placebo, and once on active test product, then each person's changes after consumption could be analyzed using 'within-subject' analysis, and the overall changes between the two test days analyzed for the whole group.

- It is possible that this may have provided stronger and more significant data on the HORAC.

Level of interest: An article whose findings are important to those with closely
related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.