

Reviewer's report

Title: Acute ingestion of a novel whey-derived peptide improves vascular endothelial responses in healthy individuals: A randomized, placebo controlled trial

Version: 1 **Date:** 29 April 2009

Reviewer: Margreet Olthof

Reviewer's report:

This study describes the effects of a novel whey derived peptide on endothelial responses in humans. The study was well designed and executed under controlled conditions. However there are comments and questions.

MAJOR

Supplement

1) Please justify the choice for NOP-47 and provide more details on the supplement NOP-47. What does 'NOP-47' stand for? Which bioactive peptides are in it that are supposed to act on endothelial responses? Are there previous studies in humans with this supplement? In addition, the amino acid composition in table 2 seems strange, in total there is 128 g of amino acids in 100 g powder?

Results

2) In general no comparisons should be made within intervention groups (e.g. compare effects within the placebo group compared to baseline). The advantage of the cross over design is that comparisons can be made between the placebo and the intervention, within subjects. Therefore the statistical analyses should match this design and only these comparisons should be presented. All other significant comparisons 'in time' should be deleted from the results because they are not important if there is no difference between the intervention and placebo.

For the hematological responses this means probably that there are no effects of the NOP-47? In that case the table might be deleted and results only mentioned in the text?

3) A lot of outcomes were tested. Please justify all outcomes (what were the hypotheses?) and explain that you adjusted for multiple testing (or not)?

Discussion

4) The discussion is rather general and not focused on the results of this study. Specifically: potential effects of whey proteins on ACE inhibition are discussed, but in this study there is no effect of NOP-47 on blood pressure?

MINOR

Methods

5) The blinding is unclear. If the intervention was 5 g of whey protein and the placebo was sweeteners only then participants could see the difference? Did the NOP-47 and placebo look and taste the same after mixing with water? Please explain.

6) Which artificial sweetener(s) was/were used and how much was added to the supplements

Results

7) pre and post occlusion diameters are presented and tested (fig 2). This seems unnecessary, FMD includes both and therefore you can present the FMD only.

8) Present the actual differences in FMD and blood flow in the text (mean difference and 95% CI)

9) In the last sentence on page 12: 'individual responses...NOP-47 ingestion' it is unclear relative to what the responses were greater? Please clarify

10) Please clarify in general in the manuscript and the title what 'acute ingestion' means? The word 'acute' suggests that supplements were tested after a single dose, but subjects ingested the supplements for 2 weeks already. So you don't know whether the effects you found result from a single dose or the (build-up) effect of 2 weeks ingestion?

Figures:

11) Too many figures are presented.

12) The figure numbers/legends in the manuscript are not clear, and in addition the figures are displayed twice in the manuscript?

13) Figure 4: in the text on page 13 it is stated that there is a significant difference between NOP-47 and placebo. However, it is unclear from the figure. It would be more clear if the data are presented in 1 figure so placebo and NOP-47 data can also be visually compared.

14) Figure 4: in the legend it says 120 min post-ingestion in the figure 110 min?

Conclusion

15) Preservation of NO bioavailability is not an outcome of this study and should be deleted from the conclusions.

Citations

16) Please include literature references for all statements made. E.g. page 3, before last sentence: dietary proteins...may also impact vascular function' and 'in vitro experiments on NOP-47' (page 4)

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.

Declaration of competing interests:

I declare that I have no competing interests