

## Reviewer's report

**Title:** Is Plasma Vitamin C an appropriate Biomarker of Vitamin C Intake? A Systematic Review and Meta-analysis

**Version:** 1 **Date:** 5 September 2007

**Reviewer:** eugene H.J.M. jansen

### Reviewer's report:

#### General

The authors did a great job by gathering and evaluating all relevant studies concerning the relation between vitamin C as biomarker and the intake as calculated by several dairy methods as FFQ and DR. The extensive analyses will be a valuable contribution to the knowledge and understanding of biomarker-related vitamin C intake.

The studies were selected by an open and clear procedure by a number of variables and criteria focused on study performance and protocols.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Less attention has been paid, at least it is not described in the text, to the method of analysis of vitamin C, including the pre-analytical treatment and storage of the plasma samples. Furthermore it is important that within one study the all samples have been taken at the same hour of the day and preferably not postprandial. It is well-known that the stability of vitamin C heavily depends on the temperature and time between blood withdrawal and centrifugation and the addition of stabilizers. In addition storage condition of the plasma samples (at least < -70 C) are also important to maintain the stability of vitamin C.

In the criteria no attention has been paid to these conditions and possible confounders. The results of the paper will be more valuable and probably more convincing if of each study the following information will be reported in an additional Table:

the analytical method used, pre-analytical information (if available), addition of stabilizers, storage time and temperature between sampling and analysis, the average (or median) vitamin C plasma concentrations, and the time of the day (including variation) of blood withdrawal.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.