Supporting Information

The Metabolic Plant Feedback Hypothesis: How Plant Secondary Metabolites Nonspecifically Impact Human Health*

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* Dedicated to Professor Dr. Dr. h.c. mult. Kurt Hostettmann in recognition of his outstanding contribution to natural product research.
Materials and Methods

The study was based on the yearly glucose tolerance practical training carried out with male medical students at the University of Bern. Dietary food grade plant copper chlorophyll (chlorophyllin, E141) powder (≥ 95% purity) was obtained from Kingherbs Ltd. (batch 895HC-62507) and ingested at a concentration of 1 g dissolved in the glucose (75 g) containing water (2.5 dL). Cu-chlorophylls (E141) and Cu-chlorophyllins [E141(ii)] are authorized as food additives in the EU in accordance with Annex II to Regulation (EC) No 1333/2008 and the single oral application was considered to be food. Food grade glucose was obtained from a local pharmacy. The glucose tolerance test was performed according to the approved ethical guidelines by the University of Bern for student practical training. In this context, an ethics committee approval was not required under Swiss law. Healthy volunteers were recruited who showed normal glucose metabolism in the tolerance test. Prior informed consent from all volunteers was obtained for the chlorophyllin experiments. Glucose metabolism was classified according to the World Health Organization and American Diabetes Association (ADA; 1997, 2004) criteria as normal, impaired fasting glucose, impaired glucose tolerance, or diabetes. Volunteers obtained peripheral blood by a finger prick with a sterile lancet (Glucojet, Menarini Diagnostics) and then used the Accu Chek Aviva device (Roche) and corresponding kit stripes to measure the blood glucose concentration. Statistical analyses were performed by ANOVA with post hoc Tukey HSD.