

CORRESPONDENCE/REBUTTAL

Comment on Effects of Microwave Cooking Conditions on Bioactive Compounds Present in Broccoli Inflorescences

We have read with interest the article of Lopez-Berenguer et al., who concluded that microwave cooking reduces a variety of health-promoting compounds found in broccoli (1). Whereas Garber et al. previously reported that the bioavailability of vitamin K in broccoli cooked by steaming for 20 min is nearly double that of the fresh food (2), no data are available from the paper of Lopez-Berenguer et al. on the effects of microwave cooking on vitamin K present in broccoli. The primary form of vitamin K in the diet is phylloquinone from green leafy vegetables. Comprehensive data on the vitamin K content of foods are available, and it is now acknowledged that cooked broccoli is the major source of dietary intake of phylloquinone (2). This is of paramount importance in some clinical circumstances, such as in patients undergoing oral anticoagulant therapy (OAT). Oral anticoagulants competitively inhibit enzymes that participate in vitamin K metabolism. Consequently, dietary vitamin K plays an essential role in anticoagulation stability. Because interaction between dietary vitamin K and coumarin derivatives is clinically relevant and plays a major role in international normalized ratio (INR) fluctuations in anticoagulated patients (3), data on the bioavailability of vitamin K after microwave cooking of foods containing large amounts of this essential compound would be useful to give meaningful information to patients on OAT and their physicians, in order to reduce coagulation instability and prevent both thrombotic and hemorragic complications.

LITERATURE CITED

- López-Berenguer, C.; Carvajal, M.; Moreno, D. A.; García-Viguera, C. Effects of microwave cooking conditions on bioactive compounds present in broccoli inflorescences. <u>J. Agric. Food Chem.</u> 2007, 55 (24), 10001–10007.
- (2) Garber, A. K.; Binkley, N. C.; Krueger, D. C.; Suttie, J. W. Comparison of phylloquinone bioavailability from food sources or a supplement in human subjects. <u>J. Nutr.</u> 1999, 129 (6), 1201–1203.
- (3) Rohde, L. E.; de Assis, M. C.; Rabelo, E. R 54. Dietary vitamin K intake and anticoagulation in elderly patients. <u>Curr. Opin. Clin. Nutr. Metab. Care</u> 2007, 10 (1), 1–5.

Giuseppe Lippi,* Gian Luca Salvagno, Martina Montagnana, and Gian Cesare Guidi Sezione di Chimica e Microscopia Clinica, Dipartimento di Scienze Morfologico-Biomediche, Università degli Studi di Verona, Italy

Received for review November 27, 2007. Revised manuscript received February 16, 2008. Accepted February 19, 2008.

JF0734469

^{*} Corresponding author (telephone 0039-045-8124308; fax 0039-045-8201889; e-mail ulippi@tin.it or giuseppe.lippi@univr.it).