

Editorial



Widened horizon of vitamin E research

This special issue of *Molecular Nutrition and Food Research* addresses novel aspects of vitamin E research and summarizes important issues discussed at the satellite symposium on Vitamin E held in Rome on August 26 2009 prior to the annual meeting of the Society for Free Radical Research (SFRR) – Europe.

The most striking vitamin E deficiency syndromes are female infertility and neurological disorders. Although at least infertility has been known for almost a century (1922) related molecular mechanisms are unknown and even functions which could explain the essentiality of vitamin E remain to be detected. Great efforts were undertaken to study the *in vivo* antioxidant function of vitamin E since it was expected to contribute to prevention or cure of diseases that are presumed to be associated with oxidative stress such as cardiovascular diseases, cancer and neurodegenerative disorders. Unfortunately, clinical evidence for a protective efficacy of vitamin E in these diseases could not be obtained. Therefore, the symposium summarized here was

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already the third in a row in this century where strategies were discussed to finally solve the mystery of vitamin E function. Novel aspects worth to be focused on in future research were the metabolism of vitamin E by systems metabolising xenobiotics as well as the role of vitamin E metabolites themselves. Further progress is expected from understanding the mechanisms of the vitamin E transport systems, and the role of vitamin E in signalling, gene regulation, membrane processes and nerve functions. The most attractive topics were chosen for this special issue and accompanied by reviews from leading experts to update the frontiers of vitamin E research. An introductory mini review summarizes the scope of the issue [1].

I very much hope that the mosaic stones collected herein will prove to be helpful in finally figuring out the biological role of vitamin E. It is a pleasure for me to thank Francesco Galli for organizing the symposium, the authors for their contributions and their patience in reacting to editorial demands, the reviewers for assuring the quality and harmonization of the manuscripts and

the Editorial office of *Molecular Nutrition and Food Research* which encouraged the publication.

[1] Brigelius-Flohé, R., Galli, F. Vitamin E: a vitamin still awaiting the detection of its biological function. *Mol. Nutr. Food Res.* 2010, 54, 583–587 (this issue).

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