



antioxidants



Special Issue Reprint

Vitamin E

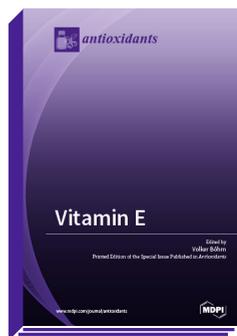
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Vitamin E is the major lipid-soluble antioxidant in the cell antioxidant system and is exclusively obtained from the diet. In 1922, vitamin E was discovered as a dietary factor essential for reproduction in rats. Meanwhile, vitamin E has revealed many more important molecular properties, such as the scavenging of reactive oxygen and nitrogen species with consequent prevention of the oxidative damage associated with many diseases. In addition, the modulation of signal transduction and gene expression in antioxidant and non-antioxidant manners was shown for vitamin E.

This Special Issue highlights some of the recent advances in vitamin E research, showing on the one hand the status quo and providing, on the other hand, new insights into functions and physiological relevance. Thus, the current knowledge of tocopherol biosynthesis in plants and future challenges regarding the understanding of its regulation are presented. Another paper describes the fate of vitamin E in the human gastrointestinal lumen during digestion. During the metabolism of vitamin E, the long-chain metabolites 13'-hydroxytocopherol and 13'-carboxytocopherol are formed by oxidative modification of the side-chain. Their occurrence in human serum indicates a physiological relevance. Another paper describes the membrane distribution of α -tocopherol in brain regions of adult rhesus monkeys, also looking for associations between membrane α -tocopherol and the content of polyunsaturated fatty acids. <!-- Generator: Adobe Illustrator 22.1.0, SVG Export Plug-In -->



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