

Regulation of xenobiotic metabolism, the only signaling function of α -tocopherol? M. G. Traber, *Mol. Nutr. Food Res.*, **54**, 661–668 (2010). (Review)

There is growing concern based on meta-analyses of clinical trials using vitamin E supplements that these supplements increase the risk of all-cause mortality in humans. My laboratory has been investigating the metabolism and disposition of “excess” vitamin E. This review focuses on the various mechanisms that prevent vitamin E intoxication. Non- α -tocopherols are aggressively metabolized thereby preventing their tissue accumulation and limiting increases in their plasma concentrations. Moreover, “excess” α -tocopherol is also metabolized and its concentrations are limited. The mechanisms for this limitation do not seem to be specific for vitamin E, but rather are general xenobiotic pathways. We suggest that the most relevant cytochrome P450-mediated pathway is the one that is most important for the regulation and activation of vitamin K, specifically the one dependent on CYP4F2.