

Antioxidant activity of food constituents: relevance for the risk of chronic human diseases

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The relevance of antioxidative food constituents and the risk of developing several chronic human diseases have long been discussed. For example, the consumption of fruits and vegetables has been associated with a reduced risk of coronary atherosclerosis. This may be caused by the antioxidative activity of phenolics and flavonoids that inhibit the oxidation of low-density lipoprotein cholesterol. The editors are pleased that İlhami Gülçin from Atatürk University in Erzurum, Turkey, has accepted our invitation to review this important but controversial topic (Gülçin 2012; this issue). The comprehensive review focuses on the methods commonly used for determination of the antioxidative capacity of food constituents. What is the chemistry underlying the assays? What are their limitations? How can they be used for developing standardized methods for characterizing the antioxidant capacity of food? Oxidative stress represents a cutting-edge topic of both this and other journals (Yen et al. 2011; Wang et al. 2011; Stewart et al. 2011a, b; Stewart et al. 2010; Barcelos et al. 2011; Michalowicz 2010; Bolt and Hengstler 2010; Bolt et al. 2011; Hardelauf et al. 2011; Cadenas et al. 2010; Hoehme et al. 2010; Schumann et al. 2009). The current review of Gülçin (2012) is a must-read for everybody interested in a critical discussion of the chemical principles underlying the most commonly used methods in this field of research.

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