Antioxidative Properties of Polyphenolic Compounds of Plants

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ABSTRACT

Polyphenols are present in a variety of plants utilized as important components of both human and animal diets. The structure of natural polyphenols varies from simple molecules, such as phenolic acids, to highly polymerized compounds, such as condensed tannins. Structural variations within the rings subdivide the flavonoids into several families: flavonoids, flavones, flavanols, isoflavones, antocyanidins and others.

This review article summarizes properties of polyphenolic compounds their distribution in plants, catabolism, and the structure-activity relationships. Polyphenols probably protect LDL oxidation in vivo with significant consequences in atherosclerosis and also protect DNA from oxidative damage with important consequences in the age-related development of some cancers. They also inhibit lipid peroxidation, lower blood cholesterol level, and decrease atherosclerosis and cardiovascular diseases. Polyphenolic compounds inhibit cancer, while some polyphenolic compounds have estrogen-like activities. Uptake of dietary antioxidative agents to decrease the risk of cancer, cardiovascular, and otherdiseases plays an important role in preventive medicine.

Keywords : antioxidant、Polyphenolic Compounds、flavonoids

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