

Antioxidant activity of xanthophylls on peroxy radical-mediated phospholipid peroxidation.

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The ability of xanthophylls (canthaxanthin, zeaxanthin, and astaxanthin) as chain-breaking antioxidants was investigated in peroxy radical-mediated peroxidation of phosphatidylcholine (PC) liposomes under atmospheric conditions using lipid-soluble and water-soluble radical generators. These xanthophylls retarded the chain propagation reaction of phosphatidylcholine hydroperoxides (PC-OOH) formation, although their activities to trap chain-carrying peroxy radical were much less than that of alpha-tocopherol. In chick plasma studies, it was observed that endogenous xanthophylls participated in the antioxidant defenses against the attack of aqueous peroxy radical. It was concluded that xanthophylls possess the ability to act as chain-breaking antioxidants in the peroxidation of membraneous phospholipids. Dietary xanthophylls may, therefore, be helpful in resisting membraneous phospholipids against oxidative damage in vivo.

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Le xantofilie (luteina e zeaxantina) sono antiossidanti che possiedono l'abilità di agire da "rompi-catena" nei processi di perossidazione delle membrane fosfolipidiche.