

This book presents an overview of lipid peroxidation, its inhibition, effects and mechanisms. The topics analyzed cover a broad spectrum of functions played by lipid peroxidation and presents new information in this area of research. The topics analyzed include progress in the knowledge of lipid peroxidation from the first evidence issued by Nicolas Theodore de Saussure in Paris 1804; fighting against lipid peroxidation; the unique story of docosahexaenoic acid in the brain; protective effects of melatonin and structurally-related molecules in reducing membrane rigidity due to lipid peroxidation; synergistic effects of antioxidant composition during inhibited lipid autoxidation; lipid peroxidation and animal longevity; free radicals in health and disease; lipid peroxidation in autoimmune diseases; aldehydes derived from lipid peroxidation in cancer and autoimmunity; the role of reactive oxygen species and lipid peroxidation in the neurodegenerative process after spinal cord injury; kinetics and mechanisms of inhibited lipid autoxidation in presence of 4-substituted-coumarins; hypoxia and oxidative stress: cell signaling mechanisms and protective role of vitamin C and cilnidipine; characterization of oxidative stress and antioxidant potency; paying attention to time and location; lipid peroxidation in aquatic organisms: ontogenetic, phylogenetic and ecological aspects; chemistry of lipid oxidation in edible oils; and menopause progression and oxidative stress and the associated mechanisms and importance of physical exercise.

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