

1. Record Nr.	UNINA9910298306103321
Titolo	Lipid Hydroperoxide-Derived Modification of Biomolecules // edited by Yoji Kato
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2014
ISBN	94-007-7920-8
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (203 p.)
Collana	Subcellular Biochemistry, , 0306-0225 ; ; 77
Disciplina	572.57
Soggetti	Cancer research Posttranslational modification Food—Biotechnology Cancer Research Posttranslational Modification Food Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Preface. I Lipid peroxidation and small molecule adducts -- Lipid hydroperoxides as a source of singlet molecular oxygen -- The formation of lipid hydroperoxide-derived amide-type lysine adducts on proteins: a review of current knowledge -- Lipid hydroperoxide-derived adduction to amino-phospholipid in biomembrane -- Amide-type adduct of dopamine - Plausible cause of Parkinson diseases -- Determination of HEL (hexanoyl-lysine adduct): a novel biomarker for omega-6 PUFA oxidation -- Hexanoyl-lysine as a deterioration marker for rice during storage -- Cholesterol hydroperoxides and their degradation mechanism. II Pathophysiological consequences -- Amide-adducts in atherosclerosis -- Oxidative Modification of Lipoproteins -- Immunochemical Detection of Lipid Hydroperoxide- and Aldehyde-Modified Proteins in Diseases -- Role of Lipid Peroxide in the Neurodegenerative Disorders -- Lipid Hydroperoxide-Derived Modification of Proteins in Gastrointestinal Tract. III Applications for diagnosis and development of functional food -- Low-cost and easy-to-use "on-chip ELISA" for developing health-promoting foods --

Hexanoyl-lysine as an oxidative-injured marker - application of development of functional food -- Potential role of oxidative protein modification in energy metabolism in exercise -- Suppressive effects of cacao polyphenols on the development of atherosclerosis in apolipoprotein E-deficient mice -- Index.

Sommario/riassunto

This volume focusses on oxidative modifications of lipid molecules and the successive generation of singlet oxygen. The book also covers the secondary adductions of these reactive species with proteins and aminophospholipids. During lipid peroxidation, the initial event is the formation of lipid hydroperoxide, which is followed by an oxidation event that starts a chain-reaction. The formed lipid hydroperoxide gradually decomposes into harmful aldehydes, which are the advanced end-products of lipid peroxidation. The book consists of three sections: Part I, entitled Lipid peroxidation and small molecule adducts focusses on the biochemical events that are involved in lipid peroxidation and to the formation of small molecules like singlet molecular oxygen. This part of the book also introduces the hexanoyl-lysine adduct. Part II, entitled Pathophysiological consequences covers a range of damaging physiological consequences of lipid peroxidation, ranging from atherosclerosis to neurodegenerative disorders. Finally, Part III, entitled Applications for diagnosis and development of functional food looks into potential diagnostic uses of lipid peroxidation, the possible beneficial effects that can be achieved and new assays in food safety that have been developed.
