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## Oxygen Free Radicals - The Role of Glutathione

Thiols as Major Determinants of the Total Antioxidant Capacity; Enzymes of the Thiol-dependent Hydroperoxide Metabolism in Pathogens as Potential Drug Targets; Is there a Role of Glutathione Peroxidases in Signaling and Differentiation?; Multidrug Resistance-associated Proteins: Export Pumps for Conjugates with Glutathione, Glucuronate or Sulfate; Detoxification of Electrophilic Compounds by Glutathione S-Transferase Catalysis: Determinants of Individual Response to Chemical Carcinogens and...; Transcriptional Regulation of Glutathione S-Transferase P1-1 in Human Leukemia

Mechanism of  $\gamma$ -Glutamyltranspeptidase Folding and Activation in the Endoplasmic Reticulum; The Role of  $\gamma$ -Glutamyl Transpeptidase in the Biosynthesis of Glutathione; Role of  $\gamma$ -Glutamyltransferase in the Homeostasis of Glutathione during Oxidative and Nitrosative Stress; The Importance of  $\gamma$ -Glutamyl Transferase in Lung Glutathione Homeostasis and Antioxidant Defense; The Role of  $\gamma$ -Glutamyltranspeptidase in the Metabolism and Cytotoxicity of 4-Hydroxynonenal-Glutathione Conjugate: Evidence and Hypothesis;  $\gamma$ -Glutamyltransferase-Dependent Prooxidant Reactions: a Factor in Multiple Processes

Serum  $\gamma$ -Glutamyl Transpeptidase: a Prognostic Marker in Cardiovascular Diseases; Lipoic Acid: a Multifunctional Antioxidant; Is Glutathione an Important Neuroprotective Effector Molecule against Amyloid Beta Toxicity?; Antioxidants in Cancer Therapy: is there a Rationale to Recommend Antioxidants during Cancer Therapy?; Disulfide Exchange in CD4; Redox Regulation in Protein Folding and Chaperone Function; Reduction of the Endoplasmic Reticulum Accompanies the Oxidative Damage of Diabetes Mellitus; Analytical Developments in the Assay of Intra- and Extracellular GSH Homeostasis Signalling Potential and Protein Modifying Ability of Physiological Thiols; Redox Signaling and the Map Kinase Pathways; Redox Regulation of Mitochondrial Permeability Transition: Contrasting Effects of Lipoic Acid and its Positively Charged Analog LA-Plus; Redox State of Glutathione and Thioredoxin in Differentiation and Apoptosis; Redox Regulation of DNA Repair; Author Index

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### Sommario/riassunto

This volume contains contributions by some of the leading scientists in the field of thiol oxidation/reduction (redox) biochemistry. It is focused on the biological/pathophysiological implications of newly-discovered functions of cellular thiols, such as glutathione in the first place.

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