1. Record Nr. UNINA9910157474903321

Titolo	Biochemistry of Oxidative Stress : Physiopathology and Clinical Aspects / / edited by Ricardo Jorge Gelpi, Alberto Boveris, Juan José Poderoso
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-45865-5
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XI, 454 p. 74 illus., 47 illus. in color.)
Collana	Advances in Biochemistry in Health and Disease ; ; 16
Disciplina	614.5999
Soggetti	Cancer - Research Cell physiology Oxidative stress Cancer Research Cell Physiology Oxidative Stress
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Section 1 GENERAL ASPECTS: 1 The concept of oxidative stress after 30 years -- 2 Evolution of atmospheric oxygen and oxygen metabolism -- 3 Mitochondria as origin of cellular oxidative stress -- 4 Biochemistry and physiology of mtNOS -- 5 Biochemistry of nitrogen reactive species -- 6 Biochemistry of nitro fatty acids -- 7 Mammalian adaptation to life at high altitude -- 8 Metabolic syndrome and oxidative stress in rat pancreas -- 9 Progesterone prevents mitochondrial dysfunction and oxidative stress in the spinal cord of wobbler mice -- 10 Mitochondrial transfer by intercellular nanotubes -- Section 2 CARDIOVASCULAR: 11 Role of Oxidative Stress in Subcellular Defects in Ischemic Heart Disease -- 12 Regulation of protein nitrosylation by Trx1 -- 13 Inhibition of adenylyl cyclase type 5 increases longevity and healthful aging through oxidative stress protection -- 14 Antioxidant supplementation in elderly cardiovascular patients -- 15 Rupture of redox homeostasis in a model of pulmonary artery -- 16 Mitochondrial reactive oxygen species triggered by the cardiac renin-angiotensin-aldosterone system -- 17

Mitochondrial complex I inactivation and increased autooxidation after ischemia-reperfusion in the stunned heart -- 18 Oxidized LDL and atherogenesis -- 19 Reactive oxygen species and cyclooxygenase products in the regulation of blood flow in small vessels -- 20 Thioredoxin-1 attenuates postischemic ventricular and mitochondrial dysfunctions -- 21 Nitro-arachidonic acid reduces the damaged area in rat myocardial infarction -- 22 Inhaled particulate matter and myocardial dysfunction -- Section 3 NEURODEGENERATION AND NEURONAL FUNCTION: 23 Effect of lipoic acid in the triple transgenic mouse model of Alzhaimer's disease -- 24 Neurovascular coupling mediated by NO in the hippocampus -- 25 Protection from neurodegeneration: signaling and mitocondrial regulation -- 26 Oxidative stress and neurodegeneration -- 27 Oxidative stress, metabolic syndrome and Alzheimer´s disease -- 28 Systemic oxidative stress in patients with neurodegenerative diseases -- Section 4 CANCER: 29 Oxygen metabolism and oxidative stress in cancer cells -- 30 Mitochondrial biogenesis is required for survival and propagation of cancer cells -- 31 Tumor immunology & immunotherapy in patients -- 32 Oncogene-induced Nrf2 repression as adaptive response of cancer cells to acquire a pro-oxidant state favoring cell survival and in vivo tumor growth -- 33 Mitochondrial dynamics regulate oxidative metabolism in Leydig tumor cells -- Index.

Sommario/riassunto

The strongest point of this book titled "Biochemistry of Oxidative Stress: Physiopathology and Clinical Aspects", is that the academic and scientific background of the authors/editors guarantee the authorship of a book comprising all aspects of oxidative stress, ranging from very molecular aspects, to clinical application, including the antioxidant therapy. Of particular importance is the fact that the aforementioned aspects are described in the book in a general section and in three different and important pathologies, such as cardiovascular diseases, neurodegenerative diseases, and cancer. The importance of these pathologies lays in the fact that, taken separately or together, they represent by far the leading cause of death in the world. Finally, all the chapters have been written by highly recognized authorities in the field of their investigations. At least to our knowledge, this is the first book with this characteristics in the field of oxidative stress.