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ISBN	0-12-809898-8
Descrizione fisica	1 online resource (307 pages) : illustrations (some color), tables
Disciplina	597.0333
Soggetti	Glycolysis Aldehyde dehydrogenase
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Section I. The Role of Moonlighting GAPDH in Normal Cell Function. The role of moonlighting GAPDH in cell proliferation : the dynamic nature of GAPDH expression and subcellular localization -- Moonlighting GAPDH and the transcriptional regulation of gene expression : multiprotein complex formation and mechanisms of nuclear translocation -- The diversity of moonlighting GAPDH function in posttranscriptional RNA regulation : mRNA stability, tRNA processing, and viral pathogenesis -- The role of moonlighting GAPDH in membrane structure and function : membrane fusion and iron metabolism -- The role of moonlighting GAPDH in intracellular membrane trafficking : tubulin regulation and modulation of cytoskeletal structure -- Moonlighting GAPDH and the maintenance of DNA integrity : preservation of genetic information and cancer facilitation -- Moonlighting GAPDH in neuronal structure and function : regulation of ion channels and signal transduction -- Section II. Physiological Stress and GAPDH Functional Diversity. The significance of nitric oxide-modified GAPDH : regulation of apoptosis, cell signaling, and heme metabolism -- GAPDH and hypoxia : mechanisms of cell survival during oxygen deprivation -- Moonlighting GAPDH and ischemia : cellular and molecular effects of oxygen deprivation and reperfusion -- Section II. The Pathology of GAPDH Functional Diversity.

GAPDH and tumorigenesis : molecular mechanisms of cancer development and survival -- Moonlighting GAPDH and age-related neurodegenerative disease : diversity of protein interactions and complexity of function -- Functional diversity of GAPDH in infection and immunity : the complexity of "simple" organisms -- Moonlighting GAPDH and diabetes : pleiotropic effects of perturbations in GAPDH structure and function -- Section IV. The Pharmacology of Moonlighting GAPDH -- Section V. The Unique Role of Sperm-Specific GAPDH -- Section VI. Discussion.

Sommario/riassunto

Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH): The Quintessential Moonlighting Protein in Normal Cell Function and in Human Disease examines the biochemical protein interactions of the multi-dimensional protein GAPDH, further considering the regulatory mechanisms through which cells control their functional diversity. This protein's diverse activities range from nuclear tRNA export and the maintenance of genomic integrity, to cytoplasmic post-transcriptional control of gene expression and receptor mediated cell signaling, to membrane facilitation of iron metabolism, trafficking and fusion. This book will be of great interest to basic scientists, clinicians and students, including molecular and cell biologists, immunologists, pathologists and clinical researchers who are interested in the biochemistry of GAPDH in health and disease.--
