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Nota di contenuto	Part I. Introduction to Reversible Acetylation and Its Biological Consequences -- Chapter 1. Histone and Non-Histone Reversible Acetylation in Development, Aging and Disease -- Chapter 2. Acetylation-Mediated Epigenetic Consequences for Biological Control and Cancer -- Part II. Acetylation of Cytoskeleton-Associated Proteins -- Chapter 3. Acetylation and Deacetylation of Cytoskeleton-Associated Proteins -- Chapter 4. Tubulin Acetylation: A Critical Regulator of Microtubule Function -- Chapter 5. Tubulin Acetylation and the Cellular Mechanosensing and Stress Response -- Part III. Acetylation in Development -- Chapter 6. Reversible Histone Acetylation During Preimplantation Embryo Development in Mammals

-- Chapter 7. Epigenetic Echoes: Decoding the Acetylation Journey from Neural Crest to Melanocyte -- Part IV. Acetylation in Physiological and Pathological Processes -- Chapter 8. Impact of Histone Acetyltransferases and His-tone Deacetylases on Adult Brain Myelin Plastici-ty -- Chapter 9. Acetylation in Cardiac Aging: Molecular Mechanism and Therapeutic Approaches -- Chapter 10. Regulatory Roles for SIRT1 in Aging and Immunosenescence -- Chapter 11. Repurposing Histone Deacetylase Inhibitors for Management of Solid Organ Transplant Rejection -- Chapter 12. Acetylation in Viral Infection and Disease -- Chapter 13. Reversible Acetylation of Non-Histone Proteins in Human Cancers -- Chapter 14. Lysine Acetyltransferase 6 Complexes in Neurodevelopmental Disorders and Different Types of Cancer -- Chapter 15. Bromodomain and PHD Finger-Containing Protein 1: From Biological Functions to a Developmental Disorder, Cancer and Therapeutics.

Sommario/riassunto

This volume explores various aspects of reversible acetylation of histone and non-histone proteins, focusing on their roles in development, ageing and disease progression. It examines the biological consequences of modulating acetylation levels by histone acetyltransferases (HATs) and histone deacetylases (HDACs). Covered are manipulations at multiple levels, from in vitro and in vivo studies to clinical trials and FDA-approved therapies. The book is divided in four parts: Part I provides an overview of post-translational modifications in the context of development, ageing, neurodegenerative and cancer-related diseases. It highlights the role of histone acetylation in higher genome organization and explores the functions of the proteins involved. Part II focuses on the modulation of cytoskeleton-associated proteins through reversible acetylation. It examines how acetylation influences cytoskeletal compartments, thereby regulating cellular structure and function. Part III examines acetylation in the context of development. It describes acetylation as a key regulator of early embryogenesis, influencing chromatin structure and gene expression. Part IV discusses physiological and pathological aspects of histone and non-histone protein acetylation and its modulation by activators and inhibitors. The book is a valuable resource for scientists, clinicians and academic teachers alike.