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Nota di contenuto	Intro -- Library of Congress Cataloging-in-Publication Data -- Contents -- Preface -- The Varied Functions of Aurora Kinases A and B in Mitosis and Carcinogenesis -- Abstract -- Introduction -- Aurora A Kinase -- Aurora A Localization -- Regulation of Aurora A Protein Levels -- Aurora A Mitotic Functions -- Aurora A Functions in Mitotic Entry and Centrosomal Regulation -- Aurora A Functions in Spindle Assembly -- Regulation of Aurora A Activity -- Aurora A and Cancer -- Aurora B Kinase -- Aurora B Localization -- Regulation of Aurora B Levels -- Regulation of Aurora B Activity -- Aurora B Mitotic Functions -- Aurora B Functions in Chromosome Structure and Alignment -- Aurora B Functions in Chromosome Segregation and Anaphase Onset -- Aurora B Functions in Cytokinesis -- Aurora B and Cancer -- Perspectives - Is there a Signaling Cross-Talk between Aurora A and Aurora B? -- Acknowledgments -- References -- Chromatin Structure and Epigenetics -- Abstract -- 1. Introduction -- 2. Chromatin Structure and Nucleosome Dynamics -- 2.1. DNA Structure and Chromatin Fibers -- 2.2. Nucleosome Positioning -- 2.3. Nucleosome Dynamics and Gene Regulation -- 3. Histone Post-Translational Modifications and Chromatin Structure -- 3.1. Types of Histone Post-Translational Modifications -- 3.1.1. Histone Acetylation -- 3.1.2. Histone Methylation -- 3.1.3. Other Modifications -- 3.2. Crosstalk between Histone Post-Translational Modifications -- 3.3. Distribution

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Sommario/riassunto

Chromatin is DNA plus the proteins (and RNA) that package DNA within the cell nucleus. The primary functions of chromatin are: to package DNA into a smaller volume to fit in the cell, to strengthen the DNA to allow mitosis and meiosis and prevent DNA damage, and to control gene expression and DNA replication. In this book, the authors present topical research in the study of chromatin including the varied functions of aurora kinases A and B in mitosis and carcinogenesis; the chromatin state of pluripotent stem cells; MITF meets chromatin in melanoma; the state of chromatin as an integrative indicator of cell stress; analysing DNA damage and its repair throughout entire genomes; the cloning process, structural characterisation of Revolver transposon and its patented application for chromosome tags; DNA damage and Rad16; and glucocorticoid-induced chromatin remodelling.