

1. Record Nr.	UNINA9910298265803321
Titolo	The Cytoskeleton in Health and Disease [[electronic resource] /] / edited by Heide Schatten
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 2015
ISBN	1-4939-2904-6
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (395 p.)
Disciplina	570
Soggetti	Cell physiology Cell cycle Cell Physiology Cell Cycle Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Part 1. Overview of the Cytoskeleton -- Brief Overview of the Cytoskeleton -- Part 2. Focus on Cytoskeletal Interactions -- Cytoskeleton Dynamics in Health and Disease: Role of Molecular Switches and Rheostats -- Regulation of Cytoskeleton by the Rho Family of GTPases in Hematopoietic Stem Cells in Health and Disease -- The Role of the Cytoskeleton in Cell Migration, Its Influence on Stem Cells and the Special Role of GFAP in Glial Functions -- Centrosome-Microtubule Interactions in Health, Disease, and Disorders -- Cytoskeletal Elements and Reproductive Success in Animals -- Part 3. Focus on Microtubules -- Cytoskeleton and Regulation of Mitochondrial Translocation in Mammalian Eggs -- Tubulin Detyrosination in Epithelial Cells -- Mutations in Adenomatous Polyposis Coli, Their Role in Cytoskeletal Dynamics and Cancer Onset -- Small GTPases Act as Cellular Switches in the Context of Cilia -- Part 4. Focus on Intermediate Filaments -- Desmin Plays Dual Structural and Regulatory Functions Through Its Interaction with Partners in Muscle -- Desmin Filaments and Desmin-Related Myopathy -- Possible Functions of Intermediate Filaments in Mammalian Ovarian Follicles and Oocytes -- Part 5. Focus on Microfilaments -- Actin Organizing Proteins in Regulation of Osteoclast Function -- The Role of Drebrin-Binding

Stable Actin Filaments in Dendritic Spine Morphogenesis -- The Role of the Actin Cytoskeleton in Cancer and Its Potential Use as a Therapeutic Target.

Sommario/riassunto

This volume explores the cytoskeleton, examining its structural and functional roles and its dysfunctions which often lead to disease. Microtubules, microfilaments, intermediate filaments, and cytoskeletal functions and dysfunctions in different organ systems are thoroughly discussed. The text is organized into four sections, each of which covers specific subtopics. These consist of an introductory chapter followed by topics of current interest and expert-provided contributions which include each topic's key cell and molecular details. Comprehensive yet concise, *The Cytoskeleton in Health and Disease* presents cutting-edge new knowledge balanced with background information, both of which are readily understandable for the newcomer and for the experienced researcher alike. The book highlights the new aspects of the research and its impact on the design of new strategies or the identification of new targets for therapeutic intervention. This book will be essential reading for scientists, students, teachers who are interested in expanding their knowledge related to the cytoskeleton for diagnostic, therapeutic or research-based purposes.