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Nota di contenuto	Long-Term Live Cell Imaging of Cell Migration: Effects of Pathogenic Fungi on Human Epithelial Cell Migration -- Live-Cell Imaging of Mitochondria and the Actin Cytoskeleton in Budding Yeast -- Imaging of the Actin Cytoskeleton and Mitochondria in Fixed Budding Yeast Cells -- Imaging of the Cytoskeleton Using Live and Fixed Drosophila Tissue Culture Cells -- Imaging Cytoskeleton Components by Electron Microscopy -- Purification and Localization of Intraflagellar Transport Particles and Polypeptides -- Fluorescence Imaging of the Cytoskeleton in Plant Roots -- Microtubules in Plant Cells: Strategies and Methods for Immunofluorescence, Transmission Electron Microscopy, and Live Cell Imaging.- Basic Methods to Visualize Actin Filaments In Vitro Using Fluorescence Microscopy for Observation of Filament Severing and Bundling -- An In Vitro Model System to Test Mechano-Microbiological Interactions Between Bacteria and Host Cells -- Reconstitution of a Minimal Actin Cortex by Coupling Actin Filaments to Reconstituted Membranes -- Use of Nanobodies to Localize Endogenous Cytoskeletal Proteins and to Determine Their Contribution to Cancer Cell Invasion by Using an ECM Degradation Assay -- Actin-Dynamics in Plant Cells: The Function of Actin Perturbing Substances: Jasplakinolide, Chondramides, Phalloidin, Cytochalasins, and Latrunculins -- Quantitative Motion Analysis in Two and Three Dimensions -- Measurement of Cell Motility Using Microgrooved Substrates -- The Study of Cell Motility by Cell

Traction Force Microscopy (CTFM) -- Melanosome Motility in Fish Retinal Pigment Epithelial (RPE) Cells -- Analysis of Stem Cell Motility In Vivo Based on Immunodetection of Planarian Neoblasts and Tracing of BrdU-Labeled Cells After Partial Irradiation -- Chemotaxis: Under Agarose Assay -- Functional Analysis of Actin-Binding Proteins in the Central Nervous System of Drosophila -- Proteomic Analysis of Cytoskeleton Proteins in Fish -- Using a Hand-Held Gene Gun forGenetic Transformation of Tetrahymena Thermophila -- Proteomic Tools for the Analysis of Cytoskeleton Proteins -- Homology Modeling Procedures for Cytoskeletal Proteins of Tetrahymena and Other Ciliated Protists.

Sommario/riassunto

The third edition of this volume focuses on experimental models that are useful for investigating various aspects of cytoskeleton structure and function. Animal, plant, protist, and fungal models highlight twenty-four chapters that provide detailed protocols for live and fixed-cell imaging, dynamics of cytoskeleton components, cell and organelle motility, and genetics and proteomics. Written in the highly successful Methods in Molecular Biology series format, protocols in each chapter are up-to-date menus organized in a useful step-by-step format appropriate for novice and established investigators. Each chapter is equipped with a valuable notes section that provides a troubleshooting guide and helpful, and often unpublished, technical information aimed at ensuring success with implementation of the protocols. Authoritative and thorough, Cytoskeleton Methods and Protocols, Third Edition helps researchers expand their understanding of cytoskeleton structure and function.