

1. Record Nr.	UNINA9910830409203321
Titolo	Cell migration in development and disease [[electronic resource] /] / edited by Doris Wedlich
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2005
ISBN	1-280-51954-1 9786610519545 3-527-60466-9 3-527-60407-3
Descrizione fisica	1 online resource (399 p.)
Altri autori (Persone)	WedlichDoris
Disciplina	571.6 571.8 571.835
Soggetti	Cell migration - Diseases
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 and index.
Nota di contenuto	Cell Migration in Development and Disease; Contents; Preface; List of Contributors; Color Plates; I Cell Shape Modulations and Cell Surface-Nucleus Connections: Prerequisites for Cell Migration; 1 Functional Phases in Cell Attachment and Spreading; 1.1 Introduction; 1.2 Fibroblast Spreading on Matrices; 1.3 Summary of Spreading Process; 1.3.1 Steps in Cell Spreading; 1.3.1.1 Basal Motility Phase (Cells in Suspension); 1.3.1.2 Adhesion to the Surface; 1.3.1.3 Initiation of Actin Assembly and Spreading (Rate-limiting Step); 1.3.1.4 Continued Spreading; 1.3.1.5 Transition to Fully Spread State 1.3.2 Binding to Rigid Matrices Causes Strengthening of Cytoskeleton-Integrin Linkages 1.3.2.1 Initial Binding of Fibronectin Multimers at the Leading Edge and Over Actin Cables; 1.3.2.2 Force-dependent Activation of the ECM-Integrin Complexes; 1.3.2.3 Additional Steps in the Spreading Process; 1.3.3 MTs and Motility; 1.3.4 Conclusion; 1.4 References; 2 Polarized Cell Motility: Microtubules Show the Way; 2.1 Introduction; 2.1.1 The Vasiliev Conundrum; 2.1.2 Cell Polarity and Adhesion; 2.2 Microtubules Meet the Actin Cytoskeleton at Focal Adhesions

2.3 Microtubule Targeting Promotes Focal Adhesion Turnover  
2.4 Contractility, the Functional Link; 2.5 Kinesin and Signal Transmission;  
2.6 Tip Complexes Meet Adhesion Complexes; 2.7 Focal Adhesions  
Influence Microtubule Dynamics; 2.8 Actin Talks Back: Tension and  
Microtubule Guidance; 2.9 Conclusions and Perspectives; 2.10  
Acknowledgments; 2.11 References; 3 Mechanisms of Eukaryotic  
Chemotaxis; 3.1 Chemotaxis is a Fundamental Cellular Response; 3.2  
Directional Sensing Occurs Downstream of G Protein Activation and  
Upstream of the Accumulation of PI(3,4,5)P(3)  
3.3 Input-Output Relationships Reveal Gradient Amplification in  
Polarized and Unpolarized Cells  
3.4 Increase in Local PI(3,4,5)P(3)  
Precedes Actin Polymerization Responses; 3.5 Positive Feedback and  
the Actin Cytoskeleton May Stabilize Directional Sensing and Establish  
Polarity; 3.6 References; 4 Dual Location Proteins: Communication  
Between Cell Adhesions and the Nucleus; 4.1 Introduction; 4.2 LIM  
Protein Family; 4.2.1 Zyxin Subfamily; 4.2.1.1 Zyxin; 4.2.1.2 LPP  
(Lipoma-Preferred Partner); 4.2.1.3 Trip6; 4.2.1.4 WTIP (Wilms Tumor  
protein 1 Interaction Protein); 4.2.1.5 Ajuba  
4.2.2 Paxillin Subfamily  
4.2.2.1 Paxillin; 4.2.2.2 Hic-5; 4.3 MAGUK  
Protein Family; 4.3.1 ZO-1; 4.3.2 ZO-2; 4.3.3 CASK; 4.4 Armadillo  
Repeat Protein Family; 4.4.1 -catenin Armadillo Repeat Subfamily;  
4.4.1.1 -catenin; 4.4.1.2 Plakoglobin; 4.4.2 p120 Armadillo Repeat  
Subfamily; 4.4.2.1 p120; 4.4.2.2 ARVCF; 4.4.2.3 Plakophilins; 4.5 Other  
Proteins - Symplekin; 4.6 Dual Location; 4.6.1 Sequestration of  
Transcriptional Regulators; 4.6.2 mRNA Localization; 4.6.3 Scaffolding;  
4.7 Conclusion; 4.8 Acknowledgments; 4.9 References; II Classical  
Examples of Cell Migration in Development  
5 Cell Migration During Zebrafish Gastrulation

---

Sommario/riassunto

Cell Migration matches nearly all research areas in cell and developmental biology, genetics, and biomedicine. The field shows radical progress powered by the combination of new genomic tools, cell labeling techniques and the incorporation of new model systems. This is the first book to comprehensively cover cell migration from the identification of molecular mechanisms to the understanding of certain pathological disorders and cancer development.

---