The articles in this volume provide a comprehensive overview of our current understanding of the roles played by cellular factors in the early steps of retroviral replication. A better understanding of these functions will provide critical new insights into retrovirus-host cell interactions and is likely to prove useful for the future development of effective antiretroviral therapies.

Field of interest
Medical Microbiology

Target groups
Researchers and scientists in the field of virology

Type of publication
Monograph

Contents
- HIV-1 entry and its inhibition
- Cell surface receptors for gamma-retroviruses
- Alpharetrovirus envelope-receptor interactions
- Targeting retroviral and lentiviral vectors
- Intracellular trafficking of HIV-1 cores: journey to the center of the cell
- The roles of cellular factors in retroviral integration
- Subject index

Field of interest
Immunology

Target groups
Researchers and scientists in the fields of cell biology and immunology

Type of publication
Monograph

Contents
- Preface
- Phosphoinositide involvement in phagocytosis and phagosome maturation
- Regulation of endocytosis by phosphatidylinositol 4,5-biphosphate and ENTH proteins
- Membrane targeting by pleckstrin homology (PH) domains
- Protein targeting to endosomes and phagosomes via FYVE and PX domains
- Regulation of the actin cytoskeleton by PI(4,5)P2 and PI(3,4,5)P3
- Roles of PI3K in neutrophil function
- Nuclear phosphoinositides and their functions
- Subject index

Field of interest
Neurosciences

Target groups
Scientists in the field neurology

Type of publication
Monograph

Contents
- Neuro-electronic interfacing
- Culturing neuronal cells
- Positioning and culturing neuronal cells on a micro-electrode array
- Dielectrophoresis
- Scope of this review
- Dielectrophoretic trapping of neuronal cells
- Theory
- Materials
- Theoretical description of dielectrophoretic trapping
- Experimental description of dielectrophoretic trapping
- Exposing neuronal cells to electric fields
- Theory
- Theoretical investigation of induced membrane potentials of neuronal cells
- Experimental investigation of neuronal membrane breakdown
- Investigating viability of dielectrophoretically trapped neuronal cells
- Viability of neuronal cells trapped at a high frequency
- Viability of neuronal cells trapped at low frequencies
- Recording neuronal activity
- Summary
- References
- Subject Index

Trapping neuronal cells may aid in the creation of the cultured neuron probe. The aim of the development of this probe is the creation of the interface between neuronal cells or tissues in human body and electrodes that can be used to stimulate nerves in the body by an external electrical signal in a very selective way. In this way, functions that were (partially) lost due to nervous system injury or decease may be restored.

Field of interest
Immunology

Target groups
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Researchers in recent decades have elucidated signal transduction in the retina and the function of the visual cortex. The highly flexible nature of neural circuits in the visual cortex especially during the critical period has been an interesting subject for studying neural plasticity and development. Recent advances in the visual neurosciences of the vertebrate retina and the visual cortex were discussed during the 12th Keio International Symposium for Life Science and Medicine, meeting jointly with Vision Forum 2002. Contributions to the symposium collected in this volume reflect the convergence of physiological, cell biological, molecular, mathematical, and clinical approaches. The book covers topics ranging from phototransduction to visual information processing in the primary visual cortex, and includes clinical studies on hereditary night blindness, creating a valuable source of information for researchers and clinicians in the visual neurosciences.

Field of interest
Neurosciences

Target groups
Libraries, researchers

Type of publication
Proceedings
Contents

Advances in genetics, molecular biology and gene delivery technologies in recent years have led to new gene therapy strategies for treatment of a variety of diseases. This book gives a comprehensive overview of the present status and future directions of gene delivery systems and therapeutic strategies for the clinical application of gene therapy in cancer, cardiovascular and central nervous system diseases. Stem cell-based therapies and gene expression regulatory systems as novel platform technologies for various gene therapy applications are also discussed.

Field of interest
Medicine, general

Target groups
Cardiologists, oncologists, neurologists, molecular biologists, virologists

Type of publication
Proceedings

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