Cell Biology Pollard

A journey into the sub-microscopic world of molecular machines. Readers are first introduced to the types of molecules built by cells: proteins, nucleic acids, lipids, and polysaccharides. Then, in a series of distinctive illustrations, the reader is guided through the interior world of cells, exploring the ways in which molecules work in concert to perform the processes of living. Finally, the author shows us how vitamins, viruses, poisons, and drugs each have their effects on the molecules in our bodies. David Goodsell, author and illustrator, has prepared a fascinating introduction to biochemistry for the non-specialist. His book combines a lucid text with an abundance of drawings and computer graphics that present the world of cells and their components in a truly unique way.

"CELLS, the most cutting-edge textbook in the field, is the ideal resource for advanced undergraduate and graduate students entering the world of cell biology, and is a useful tool for scientists who wish to learn more about topics outside their field. This important new text provides full coverage of the structure, organization, growth, regulation, movements, and interaction of cells, with an emphasis on eukaryotic cells. Where they are known, the molecular bases for human diseases are discussed in each chapter.Under the direction of Dr. Benjamin Lewin and three expert lead editors, each chapter was prepared by top scientists who specialize in the subject area. All chapters were carefully edited to maintain consistent use of terminology and to achieve a homogeneous level of detail and rigor."--Publisher's website.

The much-anticipated 3rd edition of Cell Biology delivers comprehensive, clearly written, and richly illustrated content to today ' s students, all in a user-friendly format. Relevant to both research and clinical practice, this rich resource covers key principles of cellular function and uses them to explain how molecular defects lead to cellular dysfunction and cause human disease. Concise text and visually amazing graphics simplify complex information and help readers make the most of their study time. Clearly written format incorporates rich illustrations, diagrams, and charts. Uses real examples to illustrate key cell biology concepts. Includes beneficial cell physiology coverage. Clinically oriented text relates cell biology to pathophysiology and medicine. Takes a mechanistic approach to molecular processes. Major new didactic chapter flow leads with the latest on genome organization, gene expression and RNA processing. Boasts exciting new content including the evolutionary origin of eukaryotes, super resolution fluorescence microscopy, cryo-electron microscopy, gene editing by CRISPR/Cas9, contributions of high throughput DNA sequencing to understand genome organization and gene expression, microRNAs, lncRNAs, membrane-shaping proteins, organelle-organelle contact sites, microbiota, autophagy, ERAD, motor protein mechanisms, stem cells, and cell cycle regulation. Features specially expanded coverage of genome sequencing and regulation, endocytosis, cancer genomics, the cytoskeleton, DNA damage response, necroptosis, and RNA processing. Includes hundreds of new and updated diagrams and micrographs, plus fifty new protein and RNA structures to explain molecular mechanisms in unprecedented detail.

"Cell biology is becoming an increasingly quantitative field, as technical advances mean researchers now routinely capture vast amounts of data. This handbook is an essential guide to the computational approaches, image processing and analysis techniques, and basic programming skills that are now part of the skill set of anyone working in the field"--

Molecular Cell Biology 3.0 [Archivo de Ordenador]

Process Development, Design, and Scale-up

Basic Cell Culture Protocols

Studyguide for Cell Biology by Pollard, ISBN 9781416022558

Cytokinesis in Animal Cells

For many years I performed tissue culture in large scientific insti- tions that had a great deal of infrastructure. When I set up a tissue l- oratory outside such an infrastructure, however, I found there was a shortage of easily accessible information about the basic needs, reagents, and techniques for establishing such a facility. Much had to be done by trial and error or gleaned from originalpapers. Consequently, I felt that a methods book covering a wide variety of techniques from basic culture to the most sophisticated cell analysis would be a very valuable addition to the scientific literature. In the interim, several useful books (listed in Chapter I of this volume) did appear, but none entirely fitted the bill and some are now somewhat dated. Then, in 1984, the first of the Methods in Molecular Biology volumes from Humana Press was published with its step-by-step recipe approach. This format appealed to me, and so I c- tacted John Walker, the series editor, about including cell culture in this series. The result was that we embarked upon a single volume covering both plant and animal cell culture. Such was the richness of the material that this project soon divided itself into separate volumes on animal cell (Volume 5) and plant cell (Volume 6) culture. In this volume (Volume 5), therefore, we have aimed to describe a variety of basic techniques and culture conditions for a range of cell types.

This critically acclaimed text takes a modern and completely unique approach to the study of cell biology. Its overriding theme is that cellular structure, function, and dysfunction ultimately result from specific macromole¬cular interactions. The text takes readers from an explanation of the "hardware" of molecules and cells to an understanding of how these structures function in the organism in both healthy and diseased states. An exquisite art program allows readers to better visualize the molecular structures.

Essential Cell Biology provides a readily accessible introduction to the central concepts of cell biology, and its lively, clear writing and exceptional illustrations make it the ideal textbook for a first course in both cell and molecular biology. The text and figures are easy-to-follow, accurate, clear, and engaging for the introductory student. Molecular detail has been kept to a minimum in order to provide the reader with a cohesive conceptual framework for the basic science that underlies our current understanding of all of biology, including the biomedical sciences. The Fourth Edition has been thoroughly revised, and covers the latest developments in this fast-moving field, yet retains the academic level and length of the previous edition. The book is accompanied by a rich package of online student and instructor resources, including over 130 narrated movies, an expanded and updated Question Bank. Essential Cell Biology, Fourth Edition is additionally supported by the Garland Science Learning System. This homework platform is designed to evaluate and improve student performance and allows instructors to select assignments on specific topics and review the performance of the entire class, as well as individual students, via the instructor dashboard. Students receive immediate feedback on their mastery of the topics, and will be better prepared for lectures and classroom discussions. The user-friendly system provides a convenient way to engage students while assessing progress. Performance data can be used to tailor classroom discussion, activities, and lectures to address students' needs precisely and efficiently. For more information and sample material, visit http://garlandscience.rocketmix.com/.

Updated and more efficient techniques for the culture of animal cells are presented here in a step-by-step format supported by a notes section offering troubleshooting advice with hints and tips developed to guarantee the successful culture of animal cells.

Biological Functions of Microtubules and Related Structures

The Digital Cell

Cell Biology As a Data Science

Essential Cell Biology

Perfusion Cell Culture Processes for Biopharmaceuticals

Weitere Angaben Verfasser: Professor Thomas D. Pollard, Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, USA Professor William C. Earnshaw, Institute of Cell and Molecular Biology, University of Edinburgh, Edinburgh, UK PhD Jennifer Lippincott-Schwartz, Head of Section on Organelle Biology, Cell Biology and Metabolism Branch, National Institute of Child Health and Human Development, Bethesda, MD, USA

V. 1: cell and tissue culture and associated techniques; Primary cultures from embyonic and newborn tissues; Culture of specific cell types; Cell separation techniques; Model systems to study differentiation; cell cycle analysis; Assays of tumorigenicity, invasion, and others; Cytotoxic and cell growth assays; Senescence and apoptosis; Electrophysiological methods; Histocultures and organ cultures; Other cell types and organisms; Viruses; Appendices; v. 2: Organelles and cellular structures; Assays; Antibodies; Immunocytochemistry; Vital staining of cells; v. 3: Light microscopy and contrast generation; Electron microscopy; Intracellular measurments; Cytogenetics and in situ hybridization; transgenic and gene knockouts; v. 4: Transfer of macromelcules and small molecules; Expression systems; Differential gene expression; Proteins; Appendix; List of suppliers; Subject index.

The much-anticipated 3rd edition of "Cell Biology" delivers comprehensive, clearly written, and richly illustrated content to today's students, all in a user-friendly format. Relevant to both research and clinical practice, this rich resource covers key principles of cellular function and uses them to explain how molecular defects lead to cellular dysfunction and cause human disease. Concise text and visually amazing graphics simplify complex information and help readers make the most of their study time.

A Top 25 CHOICE 2016 Title, and recipient of the CHOICE Outstanding Academic Title (OAT) Award. How much energy is released in ATP hydrolysis? How many mRNAs are in a cell? How genetically similar are two random people? What is faster, transcription or translation?Cell Biology by the Numbers explores these questions and dozens of others provid

The Threat and the Glory

Metastasis

A Laboratory Handbook

Social Issues and Human Concerns

Annotation Contains 42 seminal papers illustrating advances in cell biology, along with brief commentaries that place the papers in historical and intellectual context. All papers are studies of eukaryotes, and are grouped according to themes of genome organization and replication, transcription, nuclear envelope and nuclear import, mitosis and cell cycle control, cell membrane and extracellular matrix, protein synthesis and membrane traffic, and cytoskeleton. Lacks a subject index. Gall teaches embryology at the Carnegie Institution. McIntosh teaches cell biology at the University of Colorado. Annotation c. Book News, Inc., Portland, OR (booknews.com).

A masterful introduction to the cell biology that you need to know! This critically acclaimed textbook offers you a modern and unique approach to the study of cell biology. It emphasizes that cellular structure, function, and dysfunction ultimately result from specific macromolecular interactions. You'll progress from an explanation of the "hardware" of molecules and cells to an understanding of how these structures function in the organism in both healthy and diseased states. The exquisite art program helps you to better visualize molecular structures. Covers essential concepts in a more efficient, reader-friendly manner than most other texts on this subject. Makes cell biology easier to understand by demonstrating how cellular structure, function, and dysfunction result from specific macromole¬cular interactions. Progresses logically from an explanation of the "hardware" of molecules and cells to an understanding of how these structures function in the organism in both healthy and diseased states. Helps you to visualize molecular structures and functions with over 1500 remarkable full-color illustrations that present physical structures to scale. Explains how molecular and cellular structures evolved in different organisms. Shows how molecular changes lead to the development of diseases through numerous Clinical Examples throughout. Includes STUDENT CONSULT access at no additional charge, enabling you to consult the textbook online, anywhere you go · perform quick searches · add your own notes and bookmarks · follow Integration Links to related bonus content from other STUDENT CONSULT titles—to help you see the connections between diverse disciplines · test your knowledge with multiple-choice review questions · and more! New keystone chapter on the origin and evolution of life on earth probably the best explanation of evolution for cell biologists available! Spectacular new artwork by gifted artist Graham Johnson of the Scripps Research Institute in San Diego. 200 new and 500 revised figures bring his keen insight to Cell Biology illustration and further aid the reader's understanding. New chapters and sections on the most dynamic areas of cell biology - Organelles and membrane traffic by Jennifer Lippincott-Schwartz; RNA processing (including RNAi) by David Tollervey., updates on stem cells and DNA Repair. ,More readable than ever. Improved organization and an accessible new design increase the focus on understanding concepts and mechanisms. New guide to figures featuring specific organisms and specialized cells paired with a list of all of the figures showing these organisms. Permits easy review of cellular and molecular mechanisms. New glossary with one-stop definitions of over 1000 of the most important terms in cell biology.

Molecular Biology, Second Edition, examines the basic concepts of molecular biology while incorporating primary literature from today's leading researchers. This updated edition includes Focuses on Relevant Research sections that integrate primary literature from Cell Press and focus on helping the student learn how to read and understand research to prepare them for the scientific world. The new Academic Cell Study Guide features all the articles from the text with concurrent case studies to help students build foundations in the content while allowing them to make the appropriate connections to the text. Animations provided deal with topics such as protein purification, transcription, splicing reactions, cell division and DNA replication and SDS-PAGE. The text also includes updated chapters on Genomics and Systems Biology, Proteomics, Bacterial Genetics and Molecular Evolution and RNA. An updated ancillary package includes flashcards, online self quizzing, references with links to outside content and PowerPoint slides with images. This text is designed for undergraduate students taking a course in Molecular Biology and upper-level students studying Cell Biology, Microbiology, Genetics, Biology, Pharmacology, Biotechnology, Biochemistry, and Agriculture. NEW: "Focus On Relevant Research" sections integrate primary literature from Cell Press and focus on helping the student learn how to read and understand research to prepare them for the scientific world. NEW: Academic Cell Study Guide features all articles from the text with concurrent case studies to help students build foundations in the content while allowing them to make the appropriate connections to the text. NEW: Animations provided include topics in protein purification, transcription, splicing reactions, cell division and DNA replication and SDS-PAGE Updated chapters on Genomics and Systems Biology, Proteomics, Bacterial Genetics and Molecular Evolution and RNA Updated ancillary package includes flashcards, online self quizzing, references with links to outside content and PowerPoint slides with images. Fully revised art program

The cytoskeleton is the intracellular filament system that controls the morphology of a cell, allows it to move, and provides trafficking routes for intracellular transport. It comprises three major filament systems-actin, microtubules, and intermediate filaments-along with a host of adaptors, regulators, molecular motors, and additional structural proteins. This textbook presents a comprehensive and up-to-date view of the cytoskeleton, cataloguing its many different components and explaining how they are functionally integrated in different cellular processes. It starts by laying out the basic molecular hardware, before describing in detail how these components are assembled in cells and linked to neighboring cells and the extracellular matrix to maintain tissue architecture. It then surveys the roles of the cytoskeleton in processes such as intracellular transport, cell motility, signal transduction, and cell division. The book is thus essential reading for students learning about intracellular structure. It also represents a vital reference for all cell and developmental biologists working in this field.

Development, Differentiation and Immunomodulation

The Biology of Schwann Cells

Formation and Fate of Cell Organelles

The Cytoskeleton

Western Diseases

Conn's Translational Neuroscience provides a comprehensive overview reflecting the depth and breadth of the field of translational neuroscience, with input from a distinguished panel of basic and clinical investigators. Progress has continued in understanding the brain at the molecular, anatomic, and physiological levels in the years following the 'Decade of the Brain,' with the results providing insight into the underlying basis of many neurological disease processes. This book alternates scientific and clinical chapters that explain the basic science underlying neurological processes and then relates that science to the understanding of neurological disorders and their treatment. Chapters cover disorders of the spinal cord, neuronal migration, the autonomic nervous system, the limbic system, ocular motility, and the basal ganglia, as well as demyelinating disorders, stroke, dementia and abnormalities of cognition, congenital chromosomal and genetic abnormalities, Parkinson's disease, nerve trauma, peripheral neuropathy, aphasias, sleep disorders, and myasthenia gravis. In addition to concise summaries of the most recent biochemical, physiological, anatomical, and behavioral advances, the chapters summarize current findings on neuronal gene expression and protein synthesis at the molecular level. Authoritative and comprehensive, Conn's Translational Neuroscience provides a fully up-to-date and readily accessible guide to brain functions at the cellular and molecular level, as well as a clear demonstration of their emerging diagnostic and therapeutic importance. Provides a fully up-to-date and readily accessible guide to brain functions at the cellular and molecular level, while also clearly demonstrating their emerging diagnostic and therapeutic importance Features contributions from leading global basic and clinical investigators in the field Provides a great resource for researchers and practitioners interested in the basic science underlying neurological processes Relates and translates the current science to the understanding of neurological disorders and their treatment

An emerging field at the interface of biology and engineering, mechanobiology explores the mechanisms by which cells sense and respond to mechanical signals—and holds great promise in one day unravelling the mysteries of cellular and extracellular matrix mechanics to cure a broad range of diseases. Mechanobiology: Exploitation for Medical Benefit presents a comprehensive overview of principles of mechanobiology, highlighting the extent to which biological tissues are exposed to the mechanical environment, demonstrating the importance of the mechanical environment in living systems, and critically reviewing the latest experimental procedures in this emerging field. Featuring contributions from several top experts in the field, chapters begin with an introduction to fundamental mechanobiological principles; and then proceed to explore the relationship of this extensive force in nature to tissues of musculoskeletal systems, heart and lung vasculature, the kidney glomerulus, and cutaneous tissues. Examples of some current experimental models are presented conveying relevant aspects of mechanobiology, highlighting emerging trends and promising avenues of research in the development of innovative therapies. Timely and important, Mechanobiology: Exploitation for Medical Benefit offers illuminating insights into an emerging field that has the potential to revolutionise our comprehension of appropriate cell biology and the future of biomedical research.

Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9781416022558 .

This book traces the history of the major ideas and gives an account of our current knowledge of cytokinesis.

An Integrated Textbook
Reflections on Science and Scientists
Molecular Biology
Biochemistry, Cell and Molecular Biology, and Genetics
Bild CD-ROM Cell Biology

The ideal text for undergraduate and graduate students in advanced cell biology coursesExtraordinary technological advances in the last century have fundamentally altered the way we ask questions about biology, and undergraduate and graduate students must have the necessary tools to investigate the world of the cell. The ideal text for students in advanced cell biology courses, Lewin's CELLS, Third Edition continues to offer a comprehensive, rigorous overview of the structure, organization, growth, regulation, movements, and interactions of cells, with an emphasis on eukaryotic cells. The text provides students with a solid grounding in the concepts and mechanisms underlying cell structure and function, and will leave them with a firm foundation in cell biology as well as a "big picture" view of the world of the cell. Revised and updated to reflect the most recent research in cell biology, Lewin's CELLS, Third Edition includes expanded chapters on Nuclear Structure and Transport, Chromatin and Chromosomes, Apoptosis, Principles of Cell Signaling, The Extracellular Matrix and Cell Adhesion, Plant Cell Biology, and more. All-new design features and a chapter-by-chapter emphasis on key concepts enhance pedagogy and emphasize retention and application of new skills. Thorough, accessible, and essential, Lewin's CELLS, Third Edition, turns a new and sharper lens on the fundamental units of life.

Examination of the environmental, technological and ethical aspects of human reproductive biology.

Americans are living longer than ever before. For many, though, these extra years have become a bitter gift, marred by dementia, disability, and loss of independence. Extending Life, Enhancing Life sets the course toward practical solutions to these problems by specifiying 15 research priorities in five key areas of investigation: Basic biomedicine--To understand the fundamental processes of aging. Clinical--To intervene against common disabilities and maladies of older persons. Behavioral and social--To build on past successes with behavioral and social interventions. Health services delivery--To seek answers to the troubling issues of insufficient delivery of health care in the face of increasing health care costs. Biomedical ethics--To clarify underlying ethical guidelines about life and death decisions. Most important, the volume firmly establishes the connection between research and its beneficial results for the quality of life for older persons.

Integrates biochemical, molecular, and cellular health and disease processes into one essential text! Biochemistry, Cell and Molecular Biology, and Genetics: An Integrated Textbook by Zeynep Gromley and Adam Gromley is the first to cover molecular biology, cell biology, biochemistry (metabolism), and genetics in one comprehensive yet concise resource. Throughout the book, these topics are linked to other basic medical sciences, such as pharmacology, physiology, pathology, immunology, microbiology, and histology, for a truly integrated approach. Key Highlights Easy-to-read text enhances understanding of underlying molecular mechanisms of disease Nearly 500 illustrations and tables help reinforce chapter learning objectives Textboxes throughout make connections with other preclinical disciplines End of unit high-order clinical vignette questions with succinct explanations help integrate basic science topics with clinical medicine This textbook provides a robust review for medical students preparing for courses as well as exams. Dental, pharmacy, physician's assistant, nursing, and graduate students in pre-professional/bridge programs will also find this a beneficial learning tool.

Conn's Translational Neuroscience
Cells
Mechanobiology
A National Research Agenda on Aging
Animal Cell Culture

Written by leading personalities in the field, this radically new approach to cell biology offers students a comprehensive, full-colour look at cell biology, including all the latest developments.

Schwann cells are a diverse group of cells formed from neural crest cells. They are essential components of the peripheral nerves of both vertebrate and invertebrate nervous systems. The diversity of Schwann cell subsets and function is seen in those Schwann cells that form myelin - that uniquely specialised part of the plasma membrane that spirals around axonal lengths to myelinate the peripheral nerves. The Biology of Schwann Cells concentrates on the cells of mammals and in particular humans. It covers the distinction between compact and non-compact myelin in depth, along with the perisynaptic cells which form the partnership between nerve terminals and muscle fibre. Developmental aspects are discussed alongside differentiation, and the genetics of the cells in health and disease. With chapters from world-renowned experts, this book is aimed at postgraduates and researchers in neuroscience and neurology and anyone involved in the study of peripheral nerves.

Biological Functions of Microtubules and Related Structures is a compendium of papers presented at the 13th Oji International Seminar on The Biological Functions of Microtubules and Related Structures, held at Komaba Eminence in Tokyo in November, 1981. The papers discuss the molecular function of tubulin in various biological processes or events. The book is divided into six sections focusing on the various aspects of the functions and structures of microtubules -- the biochemistry and molecular biology of tubulin, including regulation of microtubule assembly; microtubule-dynein systems and other proteins in cell motility; microtubules and related proteins in mitosis; the interactions of cytoskeletal components; the cytoskeleton; and microtubules in membrane functions and transport. Biochemists, biologists, and molecular biologists will find the book interesting.

A subject collection from Cold Spring Harbor Perspectives in Medicine.

Principles of Cell Biology
Cell Biology
Lewin's CELLS
A Guide to Reproduction
Crash Course Cell Biology and Genetics Updated Edition - E-Book

Principles of Cell Biology, Third Edition is an educational, eye-opening text with an emphasis on how evolution shapes organisms on the cellular level. Students will learn the material through 14 comprehensible principles, which give context to the underlying theme that make the details fit together.

As a group, western diseases such as type 2 diabetes, cardiovascular disease, breast cancer, allergies and mental health problems constitute one of the major problems facing humans at the beginning of the 21st century, particularly as they extend into poorer countries. An evolutionary perspective has much to offer standard biomedical understandings of western diseases. At the heart of this approach is the notion that human evolution occurred in circumstances very different from the modern affluent western environment and that, as a consequence, human biology is not adapted to the contemporary western environment. Written with an anthropological perspective and aimed at advanced undergraduates and graduates taking courses in the ecology and evolution of disease, Tessa Pollard applies and extends this evolutionary perspective by analysing trends in rates of western diseases and providing a new synthesis of current understandings of evolutionary processes, and of the biology and epidemiology of disease.

This book is a monography about perfusion cell cultures for the production of biopharmaceuticals, such as therapeutic proteins (i.e. biomolecules like monoclonal antibodies), and describes the fundamentals, design and operation of these processes. Context is given in the first chapters to understand the state-of-the-art of the technology. We then give an overview of the challenges and objectives in operating mammalian cell perfusion cultures and provide guidelines for the design and setup of lab-scale bioreactor systems, and the required control structure to achieve stable operation. Scale-down devices and PAT tools are described in the context of continuous manufacturing and guidelines for process optimization are given using a variety of case studies to illustrate different approaches. Scale-up is also adressed with a strong focus on bioreactor aeration and mixing, shear stress and cell retention device. Finally, a general introduction for the application of mechanistic and statistic models in bioreactor process development and optimization is given in the last chapter.

Crash Course - your effective everyday study companion PLUS the perfect antidote for exam stress! Save time and be assured you have all the core information you need in one place to excel on your course and achieve exam success. A winning formula now for over 15 years, each series volume has been fine-tuned and fully updated, with an improved layout tailored to make your life easier. Specially written by senior medical students or recent graduates - those who have just been in the exam situation - with all information thoroughly checked and quality assured by expert faculty advisors, the result is books which exactly meet your needs and you know you can trust. The subject of cell biology and genetics has never been more essential to the medical curriculum and to modern medicine - yet is widely feared by students. This fully revised edition aims to make it as easy to understand and remember as possible, to ensure a solid grounding in the essential underlying principles and how they relate to clinical practice. It incorporates the latest developments in this fascinating and fast-moving field - including the human genome project and spin-offs such as the thousand genome project - as well as discussion of important ethical issues. Emerging molecular tools and laboratory techniques are explained so that you can appreciate where new treatments for genetic disease and screening technologies have arisen. An updated self-assessment section matching the latest exam formats then allows you to assess your progress and test your performance. More than 180 illustrations present clinical, diagnostic and practical information in an easy-to-follow manner Friendly and accessible approach to the subject makes learning especially easy Written by students for students - authors who understand exam pressures Contains 'Hints and Tips' boxes, and other useful aide-mémoires Succinct coverage of the subject enables 'sharp focus' and efficient use of time during exam preparation Contains a fully updated self-assessment section - ideal for honing exam skills and self-testing Self-assessment section fully updated to reflect current exam requirements Contains 'common exam pitfalls' as advised by faculty Crash Courses also available electronically! Online self-assessment bank also available - content edited by Dan Horton-Szar!

Tumor Immunology and Immunotherapy - Cellular Methods Part B
Exploitation for Medical Benefit
An Evolutionary Perspective
Extending Life, Enhancing Life
Cell Biology by the Numbers

Tumor Immunology and Immunotherapy - Cellular Methods Part B, Volume 632, the latest release in the Methods in Enzymology series, continues the legacy of this premier serial with quality chapters authored by leaders in the field. Topics covered include Quantitation of calreticulin exposure associated with immunogenic cell death, Side-by-side comparisons of flow cytometry and immunohistochemistry for detection of calreticulin exposure in the course of immunogenic cell death, Quantitative determination of phagocytosis by bone marrow-derived dendritic cells via imaging flow cytometry, Cytofluorometric assessment of dendritic cell-mediated uptake of cancer cell apoptotic bodies, Methods to assess DC-dependent priming of T cell responses by dying cells, and more. Contains content written by authorities in the field Provides a comprehensive view on the topics covered Includes a high level of detail

Formation and Fate of Cell Organelles presents the proceedings of the symposia of the International Society for Cell Biology. Contributors offer their views on various aspects of the problem of spontaneous assembly, particularly how cellular structures arise from the component molecules. They consider whether all cellular organelles and cells, themselves, can arise by spontaneous assembly, or whether some regulation is involved and the mechanisms underlying such regulation. This book is organized into 16 chapters and begins with an overview of self-assembling systems of equal units and how they can be built efficiently, focusing on quasi-equivalence and helical waves on bacterial flagella. This text also discusses the differences in free energy of the molecules in their various states and the use of the free energy of a particular array of molecules to predict what arrays will form. The reader is introduced to intermolecular forces and how macromolecular lipid structures assemble in vitro, along with developments in the resolution of the spindle fibers of the mitotic apparatus. The book also looks into the mechanisms underlying the disposition of microtubules in plant cells during interphase and mitosis, and then concludes with a chapter on some studies dealing with cytoplasmic genes and cytoplasmic inheritance. This book is a valuable source of information for scientists and researchers engaged in fields ranging from cytology and biology to chemistry, pathology, and biophysics.

Sir Peter Medawar, as his many admirers know, was not only a great scientist but a great writer. The creative energy that earned him the 1960 Noble Prize for Medecine for his pathbreaking work in immunology also fueled his many and varied writings. Books such as Pluto's Republic, The Limits of Science, and The Hope of Progress (to name but a few) made the ever-changing world of modern science accessible to non-specialists, and have since become small classics of their kind. As Lewis Thomas writes in his foreword to this posthumous collection, some of the wisest remarks of the twentieth century come from the pen of Peter Medawar. The Threat and the Glory explores the twin nature of modern science; its ability to inspire both hope and fear in its professional and lay observers. Medawar, of course, says it best when he writes of science's ability to make the seemingly impossible a reality, scientists may exult in the glory, but in the middle of the twentieth century the reaction of ordinary people is more often to cower at the threat. This theme runs throughout this collection of writings which cover a characteristically wide range of topics: genetic engineering, evolution, philosophy, creativity, scientific fraud, the medical community, and attitudes toward death. Ranging in tone from these serious reflections on the nature of science to more lighthearted pieces such as Son of Stroke--a guide for long-term hospital patients based on his own experience as the victim of a cerebral hemorrhage--The Threat and the Glory entertains as much as it educates. Selected by his close friend David Pyke, these essays--some previously unpublished, many appearing in book form for the first time--show Medawar to have been not only a tireless truth-seeker, but also a merciless debunker of myths. Reading Medawar, we come to understand and accept the indispensable role of science in our world. Witty, incisive, and above all compassionate, The Threat and the Glory will delight those who are familiar with Medawar's writing, and will be a special treat for those who are not.

The Machinery of Life
Cell Biology E-Book
Landmark Papers in Cell Biology