

International Review Of Cell And Molecular Biology Volume 314

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Cellular and Molecular Biology of Plant Seed Development - Brian A. Larkins 2013-03-09

The beginnings of human civilization can be traced back to the time, nearly 12,000 years ago, when the early humans gradually changed from a life of hunting and gathering food, to producing food. This beginning of primitive agriculture ensured a dependable supply of food, and fostered the living together of people in groups and the development of society. During this time, plant seeds were recognized as a valuable source of food and nutrition, and began to be used for growing plants for food. Ever since, plant seeds have played an important role in the development of the human civilization. Even today, seeds of a few crop species, such as the cereals and legumes, are the primary source of most human food, and the predominant commodity in international agriculture. Owing to their great importance as food for humans and in international trade, seeds have been a favorite object of study by developmental biologists and physiologists, nutritionists and chemists. A wealth of useful information is available on the biology of seeds.

Cell & Molecular Biology of Prostate Cancer - Heide Schatten 2018-09-18

This volume covers classic and modern cell and molecular biology of prostate cancer, as well as novel biomarkers, inflammation, centrosome pathologies, microRNAs, cancer initiation novel biomarkers, inflammation, centrosome pathologies, microRNAs, cancer initiation and genetics, epigenetics, mitochondrial dysfunctions and apoptosis, cancer stem cells, angiogenesis and progression to metastasis, and treatment strategies including clinical trials related to prostate cancer. *Cell & Molecular Biology of Prostate Cancer* is one of two companion books comprehensively addressing the biology and clinical aspects of prostate cancer. *Prostate Cancer: Molecular & Diagnostic Imaging and Treatment Strategies*, the companion volume, discusses both classic and the most recent imaging approaches including analysis of needle biopsies, applications of nanoparticle probes and peptide-based radiopharmaceuticals for detection, early diagnosis and treatment of prostate cancer. Taken together, these volumes form one comprehensive and invaluable contribution to the literature.

Applied Cell and Molecular Biology for Engineers - Gabi Nindl Waite 2007-04-05

A Guide to the Fundamentals and Latest Concepts of Molecular and Cell Biology Bridging the gap between biology and engineering, *Applied Cell and Molecular Biology for Engineers* uses clear, straightforward language to introduce you to the cutting-edge concepts of molecular and cell biology. Written by an international team of engineers and life scientists, this vital tool contains "clinical focus boxes" and "applications boxes" in each chapter to link biology and engineering in today's world. To help grasp complex material quickly and easily, a glossary is provided. *Applied Cell and Molecular Biology for Engineers* features: Clear descriptions of cell structures and functions Detailed coverage of cellular communication In-depth information on cellular energy conversion Concise facts on information flow across generations A succinct guide to the evolution of cells to organisms Inside This Biomedical Engineering Guide Biomolecules: • Energetics • Components of the cell • Cell Morphology: • Cell membranes • Cell organelles • Enzyme Kinetics: • Steady-state kinetics • Enzyme inhibition • Cellular Signal Transduction: • Receptor binding • Apoptosis • Energy Conversion: • Cell metabolism • Cell respiration • Cellular Communication: • Direct • Local • Long distance • Cellular Genetics: • DNA and RNA synthesis and repair • Cell Division and Growth: • Cell cycle • Mitosis • Stem cells • Cellular Development: • Germ cells and fertilization • Limb development • From Cells to Organisms: • Cell differentiation • Systems biology

Cellular Immunity in the Peritoneum - Pedro Berraondo 2022-07-29

Adoptive Cell Transfer, Volume 371 in the International Review of Cell and Molecular Biology series highlights advances in the field, with this new volume presenting interesting chapters written by an international board of authors who expound on topics such as the Impact of tumor microenvironment on Adoptive Cell Transfer activity, Dendritic Cell Transfer, CAR-T Cell dysfunction and exhaustion, NK Cell-based cancer immunotherapy, Enabling CAR-T cells for solid tumors: rage against the suppressive tumor microenvironment, Improving Adoptive T-Cell therapy with cytokines administration, and What will (and should) be improved in Immunotherapy with CAR? Publishes only invited review articles on selected topics Authored by established and active cell and molecular biologists and drawn from international sources Offers a wide range of perspectives on specific subjects

International Review of Cell and Molecular Biology - Kwang W. Jeon 2014-10-27

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology. Articles address structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth. The series has a world-wide readership, maintaining a high standard by publishing invited articles on important and timely topics authored by prominent cell and molecular biologists.

Actin Cytoskeleton in Cancer Progression and Metastasis - Part C - 2021-05-04

Actin Cytoskeleton in Cancer Progression and Metastasis - Part C, Volume 358 in the International Review of Cell and Molecular Biology series, provides an overview of the roles of the actin cytoskeleton and some of its key structural regulators, including WASp, Paxillin, Myosin, Testin, L-Plastin and profilin, in central processes underlying cancer progression and metastasis, such as changes in cell morphology and gene expression, acquisition of migratory and invasive capabilities, and evasion from the immune response. New chapters cover Actin isoforms in cancer, Actin cytoskeleton regulators at invadopodia, Cytoskeletal Mechanics Drives Heterogeneity in Epithelial Ovarian Cancer, and more. Provides comprehensive and timely reviews on actin cytoskeleton and its regulators in cancer biology Offers a wide range of perspectives for basic and translational research Discusses opportunities and challenges for translating knowledge of tumor cell actin cytoskeleton into clinical applications

Molecular Biology of Cancer - Lauren Pecorino 2012-04-26

Demonstrating how the malfunction of normal molecular pathways and components can lead to cancer, this text explores how our understanding of these defective mechanisms can be harnessed to develop new targeted therapeutic agents.

Molecular Biology of the Cell 6E - The Problems Book - John Wilson 2014-11-21

The Problems Book helps students appreciate the ways in which experiments and simple calculations can lead to an understanding of how cells work by introducing the experimental foundation of cell and molecular biology. Each chapter reviews key terms, tests for understanding basic concepts, and poses research-based problems. The Problems Book has been

The Oxford Handbook of Entrepreneurial Finance - Douglas Cumming 2012-03-22

Provides a comprehensive picture of issues dealing with different sources of entrepreneurial finance and different issues with financing entrepreneurs. The Handbook comprises contributions from 48 authors based in 12 different countries.

Molecular and Cellular Biology of Viruses - Phoebe Lostroh 2019-05-06

Viruses interact with host cells in ways that uniquely reveal a great deal about general aspects of molecular

and cellular structure and function. Molecular and Cellular Biology of Viruses leads students on an exploration of viruses by supporting engaging and interactive learning. All the major classes of viruses are covered, with separate chapters for their replication and expression strategies, and chapters for mechanisms such as attachment that are independent of the virus genome type. Specific cases drawn from primary literature foster student engagement. End-of-chapter questions focus on analysis and interpretation with answers being given at the back of the book. Examples come from the most-studied and medically important viruses such as HIV, influenza, and poliovirus. Plant viruses and bacteriophages are also included. There are chapters on the overall effect of viral infection on the host cell. Coverage of the immune system is focused on the interplay between host defenses and viruses, with a separate chapter on medical applications such as anti-viral drugs and vaccine development. The final chapter is on virus diversity and evolution, incorporating contemporary insights from metagenomic research. Key selling feature: Readable but rigorous coverage of the molecular and cellular biology of viruses Molecular mechanisms of all major groups, including plant viruses and bacteriophages, illustrated by example Host-pathogen interactions at the cellular and molecular level emphasized throughout Medical implications and consequences included Quality illustrations available to instructors Extensive questions and answers for each chapter

Molecular Biology - David P. Clark 2012-03-20

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

Essentials of Glycobiology - Ajit Varki 1999

Sugar chains (glycans) are often attached to proteins and lipids and have multiple roles in the organization and function of all organisms. "Essentials of Glycobiology" describes their biogenesis and function and offers a useful gateway to the understanding of glycans.

Essential Cell Biology - Bruce Alberts 2015-01-01

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/>.

Molecular and Cell Biology of Cancer - Rita Fior 2019-06-27

This textbook takes you on a journey to the basic concepts of cancer biology. It combines developmental, evolutionary and cell biology perspectives, to then wrap-up with an integrated clinical approach. The book starts with an introductory chapter, looking at cancer in a nut shell. The subsequent chapters are detailed and the idea of cancer as a mass of somatic cells undergoing a micro-evolutionary Darwinian process is explored. Further, the main Hanahan and Weinberg "Hallmarks of Cancer" are revisited. In most chapters, the fundamental experiments that led to key concepts, connecting basic biology and biomedicine are highlighted. In the book's closing section all of these concepts are integrated in clinical studies, where molecular diagnosis as well as the various classical and modern therapeutic strategies are addressed. The book is written in an easy-to-read language, like a one-on-one conversation between the writer and the reader, without compromising the scientific accuracy. Therefore, this book is suited not only for advanced undergraduates and master students but also for patients or curious lay people looking for a further understanding of this shattering disease

Molecular Biology of B Cells - Tasuku Honjo 2014-10-09

Molecular Biology of B Cells, Second Edition is a comprehensive reference to how B cells are generated, selected, activated and engaged in antibody production. All of these developmental and stimulatory processes are described in molecular, immunological, and genetic terms to give a clear understanding of complex phenotypes. Molecular Biology of B Cells, Second Edition offers an integrated view of all aspects of B cells to produce a normal immune response as a constant, and the molecular basis of numerous diseases due to B cell abnormality. The new edition continues its success with updated research on microRNAs in B cell development and immunity, new developments in understanding lymphoma biology, and therapeutic targeting of B cells for clinical application. With updated research and continued comprehensive coverage of all aspects of B cell biology, Molecular Biology of B Cells, Second Edition is the definitive resource, vital for researchers across molecular biology, immunology and genetics. Covers signaling mechanisms regulating B cell differentiation Provides information on the development of therapeutics using monoclonal antibodies and clinical application of Ab Contains studies on B cell tumors from various stages of B lymphocytes Offers an integrated view of all aspects of B cells to produce a normal immune response
Molecular Biology of the Cell - Bruce Alberts 2004

Readings in Molecular Biology - W. B. Gratzer 1971

A collection of topical essays on noteworthy discoveries in the biological sciences published in the journal Nature.

Occupational Outlook Handbook - United States. Bureau of Labor Statistics 1976

Francis Crick - Robert Cecil Olby 2009

"In Francis Crick: Hunter of Life's Secrets, Robert Olby presents a full-length intellectual biography of Crick's life in science. After early life in Northampton, Crick gained experience as a scientist for the Royal Navy during World War II, before beginning academic studies in biophysics. His pioneering work in molecular biology in the 1950s and 1960s took place in Cambridge, and was followed by his move to the United States in 1976 and his work in neuroscience at the Salk Institute. Olby's detailed exploration of Crick's scientific life up to the famous 1953 discovery and beyond provides a clear demonstration of how chance does indeed favor the prepared mind."

Cell and Molecular Biology: Everything You Always Wanted to Know About... - Sterling Education
2020-02-07

From the foundations of a living cell to the complex mechanisms of gene expression, this clearly explained text is a perfect guide for anyone who wants to be knowledgeable about cell and molecular biology. This book is aimed at providing readers with the information necessary to make them better equipped for navigating these multifaceted biology topics. This book was designed for those who want to develop a better understanding of cell structure and function, cell metabolism, DNA and genetics, as well as the technological and ethical challenges of modern science. The content is focused on an essential review of all the important processes and mechanisms affecting organisms on the cellular and molecular levels. You will learn about macromolecules, enzymes, cell cycle, photosynthesis, the significance of the various DNA mutations and heredity, as well as how different cell processes affect the overall well-being of an organism. Created by highly qualified science teachers, researchers, and education specialists, this book educates and empowers both the average and the well-informed readers, helping them develop and increase their understanding of biology.

International Review of Cytology - Kwang W. Jeon 2006-06-28

International Review of Cytology presents current advances and comprehensive reviews in cell biology - both plant and animal. Authored by some of the foremost scientists in the field, each volume provides up-to-date information and directions for future research. Articles in this volume address adaptations for nocturnal vision in insect apposition eyes; kinase and phosphatase: the cog and spring of the circadian clock; a model for lymphatic regeneration in tissue repair of the muscle coat; calcium homeostasis in human placenta: role of calcium handling proteins; new insights into the cell biology of the marginal zone of the spleen; cell biology of t cell activation and differentiation.

Histology: A Text and Atlas - Wojciech Pawlina 2018-12-07

Publisher's Note: Products purchased from 3rd Party sellers are not guaranteed by the Publisher for quality, authenticity, or access to any online entitlements included with the product. Combining a reader-friendly textbook and a rich, full-color atlas, this bestselling resource equips medical, dental, health professions, and undergraduate biology and cell biology students with a comprehensive grasp of the clinical and functional correlates of histology and a vivid understanding of the structural and functional details of cells, tissues, and organs. Updated content throughout the text reflects the latest advances in cellular and molecular biology, accompanied by large, high-resolution illustrations and full-color photomicrographs that clarify microanatomy in vibrant detail. Ideal for integrated curriculums as well as standalone histology courses, this proven approach is accompanied by popular pedagogical features that distill complex information and help students save time.

Intestinal Lipid Metabolism - Charles M. Mansbach II 2011-06-28

This book was stimulated by the enthusiasm shown by attendees at the meetings in Saxon River, VT, sponsored by the Federation of American Societies for Experimental Biology (FASEB), on the subject of the intestinal processing of lipids. When these meetings were first started in 1990, the original organizers, two of whom are editors of this volume (CMM and PT), had two major goals. The first was to bring together a diverse group of investigators who had the common goal of gaining a better understanding of how the intestine absorbs lipids. The second was to stimulate the interest of younger individuals whom we wished to recruit into what we believed was an exciting and fruitful area of research. Since that time, the field has opened up considerably with new questions being asked and new answers obtained, suggesting that our original goals for the meetings were being met. In the same spirit, it occurred to us that there has not been a recent book that draws together much of the information available concerning how the intestine processes lipids. This book is intended to reach investigators with an interest in this area and their pre- and post-doctoral students. The chapters are written by individuals who have a long-term interest in the areas about which they write, and many have been speakers at the subsequent FASEB conferences that have followed on the first.

Cell and Molecular Biology, Take Note! - Gerald Karp 2001-09-25

Balances coverage of the concepts of cell and molecular biology, using examples of experimentation to support those concepts. As experimental techniques become more diverse and complex, it is increasingly

necessary to identify individual studies that have a broad impact on our understanding of cell biology. This text describes in detail some of the key experimental findings, along with the original data and figures.

International Review of Cytology - 2001-03-08

International Review of Cytology presents current advances and comprehensive reviews in cell biology-- both plant and animal. Articles address structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth. Authored by some of the foremost scientists in the field, each volume provides up-to-date information and directions for future research.

Chromatin and Genomic Instability in Cancer - 2021-09-08

Chromatin and DNA Repair in Cancer, Volume 364 in the *International Review of Cell and Molecular Biology* series reviews and details current advances in cell and molecular biology. Chapters in this new release cover Genomic Instability and metabolism in cancer, Histones variants and Histones modifications in cancer and Aging, DNA Double-stranded breaks Repair in Cancer, Reactive oxygen species and DNA damage response in cancer, Transcription-Associated DNA Breaks and Cancer: A Matter of DNA Topology, Mechanisms of Base Excision Repair: Its Significance to Human Health, and more. The IRCMB series has a worldwide readership, maintaining a high standard by publishing invited articles on important and timely topics that are authored by prominent cell and molecular biologists. The articles published in IRCMB have a high impact and an average cited half-life of 9 years. This great resource ranks high amongst scientific journals dealing with cell biology. Publishes only invited review articles on selected topics Authored by established and active cell and molecular biologists, drawn from international sources Offers a wide range of perspectives on specific subjects

International Review of Cytology - Geoffrey Howard Bourne 1996

Lippincott Illustrated Reviews: Cell and Molecular Biology - Nalini Chandar 2017-12-28

Now in its second edition, *Lippincott Illustrated Reviews: Cell and Molecular Biology* continues to provide a highly visual presentation of essential cell and molecular biology, focusing on topics related to human health and disease.

Cell And Molecular Biology - S. C. Rastogi 2006

Cell And Molecular Biology, Second Edition Gives An Extensive Coverage Of The Fundamentals Of Molecular Biology; The Problems It Addresses And The Methods It Uses. Molecular Biology Is Presented As An Information Science, Describing Molecular Steps That Nature Uses To Replicate And Repair Dna; Regulate Expression Of Genes; Process And Translate The Coded Information In Mrna; Modify And Target Proteins In The Cell; Integrate And Regulate Metabolism. Written In A Lucid Style, The Book Will Serve As An Ideal Text For Undergraduate Students, As Well As Scientific Workers Of Other Disciplines Who Need A Comprehensive Overview Of The Subject. Features Of The Second Edition: Incorporates Many New Topics And Updates; Gives Independent Chapters On Dna Replication, Dna Repair, Transcription And Translation To Accommodate Recent Advances; A New Chapter On Post-Translational Modification And Protein Targeting; A Chapter On Tools And Techniques Employed In Molecular Biology; An Introductory Chapter On Bioinformatics Included To Emphasise That Molecular Processes Can Be Addressed Computationally; Extensive Glossary.

International Review of Cell and Molecular Biology - Kwang W. Jeon 2015-08-25

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology, with articles addressing structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth. The series has a worldwide readership, maintaining a high standard by publishing invited articles on important and timely topics authored by prominent cell and molecular biologists. Authored by some of the foremost scientists in the field Provides comprehensive reviews and current advances Brings a fresh perspective to those conducting research in cell biology, molecular biology, biochemistry, biotechnology, plant biology, physiology, and microbiology, among others Includes a wide range of perspectives on specific subjects Valuable reference material for advanced undergraduates, graduate students, and professional scientists

Concepts of Biology - Samantha Fowler 2018-01-07

Concepts of Biology is designed for the single-semester introduction to biology course for non-science majors, which for many students is their only college-level science course. As such, this course represents an important opportunity for students to develop the necessary knowledge, tools, and skills to make informed decisions as they continue with their lives. Rather than being mired down with facts and vocabulary, the typical non-science major student needs information presented in a way that is easy to read and understand. Even more importantly, the content should be meaningful. Students do much better when they understand why biology is relevant to their everyday lives. For these reasons, Concepts of Biology is grounded on an evolutionary basis and includes exciting features that highlight careers in the biological sciences and everyday applications of the concepts at hand. We also strive to show the interconnectedness of topics within this extremely broad discipline. In order to meet the needs of today's instructors and students, we maintain the overall organization and coverage found in most syllabi for this course. A strength of Concepts of Biology is that instructors can customize the book, adapting it to the approach that works best in their classroom. Concepts of Biology also includes an innovative art program that incorporates critical thinking and clicker questions to help students understand--and apply--key concepts.

Introduction to the Cellular and Molecular Biology of Cancer - Margaret Knowles 2005-07-28

This title includes the following features: Great breadth of coverage in one volume: covers all aspects of cancer, in a concise and affordable format; Provides a comprehensive introduction to the initiation, development, and treatment of cancer; Chapter are written by experts in each field, giving a state-of-the-art summary of each topic; Extensive references provide links to all the relevant literature, facilitating further study

International Review of Cytology - Geoffrey Howard Bourne 1989

Until the End of Time - Brian Greene 2020-02-18

NEW YORK TIMES BESTSELLER • A captivating exploration of deep time and humanity's search for purpose, from the world-renowned physicist and best-selling author of *The Elegant Universe*. "Few humans share Greene's mastery of both the latest cosmological science and English prose." —The New York Times *Until the End of Time* is Brian Greene's breathtaking new exploration of the cosmos and our quest to find meaning in the face of this vast expanse. Greene takes us on a journey from the big bang to the end of time, exploring how lasting structures formed, how life and mind emerged, and how we grapple with our existence through narrative, myth, religion, creative expression, science, the quest for truth, and a deep longing for the eternal. From particles to planets, consciousness to creativity, matter to meaning—Brian Greene allows us all to grasp and appreciate our fleeting but utterly exquisite moment in the cosmos.

Cell and Molecular Biology - Nalini Chandar 2012-08-14

Lippincott's Illustrated Reviews: Cell and Molecular Biology offers a highly visual presentation of essential cell and molecular biology, focusing on topics related to human health and disease. This new addition to the internationally best-selling Lippincott's Illustrated Reviews Series includes all the popular features of the series: an abundance of full-color annotated illustrations, expanded outline format, chapter summaries, review questions, and case studies that link basic science to real-life clinical situations. The book can be used as a review text for a stand-alone cell biology course in medical, health professions, and upper-level undergraduate programs, or in conjunction with Lippincott's Illustrated Reviews: Biochemistry for integrated courses. A companion Website features the fully searchable online text, an interactive Question Bank for students, and an Image Bank for instructors to create PowerPoint® presentations.

Cellular and Molecular Approaches in Fish Biology - Ignacio Fernandez 2021-12-01

Cellular and Molecular Approaches in Fish Biology is a highly interdisciplinary resource that will bring industry professionals up-to-date on the latest developments and information on fish biology research. The book combines an historical overview of the different research areas in fish biology with detailed descriptions of cellular and molecular approaches and recommendations for research. It provides different points-of-view on how researchers have addressed timely issues, while also describing and dissecting some of the new experimental/analytical approaches used to answer key questions at cellular and molecular levels. Provides detailed descriptions of each research approach, highlighting the tricks of the trade for its

effective and successful application Includes the latest developments in fish reproduction, fish nutrition, fish wellbeing, ecology and toxicology Presents hot topic areas of research, including genetic editing, epigenetics and eDNA

Gastrointestinal Physiology and Diseases - Andrei I. Ivanov 2016-04-13

This volume provides a comprehensive collection of classical and cutting edge protocols and techniques to examine the normal development and physiological functions of the gastrointestinal system and to model the most common digestive diseases. The chapters focus on diverse research topics including ex vivo systems to study gastrointestinal development and functions, in vivo imaging of the gastrointestinal tract, isolation and characterization of intestinal immune cells, and animal models of gastrointestinal inflammation and cancer. The *Gastrointestinal Physiology and Diseases: Methods and Protocols* book targets wide audience of physiologists, cell and developmental biologists, immunologists, and physician-scientists working in the field of gastroenterology and beyond. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Highly practical and clearly written, *Gastrointestinal Physiology and Diseases: Methods and Protocols* will serve both seasoned researchers as well as newcomers to the field and will provide a unique resource and expert guidance to modern laboratory techniques developed for examining normal functions and diseases of the gastrointestinal tract.

Molecular Biology Techniques - Heather Miller 2011-10-18

This manual is an indispensable tool for introducing advanced undergraduates and beginning graduate students to the techniques of recombinant DNA technology, or gene cloning and expression. The techniques used in basic research and biotechnology laboratories are covered in detail. Students gain hands-on experience from start to finish in subcloning a gene into an expression vector, through purification of the recombinant protein. The third edition has been completely re-written, with new laboratory exercises and all new illustrations and text, designed for a typical 15-week semester, rather than a 4-week intensive course. The "project approach to experiments was maintained: students still follow a cloning project through to completion, culminating in the purification of recombinant protein. It takes advantage of the enhanced green fluorescent protein - students can actually visualize positive clones following IPTG induction. Cover basic concepts and techniques used in molecular biology research labs Student-tested labs proven successful in a real classroom laboratories Exercises simulate a cloning project that would be performed in a real research lab "Project" approach to experiments gives students an overview of the entire process Prep-list appendix contains necessary recipes and catalog numbers, providing staff with detailed instructions

Cellular and Molecular Aspects of Myeloproliferative Neoplasms - Part A - 2021-10-29

Cellular and Molecular Aspects of Myeloproliferative Neoplasms - Part A, Volume 365 in the *International Review of Cell and Molecular Biology* series reviews and details current advances in cell and molecular biology. Chapters in this new release include MPN a continuum of different disease entities, Bone marrow microenvironment of MPN, Extramedullary hemopoiesis in MPN, The JAK2 mutation, Calreticulin mutations in myeloproliferative neoplasms, and Cytogenetic abnormalities and non-driver mutations in MPN. The IRCMB series has a worldwide readership, maintaining a high standard by publishing invited articles on important and timely topics that are authored by prominent cell and molecular biologists. The articles published in IRCMB have a high impact and an average cited half-life of 9 years. This great resource ranks high amongst scientific journals dealing with cell biology. Publishes only invited review articles on selected topics Authored by established and active cell and molecular biologists and drawn from international sources Offers a wide range of perspectives on specific subjects

Signal Transduction in Cancer and Immunity - 2021-05-30

Signal Transduction in Cancer and Immunity, Volume 361 in the *International Review of Cell and Molecular Biology* series highlights new advances in the field, with this new volume presenting interesting chapters on a variety of timely topics. Each chapter is written by an international board of authors. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the *International Review of Cell and Molecular Biology* series Updated release includes the latest

information on signal transduction in cancer and immunity