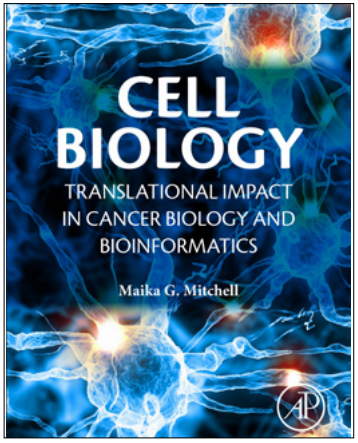
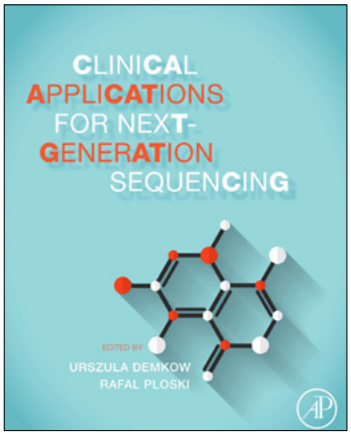
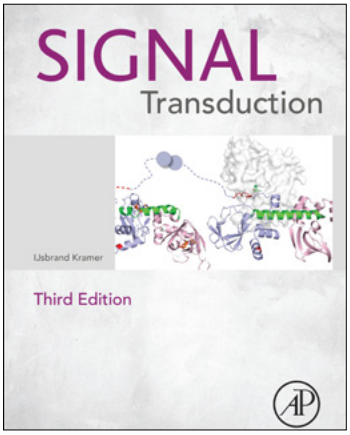
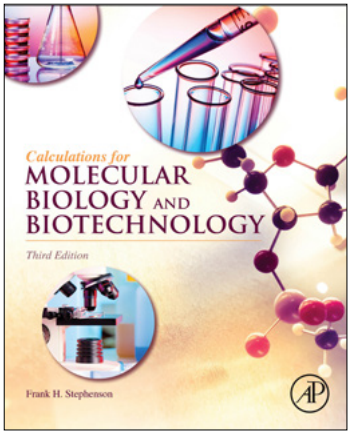
BIOCHEMISTRY, GENETICS & MOLECULAR BIOLOGY









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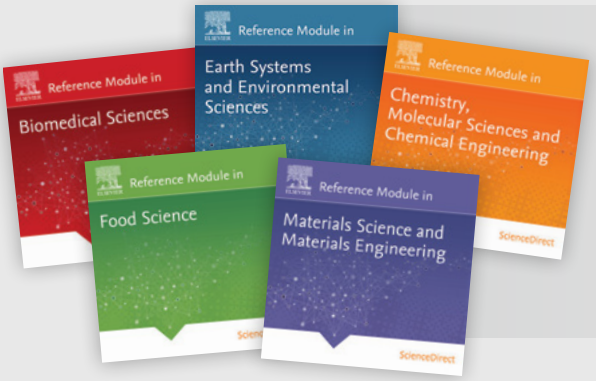

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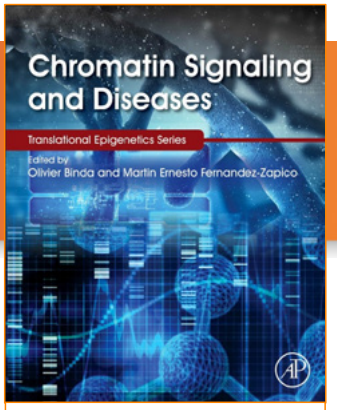


Chromatin Signaling and Diseases

Edited by: ***Olivier Binda*** Principal Investigator, Newcastle Cancer Centre, Northern Institute for Cancer Research, Newcastle University, Newcastle upon Tyne, England
Martin Ernesto Fernandez-Zapico Associate Professor of Medicine, Associate Professor Pharmacology, Mayo Institute, Rochester, MN, USA

ISBN: 978-0-12-802389-1
PUB DATE: June 2016
FORMAT: Hardback
PAGES: c. 390

AUDIENCE
geneticists, clinical researchers, life science researchers, MD/clinicians who want to learn about epigenetics and chromatin, cell biologists, molecular biologists and biochemists

Examining the molecular mechanisms that regulate gene expression to facilitate new drug developments through targeting chromatin signaling mechanisms, this go-to reference reviews the addition and removal of chemical modifications on histones, the proteins that specify them, and the impact of gene expression defects associated with malfunctioning chromatin signaling

KEY FEATURES

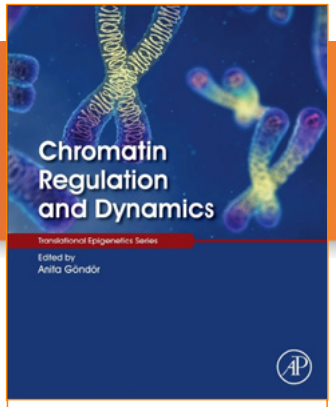
- Explains molecular mechanisms that regulate gene expression, which governs everything from embryonic development, growth, and human pathologies associated with aging
- Educates clinicians and researchers about chromatin signaling, a molecular mechanism that is changing our understanding of human pathology
- Explores the addition and removal of chemical modifications on histones, the proteins that specifically recognize these, and the impact of gene expression defects associated with malfunctioning chromatin signaling
- Helps researchers learn about the quickly expanding field of chromatin signaling

DESCRIPTION

Chromatin Signaling and Diseases covers the molecular mechanisms that regulate gene expression, which govern everything from embryonic development, growth, and human pathologies associated with aging, such as cancer. This book helps researchers learn about or keep up with the quickly expanding field of chromatin signaling.

After reading this book, clinicians will be more capable of explaining the mechanisms of gene expression regulation to their patients to reassure them about new drug developments that target chromatin signaling mechanisms. For example, several epigenetic drugs that act on chromatin signaling factors are in clinical trials or even approved for usage in cancer treatments, Alzheimer's, and Huntington's diseases. Other epigenetic drugs are in development to regulate various class of chromatin signaling factors. To keep up with this changing landscape, clinicians and doctors will need to stay familiar with genetic advances that translate to clinical practice, such as chromatin signaling.

Although sequencing of the human genome was completed over a decade ago and its structure investigated for nearly half a century, molecular mechanisms that regulate gene expression remain largely misunderstood. An emerging concept called chromatin signaling proposes that small protein domains recognize chemical modifications on the genome scaffolding histone proteins, facilitating the nucleation of enzymatic complexes at specific loci that then open up or shut down the access to genetic information, thereby regulating gene expression. The addition and removal of chemical modifications on histones, as well as the proteins that specifically recognize these, is reviewed in *Chromatin Signaling and Diseases*. Finally, the impact of gene expression defects associated with malfunctioning chromatin signaling is also explored.



Chromatin Regulation and Dynamics

Edited by: ***Anita Göndör*** Assistant Professor in the Department of Microbiology, Tumor, and Cell Biology (MTC) at Karolinska Institutet, Solna, Sweden

Facilitating the flow of information between research areas such as chromatin regulation, developmental biology, this timely, informative guide uses a cross-disciplinary approach to discuss novel principles of chromatin regulation and dynamics to create new understanding at the core of disease development

ISBN: 978-0-12-803395-1

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 384

AUDIENCE

geneticists, clinical researchers, life science researchers, MD/clinicians who want to learn about epigenetics and chromatin, cell biologists, pharmaceutical scientists, molecular biologists and biochemists

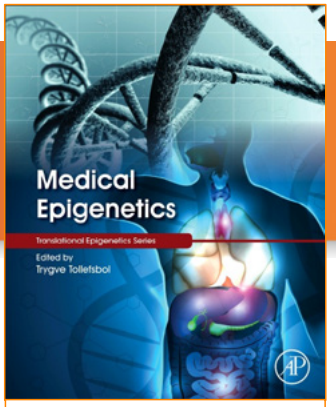
KEY FEATURES

- Presents and discusses novel principles of chromatin regulation and dynamics with a cross-disciplinary perspective
- Promotes crosstalk between basic sciences and their applications in medicine
- Provides a framework for future studies on complex diseases by integrating various aspects of chromatin biology with cellular metabolic states, with an emphasis on the dynamic nature of chromatin and stochastic principles
- Integrates knowledge on the dynamic regulation of primary chromatin fiber with 3D nuclear architecture, then connects related processes to circadian regulation of cellular metabolic states, representing a paradigm of adaptation to environmental changes

DESCRIPTION

Chromatin Regulation and Dynamics integrates knowledge on the dynamic regulation of primary chromatin fiber with the 3D nuclear architecture, then connects related processes to circadian regulation of cellular metabolic states, representing a paradigm of adaptation to environmental changes. The final chapters discuss the many ways chromatin dynamics can synergize to fundamentally contribute to the development of complex diseases.

Chromatin dynamics, which is strategically positioned at the gene-environment interface, is at the core of disease development. As such, *Chromatin Regulation and Dynamics*, part of the *Translational Epigenetics* series, facilitates the flow of information between research areas such as chromatin regulation, developmental biology, and epidemiology by focusing on recent findings of the fast-moving field of chromatin regulation.



Medical Epigenetics

Edited by: ***Trygve Tollefsbol*** Professor of Biology, University of Alabama at Birmingham, AL, USA

This inclusive volume is the most complete book on applied epigenetics, focusing epigenetic diseases and disorders that affect human systems, and modes of treatment

ISBN: 978-0-12-803239-8

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 540

AUDIENCE

geneticists, clinical researchers, and clinicians studying the underlying basis of human disease and novel means to treat human diseases that are caused by reversible epigenetic processes

KEY FEATURES

- Focuses on practical and applied aspects of medical epigenetics
- Includes peer-reviewed chapters with up-to-date coverage of emerging topics in medical epigenetics by leading experts
- Appeals to those interested in fundamental epigenetics and inheritance, as well as those with more clinical interests including practicing physicians and other health care professionals
- Covers the basic tenets of epigenetics in human systems and progresses through general medical aspects of epigenetics, epigenetics or system disorders, multi-system medical epigenetics, pharmacology of epigenetics, and therapeutic epigenetics

DESCRIPTION

Medical Epigenetics is an inclusive volume on the medical aspects of epigenetics with a focus on human systems, epigenetic disease that affect these systems, and modes of treating epigenetic-based disorders and diseases. This book provides stand-alone coverage of all human systems relevant to epigenetic maladies and all major aspects of medical epigenetics. It is useful not only to physicians, nurses, medical students, and many others directly involved with healthcare, but also investigators in life sciences, biotech companies, graduate students, and all others who are interested in more applied aspects of epigenetics.

The expansion of the field of epigenetics has brought a wealth of information with respect to variations in phenotypes that are heritable. In addition, many advances have emerged that have shown epigenetic aberrations as central to a number of diseases and disorders that were previously thought to be manifested primarily through genetic factors. Along with the remarkable studies that have been made in our understanding of epigenetic-based diseases and disorders has come new information that allows treatments that target these many epigenetic aberrations. *Medical Epigenetics* brings all of this knowledge together to comprehensively review the state of medical epigenetics in one defining volume.

The basic design of *Medical Epigenetics* is to lead the reader from the fundamental mechanisms of epigenetics as they apply to humans through approaches for treating epigenetic-based diseases. This book begins with the basic tenets of epigenetics in human systems and progresses through general medical aspects of epigenetics, epigenetics or system disorders, multi-system medical epigenetics, pharmacology of epigenetics, and therapeutic epigenetics. *Medical Epigenetics* closes with a chapter on future prospects in medical epigenetics. This book is by far the most complete book in the area of applied epigenetics.

Genomic and Precision Medicine, 3e

Translation and Implementation

Edited by: ***Geoffrey S. Ginsburg*** Institute for Genome Sciences & Policy, Duke University, Durham, NC, USA
Huntington F Willard President and Director, The Marine Biological Laboratory, Woods Hole, Massachusetts, and Professor of Human Genetics, University of Chicago, Chicago, IL, USA

Reviewing the implementation of genomic medicine across public health systems and throughout society while discussing the fundamental aspects of infrastructure, policy, and research, this book pinpoints the challenges, barriers, and solutions that enable translation of genome based technologies into health care

ISBN: 978-0-12-800681-8

PREVIOUS EDITION ISBN: 9780124159389

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 368

AUDIENCE

Medical students, life sciences and engineering graduate students, advanced undergraduate students, residents and fellows working with any aspect of genomic research in the life sciences and/or medicine, educators, and translational scientists. This volume will also be of interest to translational researchers, implementation scientists, outcomes researchers, policy analysts and policy makers

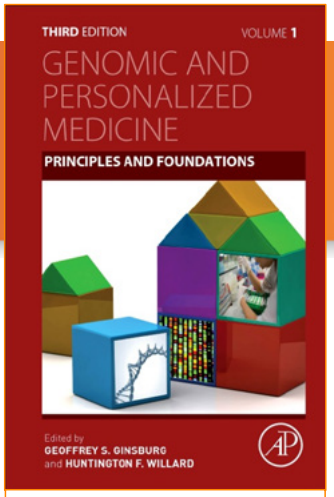
KEY FEATURES

- Provides a comprehensive volume on the translation and implementation of biology into health care provision
- Presents succinct commentary and key learning points that will assist readers with their local needs for translation and implementation
- Includes an up-to-date overview on major 'translational events' in genomic and personalized medicine, along with lessons learned

DESCRIPTION

Genomic and Precision Medicine: Translation and Implementation highlights the various points along the continuum from health to disease where genomic information is impacting clinical decision-making and leading to more personalization of health care.

The book pinpoints the challenges, barriers, and solutions that have been, or are being, brought forward to enable translation of genome based technologies into health care. A variety of infrastructure (data systems and EMRs), policy (regulatory, reimbursement, privacy), and research (comparative effectiveness research, learning health system approaches) strategies are also discussed. Readers will find this volume to be an invaluable resource for the translational genomics and implementation science that is required to fully realize personalized health care.



Genomic and Precision Medicine, 3e

Principles and Foundations

Edited by: ***Geoffrey S. Ginsburg*** Institute for Genome Sciences & Policy, Duke University, Durham, NC, USA
Huntington F Willard President and Director, The Marine Biological Laboratory, Woods Hole, Massachusetts, and Professor of Human Genetics, University of Chicago, Chicago, IL, USA

As an authoritative introduction to the biological principles of genomic medicine, this book is ideal for any biology or medical student or for any clinical practitioner

ISBN: 978-0-12-800686-3

PREVIOUS EDITION ISBN: 9780124159389

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 368

AUDIENCE

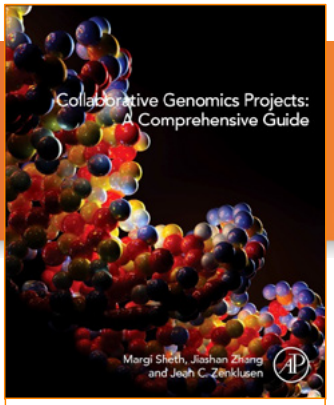
Medical students, life sciences and engineering graduate students, advanced undergraduate students, and residents and fellows working with any aspect of genomic research in the life sciences and/or medicine, educators, and translational scientists. This volume will also be of interest to educators and students in basic genomics, genome biology, epigenetics, and computational biology at the advanced undergraduate and graduate levels.

KEY FEATURES

- Presents a comprehensive and up-to-date volume on the basic aspects of the underlying science and technology for this field
- Written in an introductory style, including succinct commentary and key learning points to provide a primer for readers on essential aspects of this field
- Provides an up-to-date overview on the major technologies underlying genomic and personalized medicine as written by internationally recognized experts

DESCRIPTION

Genomic and Precision Medicine: Principles and Foundations presents state-of-the-art reviews and essential background knowledge on the human genome, and its biology and regulation, including a current understanding of a variety of areas within the genome sciences that cover sequencing, transcriptomics, proteomics, microbiomics, etc.), critical technologies, and informatics. This volume is an excellent foundation for readers to appreciate the content of the subsequent seven volumes.



Collaborative Genomics Projects: A Comprehensive Guide

Margi Sheth Senior Project Manager, Human Genome Sequencing Center, Baylor College of Medicine, Houston, TX, USA
Julia Zhang Project Manager, The Cancer Genome Atlas, Center for Cancer Genomics, National Cancer Institute, Bethesda, MD, USA
Jean C Zenklusen Director, The Cancer Genome Atlas, Center for Cancer Genomics, National Cancer Institute, Bethesda, MD, USA

This book on collaborative genomics projects guides the reader through methods in patient sample acquisition, the establishment of data generation and analysis pipelines, data storage and dissemination, quality control, auditing, and reporting, all in an effort to help users manage large-scale collaborative genomics research projects

ISBN: 978-0-12-802143-9
PUB DATE: March 2016
FORMAT: Paperback
PAGES: c. 132

AUDIENCE

clinical researchers and geneticists, funders (government, private, and charitable), computational biologists, bioinformaticians, data analysts, translational medicine community, policymakers

KEY FEATURES

- Establishes a framework for managing large-scale genomic research projects involving multiple collaborators
- Describes lessons learned through TCGA to prepare for potential roadblocks
- Evaluates policy considerations that are needed to avoid pitfalls
- Recommends strategies to make project management more efficient

DESCRIPTION

Collaborative Genomics Projects: A Comprehensive Guide contains operational procedures, policy considerations, and the many lessons learned by The Cancer Genome Atlas Project. This book guides the reader through methods in patient sample acquisition, the establishment of data generation and analysis pipelines, data storage and dissemination, quality control, auditing, and reporting.

This book is essential for those looking to set up or collaborate within a large-scale genomics research project. All authors are contributors to The Cancer Genome Atlas (TCGA) Program, a NIH-funded effort to generate a comprehensive catalog of genomic alterations in more than 35 cancer types.

As the cost of genomic sequencing is decreasing, more and more researchers are leveraging genomic data to inform the biology of disease. The amount of genomic data generated is growing exponentially, and protocols need to be established for the long-term storage, dissemination, and regulation of this data for research. The book's authors create a complete handbook on the management of research projects involving genomic data as learned through the evolution of the TCGA program, a project that was primarily carried out in the US, but whose impact and lessons learned can be applied to international audiences.

Nonsense Mutation Correction in Human Diseases

An Approach for Personalized Medicine

Fabrice Lejeune Institut Pasteur de Lille, 1 rue Calmette Professor, Lille, France

ISBN: 978-0-12-804468-1

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 182

AUDIENCE

investigators at all levels in biomedicine, molecular biology and biochemistry; graduate and postdoc students in biomed, biology, and life science programs, clinicians interested in learning the underpinnings of personalized medicine

This introduction to genetic diseases discusses the impact of nonsense mutations on gene expression and mRNA decay, and includes information on the prevalence of nonsense mutations, the consequences of a nonsense mutation for the expression of the mutant gene, and the presentation of the nonsense-mediated mRNA decay (NMD)

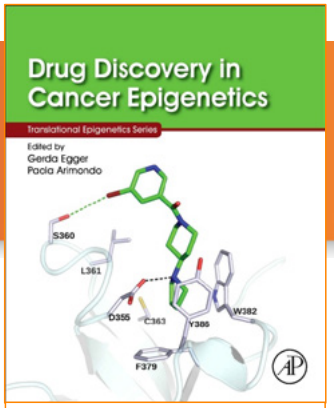
KEY FEATURES

- Features basic biological and clinical constructs that inform the application of genomic data to clinical decision-making
- Includes theories and methods that can be used to link bio-molecular and clinical phenotypes so as to enable integrative hypothesis discovery, testing, and downstream evidence-based practice
- Provides design patterns and use cases that contextualize the clinical decision-making and evidence-based practice relative to real world requirements and stakeholders

DESCRIPTION

Nonsense-Mediated mRNA Decay in Human Disease: An Approach for Personalized Medicine provides an introduction on genetic diseases, discusses the prevalence of nonsense mutations, the consequences of a nonsense mutation for the expression of the mutant gene, and the presentation of the nonsense-mediated mRNA decay (NMD).

It presents the mechanism of action and rationale associated with each strategy to correct nonsense mutations with the results of clinical trials to further support this basis. In addition, the book shows how it may be possible to combine several of these strategies to ultimately improve the efficiency of correction, also suggesting the future goals and objectives to improve treatment modalities in this evolving sphere of personalized medicine.



Drug Discovery in Cancer Epigenetics

Edited by: ***Gerda Egger*** Associate Professor of Epigenetics, Clinical Institute of Pathology, Medical University of Vienna
Paola Arimondo Director of the Unité de Service et de Recherche, Pierre Fabre Recherche et Developpement, Castres, France

Providing information on putative epigenetic targets, available drugs, tools for drug discovery, and routes for translation

ISBN: 978-0-12-802208-5
PUB DATE: January 2016
FORMAT: Hardback
PAGES: c. 476

AUDIENCE

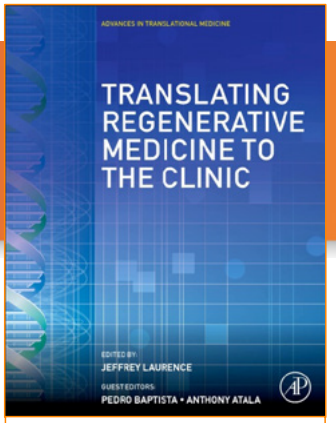
scientists in the academic and industrial sector aiming to test and develop epigenetic cancer drugs; oncologists; geneticists; clinical researchers; clinicians interested in adopting clinical trial drugs.

KEY FEATURES

- Highlights the potential of epigenetic alterations in cancer for drug development
- Covers the tools and methods for epigenetic drug discovery, preclinical and clinical testing, and clinical implications of epigenetic therapy
- Provides important information regarding putative epigenetic targets, epigenetic technologies, networks and consortia for epigenetic drug discovery and routes for translation

DESCRIPTION

Drug Discovery in Cancer Epigenetics is a practical resource for scientists involved in the discovery, testing, and development of epigenetic cancer drugs. Epigenetic modifications can have significant implications for translational science as biomarkers for diagnosis, prognosis or therapy prediction. Most importantly, epigenetic modifications are reversible and epigenetic players are found mutated in different cancers; therefore, they provide attractive therapeutic targets. There has been great interest in developing and testing epigenetic drugs, which inhibit DNA methyltransferases, histone modifying enzymes or chromatin reader proteins. The first few drugs are already FDA approved and have made their way into clinical settings. This book provides a comprehensive summary of the epigenetic drugs currently available and aims to increase awareness in this area to foster more rapid translation of epigenetic drugs into the clinic.



Translating Regenerative Medicine to the Clinic

Edited by: ***Jeffrey Laurence*** Weill Cornell Medical College, New York, NY, USA
Pedro Baptista
Anthony Atala Department of Urology, Wake Forest University, Winston-Salem, NC

Reviews regenerative medicine and stem cell biology as it transitions from applied biology to clinical translation, providing, the latest knowledge, laboratory techniques, and experimental approaches used by translational research leaders

ISBN: 978-0-12-800548-4
PUB DATE: December 2015
FORMAT: Hardback
PAGES: c. 340

AUDIENCE
Translational researchers and clinicians

KEY FEATURES

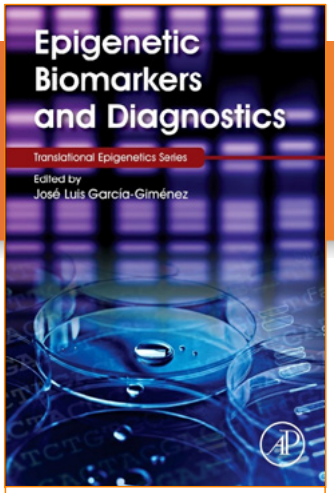
- Encompasses the latest innovations and tools being used to develop regenerative medicine in the lab and clinic
- Covers the latest knowledge, laboratory techniques, and experimental approaches used by translational research leaders in this field
- Contains extensive pedagogical updates aiming to improve the education of translational researchers in this field
- Provides a transdisciplinary approach that supports cross-fertilization between different sub-specialties of medicine

DESCRIPTION

Translating Regenerative Medicine to the Clinic reviews the current methodological tools and experimental approaches used by leading translational researchers, discussing the uses of regenerative medicine for different disease treatment areas, including cardiovascular disease, muscle regeneration, and regeneration of the bone and skin.

Pedagogically, the book concentrates on the latest knowledge, laboratory techniques, and experimental approaches used by translational research leaders in this field. It promotes cross-disciplinary communication between the sub-specialties of medicine, but remains unified in theme by emphasizing recent innovations, critical barriers to progress, the new tools that are being used to overcome them, and specific areas of research that require additional study to advance the field as a whole.

Volumes in the series include Translating Gene Therapy to the Clinic, Translating Regenerative Medicine to the Clinic, Translating MicroRNAs to the Clinic, Translating Biomarkers to the Clinic, and Translating Epigenetics to the Clinic.



Epigenetic Biomarkers and Diagnostics

Edited by: ***José Luis García-Giménez*** CIBER Enfermedades Raras, Centre for Biomedical Research on Rare Diseases, University of Valencia, Spain

This book explores the intersection between epigenetic biomarkers and clinical diagnostics, and is divided into three distinct sections, including the basis of epigenetic mechanisms, the importance of the sample quality, and the technologies and methods used to discover and analyze epigenetic biomarkers.

ISBN: 978-0-12-801899-6

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 680

AUDIENCE

specialists in epigenetics, researchers in genetics, biology, physiology, biomedicine, biotechnology, bioinformatics, physicians from diverse specialties (oncology, endocrinology, pediatrics, pathology, andrology, gerontology, nutrition, etc.), biotech companies interested in developing new biomarkers, graduate students new to epigenetics

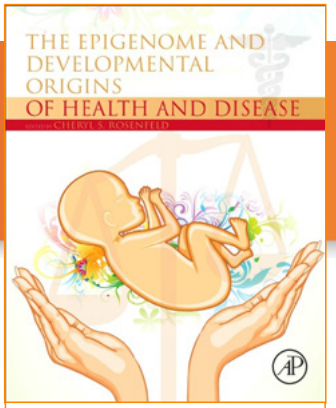
KEY FEATURES

- Focuses on recent progress in several areas of epigenetics, general concepts regarding epigenetics, and the future prospects of this discipline in clinical diagnostics and prognostics
- Describes the importance of the quality of samples and clinical associated data, and also the ethical issues for epigenetic diagnostics
- Discusses the advances in epigenomics technologies, including next-generation sequencing based tools and applications
- Expounds on the utility of epigenetic biomarkers for diagnosis and prognosis of several diseases, highlighting the study of these biomarkers in cancer, cardiovascular and metabolic diseases, infertility, and infectious diseases
- Includes a special section that discusses the relevance of biobanks in the maintenance of high quality biosamples and clinical-associated data, and the relevance of the ethical aspects in epigenetic studies

DESCRIPTION

Epigenetic Biomarkers and Diagnostics comprises 31 chapters contributed by leading active researchers in basic and clinical epigenetics. The book begins with the basis of epigenetic mechanisms and descriptions of epigenetic biomarkers that can be used in clinical diagnostics and prognostics. It goes on to discuss classical methods and next generation sequencing-based technologies to discover and analyze epigenetic biomarkers. The book concludes with an account of DNA methylation, post-translational modifications and noncoding RNAs as the most promising biomarkers for cancer (i.e. breast, lung, colon, etc.), metabolic disorders (i.e. diabetes and obesity), autoimmune diseases, infertility, allergy, infectious diseases, and neurological disorders.

The book describes the challenging aspects of research in epigenetics, and current findings regarding new epigenetic elements and modifiers, providing guidance for researchers interested in the most advanced technologies and tested biomarkers to be used in the clinical diagnosis or prognosis of disease.



The Epigenome and Developmental Origins of Health and Disease

Edited by: ***Cheryl S Rosenfeld*** Associate Professor, University of Missouri – Columbia, Department of Biomedical Sciences, Columbia, MO, USA

This book reveals how contrasting in utero environmental changes may be leading to epigenetic convergence that result in deleterious phenotypic and physiological effects in offspring, synthesizing the existing knowledge on how the in utero environment could be the most important environment in shaping later risk for various diseases.

ISBN: 978-0-12-801383-0

PUB DATE: October 2015

FORMAT: Paperback

PAGES: c. 542

AUDIENCE

epigeneticists, geneticists, reproductive biologists, medical and veterinary students, toxicologists, obstetricians/ gynecologists, neurobiologists, nutritionists, physiologists, and psychologists

KEY FEATURES

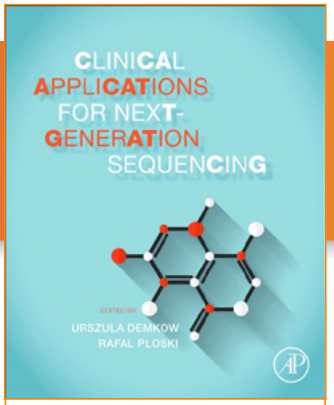
- Informs how everyday choices pregnant women make can impact child development
- Ties together how in utero environmental changes may be inducing epigenetic changes in the offspring leading to overlapping phenotypes regardless of the initial insult (toxic, nutrition, or stress)
- Includes a boxed-in area in each chapter for further references and resources to keep up with the field
- Features video interviews with the authors and other key leaders in the field

DESCRIPTION

The Epigenome and Developmental Origins of Health and Disease synthesizes the existing knowledge on how the in utero environment could be the most important environment in shaping later risk for various diseases or to conversely promote the health of the offspring.

The book mines the existing literature from a variety of disciplines from toxicology to nutrition to epigenetics to reveal how contrasting maternal in utero environmental changes might be leading to epigenetic convergence and the resulting deleterious phenotypic and physiological effects in our offspring.

It is increasingly becoming apparent that even subtle changes in the mother's diet, stress, and exposure to low concentrations of toxic chemicals at levels deemed safe by the EPA and FDA, such as endocrine disrupting compounds (EDC), can dramatically impact the health of our children, possibly leading to metabolic, cardiovascular, immunological, neurobehavioral disorders, and increased risk for cancer to list but a few examples.



Clinical Applications for Next-Generation Sequencing

Edited by: ***Urszula Demkow*** MD PhD, Head of the Department of Laboratory Diagnostics and Clinical Immunology, Children's Hospital of the Medical University of Warsaw
Rafal Ploski MD PhD, Head of the Department of Medical Genetics, Medical University of Warsaw

A thorough examination of the translational use of NGS in clinical environments to help clinicians address the needs of real-world patients

ISBN: 978-0-12-801739-5
PUB DATE: October 2015
FORMAT: Paperback
PAGES: c. 320

AUDIENCE

clinicians and trainees of different specialties, especially pediatricians, neonatologists, hematologists, oncologists, neurologists, psychiatrists, ophthalmologists, laryngologists, cardiologists, diabetologists and others with an interest in genetics and a desire to implement this new testing modality into their daily practice; genetic laboratory staff performing tests for clinicians; genetic counselors

KEY FEATURES

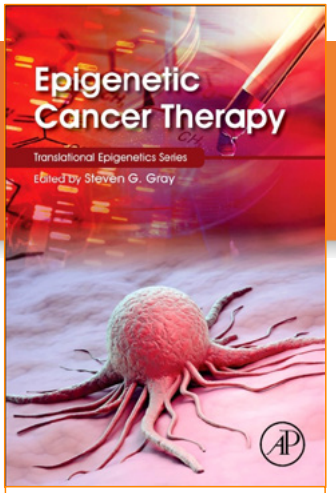
- Fills the gap between state-of-the-art technology and evidence-based practice
- Provides an educational opportunity which advances patient care through the transfer of NGS to real-world patient assessment
- Promotes a practical tool that clinicians can apply directly to patient care
- Includes a systematic framework for understanding the role of NGS testing in many common and rare diseases
- Presents evidence regarding the important role of NGS in current diagnostic strategies

DESCRIPTION

Clinical Applications for Next Generation Sequencing provides readers with an outstanding postgraduate resource to learn about the translational use of NGS in clinical environments.

Rooted in both medical genetics and clinical medicine, the book fills the gap between state-of-the-art technology and evidence-based practice, providing an educational opportunity for users to advance patient care by transferring NGS to the needs of real-world patients.

The book builds an interface between genetic laboratory staff and clinical health workers to not only improve communication, but also strengthen cooperation. Users will find valuable tactics they can use to build a systematic framework for understanding the role of NGS testing in both common and rare diseases and conditions, from prenatal care, like chromosomal abnormalities, up to advanced age problems like dementia.



Epigenetic Cancer Therapy

Edited by: ***Steven Gray*** Senior Clinical Scientist & Adjunct Assistant Professor, Thoracic Oncology Research Group, Trinity Centre for Health Sciences, St. James's Hospital, Dublin, Ireland

ISBN: 978-0-12-800206-3

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 722

AUDIENCE

Researchers in molecular biology, genetics, and clinical therapy who are interested in the role of epigenetics in cancer biology or those seeking novel means to treat cancer.

An ideal companion for translational researchers and clinicians conducting R&D, and for those considering incorporating epigenetic targeting agents into clinical trial protocols

KEY FEATURES

- Concisely summarizes the therapeutic implications of recent, large-scale epigenome studies, including the cancer epigenome atlas
- Discusses targeted isoform specific versus pan-specific inhibitors, a rational drug design approach to epigenetics relevant to pharmacoepigenetic clinical applications
- Covers new findings in the interplay between cancer stem cells (CSCs) and drug resistance, demonstrating that epigenetic machinery is a candidate target for the eradication of these CSCs

DESCRIPTION

Epigenetic Cancer Therapy unites issues central to a translational audience actively seeking to understand the topic. It is ideal for cancer specialists, including oncologists and clinicians, but also provides valuable information for researchers, academics, students, governments, and decision-makers in the healthcare sector.

The text covers the basic background of the epigenome, aberrant epigenetics, and its potential as a target for cancer therapy, and includes individual chapters on the state of epigenome knowledge in specific cancers (including lung, breast, prostate, liver).

The book encompasses both large-scale intergovernmental initiatives as well as recent findings across cancer stem cells, rational drug design, clinical trials, and chemopreventative strategies. As a whole, the work articulates and raises the profile of epigenetics as a therapeutic option in the future management of cancer.

Epigenetic Technological Applications

Edited by: ***Y. George Zheng*** Associate Professor, Department of Pharmaceutical and Biomedical Sciences, University of Georgia

Outlining technologies that are critical for epigenetic research and application

KEY FEATURES

- Discusses technologies that are critical for epigenetic research and application
- Includes epigenetic applications for state-of-the-art technologies
- Contains a global perspective on the future of epigenetics

DESCRIPTION

Epigenetic Technological Applications is a compilation of state-of-the-art technologies involved in epigenetic research. Epigenetics is an exciting new field of biology research, and many technologies are invented and developed specifically for epigenetics study. With chapters covering the latest developments in crystallography, computational modeling, the uses of histones, and more, *Epigenetic Technological Applications* addresses the question of how these new ideas, procedures, and innovations can be applied to current epigenetics research, and how they can keep pushing discovery forward and beyond the epigenetic realm.

ISBN: 978-0-12-801080-8

PUB DATE: July 2015

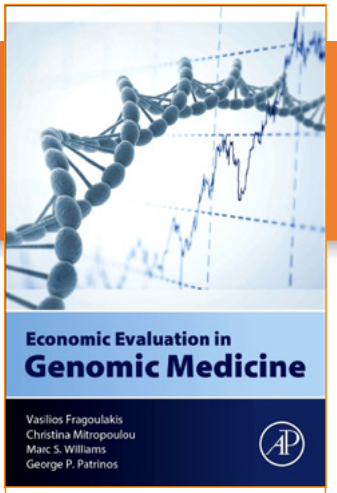
FORMAT: Hardback

PAGES: c. 492

AUDIENCE

Researchers in genetics, biology, biochemistry, and biophysics, and pharmaceutical and biotechnological industry scientists

LIFE SCIENCES
GENETICS
Please contact your Elsevier Sales or Customer Service Representative



Economic Evaluation in Genomic Medicine

Vasilios Fragoulakis University of Patras School of Health Sciences, Department of Pharmacy, Patras, Greece; National School of Public Health, Athens, Greece
Christina Mitropoulou Erasmus University Medical Center, Department of Clinical Chemistry, Rotterdam, The Netherlands
Marc Williams Geisinger Health System, Danville, Pennsylvanian, USA
George Patrinos University of Patras School of Health Sciences, Department of Pharmacy, Patras, Greece

Provides a succinct overview of the existing state-of-the-art application of economic evaluation to genomic healthcare and precision medicine

ISBN: 978-0-12-801497-4
PUB DATE: March 2015
FORMAT: Paperback
PAGES: c. 164

AUDIENCE

Bioscientists, geneticists, biotech industry professionals, undergraduate and graduate students in health economics and health sciences (namely medicine, pharmacy, and genetics), clinicians and health managers, public health officers, health policy makers, governmental organizations, health care professionals, hospital managers, healthcare policy makers

KEY FEATURES

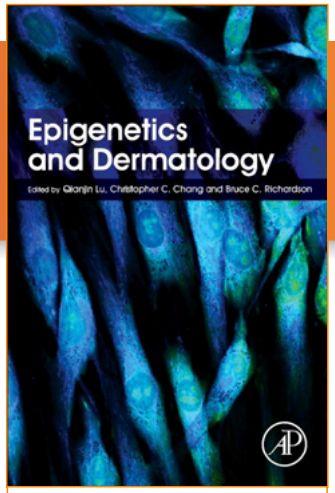
- Interrelates economic evaluation and genomic medicine
- Instructs healthcare professionals and bioscientists about economic evaluation in genomic medicine
- Teaches health economists about application of economic evaluation in genomic medicine
- Introduces health economics and economic evaluation to clinicians and researchers involved in genomics
- Includes process guides, maps, flow charts and diagrams

DESCRIPTION

Economic Evaluation in Genomic Medicine introduces health economics and economic evaluation to genomic clinicians and researchers, while also introducing the topic to health economists.

Each chapter includes an executive summary, questions, and case studies, along with supplementary online materials, including process guides, maps, flow charts, diagrams, and economic evaluation spreadsheets to enhance the learning process.

The text can easily be used as course material for related graduate and undergraduate courses, providing a succinct overview of the existing, state-of-the-art application of economic evaluation to genomic healthcare and precision medicine.



Epigenetics and Dermatology

Edited by: ***Qianjin Lu*** Director, Institute of Dermatology at Central South University, Director of Hunan Key Laboratory of Medical Epigenomics, Changsha, China
Christopher C Chang Professor of Medicine and Associate Director, Allergy and Immunology Fellowship Program, Division of Rheumatology, Allergy and Clinical Immunology, University of California at Davis, California, USA
Bruce C. Richardson Professor of Internal Medicine, University of Michigan, Chief Section of Rheumatology, Veterans Affairs Hospital, Ann Arbor, MI, USA

Explores the role of epigenetics in the pathogenesis of autoimmune-related skin diseases and skin cancer, and points to future treatment options

ISBN: 978-0-12-800957-4

PUB DATE: February 2015

FORMAT: Hardback

PAGES: c. 500

AUDIENCE

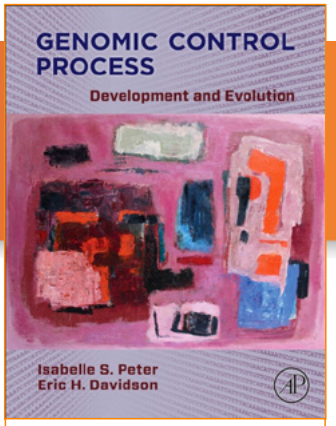
Basic biologists working on skin-related diseases, and translational researchers interested in further exploration of epigenetic therapies. Some oncologists.

KEY FEATURES

- Discusses the basic biology of skin diseases and skin cancers induced or aggravated by aberrant epigenetic changes.
- Evaluates how to approach autoimmune-related skin diseases from a therapeutic perspective using the wealth of emergent epigenetic clinical trials.
- Offers a coherent and structured table of contents with basic epigenetic biology followed by discussion of the spectrum of rheumatologic through neoplastic skin diseases, finally ending with a discourse on epigenetic therapy.

DESCRIPTION

Epigenetics and Dermatology explores the role of epigenetics in the pathogenesis of autoimmune-related skin diseases and skin cancer. Leading contributors cover common and uncommon skin conditions in which extensive epigenetic research has been done. They explain how environmental exposures (chemicals, drugs, sunlight, diet, stress, smoking, infection, etc.) in all stages of life (from a fetus in-utero to an elderly person) may result in epigenetic changes that lead to development of some skin diseases in life. They also discuss the possibilities of new and emergent epigenetic treatments which are gradually being adopted in management of various skin diseases. Chapters follow a conventional structure, covering fundamental biology of the disease condition, etiology and pathogenesis, diagnosis, commonly available treatments, and epigenetic therapy where applicable.



Genomic Control Process

Development and Evolution

Isabelle Peter Assistant Research Professor, California Institute of Technology, Pasadena, CA, USA
Eric H. Davidson Norman Chandler Professor of Cell Biology, California Institute of Technology, Pasadena, CA, USA

This book generates a unifying framework for understanding the genomically encoded control processes that determine the course of animal development and evolution.

"...a fascinating book that came out recently...would like to strongly recommend it to our readers...one of those rare gems that will continue to influence researchers many decades from today."--**Homolog.us-Bioinformatics, *Genomic Control Process***

ISBN: 978-0-12-404729-7
PUB DATE: January 2015
FORMAT: Hardback
PAGES: c. 448

AUDIENCE
Graduate, post-graduate, and advanced undergraduate students as well as researchers in a variety of disciplines using genomic studies in their work

KEY FEATURES

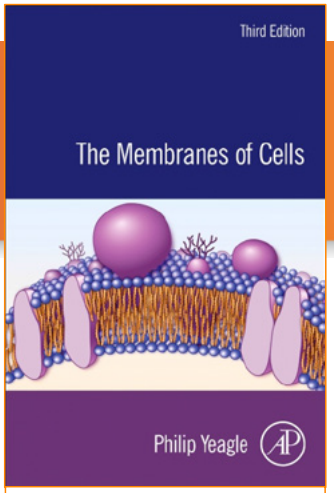
- Conceptually organizes a constellation of complex and diverse biological phenomena
- Investigates fundamental developmental control system logic in diverse circumstances and expresses these in conceptual models
- Explores mechanistic evolutionary processes, illuminating the evolutionary consequences of developmental control systems as they are encoded in the genome

DESCRIPTION

Genomic Control Process explores the biological phenomena around genomic regulatory systems that control and shape animal development processes, and which determine the nature of evolutionary processes that affect body plan. Unifying and simplifying the descriptions of development and evolution by focusing on the causality in these processes, it provides a comprehensive method of considering genomic control across diverse biological processes.

This book is essential for graduate researchers in genomics, systems biology and molecular biology seeking to understand deep biological processes which regulate the structure of animals during development.

- Covers a vast area of current biological research to produce a genome oriented regulatory bioscience of animal life
- Places gene regulation, embryonic and postembryonic development, and evolution of the body plan in a unified conceptual framework
- Provides the conceptual keys to interpret a broad developmental and evolutionary landscape with precise experimental illustrations drawn from contemporary literature
- Includes a range of material, from developmental phenomenology to quantitative and logic models, from phylogenetics to the molecular biology of gene regulation, from animal models of all kinds to evidence of every relevant type
- Demonstrates the causal power of system-level understanding of genomic control process



The Membranes of Cells, 3e

Philip L. Yeagle University of Buffalo School of Medicine, NY, USA

As a basic guide to biomembranes that connects researchers to the numerous fields of biology, this new edition offers a complete update of content based on new understandings in the field

ISBN: 978-0-12-800047-2

PREVIOUS EDITION ISBN: 9780127690414

PUB DATE: February 2016

FORMAT: Hardback

PAGES: c. 440

AUDIENCE

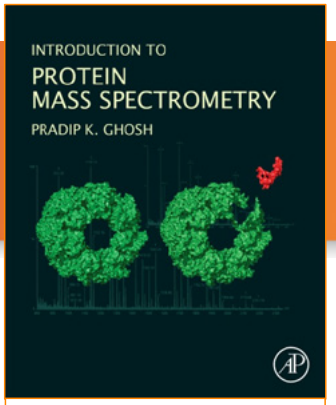
Researchers, professors, graduate and undergraduate students in cell biology, biophysics, biology and life sciences.

KEY FEATURES

- Connects membrane research to numerous fields of biology
- Provides a basic guide to the interdisciplinary studies of membranes
- Offers a companion website with recommended readings and dynamic visual representations of the content
- Includes four color illustrations to offer the best visual representation of concepts

DESCRIPTION

The Membranes of Cells, Third Edition, provides a basic guide to biomembranes, connecting researchers to the numerous fields of biology. The new edition offers a complete update of content based on new understandings in the field. Foundational content for graduate students, researchers, professors, and undergraduate students across the sciences is provided, succinctly covering all of the basic information needed for lipids and membranes.



Introduction to Protein Mass Spectrometry

Pradip Kumar Ghosh Indian Institute of Technology, Kanpur

A practical and applied overview of the use of protein mass spectrometry in chemistry, biochemistry, and biology

ISBN: 978-0-12-805123-8

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 300

AUDIENCE

All scientists using Protein Mass Spectrometry, particularly analytical chemists, biochemists, drug discovery/medicinal chemists, biologists

KEY FEATURES

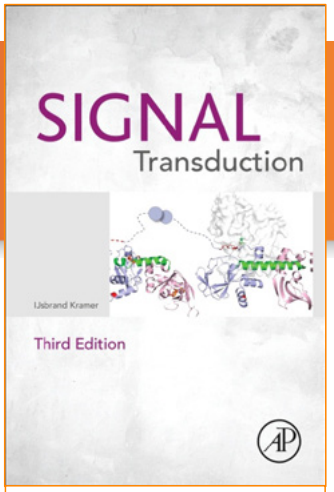
- Offers introductory information for scientists and researchers new to the field, as well as advanced insight into the critical assessment of computer-analyzed mass spectrometric results and their current limitations
- Provides examples of commonly-used MS instruments from Bruker, Applied Biosystems, JEOL, Thermo Scientific/Thermo Fisher Scientific, IU, and Waters
- Includes biological applications and exploration of analytical tools and databases for bioinformatics

DESCRIPTION

Introduction to Protein Mass Spectrometry provides a comprehensive overview of this increasingly important, yet complex, analytical technique. Unlike many other methods which automatically yield an absolutely unique protein name as output, protein mass spectrometry generally requires a deduction of protein identity from determination of peptide fragmentation products.

This book enables readers to both understand, and appreciate, how determinations about protein identity from mass spectrometric data are made. Coverage begins with the technical basics, including preparations, instruments, and spectrometric analysis of peptides and proteins, before exploring applied use in biological applications, bioinformatics, database, and software resources.

Citing the most recent and relevant work in the field of biological mass spectrometry, the book is written for researchers and scientists new to the field, but is also an ideal resource for those hoping to hone their analytical abilities.



Signal Transduction, 3e

Ijsbrand M. Kramer University of Bordeaux, Talence, France

This comprehensive, up-to-date book shows how cells respond to external cues, hormones, growth factors, cytokines, cell surfaces, etc., and further instructs how these inputs are integrated, providing users with an invaluable resource for advanced undergraduates, graduate students, and established scientists.

ISBN: 978-0-12-394803-8

PREVIOUS EDITION ISBN: 978-0-12-369441-6

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 1062

AUDIENCE

Established researchers as well as advanced undergraduate and graduate researchers, and scientists working in cell biology, pharmacology, immunology, and related fields.

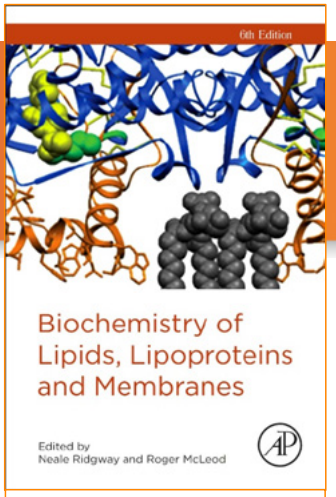
KEY FEATURES

- Includes up-to-date, inclusive coverage of targeting transduction pathways for research and medical intervention
- Provides in-depth coverage of nuclear receptors, including steps in isolation of steroid hormones and the discovery of intracellular hormone receptors, tyrosine protein kinases and adaptive immunity, and intracellular calcium
- Presents extensive conceptual color artwork to assist with comprehension of key topics
- Includes instrumental margin notes that highlight milestones in signaling mechanisms

DESCRIPTION

Signal Transduction, Third Edition is a thorough, well-illustrated study in cellular signaling processes. Beginning with the basics, this book shows how cells respond to external cues, hormones, growth factors, cytokines, cell surfaces, etc., and further instructs how these inputs are integrated.

Instruction continues with up-to-date, inclusive coverage of intracellular calcium, nuclear receptors, tyrosine protein kinases and adaptive immunity, and targeting transduction pathways for research and medical intervention. This book will serve as an invaluable resource for advanced undergraduates, graduate researchers, and established scientists working in cell biology, pharmacology, immunology, and related fields.



Biochemistry of Lipids, Lipoproteins and Membranes, 6e

Edited by: ***Neale Ridgway*** Departments of Pediatrics and Biochemistry & Molecular Biology, Dalhousie University, Halifax, Nova Scotia, Canada
Roger McLeod Department of Biochemistry & Molecular Biology, Dalhousie University, Halifax, Nova Scotia, Canada

ELSEVIER

This book provides an advanced reference covering all major areas of lipid research, and is ideal for those interested in exploring lipid biology in detail.

ISBN: 978-0-444-63438-2

PREVIOUS EDITION ISBN: 978-0-444-53219-0

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 590

AUDIENCE

researchers and graduate students of biochemistry, cell biology, lipid biochemistry, and molecular biology

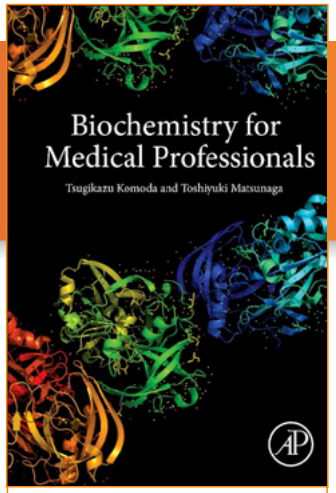
KEY FEATURES

- Serves as a general reference book for scientists studying lipids, lipoproteins and membranes and as an advanced and up-to-date textbook for teachers and students who are familiar with the basic concepts of lipid biochemistry
- References from current literature will be included in each chapter to facilitate more in-depth study
- Key concepts are supported by figures and models to improve reader understanding
- Chapters provide historical perspective and current analysis of each topic

DESCRIPTION

Biochemistry of Lipids: Lipoproteins and Membranes, Volume Six, contains concise chapters that cover a wide spectrum of topics in the field of lipid biochemistry and cell biology. It provides an important bridge between broad-based biochemistry textbooks and more technical research publications, offering cohesive, foundational information.

It is a valuable tool for advanced graduate students and researchers who are interested in exploring lipid biology in more detail, and includes overviews of lipid biology in both prokaryotes and eukaryotes, while also providing fundamental background on the subsequent descriptions of fatty acid synthesis, desaturation and elongation, and the pathways that lead the synthesis of complex phospholipids, sphingolipids, and their structural variants. Also covered are sections on how bioactive lipids are involved in cell signaling with an emphasis on disease implications and pathological consequences.



Biochemistry for Medical Professionals

Tsugikazu Komoda Visiting Professor of Toho University School of Medicine, Japan
Toshiyuki Matsunaga Associate Professor of Gifu Pharmaceutical University, Japan

ISBN: 978-0-12-801918-4
PUB DATE: November 2015
FORMAT: Paperback
PAGES: c. 102

AUDIENCE
Researchers and clinicians in biochemistry, molecular biology, molecular medicine; medical and dental faculty; and postdocs, medical students, and graduate students in related fields of study

This book provides a concise, practical reference for students and experts alike that encompasses the fundamental biochemical topics relating to health and disease in the fields of medicine, dentistry, and the pharmaceutical sciences, and is also ideal for health professionals who need a concise, topical biochemistry reference.

KEY FEATURES

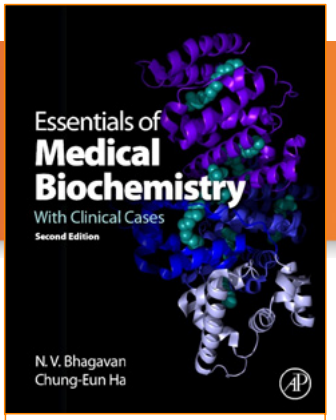
- Illustrates disease involvement in metabolic maps
- Contains coverage of cutting-edge technology, including iPS, HPLC and HPLC-MS, and FACS method
- Provides in-depth technical detail as well as conceptual frameworks of biochemistry and experimental design in the context of the human organism
- Includes a biotechnology study, featuring application of basic biochemistry principles

DESCRIPTION

Biochemistry for Medical Professionals contains pivotal advances in the biochemistry field and provides a resource for professionals across medicine, dentistry, pharmaceutical sciences and health professions who need a concise, topical biochemistry reference.

Relevant, well-illustrated coverage begins with the composition of the human body and then goes into the technical detail of the metabolism of the human body and biochemistry of internal organs before featuring a biotechnology study inclusive of numerous methods and applications.

The work is written at a consistently high level, with technical notes added to aid comprehension for complex topics.



Essentials of Medical Biochemistry, 2e

With Clinical Cases

N. V. Bhagavan John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI, USA
Chung-Eun Ha John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI, USA

ISBN: 978-0-12-416687-5
PREVIOUS EDITION ISBN: 9780120954612
PUB DATE: June 2015
FORMAT: Paperback
PAGES: c. 730

AUDIENCE

First-year medical students and graduate students in basic biochemistry, physiology, dentistry, and pharmacology.

An extensive review and reference guide for students and experts alike that encompasses the fundamental biochemical topics related to health and disease

"The contents of the book are quite up to date. The book covers basic, traditional biochemical topics as well as recent developments driven by genomics that caught the interests of everyone, including biochemist and health care personnel and future doctors. Adopting such a concise textbook that covers the many aspects of biochemistry and their relevance to diseases would prepare our pre-med students with a broad understanding of the mechanisms of a large number of health problems. The book would also be a very useful starting point for those who are experts in other fields of basic research but have an interest or need to relate basic biochemical processes to and disease mechanisms in a broad range...This book is very concise on most of the topics it covers. It describes the principles to the point the students need without lengthy elaborations that takes too much time that students often find hard to find due to heavy study load. Accompanied by case studies, this is a very good book for medical orientated students."--**Dr. Yuzhu Zhang, Department of Biology, Chemistry, and Physics, Illinois Institute of Technology**

"The writing style is in general easy to read and the topics that I have reviewed seemed to be explained well."--**Dr. William E. Seifert, Department of Biochemistry & Molecular Biology, Purdue University**

"We adopted the Bhagavan text because it is the most comprehensive and authoritative text on the market and is suitable for our students who have already had at least one semester of biochemistry prior to acceptance in medical school...The chapters on genomics and hematology are handled better by Bhagavan than in other books that I'm familiar with. It was probably this coverage in Bhagavan that made it our choice. The hematology section is better than that in most full hematology books."--**Dr. Eugene Allanson, Department of Biochemistry and Molecular Biology, Georgetown University Medical Center**

KEY FEATURES

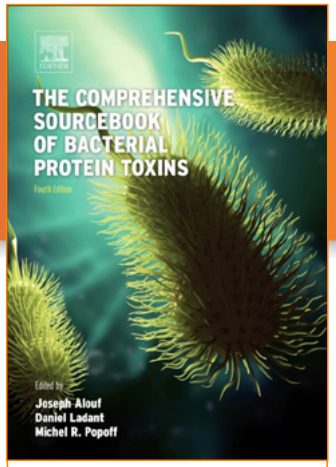
- Presents essential biochemical concepts within the context of their biological functions
- Contains key clinical case studies in each chapter to enhance understanding of basic science and aid in further comprehension
- Offers instructional overview figures, flowcharts, tables and multicolored illustrations
- Includes integrated, recommended reading reference lists within the text
- Provides an online ancillary package inclusive of PowerPoint images and more than 500 study questions to aid in comprehension and USMLE exam preparation

DESCRIPTION

Essentials of Medical Biochemistry, Second Edition: With Clinical Cases is the most condensed, yet detailed biochemistry overview available on the topic. It presents contemporary coverage of the fundamentals of biochemistry, emphasizing relevant physiologic and pathophysiologic biochemical concepts.

Pivotal clinical case studies aid in understanding basic science in the context of diagnosis and treatment of human diseases, and the text illuminates key topics in molecular immunology and hemostasis.

Users will find basic and fundamental concepts that will aid students and professionals in biochemistry, medicine, and other healthcare disciplines. the text is a useful refresher that will help users meet USMLE and other professional licensing examination requirements, providing thorough introductions, key points, multicolored illustrations of chemical structures and figures, fact-filled tables, and recommended reading lists.



The Comprehensive Sourcebook of Bacterial Protein Toxins, 4e

Joseph E. Alouf Institute Pasteur de Lille, France
Daniel Ladant PhD, Director of Research at French CNRS (National Center for Scientific Research) and head of the Biochemistry of Macromolecular Interactions unit at Institut Pasteur, Paris, France
Michel R. Popoff CNR Anaerobies et Botulisme, Unite Bacteries anaerobies et Toxines, Institut Pasteur, FRANCE

ELSEVIER

Describes the fundamental aspects of the main groups of bacterial toxins and provides an in-depth critical review of emerging research in this area

ISBN: 978-0-12-800188-2
PREVIOUS EDITION ISBN: 978-0-12-088445-2
PUB DATE: June 2015
FORMAT: Hardback
PAGES: c. 1180

AUDIENCE

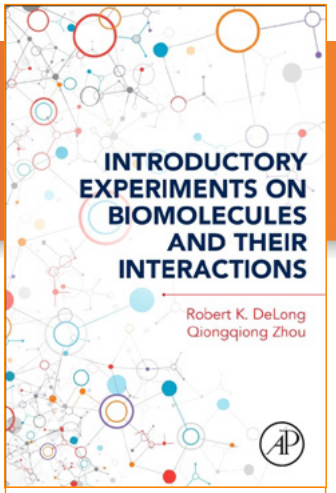
Scientists and students of toxicology, microbiology, cell biology and biochemistry, as well as medical students, physicians, pathologists and those involved in the management of bioterrorism threats.

KEY FEATURES

- Descriptions of relevant toxins as well as representative toxins of the main bacterial toxin families to allow for a better comparison between them.
- Focused chapters on toxin applications and common properties or general features of toxins.

DESCRIPTION

The Comprehensive Sourcebook of Bacterial Protein Toxins 4th Edition, contains chapters written by internationally known and well-respected specialists. This book contains chapters devoted to individual toxins, as well as chapters that consider the different applications of these toxins. Considerable progress has been made in understanding the structure, function, interaction and trafficking into cells, as well as mechanism of action of toxins. Bacterial toxins are involved in the pathogenesis of many bacteria, some of which are responsible for severe diseases in human and animals, but can also be used as tools in cell biology to dissect cellular processes or used as therapeutic agents. Novel recombinant toxins are already proposed in the treatment of some diseases, as well as new vaccines. Alternatively, certain toxins are also considered as biological weapons or bioterrorism threats. Given the multifaceted aspects of toxin research and the multidisciplinary approaches adopted, toxins are of great interest in many scientific areas from microbiology, virology, cell biology to biochemistry and protein structure. This new edition is written with a multidisciplinary audience in mind and contains 5 new chapters that reflect the latest research in this area. Other chapters have been combined, deleted and fully revised as necessary to deliver relevant and valuable content.



Introductory Experiments on Biomolecules and their Interactions

Robert K. Delong Nanotechnology Innovation Center, Kansas State University, Manhattan, KS, USA
Qiongqiong Zhou Biomedical Sciences, Missouri State University, Springfield, MO, USA

Provides an introduction to basic biochemistry and analysis of the macromolecules required for cell function, infused with original experiments derived from the author's industry experience

ISBN: 978-0-12-800969-7
PUB DATE: May 2015
FORMAT: Paperback
PAGES: c. 98

AUDIENCE
Undergraduate and graduate students studying biology, biochemistry, chemistry and biotechnology

KEY FEATURES

- Features quantitative analysis of RNA degradation by RNase
- Contains problem sets, calculations, and references for each lab fully immersing students in the learning process
- Includes instruction on how to maintain a lab notebook and write a formal lab report
- Provides hands-on engagement with the four major types of biomolecules and "real-life and better applied" examples of molecular interactions

DESCRIPTION

Introductory Experiments on Biomolecules and their Interactions provides a novel approach to teaching biomolecules in the lab. While featuring the requisite fundamentals, it also captures the author's experience in industry, thus providing unique, up-to-date experiments which take the learning experience one-step further.

The text parallels lectures using a standard biochemistry undergraduate text. Unlike most current lab manuals available in the market which simply emphasize an introduction of techniques, this lab manual provides students with opportunities to demonstrate and prove the knowledge and theories they learn from class.

Neural Lipid Signalling

Edited by: ***Daniele Piomelli*** Professor of Anatomy and Neurobiology, Pharmacology and Biological Chemistry, University of California, Irvine, CA, USA

This updated reference demonstrates that lipids play broad informational roles in the central nervous system, providing researchers with the tools and concepts they need to navigate the increasingly important world of lipid signaling

A Volume in the Perspectives in Translational Cell Biology Series.

ISBN: 978-0-12-801998-6

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 288

AUDIENCE

Early researchers, professors, graduate students, and undergraduate students studying cell biology, neuroscience, biochemistry, pharmacology, and across the biological and biomedical sciences

KEY FEATURES

- Provides basic concepts about the signaling roles of lipid-derived messengers
- Orients the reader in the complex world of lipid identification and quantification
- Offers a series of authoritative chapters by recognized leaders in the field of lipid signaling
- Includes a lipid glossary (in the Appendix)

DESCRIPTION

Neural Lipid Signalling offers new insights into the role of lipid intermediates in cell signaling. Due to advances in cell biology, synaptic physiology and receptor pharmacology that demonstrate that lipids play broad informational roles in the central nervous system, this publication provides researchers with the tools and concepts needed to navigate the increasingly important world of lipid signaling.

Ion Channels in Health and Disease

Edited by: ***Geoffrey S. Pitt*** Department of Medicine, Duke University School of Medicine

This concise, accessible book provides an overview of fundamental concepts in ion channels research to link defects in human disease

A Volume in the Perspectives in Translational Cell Biology Series.

ISBN: 978-0-12-802002-9

PUB DATE: June 2016

FORMAT: Paperback

PAGES: c. 320

AUDIENCE

Early researchers, professors, graduate students, and undergraduate students studying cell biology, pharmacology, neuroscience and across the biological and biomedical sciences

KEY FEATURES

- Provides an overview of fundamental concepts in ion channels research to link defects in human disease
- Written in an accessible manner, without jargon
- Provides a helpful, easy cross-reference for diseases, channels, and tissues

DESCRIPTION

Ion Channels in Health and Disease provides key insight to allow researchers to generate discoveries across disease states. A single resource that integrates disparate areas of biology and disease ion channel biology, this publication includes cross-referencing for disease, channels, and tissues. Offers a broad view of research of interest to early and experienced researchers across biological and biomedical research.

Basic Science Methods for Clinical Researchers

Edited by: ***Morteza Jalali*** Clinical Research Fellow (PH.D.), University of Cambridge; Core Surgical Trainee, Oxford University Hospitals; Honorary Research Fellow, University of Oxford, UK; ***Francesca Yvonne Louise Saldanha*** Clinical Research Fellow (M.Phil.), Whitehead Institute for Biomedical Research, Massachusetts Institute of Technology, Cambridge, MA, USA; ***Mehdi Jalali*** Academic Foundation Doctor, Royal Liverpool University Hospital, Liverpool, UK

A vital companion for clinicians undertaking laboratory science, especially those lacking exposure to basic science principles and research methodologies, introducing core experimental methods commonly used in science research, including an outline of their relative strengths and limitations in generating conclusive data

ISBN: 978-0-12-803077-6

PUB DATE: May 2016

FORMAT: Paperback

PAGES: c. 256

AUDIENCE

biomedical researchers; residents and medical students; clinical researchers and students in various medical areas as well as pharmaceutical science and bioengineering

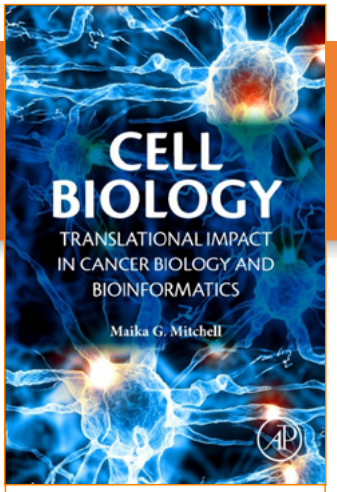
KEY FEATURES

- Serves as a helpful guide for clinical researchers who lack a conventional science background
- Organized around research themes pertaining to key biological molecules, from genes to proteins to cells, and model organisms
- Features protocols, techniques for trouble-shooting common problems, and an explanation of the advantages and limitations of a technique in generating conclusive data
- Appendices provide resources for practical research methodology including legal frameworks for using stem cells and animals in the laboratory, ethical considerations and good laboratory practice (GLP)

DESCRIPTION

Basic Science Methods for Clinical Researchers addresses the specific challenges faced by clinicians without a conventional science background, who have a lack of exposure to basic science due to heavy clinical demands weighing on their time. The aim is to introduce the reader to core experimental methods commonly used to answer questions in basic science research and to outline their relative strengths and limitations in generating conclusive data.

This book will be a vital companion for clinicians undertaking laboratory-based science. It will support clinicians in the pursuit of their academic interests and in making an original contribution to their chosen field. In doing so, it will facilitate the development of tomorrow's clinician scientists and future leaders in discovery science.



Cell Biology

Translational Impact in Cancer Biology and Bioinformatics

Maika G Mitchell ASCP, NSBE, AACC, CAP, NYSDOH, Lean Six Sigma Master Black Belt, MSKCC, CLC bio, The Science Advisory Board, BioConference Live!, Touch Oncology, PRIMR, and Lean In Community.

This comprehensive book on cell biology and its impact in cancer biology and bioinformatics provides users with a broad view of this research area, and is also useful for both early and experienced researchers across cell biology, cancer research, molecular biology, and those in clinical and translational science

ISBN: 978-0-12-801853-8

PUB DATE: January 2016

FORMAT: Paperback

PAGES: c. 338

AUDIENCE

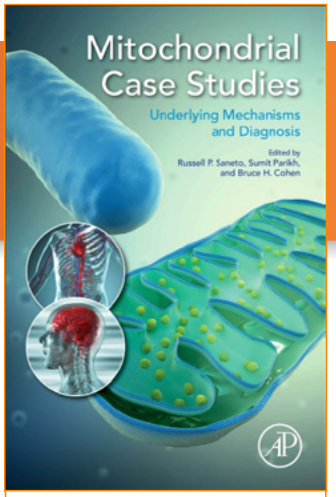
Graduate students and early life science researchers across basic science, clinical and translational science, including: cell biology, molecular biology, cancer research, drug discovery, biotechnology and bioinformatics

KEY FEATURES

- Offers insight into how cell cycle and cell division relates to cancer biology
- Emphasizes flow cytometry and other cell biology techniques for diagnosis
- Includes recommendations for integration and analyzation of molecular and clinical data

DESCRIPTION

Cell Biology: Translational Impact in Cancer Biology and Bioinformatics provides insight into the implications for cell cycle regulation and cell proliferation in cancer growth and dissemination. Offering guidance for techniques and tools to help with diagnosis, this publication provides users with a broad view of this research area, and is also useful for both early and experienced researchers across cell biology, cancer research, molecular biology, and in clinical and translational science.



Mitochondrial Case Studies

Underlying Mechanisms and Diagnosis

Edited by: ***Russell Saneto*** Department Neurology/Division Pediatric Neurology, Seattle Children's and University of Washington, Seattle, WA USA; ***Sumit Parikh*** Associate Professor of Neurology and Pediatrics, Cleveland Clinic Lerner College of Medicine & Case Western Reserve University, Cleveland, OH, USA; Director of the Neurogenetics, Metabolism and Mitochondrial Disease Center, Cleveland Clinic, Cleveland, OH, USA; ***Bruce H Cohen*** Professor of Pediatrics, Northeast Ohio Medical University, Rootstown, OH, USA; Director of The NeuroDevelopmental Science Center and Divison of Neurology, and Department of Pediatrics, Children's Hospital and Medical Center of Akron, Akron, OH, USA

This book provides an invaluable guide for students, physicians, and others interested in researching, diagnosing and treating mitochondrial diseases, presenting the most updated information with case studies that enhance the topics discussed

KEY FEATURES

- Reviews case studies as a helpful teaching tool to increase awareness and improve diagnosis
- Provides information on underlying mechanisms of mitochondrial disease
- Includes basic mitochondrial dysfunction research through patient case studies to best illustrate the entire disease process

DESCRIPTION

Mitochondrial Case Studies: Underlying Mechanisms and Diagnosis offers the science behind mitochondrial disease with a case studies approach. Since mitochondrial diseases are diverse and influenced by genetic, environmental, and social-economic factors, this publication will help students, physicians, scientists, health care students, and families recognize and accurately diagnose mitochondrial disease and learn about potential treatments.

ISBN: 978-0-12-800877-5

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 316

AUDIENCE

geneticists, neurologists, residents, fellows, and physicians in internal medicine and pediatrics; researchers in genetics, cell biology, and neurology.

Sox2

Biology and Role in Development and Disease

Edited by: ***Hisato Kondoh*** Faculty of Life Sciences, Kyoto Sangyo University, Kyoto, Japan

Robin Lovell-Badge Group Leader, Laboratory of Stem Cell Biology and Developmental Genetics, The Francis Crick Institute, The Ridgeway, Mill Hill, London NW7 1AA, UK

A comprehensive resource covering the basic biology of Sox2, helpful for establishing the foundational knowledge necessary for deeper molecular and functional analysis

ISBN: 978-0-12-800352-7

PUB DATE: October 2015

FORMAT: Hardback

PAGES: c. 328

AUDIENCE

Basic and clinical researchers in cell biology, developmental biology, genetics, neuroscience, pharmaceuticals and across the biological and biomedical sciences.

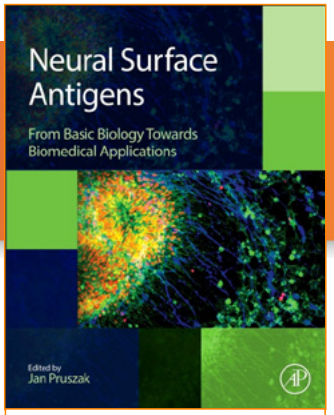
KEY FEATURES

- Discusses the important role of Sox2 in cellular and developmental processes
- Facilitates a greater understanding of how Sox2 functions across different disciplines
- Assists in identifying, circumventing and modifying the dynamics of Sox2 in cell types
- Provides greater understanding of the structure of Sox2 and its gene networks
- Identifies aspects of phenotypic spectrum uncovered following greater understanding of Sox2 during development

DESCRIPTION

Sox2: Biology and Role in Development and Disease offers a thorough discussion of the important role of Sox2 in cellular and developmental processes, aimed at facilitating greater understanding of how Sox2 functions across different disciplines. The book discusses the basic biology of Sox2 to help establish the critical foundational knowledge necessary for deeper molecular and functional analysis. The book also provides insight into how the Sox2 transcription factor plays a key role in pluripotency induction, maintenance, and development.

Helpful as a tool to organize new research projects, the book assists with preparing lessons, seminars, and thesis or research papers, thereby circumventing the need to spend hours searching through journal databases. A single source for the basic biology of Sox2, *Sox2: Biology and Its Role in Development and Disease* provides information on networks, gene regulation, and regulatory function in a number of cell types and tissues types.



Neural Surface Antigens

From Basic Biology Towards Biomedical Applications

Edited by: ***Jan Pruszak*** Emmy Noether-Group for Stem Cell Biology, Institute of Anatomy and Cell Biology, University of Freiburg, Freiburg, Germany

Market-leading reference on the advances, current challenges, and new directions in neural stem cell analysis and applications

ISBN: 978-0-12-800781-5

PUB DATE: April 2015

FORMAT: Hardback

PAGES: c. 238

AUDIENCE

Stem cell biologists of all levels working in neuroscience, regenerative medicine, and oncology (graduate student to senior principal investigator); neuroscientists; secondary audience: clinical pathologists, neurologists and oncologists

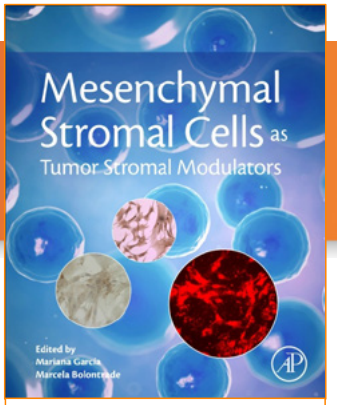
KEY FEATURES

- Introduces early phase clinical trials of neural stem cells
- Outlines characterization of surface molecule expression and methods for isolation which open unprecedented opportunities for functional study, quantitation & diagnostics
- Highlights the role of stem cells in neural surface antigen and biomarker analysis and applications

DESCRIPTION

Neural Surface Antigens: From Basic Biology towards Biomedical Applications focuses on the functional role of surface molecules in neural development, stem cell research, and translational biomedical paradigms.

With an emphasis on human and rodent model systems, this reference covers fundamentals of neural stem cell biology and flow cytometric methodology. Addressing cell biologists as well as clinicians working in the neurosciences, the book was conceived by an international panel of experts to cover a vast array of particular surface antigen families and subtypes. It provides insight into the basic biology and functional mechanisms of neural cell surface signaling molecules influencing mammalian development, regeneration, and treatments.



Mesenchymal Stromal Cells as Tumor Stromal Modulators

Edited by: ***Mariana García*** Argentinian National Research Council (CONICET) and Gene Therapy Laboratory, Facultad de Ciencias Biomédicas, Universidad Austral, Pilar, Buenos Aires, Argentina
Marcela Bolontrade Argentinian National Research Council (CONICET) and Institute of Experimental Medicine and Biology (IBYME), Stem Cells Laboratory, Universidad Austral, Pilar, Buenos Aires, Argentina

By providing an introduction to the ubiquitous role of MSCs in connective tissue and immunological function, this book is an ideal reference on the latest data on the heterogeneous cell population, reporting on topics such as immunomodulating, tissue repairing, differentiating, and their migratory and angiogenic abilities

ISBN: 978-0-12-803102-5
PUB DATE: May 2016
FORMAT: Paperback
PAGES: c. 530

AUDIENCE
stem cell biologists; cancer biologists; immunologists; clinical investigators and PI across biomedical research

KEY FEATURES

- Explores the biology of Mesenchymal Stromal Cells (MSCs) and tissue related function
- Discusses the bidirectional communication between tumor stroma and MSCs derived from bone marrow, adipose tissue, and other tissue types
- Provides in-depth analysis of the effects of MSCs on key processes that regulate disease progression, such as angiogenesis, metastatic potential, invasion, proliferation, and tumor immune privileges

DESCRIPTION

Mesenchymal Stromal Cells as Tumor Stromal Modulators provides the latest data on the heterogeneous cell population, reporting on topics such as immunomodulating, tissue repairing, differentiating, and their migratory and angiogenic abilities that make them important tools for clinical and translational research.

An understanding of the role of MSCs in modulating tumor growth provides a glimpse into their role in non-pathological tissue remodeling and potential regenerative tissue therapies. The book is a comprehensive source for the n understanding of the role of MSCs as ubiquitous connective tissue cell components which may have both direct and indirect effects on the tumor microenvironment and potential for regenerative therapeutics for various diseases. Using cancer as a model disease, this book explores the transformative role MSCs play in the recruitment of disease cells, cell repair, and immunological defenses.

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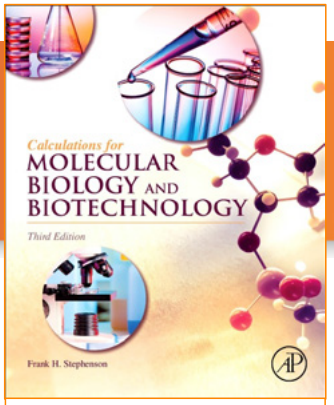


Calculations for Molecular Biology and Biotechnology, 3e

Frank H. Stephenson Applied Biosystems, Foster City, CA, USA

ISBN: 978-0-12-802211-5

PREVIOUS EDITION ISBN:
978 0 12 375690 9

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 444

AUDIENCE

researchers, lab professionals, and students in molecular biology and biotechnology

The go-to reference for navigating the minefield of mathematical and statistical calculations used every day in biotechnology and molecular biology labs, helping to prevent errors—like choosing the wrong type of equation—that can result in the loss of weeks of work.

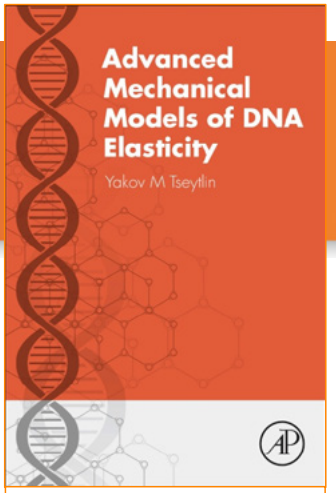
KEY FEATURES

- Features comprehensive calculations in biotechnology and molecular biology experiments from start to finish
- Provides coverage ranging from basic scientific notations to complex subjects like nucleic acid chemistry and recombinant DNA technology
- Includes recent applications of the procedures and computations in clinical, academic, industrial, and basic research laboratories cited throughout the text
- Features new coverage of digital PCR and protein quantification including chromatography and radiolabelling of proteins
- Includes more sample problems in every chapter for readers to practice concepts

DESCRIPTION

Calculations in Molecular Biology and Biotechnology, Third Edition, helps researchers utilizing molecular biology and biotechnology techniques—from student to professional—understand which type of calculation to use and why. Research in biotechnology and molecular biology requires a vast amount of calculations. Results of one data set become the basis of the next. An error of choosing the wrong type of equation can turn what would have been a successful research project or weeks of labor and research into a veritable house of cards. It could be how you calculated the medium in which you test your sample to calculating how long it takes a sample to grow to calculating the synthesis of multiple variables.

In one easy to use reference, Stephenson reviews the mathematics and statistics related to the day-to-day functions of biotechnology and molecular biology labs, which is a sticking point for many students, technicians, and researchers. The book covers all of the basic mathematical and statistical needs for students and professionals, providing them with a useful tool for their work.



Advanced Mechanical Models of DNA Elasticity

Yakov M Tseytlin Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia

This helpful research companion provides a contemporary approach to examining 17 different DNA models and the role of elasticity in biological functions, and contains extensive references about the novel models featured along with an introduction to the state of the field of DNA mechanics

ISBN: 978-0-12-801999-3

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 296

AUDIENCE

Researchers and students in molecular biology, physical biology, biomedical sciences, and biophysics

KEY FEATURES

- Includes coverage of 17 contemporary models of DNA mechanics with analysis
- Provides comparison of DNA and RNA mechanical features
- Covers advances in experimental techniques including AFM, X-ray, and optical tweezers
- Contains extensive references for further reading

DESCRIPTION

Advanced Mechanical Models of DNA Elasticity includes coverage on 17 different DNA models and the role of elasticity in biological functions with extensive references. The novel advanced helicoidal model described reflects the direct connection between the molecule helix structure and its specific properties, including nonlinear features and transitions. It provides an introduction to the state of the field of DNA mechanics, known and widely used models with their short analysis, as well as coverage on experimental methods and data, the influence of electrical, magnetic, ionic conditions on the persistence length, and dynamics with viscosity influence. It then addresses the need to understand the nature of the non-linear overstretching transition of DNA under force and why DNA has a negative twist-stretch coupling.

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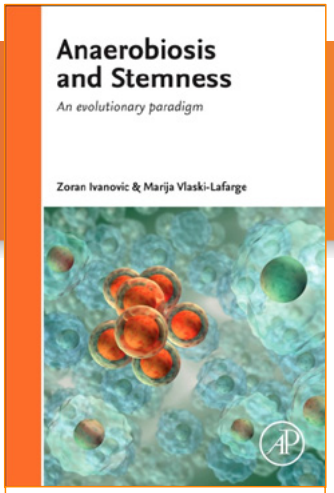


Anaerobiosis and Stemness

An Evolutionary Paradigm for Therapeutic Applications

Zoran Ivanovic Scientific Director, French Blood Institute for the Regions of Aquitaine and Limousin (EFS-AL), Bordeaux, France; Head of Cell Engineering R&D Laboratory of EFS-AL; Group Leader ("Adult stem cells") in UMR 5164 CNRS/University of Bordeaux, Bordeaux, France

Marija Vlaski Staff Scientist, Cell Engineering R&D Laboratory, French Blood Institute for the Regions of Aquitaine and Limousin (EFS-Aqli), Bordeaux, France; University of Bordeaux, Bordeaux, France

This book provides a complete and first-to-market review and analysis of the relevant literature in the field of hypoxia, hypoxic regulation, and stem cell maintenance to assist in the progression toward clinical application.

ISBN: 978-0-12-800540-8

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 312

AUDIENCE

Stem cell biologists; developmental biologists; biomedical researchers including oncologists, cancer biologists, and researchers using stem cells for regeneration

KEY FEATURES

- Highlights the molecular and evolutionary features of stem cells which make them so important to all biological research
- Explores methods of isolation, characterization, activation, and maintenance of stem cells
- Includes models for clinical application in regenerative medicine, cancer therapy, and transplantation

DESCRIPTION

Anaerobiosis and Stemness: An evolutionary paradigm provides a context for understanding the many complexities and evolutionary features of stem cells and the clinical implications of anaerobiosis stem cells. Combining theoretical and experimental knowledge, the authors provide a broad understanding of how the absence or low concentration of oxygen can play an influential role in the maintenance and self-renewal of stem cells and stem cell differentiation. This understanding has clinical implications for the fields of regenerative medicine, cancer biology and transplantation, as well as cell engineering and cell therapy. *Anaerobiosis and Stemness* is an important resource for stem cell and developmental biologists alike, as well as oncologists, cancer biologists, and researchers using stem cells for regeneration.

Tendon Regeneration

Understanding Tissue Physiology and Development to Engineer Functional Substitutes

Edited by: ***Manuela E Gomes*** 3B's Research Group, University of Minho, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine
Rui L Reis 3B's Research Group, University of Minho, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine
Márcia T Rodrigues 3B's Research Group, University of Minho, Headquarters of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine

Provides a multidisciplinary approach to tissue engineering and regenerative medicine (TERM) strategies in tendon regeneration

ISBN: 978-0-12-801590-2
PUB DATE: September 2015
FORMAT: Paperback
PAGES: c. 454

AUDIENCE

Scientists and Engineers working on tissue engineering and regeneration. Undergraduate and postgraduate students, professors, and scientists working in the biosciences, biomedicine, biotechnology, bioengineering, and materials sciences.

KEY FEATURES

- Provides an overview of tendon biology, disease, and tissue engineering approaches
- Presents modern, alternative approaches to developing functional tissue solutions discussed
- Includes valuable information for those interested in tissue engineering, tissue regeneration, tissue physiology, and regenerative medicine
- Explores physiology, pathology, and surgical reconstruction, building a natural progression that enhances tendon regeneration practices
- Covers recent findings in tendon stem cells, cell therapies, and scaffold treatments, as well as examples of pre-clinical models for translational therapies and a view of the future of the field

DESCRIPTION

Tendon Regeneration: Understanding Tissue Physiology and Development to Engineer Functional Substitutes is the first book to highlight the multi-disciplinary nature of this specialized field and the importance of collaboration between medical and engineering laboratories in the development of tissue-oriented products for tissue engineering and regenerative medicine (TERM) strategies.

Beginning with a foundation in developmental biology, the book explores physiology, pathology, and surgical reconstruction, providing guidance on biological approaches that enhances tendon regeneration practices.

Contributions from scientists, clinicians, and engineers who are the leading figures in their respective fields present recent findings in tendon stem cells, cell therapies, and scaffold treatments, as well as examples of pre-clinical models for translational therapies and a view of the future of the field.

ISBN: 978-0-12-385015-7

PREVIOUS EDITION ISBN: 978-0-12-175552-2

PUB DATE: July 2015

FORMAT: Hardback

PAGES: c. 834

AUDIENCE

Upper division undergraduates in microbiology, physiology, biology, pharmacology, biotechnology, zoology, plant biology, biochemistry and agriculture

Biotechnology, 2e

David P. Clark Southern Illinois University, Carbondale, Illinois, USA
Nanette J. Pazdernik Washington University School of Medicine, St. Louis, Missouri, USA

Academic Cell

An approach to modern biotechnology from a molecular basis using colorful illustrations and concise applications

KEY FEATURES

- Up-to-date text focuses on modern biotechnology with a molecular foundation
- Includes clear, color illustrations of key topics and concept
- Features clearly written without overly technical jargon or complicated examples
- Provides a comprehensive supplements package with an easy-to-use study guide, full primary research articles that demonstrate how research is conducted, and instructor-only resources

DESCRIPTION

Biotechnology, Second Edition approaches modern biotechnology from a molecular basis, which has grown out of increasing biochemical understanding of genetics and physiology. Using straightforward, less-technical jargon, Clark and Pazdernik introduce each chapter with basic concepts that develop into more specific and detailed applications. This up-to-date text covers a wide realm of topics including forensics, bioethics, and nanobiotechnology using colorful illustrations and concise applications. In addition, the book integrates recent, relevant primary research articles for each chapter, which are presented on an accompanying website. The articles demonstrate key concepts or applications of the concepts presented in the chapter, which allows the reader to see how the foundational knowledge in this textbook bridges into primary research. This book helps readers understand what molecular biotechnology actually is as a scientific discipline, how research in this area is conducted, and how this technology may impact the future.

Interpreting Biomedical Science

Experiment, Evidence, and Belief

Ülo Maivali University of Tartu, Faculty of Science and Technology, Institute of Technology, Tartu, Estonia

Provides a cohesive understanding of the scientific method, statistics, data interpretation, and scientific ethics with practical examples

"The book breaks down myths about research, gives tools to young scientists, and arms them with practical knowledge that they can use every day. The book will cover the history of science, which is important to know if one is to learn from the mistakes of the past. It aims to break down the notion that scientists are infallible creatures of logic and shows the danger of that type of blind faith."

-Keith Micoli, Postdoctoral Program Director, Ethics Program Coordinator, NYU School of Medicine, Sackler Institute of Graduate Biomedical Sciences

ISBN: 978-0-12-418689-7

PUB DATE: June 2015

FORMAT: Hardback

PAGES: c. 380

AUDIENCE

researchers in life and biomedical sciences, postdocs, and students in scientific methodology classes

KEY FEATURES

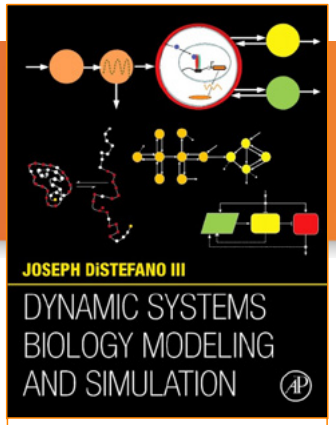
- Features theoretical concepts accompanied by examples from biological literature
- Contains an introduction to various methods, with an emphasis on statistical hypothesis testing
- Presents a clear argument that ties the motivations and ethics of individual scientists to the success of their science
- Provides recommendations on how to safeguard against scientific misconduct, fraud, and retractions
- Arms young scientists with practical knowledge that they can use every day

DESCRIPTION

Interpreting Biomedical Science: Experiment, Evidence, and Belief discusses what can go wrong in biological science, providing an unbiased view and cohesive understanding of scientific methods, statistics, data interpretation, and scientific ethics that are illustrated with practical examples and real-life applications.

Casting a wide net, the reader is exposed to scientific problems and solutions through informed perspectives from history, philosophy, sociology, and the social psychology of science.

The book shows the differences and similarities between disciplines and different eras and illustrates the concept that while sound methodology is necessary for the progress of science, we cannot succeed without a right culture of doing things.



Dynamic Systems Biology Modeling and Simulation

Joseph Distefano Distinguished Professor Computer Science, Medicine & Biomedical Engineering Chair, Computational & Systems Biology Interdepartmental Program UCLA Los Angeles CA

ISBN: 978-0-12-410411-2

PUB DATE: January 2015

FORMAT: Hardback

PAGES: c. 864

AUDIENCE

upper-division undergraduate, graduate level, and research level students systems biology, computational biology, biomathematics, biomedical engineering (bioengineering), pharmacology and areas using contemporary dynamical biosystem modeling and simulation methodology.

A comprehensive textbook and reference on contemporary dynamical biosystem modeling and simulation methodology

KEY FEATURES

- Introductory coverage of core mathematical concepts such as linear and nonlinear differential and difference equations, Laplace transforms, linear algebra, probability, statistics and stochastics topics; PLUS …….
- The pertinent biology, biochemistry, biophysics or pharmacology for modeling are provided, to support understanding the amalgam of "math modeling" with life sciences.
- Strong emphasis on quantifying as well as building and analyzing biomodels: includes methodology and computational tools for parameter identifiability and sensitivity analysis; parameter estimation from real data; model distinguishability and simplification; and practical bioexperiment design and optimization.
- Companion website provides solutions and program code for examples and exercises using Matlab, Simulink, VisSim, SimBiology, SAAMII, AMIGO, Copasi and SBML-coded models.
- A full set of PowerPoint slides are available from the author for teaching from his textbook. He uses them to teach a 10 week quarter upper division course at UCLA, which meets twice a week, so there are 20 lectures. They can easily be augmented or stretched for a 15 week semester course.

Importantly, the slides are editable, so they can be readily adapted to a lecturer's personal style and course content needs. The lectures are based on excerpts from 12 of the first 13 chapters of DSBMS. They are designed to highlight the key course material, as a study guide and structure for students following the full text content.

The complete PowerPoint slide package (~25 MB) can be obtained by instructors (or prospective instructors) by emailing the author directly, at: joed@cs.ucla.edu

DESCRIPTION

Dynamic Systems Biology Modeling and Simuation consolidates and unifies classical and contemporary multiscale methodologies for mathematical modeling and computer simulation of dynamic biological systems – from molecular/cellular, organ-system, on up to population levels. The book pedagogy is developed as a well-annotated, systematic tutorial – with clearly spelled-out and unified nomenclature – derived from the author's own modeling efforts, publications and teaching over half a century. Ambiguities in some concepts and tools are clarified and others are rendered more accessible and practical. The latter include novel qualitative theory and methodologies for recognizing dynamical signatures in data using structural (multicompartmental and network) models and graph theory; and analyzing structural and measurement (data) models for quantification feasibility. The level is basic-to-intermediate, with much emphasis on biomodeling from real biodata, for use in real applications.

Oral Communication Skills for Scientific Presentations

William B. Krantz President's Teaching Scholar and Professor Emeritus, University of Colorado, Boulder, CO, USA;Rieveschl Ohio Eminent Scholar and Professor Emeritus, University of Cincinnati, Cincinnati,OH, USA

A practical, compact guidebook covering the 'nuts and bolts' of effective public speaking

ISBN: 978-0-12-805418-5

PUB DATE: April 2016

FORMAT: Paperback

PAGES: c. 160

AUDIENCE

Students and researchers across the sciences interested in improving their oral communication skills; in particular non-native English speakers

KEY FEATURES

- Discusses best practices in putting together an effective talk
- Focuses on leveraging the speaker's existing skill sets to develop the delivery style that works best for that individual
- Features one-page quick reference guides for giving formal oral and informal poster presentations
- Addresses cross-cultural communication as well as particular concerns for non-native English speakers
- Includes a companion site with tools and video examples of formal and informal presentations for further self-guidance

DESCRIPTION

Oral Communication Skills for Scientific Presentations is intended for inexperienced speakers as well as those aspiring to improve their communication skills in making either formal or informal presentations on a technical subject. A complement to having good organization for a technical presentation is to have an effective delivery style. This book provides a template for organizing a technical talk that will include a discussion of various ways to effectively develop each part of a technical presentation.

A special feature of *Oral Communication Skills for Scientific Presentations* is the focus on making presentations to a cross-cultural audience. This relates to relatively minor considerations such as how to list the names of the co-authors on your presentation as well as to more substantive considerations such as how to handle eye contact and use humor, both of which can differ across the global spectrum of cultures. The cross-cultural focus of this book relates not only to the audience, but also to the speaker. This book also includes helpful tips for non-native English speakers.

Graduate Research, 4e

A Guide for Students in the Sciences

Robert V. Smith Collaborative Brain Trust University Consulting (CBT UC), Sacramento, CA, USA
Llewellyn D. Densmore Department of Biological Sciences, Texas Tech University, Lubbock, TX, USA
Edward F. Lener University Libraries, Virginia Tech, Blacksburg, VA, USA

This newly revised go-to resource is for graduate researchers at all stages of study and covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals

ISBN: 978-0-12-803749-2

PREVIOUS EDITION ISBN: 9780295977058

PUB DATE: February 2016

FORMAT: Paperback

PAGES: c. 288

AUDIENCE

Graduate student, graduate advisors, and mentors across the Sciences

KEY FEATURES

- Discusses a broad range of topics including time management, library and literature work, and grant support
- Includes a new chapter on career planning and development with advice on careers in academia, government, and the private sector
- Contains chapters that promote the development of a varied set of communication skills
- Greatly expanded treatment of graduate study and research in international settings

DESCRIPTION

Graduate Research is an all-in-one resource for prospective and matriculated graduate students in the sciences. The newly revised edition includes updates to every chapter. *Graduate Research* covers a range of topics including writing and preparation of research proposals, developing and refining teaching skills, and ethics and compliance areas such as research involving human subjects and animals.

Graduate Research helps readers navigate the multidimensional and interdisciplinary world of scientific research and it is an invaluable resource for graduate researchers as well as those in advising or mentoring roles.

Oral Exams

Preparing For and Passing Candidacy, Qualifying, and Graduate Defenses

Lee A Foote Professor and Director, Devonian Botanic Garden, University of Alberta, Edmonton, AB, Canada

This book provides students with a great resource to help them prepare for oral comprehensive and viva voca exams, and is also valuable for faculty as they prepare new questions.

ISBN: 978-0-12-802578-9

PUB DATE: September 2015

FORMAT: Paperback

PAGES: c. 192

AUDIENCE

Graduate students, postdoctoral fellows and faculty in every discipline

KEY FEATURES

- Describes in detail the general format of oral comprehensive exams, viva voce examinations and defenses, what to expect, and what the requirements are that students need to fulfill to pass.
- Includes appendices with numerous practice questions sourced from a range of disciplines and countries for individual or group learning
- Useful for Early Career academics that are supervising, supporting, and examining PhD students

DESCRIPTION

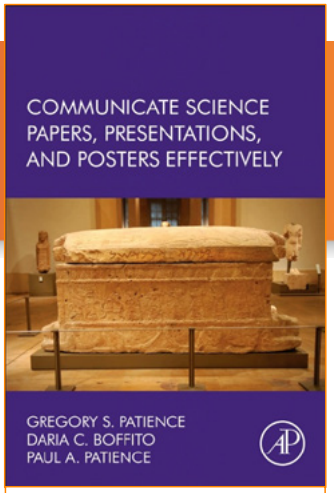
Oral Exams: Preparing For and Passing Candidacy, Qualifying, and Graduate Defenses provides guidance on how to prepare for oral comprehensive and viva voce exams.

Topics discussed include the supervisory committee, preparing the seminar, arranging content, mental preparation, question framing, and the types of questions to expect.

At its core, the book prepares students to be the best they can be by offering insights into how to interpret and appropriately respond to explicit and implied oral comps questions.

This book benefits faculty by helping them prepare new questions, also providing tips on how to mentor their students in preparation for exams.

The training included can be used to prepare for intensive qualifying or certification exams, job interviews, and presentations.



Communicate Science Papers, Presentations, and Posters Effectively

Gregory S Patience Department of Chemical Engineering, Ecole Polytechnique de Montreal, Canada
Daria C. Boffito Department of Chemical Engineering, Ecole Polytechnique de Montreal, Canada
Paul Patience Ecole Polytechnique de Montreal, Canada

The tools readers need to become better writers, presenters, and communicators

KEY FEATURES

- Covers how to accurately and clearly exhibit results, ideas, and conclusions
- Identifies phrases common in scientific literature that should never be used
- Discusses the theory of presentation, including “before and after” examples highlighting best practices
- Provides concrete, step-by-step examples on how to make camera ready graphs and tables

DESCRIPTION

Communicate Science Papers, Presentations, and Posters Effectively is a guidebook on science writing and communication that professors, students, and professionals in the STEM fields can use in a practical way. This book advocates a clear and concise writing and presenting style, enabling users to concentrate on content.

The text is useful to both native and non-native English speakers, identifying best practices for preparing graphs and tables, and offering practical guidance for writing equations. It includes content on significant figures and error bars, and provides the reader with extensive practice material consisting of both exercises and solutions.

ISBN: 978-0-12-801500-1
PUB DATE: August 2015
FORMAT: Paperback
PAGES: c. 264

AUDIENCE

Graduate students, research fellows, post-docs, professors, scientists and researchers in STEM fields.

LIFE SCIENCES
PROFESSIONAL AND CAREER DEVELOPMENT
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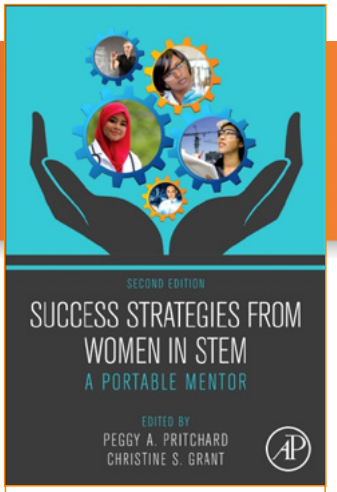

Success Strategies From Women in STEM, 2e

A Portable Mentor

Edited by: ***Peggy A. Pritchard*** Associate Librarian, Learning and Curriculum Support Team, University of Guelph, Guelph, ON, Canada
Christine Grant PhD, Full Professor of Chemical and Biomolecular Engineering and Associate Dean of Faculty Advancement, North Carolina State University, College of Engineering, Raleigh, NC, USA

A comprehensive and accessible manual that provides valuable strategies, tools, and sucess tips for women pursuing and involved in STEM careers

ISBN: 978-0-12-397181-4
PREVIOUS EDITION ISBN: 978-0-12-088411-7
PUB DATE: June 2015
FORMAT: Paperback
PAGES: c. 460

AUDIENCE
Women pursuing careers or involved in careers in science, technology, engineering and mathematics

KEY FEATURES

- Preserves the style and tone of the first edition by bringing together mentors, trainees and early-career professionals in a series of conversations about important topics related to careers in STEM fields, such as leadership, time stress, negotiation, networking, social media and more
- Identifies strategies that can improve career success along with stories that elucidate, engage, and inspire
- Companion website provides authoritative information from successful women engaged in STEM careers, including annotated links to key organizations, associations, granting agencies, teaching support materials, and more

DESCRIPTION

Success Strategies from Women in Stem: A Portable Mentor, Second Edition, is a comprehensive and accessible manual containing career advice, mentoring support, and professional development strategies for female scientists in the STEM fields.

This updated text contains new and essential chapters on leadership and negotiation, important coverage of career management, networking, social media, communication skills, and more. The work is accompanied by a companion website that contains annotated links, a list of print and electronic resources, self-directed learning objects, frequently asked questions, and more.

With an increased focus on international relevance, this comprehensive text contains shared stories and vignettes that will help women pursuing or involved in STEM careers develop the necessary professional and personal skills to overcome obstacles to advancement.

Methods in Cell Biology, Vol 134, 4e

The Zebrafish: Cellular and Developmental Biology Part B

Edited by: ***H. Detrich, III*** Northeastern University, Boston, MA, USA
Monte Westerfield Institute of Neuroscience, University of Oregon, Eugene, OR, USA
Leonard Zon Boston Children's Hospital / HHMI, Boston, MA, USA

This new Fourth Edition in the *Methods in Cell Biology* series looks at methods for cellular and developmental biology of zebrafish.

Praise for the Series: "The series is invaluable for workers at all levels of cell biology." - NATURE

ISBN: 978-0-12-805055-2

PREVIOUS EDITION ISBN: 9780128050552

PUB DATE: June 2016

FORMAT: Hardback

AUDIENCE

Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches, and emerging studies
- Chapters written by experts in the field
- Contains cutting-edge material on the topic of zebrafish and developments relating to their cellular and developmental biology
- New, two part Fourth Edition in this important volume

DESCRIPTION

The Zebrafish: Cellular and Developmental Biology: Part B, Fourth Edition, the second volume on the topic in the *Methods in Cell Biology* series, looks at methods for analyzing cellular and developmental biology of zebrafish. Chapters cover such topics as cell biology and developmental and neural biology.

SERIALS

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International Review of Cell and Molecular Biology, Vol 325

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

ISBN: 978-0-12-804806-1

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 259

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution students and researchers.

This book provides up-to-date information and directions for future research in cell and molecular biology, including timely articles that address the structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology, and includes articles that address the 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.

SERIALS

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Methods in Cell Biology, Vol 100, 4e

The Zebrafish: Cellular and Developmental Biology Part A

Edited by: ***H. William Detrich, III*** Northeastern University, Boston, MA, USA
Monte Westerfield Institute of Neuroscience, University of Oregon, Eugene, OR, USA
Leonard Zon Boston Children's Hospital / HHMI, Boston, MA, USA

ISBN: 978-0-12-803475-0

PREVIOUS EDITION ISBN: 9780128034750

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 350

AUDIENCE

Researchers and students in cell, molecular and developmental biology

This new Fourth edition of *Methods in Cell Biology* looks at methods for cellular and developmental biology in zebrafish

Praise for the Series: "The series is invaluable for workers at all levels of cell biology." - NATURE

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches, and emerging studies
- Written by experts in the field
- Contains cutting-edge material on the topic of developmental biology in zebrafish
- New two part edition of this important volume

DESCRIPTION

The Zebrafish: Cellular and Developmental Biology Part A, Fourth Edition, is the latest edition in the *Methods in Cell Biology* series that looks at methods for analyzing cellular and developmental biology of zebrafish. Chapters cover such topics as cell biology and developmental and neural biology.

SERIALS

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Advances in Protein Chemistry and Structural Biology, Vol 104

Ion Channels as Therapeutic Targets, Part B

Edited by: ***Rossen Donev*** Swansea University, Swansea, Wales, UK

ISBN: 978-0-12-804826-9

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 476

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry.

This latest volume in the popular *Advances in Protein Chemistry and Structural Biology* series brings forth new information about protocols and analysis of proteins, including the use of ion channels as therapeutic targets

KEY FEATURES

- Provides cutting-edge developments in protein chemistry and structural biology
- Discusses the use of ion channels as therapeutic targets
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students

DESCRIPTION

This volume is the second part of the thematic on *Ion Channels as Therapeutic Targets*.

The popular *Advances in Protein Chemistry and Structural Biology* series, an essential resource for protein chemists, brings forth new information about protocols and analysis of proteins, with each thematically organized volume guest edited by leading experts in a broad range of protein-related topics.

SERIALS

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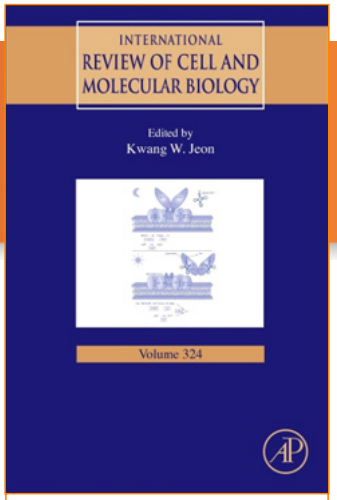

International Review of Cell and Molecular Biology, Vol 324

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA
Lorenzo Galluzzi Equipe 11 - "Apoptose, cancer et immunité", Centre de Recherche des Cordeliers de Jussieu, Paris, France

This book provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology.

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.

ISBN: 978-0-12-804807-8
PUB DATE: April 2016
FORMAT: Hardback
PAGES: c. 259

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions and cell variation and evolution students and researchers.

SERIALS

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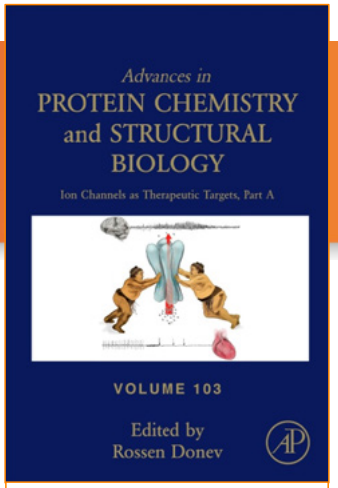

Advances in Protein Chemistry and Structural Biology, Vol 103

Ion Channels as Therapeutic Targets, Part A

Edited by: ***Rossen Donev*** Swansea University, Swansea, Wales, UK

This latest volume in the popular *Advances in Protein Chemistry and Structural Biology* series brings forth new information about protocols and analysis of proteins, including the use of ion channels as therapeutic targets

KEY FEATURES

- Provides cutting-edge developments in protein chemistry and structural biology
- Discusses the use of ion channels as therapeutic targets
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students

DESCRIPTION

Ion Channels as Therapeutic Targets is the latest volume in the popular *Advances in Protein Chemistry and Structural Biology* series, an essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins, with each thematically organized volume guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-804794-1

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 386

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry.

SERIALS

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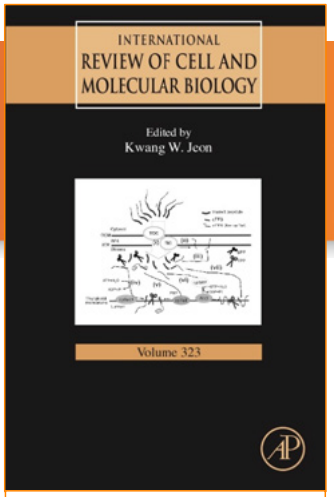

International Review of Cell and Molecular Biology, Vol 323

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA
Lorenzo Galluzzi Equipe 11 - "Apoptose, cancer et immunité", Centre de Recherche des Cordeliers de Jussieu, Paris, France

This book provides up-to-date information and directions for the future research in the fields of cell and molecular biology

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Contains valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology. 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.

ISBN: 978-0-12-804808-5

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 259

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions and cell variation and evolution students and researchers.

SERIALS

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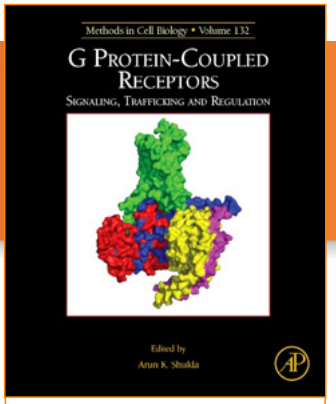

Methods in Cell Biology, Vol 132

G Protein-Coupled Receptors: Signaling, Trafficking and Regulation

Edited by: ***Arun K. Shukla*** Department of Biological Sciences and Bioengineering, Indian Institute of Technology, Kanpur, India

This new volume in the *Methods in Cell Biology* series covers the increasingly appreciated field of G-protein-coupled receptors, and includes chapters authored by respected leaders in the field who cover topics such as signaling, trafficking, and regulation.

ISBN: 978-0-12-803595-5

PUB DATE: March 2016

FORMAT: Hardback

PAGES: c. 490

AUDIENCE

Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers the increasingly appreciated cell biology field of G-protein-coupled receptors
- Includes both established and new technologies
- Contributed by experts in the field
- Covers topics such as signaling, trafficking, and regulation

DESCRIPTION

G-Protein-Coupled Receptors: Signaling, Trafficking, and Regulation, a new volume in the *Methods in Cell Biology* series continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in G-Protein-Coupled Receptors, and includes sections on such topics signaling, trafficking and regulation.

SERIALS

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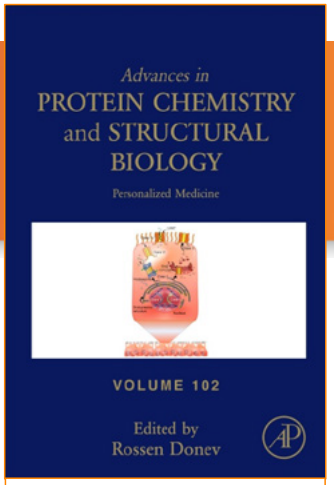

Advances in Protein Chemistry and Structural Biology, Vol 102

Personalized medicine

Edited by: ***Rossen Donev*** Swansea University, Swansea, Wales, UK

This book provides cutting-edge developments in protein chemistry and structural biology, and is part of the *Advances in Protein Chemistry and Structural Biology* series that continues to be an essential resource for protein chemists

KEY FEATURES

- Provides cutting-edge developments in protein chemistry and structural biology
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students

DESCRIPTION

The *Advances in Protein Chemistry and Structural Biology* series is an essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins, with each thematically organized volume guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-804795-8

PUB DATE: February 2016

FORMAT: Hardback

PAGES: c. 384

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry.

SERIALS

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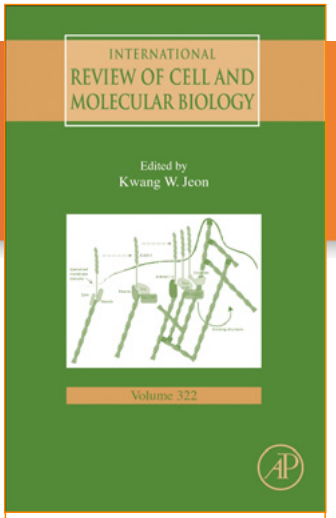

International Review of Cell and Molecular Biology, Vol 322

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA
Lorenzo Galluzzi Equipe 11 - "Apoptose, cancer et immunité", Centre de Recherche des Cordeliers de Jussieu, Paris, France

This book provides up-to-date information and directions for future research in cell and molecular biology, including timely articles that address the structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology, and includes articles that address the 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.

ISBN: 978-0-12-804809-2
PUB DATE: February 2016
FORMAT: Hardback
PAGES: c. 408

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution students and researchers.

SERIALS

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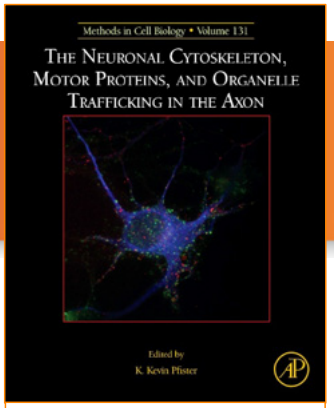

Methods in Cell Biology, Vol 131

The Neuronal Cytoskeleton, Motor Proteins, and Organelle Trafficking in the Axon

Edited by: ***K. Kevin Pfister*** Cell Biology Department, University of Virginia, USA

This new volume in the *Methods in Cell Biology* series covers an increasingly appreciated field in cell biology, including quality chapters on the neuronal cytoskeleton, motor proteins, and organelle tracking

"The series is invaluable for workers at all levels of cell biology." - NATURE

ISBN: 978-0-12-803344-9

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 500

AUDIENCE

Researchers and students in cell, molecular and developmental biology.

KEY FEATURES

- Covers an increasingly appreciated field in cell biology
- Includes both established and new technologies
- Contributed by experts in the field

DESCRIPTION

The Neuronal Cytoskeleton, Motor Proteins, and Organelle Trafficking in the Axon, a new volume in the *Methods in Cell Biology* series continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in neuronal cells, and includes sections on such topics as actin transport in axons and neurofilament transport.

SERIALS

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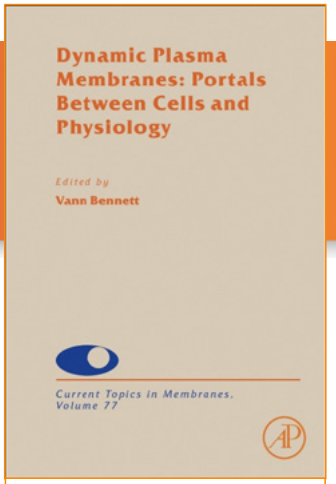

Current Topics in Membranes, Vol 77

Dynamic Plasma Membranes: Portals Between Cells and Physiology

Edited by: ***Vann Bennett*** Duke University Medical Center, USA

This volume of *Current Topics in Membranes* contains a collection of outstanding and diverse reviews on Plasma Membranes

KEY FEATURES

- Written by leading experts in the field
- Contains original material, both textual and illustrative, that should become a very relevant reference material
- Presents material in a very comprehensive manner
- Ideal for both researchers in the field and general readers who will find relevant and up-to-date information

DESCRIPTION

This volume focuses on the recent advances in understanding plasma membrane organization and function beginning with simple systems and extending to specialized membrane domains of vertebrate cells.

ISBN: 978-0-12-805404-8

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 242

AUDIENCE

Readers interested in contemporary membrane biology.

SERIALS

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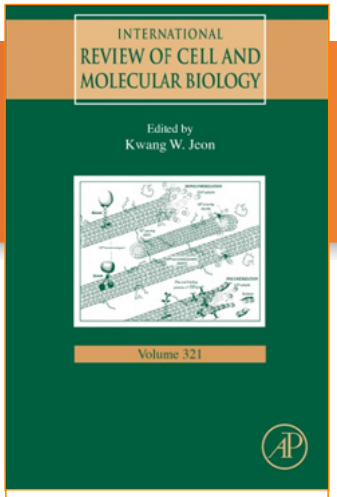

International Review of Cell and Molecular Biology, Vol 321

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

This book provides up-to-date information and directions for the future research in the fields of cell and molecular biology

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology.

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.

ISBN: 978-0-12-804707-1

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 358

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions and cell variation and evolution students and researchers.

SERIALS

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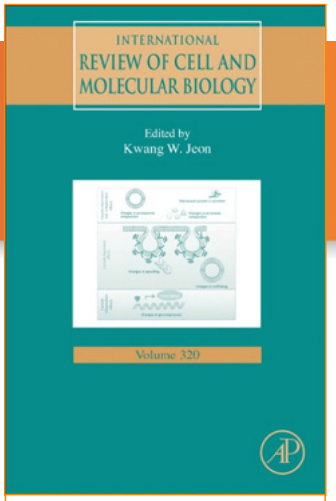

International Review of Cell and Molecular Biology, Vol 320

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

This book provides up-to-date information and directions for future research in cell and molecular biology, including timely articles that address the structure and control of gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and cell transformation and growth

KEY FEATURES

- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

International Review of Cell and Molecular Biology presents comprehensive reviews and current advances in cell and molecular biology, and includes articles that address the 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.

ISBN: 978-0-12-802277-1

PUB DATE: December 2015

FORMAT: Hardback

PAGES: c. 312

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution students and researchers.

SERIALS

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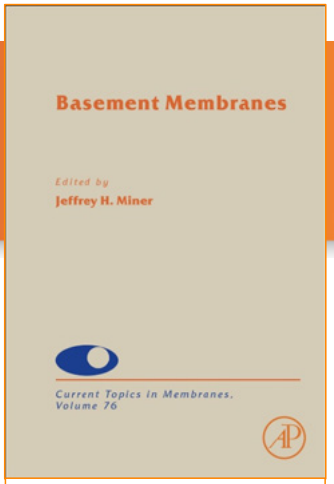

Current Topics in Membranes, Vol 76

Basement Membranes

Edited by: ***Jeffrey H. Miner*** Washington University School of Medicine, St Louis, MO, USA

This volume of *Current Topics in Membranes* contains a collection of outstanding and diverse reviews of basement membranes that is focused on both invertebrates and vertebrates, all authored by leaders in the basement membrane field

KEY FEATURES

- Written by leading experts in the basement membrane field
- Contains original material, both textual and illustrative, that should become a very relevant reference material
- Presents material in a very comprehensive manner
- Ideal for both researchers in the field and general readers who will find relevant and up-to-date information

DESCRIPTION

Basement Membranes focuses on specialized extracellular matrices that provide the scaffolds used and required by cells to organize themselves into tissues and organs. As basement membranes have been shown to be defective in numerous genetic and acquired diseases and to contribute to the microenvironment of both tumor cells and stem cells, this book presents a view of specific basement membrane components and their roles in development and disease, all written and commented on in chapters written by leaders in the basement membrane field.

ISBN: 978-0-12-804015-7

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 386

AUDIENCE

Extracellular matrix biologists, developmental biologists (from lower invertebrates to humans), cancer biologists, cell biologists

SERIALS

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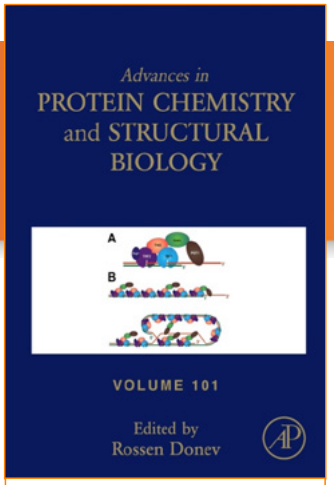


Advances in Protein Chemistry and Structural Biology, Vol 101

Advances in Protein Chemistry and Structural Biology

Edited by: ***Rossen Donev*** Swansea University, Swansea, Wales, UK

This book provides cutting-edge developments in protein chemistry and structural biology, and is part of the *Advances in Protein Chemistry and Structural Biology* series that continues to be an essential resource for protein chemists

KEY FEATURES

- Provides cutting-edge developments in protein chemistry and structural biology
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students

DESCRIPTION

The *Advances in Protein Chemistry and Structural Biology* series is an essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins, with each thematically organized volume guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-803367-8

PUB DATE: November 2015

FORMAT: Hardback

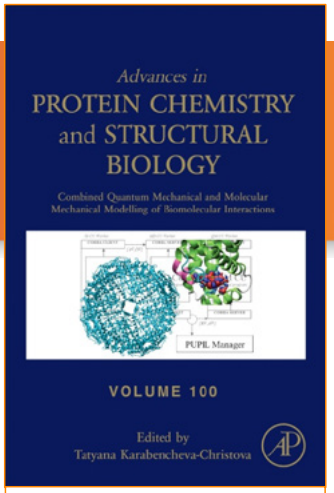
PAGES: c. 412

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry.

SERIALS

Please contact your Elsevier Sales or Customer Service Representative



Advances in Protein Chemistry and Structural Biology, Vol 100

Combined Quantum Mechanical and Molecular Mechanical Modelling of Biomolecular Interactions

Edited by: ***Tatyana Karabencheva-Christova*** Northumbria University, UK

This book provides cutting-edge developments in protein chemistry and structural biology, and is part of the *Advances in Protein Chemistry and Structural Biology* series that continues to be an essential resource for protein chemists.

KEY FEATURES

- Describes advances in application of powerful techniques in the biosciences
- Provides cutting-edge developments in protein chemistry and structural biology
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students

DESCRIPTION

Combined Quantum Mechanical and Molecular Mechanical Modelling of Biomolecular Interactions continues the tradition of the *Advances in Protein Chemistry and Structural Biology* series has been the essential resource for protein chemists.

Each volume brings forth new information about protocols and analysis of proteins, with each thematically organized volume guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-802003-6

PUB DATE: September 2015

FORMAT: Hardback

PAGES: c. 314

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry. This volume would also be of a great use to students working on projects in these areas.

SERIALS

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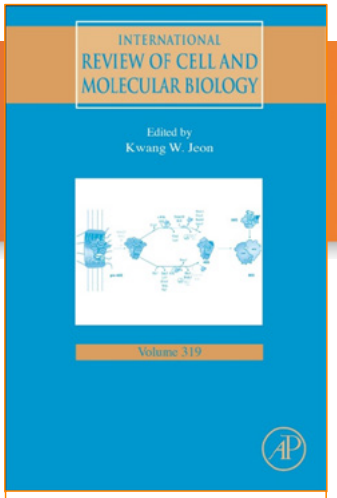

International Review of Cell and Molecular Biology, Vol 319

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

This book provides up-to-date information and directions for the future research in the fields of cell and molecular biology.

KEY FEATURES

- Includes insights from the foremost scientists in the field, with specific discussions of the current state of research on gene expression, nucleocytoplasmic interactions, control of cell development and differentiation, and more
- Provides comprehensive reviews and current advances
- Presents a wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students, and professional scientists

DESCRIPTION

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 worldwide readership, maintaining a high standard by publishing invited articles on important and timely topics authored by prominent cell and molecular biologists.

ISBN: 978-0-12-802278-8

PUB DATE: September 2015

FORMAT: Hardback

PAGES: c. 290

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level), biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution students and researchers.

SERIALS

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Methods in Cell Biology, Vol 130

Sorting and Recycling Endosomes

Edited by: ***Wei Guo*** Carolyn Lynch Laboratories, University of Pennsylvania, USA

This volume, Sorting and Recycling Endosomes, part of the Methods in Cell Biology series covers an increasingly appreciated field in cell biology, and includes the latest information on endosomes, the receiving compartment for endocytosed cargos, and the donor compartment and sorting station for cargos designated to lysosomes, Golgi, or plasma membrane.

ISBN: 978-0-12-802829-2

PUB DATE: September 2015

FORMAT: Hardback

PAGES: c. 406

AUDIENCE

Researchers and students in cell, molecular and developmental biology.

Praise for the Series: "The series is invaluable for workers at all levels of cell biology." - NATURE

KEY FEATURES

- Provides the latest information on endosomes, the receiving compartment for endocytosed cargos, and the donor compartment and sorting station for cargos designated to lysosomes, Golgi, or plasma membrane.
- Covers an increasingly appreciated field in cell biology
- Includes both established and new technologies
- Brings together specialists from the field who contribute their expertise on a broad range of biomedical topics that will provide ideal reading for researchers interested in endosomal sorting and recycling

DESCRIPTION

Sorting and Recycling Endosomes provides the latest information on endosomes, the receiving compartment for endocytosed cargos, and the donor compartment and sorting station for cargos designated to lysosomes, Golgi, or plasma membrane.

In recent years, the importance of endosomes as a sorting and recycling compartment has become increasingly appreciated. As such, scientists from various fields of cell biology, membrane traffic, and beyond, see the needs to communicate and learn about the methods used to investigate the dynamics and functions of endosomes.

This book brings together specialists from the field who contribute their expertise on a broad range of biomedical topics that will provide ideal reading for researchers interested in endosomal sorting and recycling. This volume covers the approaches necessary to study the key components that mediate the generation and transport of membrane-bounded carriers from the endosomes, and how membrane trafficking machinery is coordinated with cytoskeletons during these processes. In addition to studies carried out in mammalian cells, other model systems such as worm and yeast are also included.

SERIALS

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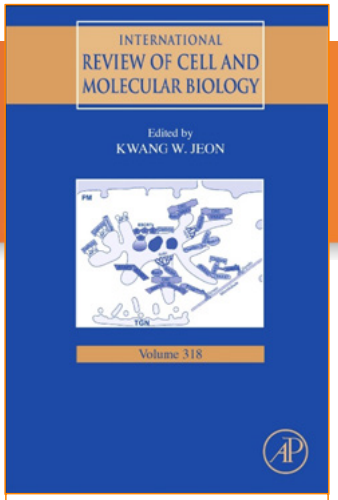

International Review of Cell and Molecular Biology, Vol 318

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

Provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- 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

DESCRIPTION

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.

ISBN: 978-0-12-802279-5

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 308

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level); biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution; students and researchers.

SERIALS

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Methods in Cell Biology, Vol 129

Centrosome & Centriole

Edited by: ***Renata Basto*** Cell Biology Department, CNRS, Institut Curie, France
Karen Oegema Ludwig Institute for Cancer Research, University of California, San Diego, USA

This new volume of *Methods in Cell Biology* looks at methods for centrosome and centriole analysis

Praise for the Series: "The series is invaluable for workers at all levels of cell biology." - NATURE

ISBN: 978-0-12-802449-2
PUB DATE: July 2015
FORMAT: Hardback
PAGES: c. 400

AUDIENCE
Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches and emerging studies
- Chapters are written by experts in the field
- Cutting-edge material

DESCRIPTION

This new volume of *Methods in Cell Biology* looks at methods for analyzing centrosomes and centrioles. Chapters cover such topics as methods to analyze centrosomes, centriole biogenesis and function in multi-ciliated cells, laser manipulation of centrosomes or CLEM, analysis of centrosomes in human cancers and tissues, proximity interaction techniques to study centrosomes, and genome engineering for creating conditional alleles in human cells.

SERIALS
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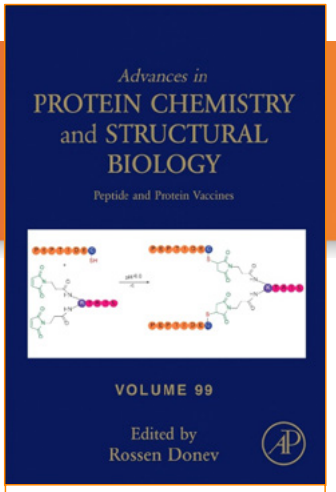

Advances in Protein Chemistry and Structural Biology, Vol 99

Peptide and Protein Vaccines

Rossen Donev Swansea University, Swansea, Wales, UK

Cutting-edge developments in protein chemistry and structural biology

KEY FEATURES

- Describes advances in application of powerful techniques in a wide bioscience area
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students
- The information provided in the volume is well supported by a number of high quality illustrations, figures, and tables

DESCRIPTION

Published continuously since 1944, the *Advances in Protein Chemistry and Structural Biology* series has been the essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins. Each thematically organized volume is guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-802827-8

PUB DATE: June 2015

FORMAT: Hardback

PAGES: c. 178

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry. This volume would also be of a great use to students working on projects in these areas.

International Review of Cell and Molecular Biology, Vol 317

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

Provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- Authored by some of the foremost scientists in the field
- Provides comprehensive reviews and current advances
- Wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students and professional scientists

DESCRIPTION

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.

ISBN: 978-0-12-802280-1

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 364

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level); biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution: students and researchers.

SERIALS

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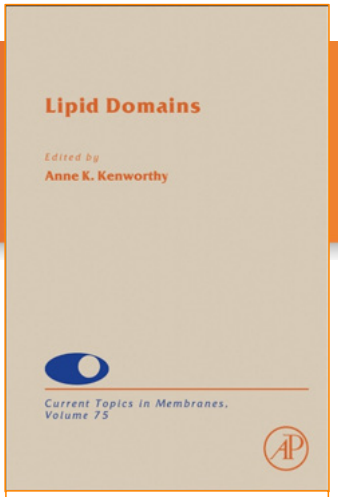

Current Topics in Membranes, Vol 75

Lipid Domains

Edited by: ***A. Kenworthy*** Norwell, Aberdeen, Scotland

This series continually publishes cutting-edge reviews in the fields of biochemistry and molecular and cellular biology

KEY FEATURES

- Written by leading experts
- Contains original material, both textual and illustrative, that should become a very relevant reference material
- The material is presented in a very comprehensive manner
- Both researchers in the field and general readers should find relevant and up-to-date information

DESCRIPTION

Current Topics in Membranes is targeted toward scientists and researchers in biochemistry and molecular and cellular biology, providing the necessary membrane research to assist them in discovering the current state of a particular field and in learning where that field is heading. This volume offers an up to date presentation of current knowledge in the field of Lipid Domains.

ISBN: 978-0-12-803295-4

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 350

AUDIENCE

Scientists and researchers in biochemistry and molecular and cellular biology

SERIALS

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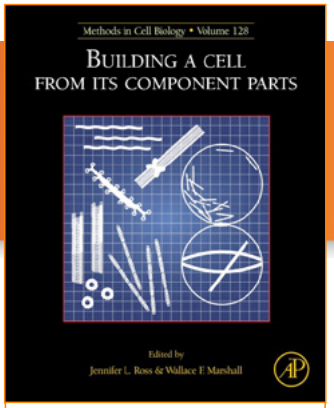

Methods in Cell Biology, Vol 128

Building a Cell from Its Component Parts

Edited by: ***Jennifer Ross*** Department of Physics, University of Massachusetts Amherst, USA
Wallace F. Marshall Department of Biochemistry & Biophysics, University of California San Fransisco at Mission Bay, USA

This new volume of *Methods in Cell Biology* looks at building a cell from its component parts

ISBN: 978-0-12-802450-8
PUB DATE: May 2015
FORMAT: Hardback
PAGES: c. 390

AUDIENCE

Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches and emerging studies
- Chapters are written by experts in the field
- Cutting-edge material

DESCRIPTION

This new volume of *Methods in Cell Biology* looks at building a cell from its component parts. Chapters cover such topics as engineering motor scaffolds, artificial cytoskeletons, interconnected droplet networks and artificial cells; building cytoskeletal systems and artificial actin cortex on pillar arrays; reconstituting membrane fission, actin bundles at membranes, actin cortex in droplets, dynein-dynactin mediated cargo transport, MinD systems, protein-lipid machines that transform membranes, protein interactions and signaling on artificial lipid bilayers. With cutting-edge material, this comprehensive collection is intended to guide researchers for years to come.

SERIALS

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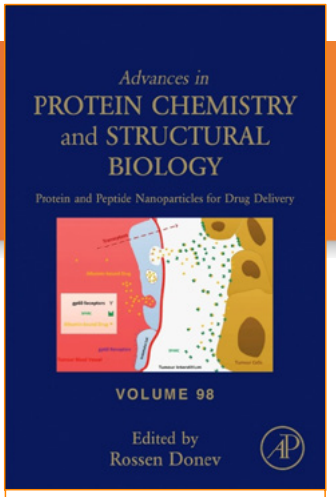


Advances in Protein Chemistry and Structural Biology, Vol 98

Protein and Peptide Nanoparticles for Drug Delivery

Edited by: ***Rossen Donev*** Swansea University, Swansea, Wales, UK

Cutting-edge developments in protein chemistry and structural biology

KEY FEATURES

- Describes advances in application of powerful techniques in a wide bioscience area
- Chapters are written by authorities in their field
- Targeted to a wide audience of researchers, specialists, and students
- The information provided in the volume is well supported by a number of high quality illustrations, figures, and tables

DESCRIPTION

Published continuously since 1944, the *Advances in Protein Chemistry and Structural Biology* series has been the essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins. Each thematically organized volume is guest edited by leading experts in a broad range of protein-related topics.

ISBN: 978-0-12-802828-5

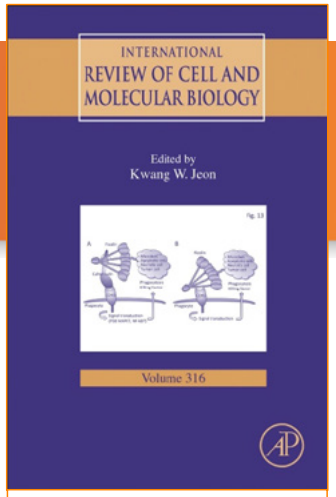
PUB DATE: March 2015

FORMAT: Hardback

PAGES: c. 380

AUDIENCE

Researchers and specialists in protein structure and interactions, cancer biology, psychiatry and mass spectrometry. This volume would also be of a great use to students working on projects in these areas.



International Review of Cell and Molecular Biology, Vol 316

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

Provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- Authored by some of the foremost scientists in the field
- Provides comprehensive reviews and current advances
- Wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students and professional scientists

DESCRIPTION

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. Impact factor for 2013: 4.522.

ISBN: 978-0-12-802281-8

PUB DATE: March 2015

FORMAT: Hardback

PAGES: c. 314

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level); biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution: students and researchers.

SERIALS

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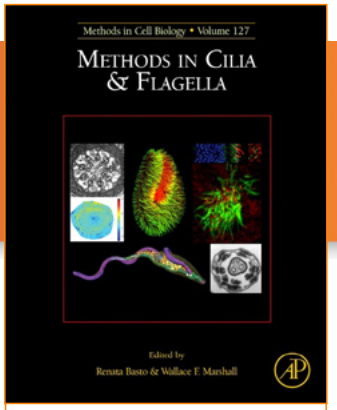

Methods in Cell Biology, Vol 127

Methods in Cilia & Flagella

Edited by: ***Renata Basto*** Cell Biology Department, CNRS, Institut Curie, France
Wallace F. Marshall Department of Biochemistry & Biophysics, University of California San Fransisco at Mission Bay, USA

This new volume of *Methods in Cell Biology* looks at methods and protocols for studying cilia in a wide range of different cell types

ISBN: 978-0-12-802451-5
PUB DATE: March 2015
FORMAT: Hardback
PAGES: c. 600

AUDIENCE
Biological researchers at any level who want to learn methods for studying cilia in different cell types.

KEY FEATURES

- Chapters are written by experts in the field
- Cutting-edge material

DESCRIPTION

The goal of this book is to collect methods and protocols for studying cilia in a wide range of different cell types, so that researchers from many fields of biology can start exploring the role of cilia in their own system.

SERIALS
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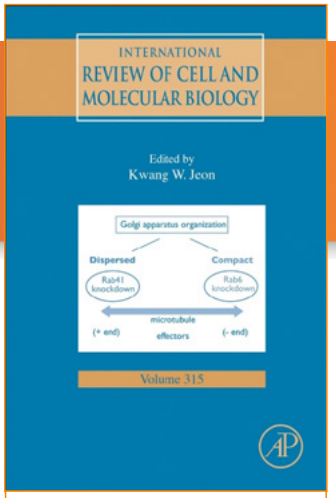

International Review of Cell and Molecular Biology, Vol 315

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

Provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- Authored by some of the foremost scientists in the field
- Provides comprehensive reviews and current advances
- Wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students and professional scientists

DESCRIPTION

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.

ISBN: 978-0-12-802282-5

PUB DATE: March 2015

FORMAT: Hardback

PAGES: c. 332

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, physiologists (organ level), biomedical scientists, biochemists studying cell-cell interactions, cell variation and evolution, students and researchers.

SERIALS

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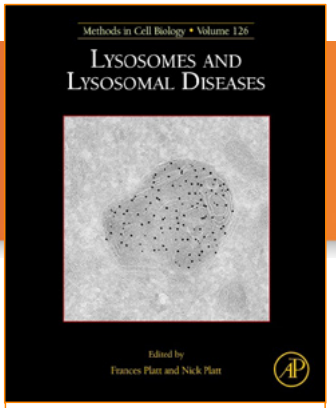

Methods in Cell Biology, Vol 126

Lysosomes and lysosomal Diseases

Edited by: ***Frances Platt*** Department of Pharmacology, University of Oxford, Oxford, UK
Nick Platt Department of Pharmacology, University of Oxford, UK

This new volume of *Methods in Cell Biology* looks at methods for analyzing lysosomes and lysosomal diseases

Praise for the Series: "The series is invaluable for workers at all levels of cell biology." - NATURE

ISBN: 978-0-12-800079-3
PUB DATE: February 2015
FORMAT: Hardback
PAGES: c. 420

AUDIENCE

Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches and emerging studies
- Chapters are written by experts in the field
- Cutting-edge material

DESCRIPTION

This new volume of *Methods in Cell Biology* looks at methods for lysosomes and lysosomal diseases. Chapters focus upon practical experimental protocols to guide researchers through the analysis of multiple aspects of lysosome biology and function. In addition, it details protocols relevant to clinical monitoring of patients with lysosomal diseases. With cutting-edge material, this comprehensive collection is intended to guide researchers for years to come.

SERIALS

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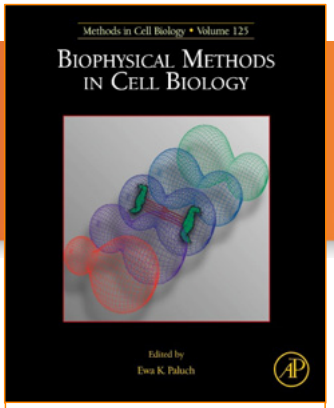

Methods in Cell Biology, Vol 125

Biophysical Methods in Cell Biology

Edited by: ***Ewa Paluch*** MRC Laboratory for Molecular Cell Biology, University College London, UK

This new volume of *Methods in Cell Biology* looks at biophysical methods in cell biology

ISBN: 978-0-12-801103-4

PUB DATE: February 2015

FORMAT: Hardback

PAGES: c. 530

AUDIENCE

Researchers and students in cell, molecular and developmental biology

KEY FEATURES

- Covers sections on model systems and functional studies, imaging-based approaches and emerging studies
- Chapters are written by experts in the field
- Cutting-edge material

DESCRIPTION

This new volume of *Methods in Cell Biology* looks at methods for analyzing of biophysical methods in cell biology. Chapters cover such topics as AFM, traction force microscopy, digital holographic microscopy, single molecule imaging, video force microscopy and 3D multicolor super-resolution screening

SERIALS

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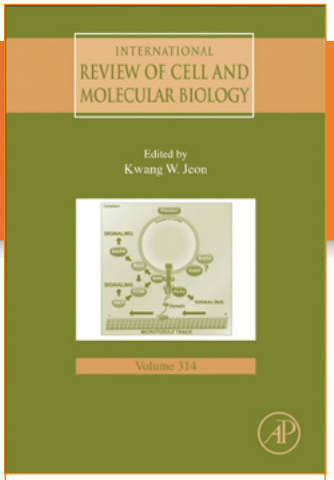

International Review of Cell and Molecular Biology, Vol 314

International Review of Cell and Molecular Biology

Edited by: ***Kwang W. Jeon*** University of Tennessee, Knoxville, TN, USA

Provides up-to-date information and directions for future research in the fields of cell and molecular biology

KEY FEATURES

- Authored by some of the foremost scientists in the field
- Provides comprehensive reviews and current advances
- Wide range of perspectives on specific subjects
- Valuable reference material for advanced undergraduates, graduate students and professional scientists

DESCRIPTION

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.

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ISBN: 978-0-12-802283-2

PUB DATE: January 2015

FORMAT: Hardback

PAGES: c. 290

AUDIENCE

Cell biologists, molecular biologists, developmental biologists, and physiologists (organ level); biomedical scientists and biochemists studying cell-cell interactions, cell variation and evolution: students and researchers.

SERIALS

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Methods in Enzymology, Vol 572

Visualizing RNA Dynamics in the Cell

Samie Jaffrey Department of Pharmacology, Weill Medical College, Cornell University, USA

ISBN: 978-0-12-802292-4

PUB DATE: June 2016

FORMAT: Hardback

PAGES: c. 474

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field, with this volume focusing on RNA dynamics in the cell

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in visualizing RNA dynamics in the cell
- Contains sections on such topics as identification of RNA cis-regulatory sequences, IRAS, IMAGEtags, MERFISH, plant RNA labeling using MS2 and visualization of 5S dynamics in live cells using photostable corn probe

DESCRIPTION

Methods in Enzymology: Visualizing RNA Dynamics in the Cell continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods visualizing RNA dynamics in the cell, and includes sections on such topics as identification of RNA cis-regulatory sequences, IRAS, IMAGEtags, MERFISH, plant RNA labeling using MS2, and visualization of 5S dynamics in live cells using photostable corn probe.

SERIALS

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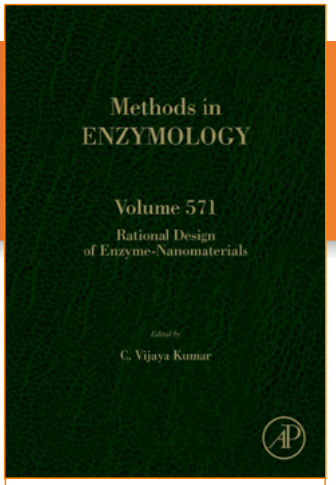

Methods in Enzymology, Vol 571

Rational Design of Enzyme-Nanomaterials

Edited by: ***C. Vijay Kumar*** Department of Chemistry, University of Connecticut, USA

This new volume in the widely respected *Methods in Enzymology* series continues the legacy of this premier serial with quality chapters authored by leaders in the field

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in rational design of enzyme-nanomaterials
- Contains sections on such topics as conjugation of enzymes and dextran-aldehyde polymers, improved activity of enzymes bound to titanate nanosheet, nano-layered 'stable-on-the-table' biocatalysts, and nanoparticle-based enzyme sensors

DESCRIPTION

Rational Design of Enzyme-Nanomaterials, the new volume in the *Methods in Enzymology* series, continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in rational design of enzyme-nanomaterials, and includes sections on such topics as conjugation of enzymes and dextran-aldehyde polymers, improved activity of enzymes bound to titanate nanosheet, nano-layered 'stable-on-the-table' biocatalysts and nanoparticle-based enzyme sensors.

ISBN: 978-0-12-804680-7

PUB DATE: May 2016

FORMAT: Hardback

PAGES: c. 400

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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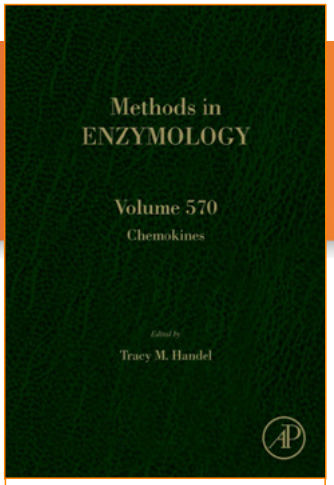

Methods in Enzymology, Vol 570

Chemokines

Edited by: ***Tracy Handel*** Skaggs School of Pharmacy and Pharmaceutical Sciences and Department of Pharmacology School of Medicine, University of California, USA

ISBN: 978-0-12-802171-2

PUB DATE: March 2016

FORMAT: Hardback

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

***Chemokines*, the latest volume in the *Methods in Enzymology* series, continues the legacy of this premier serial with quality chapters authored by leaders in the field, including such topics as chemokine detection using receptors, tracking cellular responses to chemokines, and recognition of GAG-bound chemokines, amongst others.**

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in chemokines
- Contains sections on such topics as chemokine detection using receptors, tracking cellular responses to chemokine, recognition of GAG-bound chemokines, and the production of chemokine receptor complexes for structural and biophysical studies

DESCRIPTION

Chemokines, the latest volume in the *Methods in Enzymology* series, continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in chemokines, and includes sections on such topics as chemokine detection using receptors, tracking cellular responses to chemokines, recognition of GAG-bound chemokines, and the production of chemokine receptor complexes for structural and biophysical studies.

SERIALS

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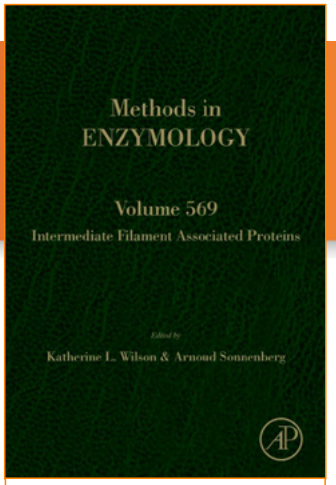

Methods in Enzymology, Vol 569

Intermediate Filament Associated Proteins

Edited by: ***Katherine L. Wilson*** Department of Cell Biology, The Johns Hopkins University School of Medicine, Baltimore, MD, USA
Arnoud Sonnenberg Department of Cell Biology, The Netherlands Cancer Institute, Amsterdam, The Netherlands

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in intermediate filament associated proteins and contains sections on such topics as lamin-associated proteins, intermediate filament-associated proteins and plakin, and other cytoskeletal cross-linkers

DESCRIPTION

Intermediate Filament Associated Proteins, the latest volume in the *Methods in Enzymology* series, continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in intermediate filament associated proteins and contains sections on such topics as lamin-associated proteins, intermediate filament-associated proteins and plakin, and other cytoskeletal cross-linkers.

ISBN: 978-0-12-803469-9
PUB DATE: January 2016
FORMAT: Hardback
PAGES: c. 580

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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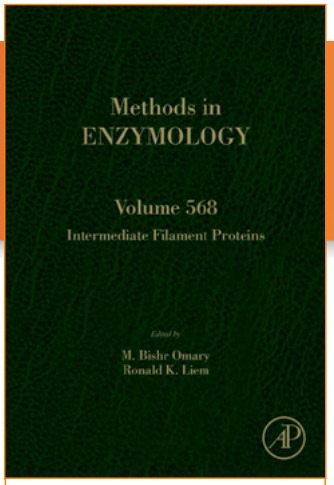

Methods in Enzymology, Vol 568

Intermediate Filament Proteins

Edited by: ***M Bishr Omary*** Department of Molecular and Integrative Physiology, University of Michigan Medical School, Ann Arbor, MI, USA
Ron Liem Department of Pathology and Cell Biology, Columbia University Medical Center, New York, NY, USA

This new volume of *Methods in Enzymology* centers on intermediate filament proteins, carrying on the legacy of this premier serial with quality chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

ISBN: 978-0-12-803470-5
PUB DATE: January 2016
FORMAT: Hardback
PAGES: c. 792

AUDIENCE

The audience is the cell biology, physiology and biochemistry communities, with a particular emphasis on those scientists who are interested in the cytoskeleton.

KEY FEATURES

- Focuses on intermediate filaments, including the latest information
- Provides an up-to-date understanding of the field
- Contains contributions from the major scientists working and publishing in the field

DESCRIPTION

Intermediate Filament Proteins, the latest volume in the *Methods in Enzymology* series covers all the intermediate filaments in vertebrates and invertebrates, providing a unique understanding of the multiple different tissue-specific intermediate filaments.

This volume also covers the latest methods that are currently being used to study intermediate filament protein function and dynamics. It will be an important companion for any experimentalist interesting in studying this protein family in their cell or organism model system.

SERIALS
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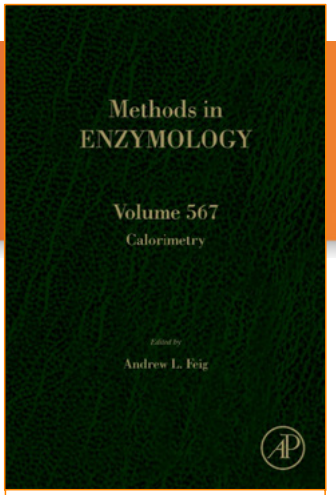

Methods in Enzymology, Vol 567

Calorimetry

Edited by: ***Andrew Feig*** Department of Chemistry, Wayne State University, Detroit, MI, USA

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Contains timely contributions from recognized experts in this rapidly changing field
- Provides specific protocols and tips to improve data collection and ensure the highest quality results are obtained
  Covers research methods in calorimetry, and includes sections on topics such as differential scanning calorimetry of membrane and soluble proteins in detergents.

DESCRIPTION

Calorimetry, the latest volume in the *Methods in Enzymology* series continues the legacy of this premier serial with quality chapters authored by leaders in the field. Calorimetry is a highly technical experiment and it is easy for new practioners to get fooled into interpreting artifacts as real experimental results. This volume will guide readers to get the most out of their precious biological samples and includes topics on specific protocols for the types of studies being conducted as well as tips to improve the data collection. Most importantly, the chapters will also help to identify pitfalls that need to be avoided to ensure that the highest quality results are obtained.

ISBN: 978-0-12-802906-0

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 510

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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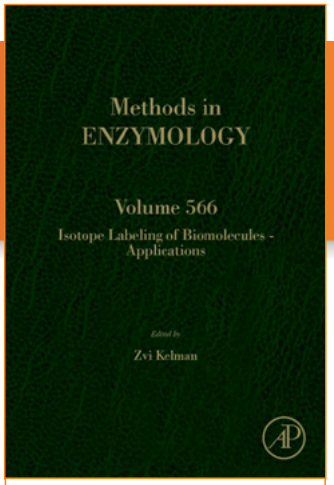

Methods in Enzymology, Vol 566

Isotope Labeling of Biomolecules – Applications

Edited by: ***Zvi Kelman*** Director, Biomolecular Labeling Laboratory, NIST-IBBR, Rockville, MD, USA

This volume of *Methods in Enzymology* focuses on stable isotope labeling methods and applications for biomolecules

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Focuses on stable isotope labeling of biomolecules, which is important for structural studies of proteins and nucleic acids

DESCRIPTION

Isotope Labeling of Biomolecules: Applications, the latest in the *Methods in Enzymology* series, focuses on stable isotope labeling methods and applications for biomolecules. This practical guide to biomolecular labeling looks at new techniques that are becoming widely used.

ISBN: 978-0-12-803049-3

PUB DATE: January 2016

FORMAT: Hardback

PAGES: c. 466

AUDIENCE

Scientists interested in using stable isotope labeling for structural determination (i.e., SANS and NMR) and other applications (e.g., MS and HDX).

SERIALS

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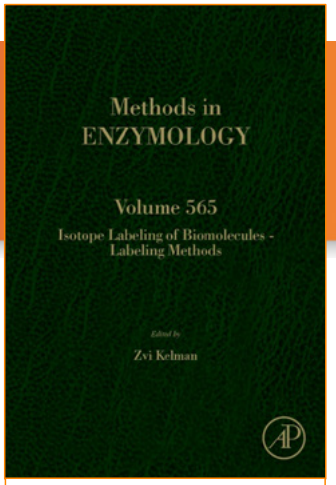

Methods in Enzymology, Vol 565

Isotope Labeling of Biomolecules – Labeling Methods

Edited by: ***Zvi Kelman*** Director, Biomolecular Labeling Laboratory, NIST-IBBR, Rockville, MD, USA

This latest volume in the Methods in Enzymology series focuses on stable isotope labeling methods and applications for biomolecules.

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Contains contributions from leading authorities in the field of isotope labeling of biomolecules
- Informs and updates on the latest developments in the field
- Provides comprehensive information on stable isotope labeling methods and applications for biomolecules

DESCRIPTION

Isotope Labeling of Biomolecules – Labeling Methods, the latest volume of the Methods in Enzymology series contains comprehensive information on stable isotope labeling methods and applications for biomolecules.

ISBN: 978-0-12-803048-6

PUB DATE: November 2015

FORMAT: Hardback

PAGES: c. 614

AUDIENCE

Scientists interested in using stable isotope labeling for structural determination (i.e., SANS and NMR) and other applications (i.e., MS and HDX).

SERIALS

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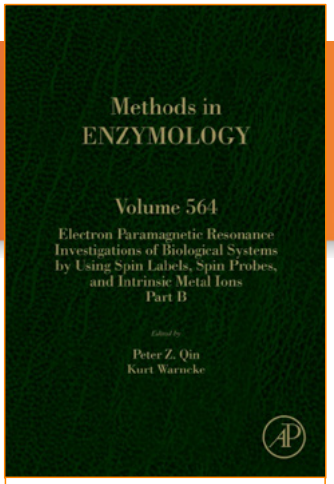

Methods in Enzymology, Vol 564

Electron Paramagnetic Resonance Investigations of Biological Systems by Using Spin Labels, Spin Probes, and Intrinsic Metal Ions Part B

Edited by: ***Peter Z Qin*** Department of Chemistry, University of Southern California, USA
Kurt Warncke Department of Physics, Emory University, USA

Continues the legacy of this premier serial with chapters authored by leaders in enzymology who discuss the latest data and research in this ever-evolving science

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

ISBN: 978-0-12-802835-3
PUB DATE: October 2015
FORMAT: Hardback
PAGES: c. 614

AUDIENCE
Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

KEY FEATURES

- Timely contribution that describes a rapidly changing field
- Leading researchers in the field
- Broad coverage: Instrumentation, basic theory, data analysis, and applications

DESCRIPTION

Electron Paramagnetic Resonance Investigations of Biological Systems by Using Spin Labels, Spin Probes, and Intrinsic Metal Ions Part A & B, are the latest volumes in the *Methods in Enzymology* series, continuing the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods centered on the use of Electron Paramagnetic Resonance (EPR) techniques to study biological structure and function.

SERIALS
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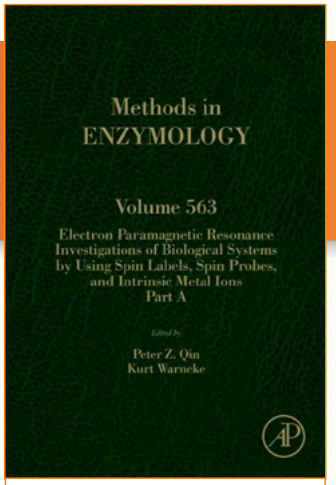

ISBN: 978-0-12-802834-6

PUB DATE: October 2015

FORMAT: Hardback

PAGES: c. 682

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

Methods in Enzymology, Vol 563

Electron Paramagnetic Resonance Investigations of Biological Systems by Using Spin Labels, Spin Probes, and Intrinsic Metal Ions Part A

Edited by: ***Peter Z Qin*** Department of Chemistry, University of Southern California, USA

Kurt Warncke Department of Physics, Emory University, USA

Continues the legacy of this premier serial with chapters authored by leaders in enzymology who discuss the latest data and research in this ever-evolving science

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Timely contribution that describes a rapidly changing field
- Leading researchers in the field
- Broad coverage: Instrumentation, basic theory, data analysis, and applications

DESCRIPTION

Electron Paramagnetic Resonance Investigations of Biological Systems by Using Spin Labels, Spin Probes, and Intrinsic Metal Ions Part A & B, are the latest volumes in the *Methods in Enzymology* series, continuing the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods centered on the use of Electron Paramagnetic Resonance (EPR) techniques to study biological structure and function.

SERIALS

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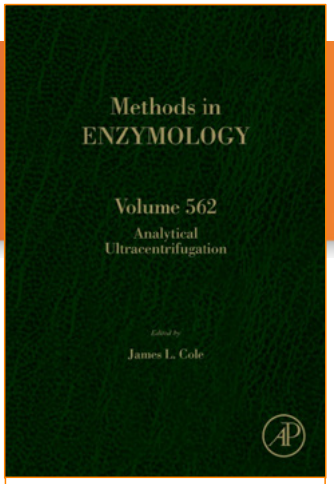

Methods in Enzymology, Vol 562

Analytical Ultracentrifugation

Edited by: ***James L Cole*** University of Connecticut

Analytical ultracentrifugation is a powerful and rigorous method to analyze the size, shape. and interactions of macromolecules in solution. This volume in the *Methods in Enzymology* series represents up-to-date knowledge and protocols.

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

ISBN: 978-0-12-802908-4

PUB DATE: September 2015

FORMAT: Hardback

PAGES: c. 568

AUDIENCE

The intended audience includes: biophysicists interested in macromolecular interactions, thermodynamics and hydrodynamics, biochemists and molecular biologists who wish to use analytical ultracentrifugation, and researchers in the biotechnology industry who are interested in the applications of analytical ultracentrifugation in characterization of biopharmaceuticals.

KEY FEATURES

- Timely contribution that describes a rapidly changing field
- Leading researchers in the field
- Broad coverage: instrumentation, basic theory, data analysis, and applications

DESCRIPTION

Analytical Ultracentrifugation, the latest volume in *Methods in Enzymology,* focuses on analytical ultracentrifugation. The scope of this technique has greatly expanded in recent years due to advances in instrumentation, algorithms and software.

This volume describes the latest innovations in the field and in the applications of analytical ultracentrifugation in the analysis of macromolecules, macromolecular assemblies, and biopharmaceuticals.

SERIALS

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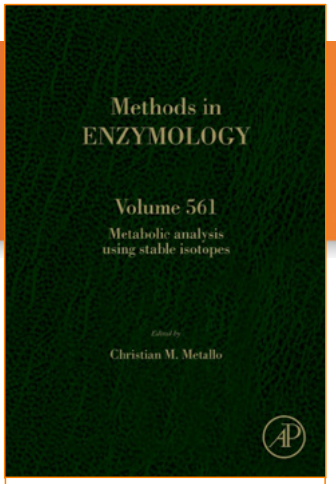

Methods in Enzymology, Vol 561

Metabolic Analysis Using Stable Isotopes

Edited by: ***Christian Metallo*** Jacobs School of Engineering, University of California San Diego, CA, USA

Continues the legacy of this premier serial with chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters on metabolic analysis using stable isotopes
- Represents the newest volume in *Methods in Enzymology*, providing a premier serial with quality chapters authored by leaders in the field
- Ideal reference for those interested in the study of metabolism, metabolic tracing, isotopic labeling, and lipogenesis

DESCRIPTION

Metabolic Analysis Using Stable Isotopes, the newest volume in *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in metabolic analysis using stable isotopes.

ISBN: 978-0-12-802293-1

PUB DATE: September 2015

FORMAT: Hardback

PAGES: c. 386

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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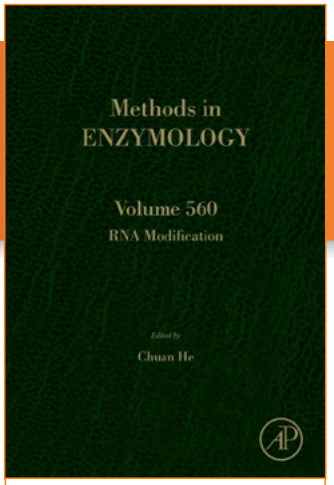

Methods in Enzymology, Vol 560

RNA Modification

Edited by: ***Chuan He*** University of Chicago

This volume contains up-to-date information and protocol on biological investigations of RNA modifications, in particular the relationship between various RNA modifications and gene expression.

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

ISBN: 978-0-12-802192-7

PUB DATE: August 2015

FORMAT: Hardback

PAGES: c. 390

AUDIENCE

Scientists interested in RNA modifications, post-transcriptional gene expression regulation and regulatory RNA.

KEY FEATURES

- Dynamic RNA modifications and their roles in biological regulation are the current frontier of life science research
- This volume of Methods in Enzymology represents up to date knowledge and protocols

DESCRIPTION

RNA Modification provides a useful examination of the science and its role in biological regulation, the current frontier of life science research, and includes various RNA modications and their role in gene expression. It represents the most up-to-date knowledge and protocols available today.

SERIALS

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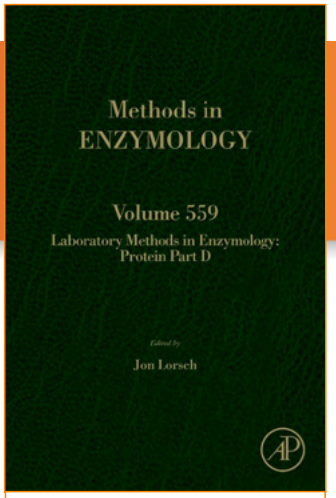

Methods in Enzymology, Vol 559

Laboratory Methods in Enzymology: Protein Part D

Edited by: ***Jon Lorsch*** Department of Biophysics and Biophysical Chemistry, Johns Hopkins University School of Medicine, Baltimore, MD, USA

A collection of core protocols concentrating on protein, carefully written and edited by experts

KEY FEATURES

- Indispensable tool for the researcher
- Carefully written and edited by experts to contain step-by-step protocols
- Brings together a number of core protocols concentrating on protein

DESCRIPTION

The critically acclaimed laboratory standard for almost 50 years, *Methods in Enzymology* is one of the most highly respected publications in the field of biochemistry. Each volume is eagerly awaited, frequently consulted, and praised by researchers and reviewers alike. Now with over 520 volumes and 40,000 chapters in the collection, much of the material is still relevant today and is truly an essential publication for researchers in all fields of life sciences, including microbiology, biochemistry, cancer research, and genetics, just to name a few.

In this volume, number 545, we have brought together a number of core protocols concentrating on protein, carefully written and edited by experts.

ISBN: 978-0-12-800279-7

PUB DATE: June 2015

FORMAT: Hardback

PAGES: c. 148

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists

SERIALS

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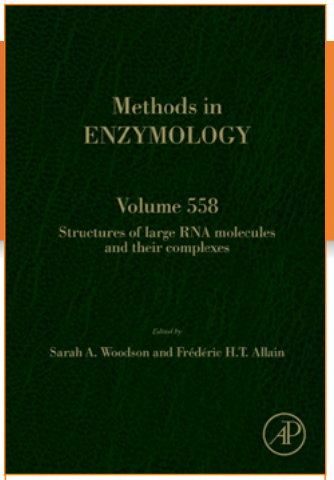

Methods in Enzymology, Vol 558

Structures of Large RNA Molecules and Their Complexes

Edited by: ***Sarah A Woodson*** Department of Biophysics, Johns Hopkins University, USA
Frédéric H.T. Allain Institute of Molecular Biology and Biophysics, ETH Hönggerberg, Switzerland

Continues the legacy of this premier serial with quality chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters on structures of large RNA molecules and their complexes

DESCRIPTION

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in RNA folding and dynamics, RNA-protein interactions and large RNPs.

ISBN: 978-0-12-801934-4
PUB DATE: late May 2015
FORMAT: Hardback
PAGES: c. 632

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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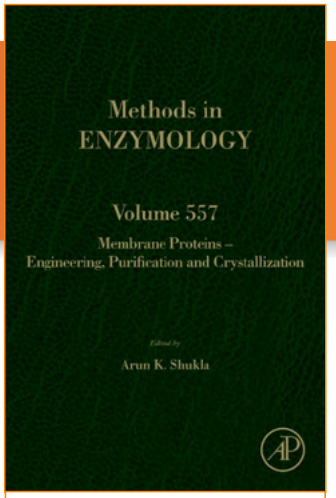

Methods in Enzymology, Vol 557

Membrane proteins – Engineering, Purification and Crystallization

Edited by: ***Arun K. Shukla*** Department of Biological Sciences and Bioengineering, Indian Institute of Technology, Kanpur, India

This volume of *Methods In Enzymology* provides a unique platform for the researchers interested in general area of membrane protein structure and function.

KEY FEATURES

- Volume of *Methods In Enzymology*
- Contains a collection of a diverse array of topics in the area of membrane protein biology ranging from recombinant expression, isolation, functional characterization, biophysical studies and crystallization

DESCRIPTION

Membrane Proteins – Engineering, Purification and Crystallization, a volume of *Methods In Enzymology*, encompasses chapters from the leading experts in the area of membrane protein biology. The chapters provide a brief overview of the topics covered and also outline step-by-step protocol for the interested audience. Illustrations and case example images are included wherever appropriate to help the readers understand the schematics and general experimental outlines.

ISBN: 978-0-12-802183-5

PUB DATE: May 2015

FORMAT: Hardback

PAGES: c. 624

AUDIENCE

These two volumes of *Methods In Enzymology* should be very useful to any researcher working in the area of structure and function of membrane proteins. Graduate students, post-doctoral fellows and faculty members pursuing different aspects of membrane protein biology should find these two volumes useful and complete collection of practical information.

SERIALS

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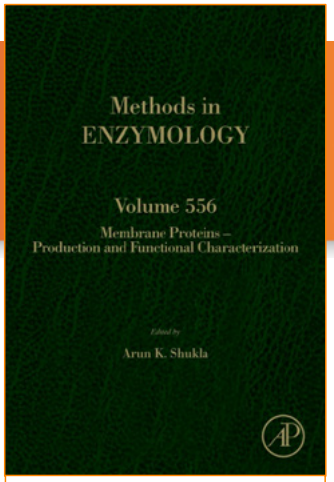

Methods in Enzymology, Vol 556

Membrane Proteins – Production and Functional Characterization

Edited by: ***Arun K. Shukla*** Department of Biological Sciences and Bioengineering, Indian Institute of Technology, Kanpur, India

This volume of *Methods in Enzymology* provides a unique platform for the researchers interested in general area of membrane protein structure and function

KEY FEATURES

- Volume of *Methods In Enzymology*
- Contains a collection of a diverse array of topics in the area of membrane protein biology ranging from recombinant expression, isolation, functional characterization, biophysical studies and crystallization

DESCRIPTION

Membrane Proteins – Production and Function Characterization a volume of *Methods in Enzymology*, encompasses chapters from the leading experts in the area of membrane protein biology. The chapters provide a brief overview of the topics covered and also outline step-by-step protocol. Illustrations and case example images are included wherever appropriate to help the readers understand the schematics and general experimental outlines.

ISBN: 978-0-12-801521-6

PUB DATE: April 2015

FORMAT: Hardback

PAGES: c. 644

AUDIENCE

These two volumes of *Methods In Enzymology* should be very useful to any researcher - including graduate students, post-doctoral fellows, and faculty members - working in the area of structure and function of membrane proteins.

SERIALS

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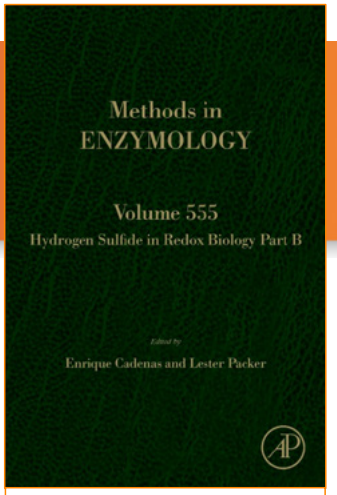

Methods in Enzymology, Vol 555

Hydrogen Sulfide in Redox Biology Part B

Edited by: ***Enrique Cadenas*** Pharmacology & Pharmaceutical Sciences, School of Pharmacy, University of Southern California, USA
Lester Packer Department of Molecular Pharmacology and Toxicology, School of Pharmaceutical Sciences, University of Southern California, USA

Continues the legacy of this premier serial with quality chapters authored by leaders in the field.

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters on hydrogen sulfide research authored by leaders in the field
- Covers conventional and new hydrogen sulfide detection methods
- Covers the pharmacological activity of hydrogen sulfide donors
- Contains chapters on important topics on hydrogen sulfide modulation of cell signaling and transcriptional pathways, and the role of hydrogen sulfide in the cardiovascular and nervous systems and in inflammation

DESCRIPTION

These new volumes of *Methods in Enzymology* (554 and 555) on Hydrogen Sulfide Signaling continue the legacy established by previous volumes on another gasotransmitter, nitric oxide (*Methods in Enzymology* volumes 359, 396, 440, and 441), with quality chapters authored by leaders in the field of hydrogen sulfide research. These volumes of *Methods in Enzymology* were designed as a compendium for hydrogen sulfide detection methods, the pharmacological activity of hydrogen sulfide donors, the redox biochemistry of hydrogen sulfide and its metabolism in mammalian tissues, the mechanisms inherent in hydrogen sulfide cell signaling and transcriptional pathways, and cell signaling in specific systems, such as cardiovascular and nervous system as well as its function in inflammatory responses. Two chapters are also devoted to hydrogen sulfide in plants and a newcomer, molecular hydrogen, its function as a novel antioxidant.

ISBN: 978-0-12-801511-7
PUB DATE: March 2015
FORMAT: Hardback
PAGES: c. 356

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

SERIALS

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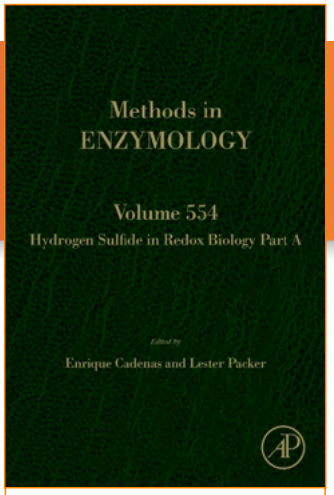

Methods in Enzymology, Vol 554

Hydrogen Sulfide in Redox Biology Part A

Edited by: ***Enrique Cadenas*** Pharmacology & Pharmaceutical Sciences, School of Pharmacy, University of Southern California, USA
Lester Packer Department of Molecular Pharmacology and Toxicology, School of Pharmaceutical Sciences, University of Southern California, USA

Continues the legacy of this premier serial with quality chapters authored by leaders in the field

Praise for the Series: "Should be on the shelves of all libraries in the world as a whole collection." - CHEMISTRY IN INDUSTRY "The work most often consulted in the lab." - ENZYMOLOGIA "The Methods in Enzymology series represents the gold-standard." - NEUROSCIENCE

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters on hydrogen sulfide research authored by leaders in the field
- Covers conventional and new hydrogen sulfide detection methods
- Covers the pharmacological activity of hydrogen sulfide donors
- Contains chapters on important topics on hydrogen sulfide modulation of cell signaling and transcriptional pathways, and the the role of hydrogen sulfide in the cardiovascular and nervous systems and in inflammation

DESCRIPTION

These new volumes of *Methods in Enzymology* (554 and 555) on Hydrogen Sulfide Signaling continue the legacy established by previous volumes on another gasotransmitter, nitric oxide (*Methods in Enzymology* volumes 359, 396, 440, and 441), with quality chapters authored by leaders in the field of hydrogen sulfide research. These volumes of *Methods in Enzymology* were designed as a compendium for hydrogen sulfide detection methods, the pharmacological activity of hydrogen sulfide donors, the redox biochemistry of hydrogen sulfide and its metabolism in mammalian tissues, the mechanisms inherent in hydrogen sulfide cell signaling and transcriptional pathways, and cell signaling in specific systems, such as cardiovascular and nervous system as well as its function in inflammatory responses. Two chapters are also devoted to hydrogen sulfide in plants and a newcomer, molecular hydrogen, its function as a novel antioxidant.

ISBN: 978-0-12-801512-4
PUB DATE: March 2015
FORMAT: Hardback
PAGES: c. 328

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

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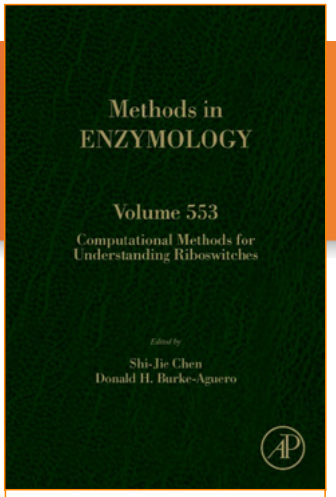

Methods in Enzymology, Vol 553

Computational Methods for Understanding Riboswitches

Edited by: ***Shi-Jie Chen*** Biophysics, Biochemistry and Informatics, University of Missouri-Columbia, USA
Donald H. Burke-Aguero Department of Molecular Microbiology & Immunology and Department of Biochemistry, University of Missouri, USA

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KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers computational methods and applications in RNA structure and dynamics
- Contains chapters with emerging topics such as RNA structure prediction, riboswitch dynamics and thermodynamics, and effects of ions and ligands.

DESCRIPTION

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ISBN: 978-0-12-801429-5
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FORMAT: Hardback
PAGES: c. 404

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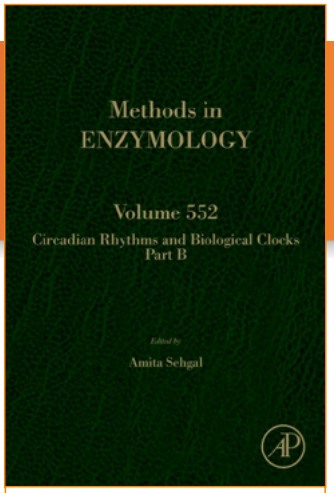

Methods in Enzymology, Vol 552

Circadian Rhythms and Biological Clocks Part B

Edited by: ***Amita Sehgal*** John Herr Musser Professor of Neuroscience; co-Director, Penn Medicine Neuroscience Center, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA

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KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in biomineralization science
- Keeping with the interdisciplinary nature of the circadian rhythm field, the volume includes diverse approaches towards the study of rhythms, from assays of biochemical reactions in unicellular organisms to monitoring of behavior in humans.

DESCRIPTION

Two new volumes of *Methods in Enzymology* continue the legacy of this premier serial with quality chapters authored by leaders in the field. *Circadian Rhythms and Biological Clocks Part A and Part B* is an exceptional resource for anybody interested in the general area of circadian rhythms. As key elements of timekeeping are conserved in organisms across the phylogenetic tree, and our understanding of circadian biology has benefited tremendously from work done in many species, the volume provides a wide range of assays for different biological systems. Protocols are provided to assess clock function, entrainment of the clock to stimuli such as light and food, and output rhythms of behavior and physiology. This volume also delves into the impact of circadian disruption on human health. Contributions are from leaders in the field who have made major discoveries using the methods presented here.

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PUB DATE: February 2015

FORMAT: Hardback

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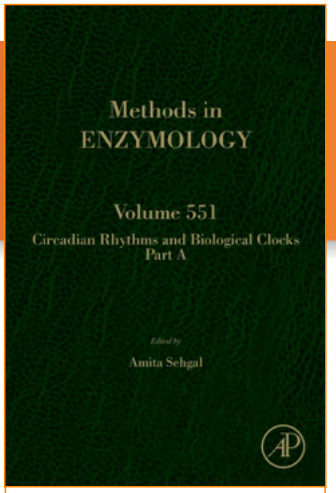

Methods in Enzymology, Vol 551

Circadian Rhythms and Biological Clocks Part A

Edited by: ***Amita Sehgal*** John Herr Musser Professor of Neuroscience; co-Director, Penn Medicine Neuroscience Center, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field.

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ISBN: 978-0-12-801218-5

PUB DATE: January 2015

FORMAT: Hardback

PAGES: c. 470

AUDIENCE

Biochemists, biophysicists, molecular biologists, analytical chemists, and physiologists.

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in biomineralization science
- Keeping with the interdisciplinary nature of the circadian rhythm field, the volume includes diverse approaches towards the study of rhythms, from assays of biochemical reactions in unicellular organisms to monitoring of behavior in humans.

DESCRIPTION

Two new volumes of *Methods in Enzymology* continue the legacy of this premier serial with quality chapters authored by leaders in the field. *Circadian Rhythms and Biological Clocks Part A and Part B* is an exceptional resource for anybody interested in the general area of circadian rhythms. As key elements of timekeeping are conserved in organisms across the phylogenetic tree, and our understanding of circadian biology has benefited tremendously from work done in many species, the volume provides a wide range of assays for different biological systems. Protocols are provided to assess clock function, entrainment of the clock to stimuli such as light and food, and output rhythms of behavior and physiology. This volume also delves into the impact of circadian disruption on human health. Contributions are from leaders in the field who have made major discoveries using the methods presented here.

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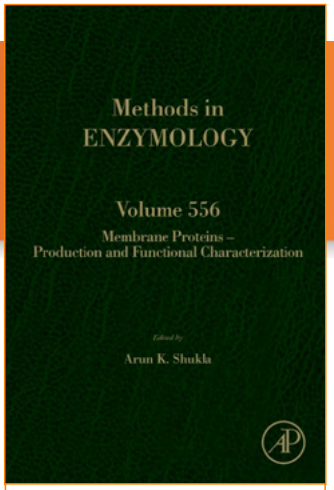

Methods in Enzymology, Vol 550

Riboswitches as Targets and Tools

Edited by: ***Donald H. Burke-Aguero*** Department of Molecular Microbiology & Immunology and Department of Biochemistry, University of Missouri, USA

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field

KEY FEATURES

- Continues the legacy of this premier serial with quality chapters authored by leaders in the field
- Covers research methods in riboswitches as targets and tools
- Contains sections on such topics as constructing and optimizing artificial riboswitches, synthetic biology: live cell imaging and intracellular sensors with artificial riboswitches, synthetic biology: conditional control of gene expression with artificial riboswitches, synthetic biology: using artificial riboswitches for protein evolution and pathway optimization, anti-riboswitches drug screens

DESCRIPTION

This new volume of *Methods in Enzymology* continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers research methods in riboswitches as targets and tools and contains sections on such topics as constructing and optimizing artificial riboswitches, live cell imaging and intracellular sensors with artificial riboswitches, conditional control of gene expression with artificial riboswitches, using artificial riboswitches for protein evolution and pathway optimization, and anti-riboswitch drug screens.

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