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MARISOL MORA

Basic Concepts of Molecular Biology Academic Press

A comprehensive text in the field of biomaterials science and tissue engineering, covering fundamental principles and methods related to processing-microstructure-property linkages as applied to biomaterials science. Essential concepts and techniques of the cell biology are discussed in detail, with a focus quantitatively and qualitatively evaluating cell-material interaction. It gives detailed discussion on the processing, structure and properties of metals, ceramics and polymers, together with techniques and guidelines. Comprehensive coverage of in vitro and in vivo biocompatibility property evaluation of materials for bone, neural as well as cardiovascular tissue engineering applications, together with representative protocols. Supported by several multiple-choice questions, fill in the blanks, review questions, numerical problems and solutions to selected problems, this is an ideal text for undergraduate and graduate students in understanding fundamental concepts and the latest developments in the field of biomaterials science.

Making Innovations Happen Elsevier

Mammalian Endocrinology and Male Reproductive Biology provides comprehensive and current coverage of the area of endocrinology and male reproductive biology, covering not just humans, but mammals in general. Written by international experts in their respective fields, this multi-author book also covers the latest developments in genomics of androgen action and male infertility. The book begins by covering sexual dimorphism in the central nervous system; structure, control of secretion and function of GnRH; and gonadotropins of pituitary origin and their role in gonadal functions. This is followed by an account of hormonal regulation of spermatogenesis, and the role of apoptosis in this process. Subsequent chapters center around epididymis, regulation of growth and function, and sperm motility regulation. The last chapters in the book discuss the structure and function of male accessory sex glands with associated pathologies as well as recent updates in male contraception, mechanism of androgen action, and genomics of male infertility. Wherever necessary, tables and figures have been added for a better understanding. Each chapter is appropriately referenced and contains current information on the latest developments in the field.

Proceedings of the National Institute of Sciences of India Pearson Education India

This book presents a timely review of the latest advances in rhizosphere biology, which have been facilitated by the application of omics tools. It includes chapters on the use of various omics tools in

rhizosphere biology, focusing on understanding plant and soil microbe interactions. The role of proteomics and metagenomics in research on symbiotic association is also discussed in detail. The book also includes chapters on the use of omics tools for the isolation of functional biomolecules from rhizospheric microorganisms. The book's respective sections describe and provide detailed information on important omics tools, such as genomics, transcriptomics, proteomics, metabolomics and meta-epigenomics. In turn, the book promotes and describes the combined use of plant biology, microbial ecology, and soil sciences to design new research strategies and innovative methods in soil biology. Lastly, it highlights the considerable potential of the rhizosphere in terms of crop productivity, bioremediation, ecological engineering, plant nutrition and health, as well as plant adaptation to stress conditions. This book offers both a practical guide and reference source for all scientists working in soil biology, plant pathology, etc. It will also benefit students studying soil microbiology, and researchers studying rhizosphere structure.

Advances in Protein Molecular and Structural Biology Methods World Scientific

Unravelling the intricate cell signalling networks and their significance in cancer poses major intellectual challenge. Keeping this in mind, the book aims at understanding the mechanism of action of different proteins and their complexes in the cancer signalling pathways. Hence, the proposed book that comprises 20 chapters provides a comprehensive introduction on cell signalling, its alterations in cancer, molecules that have been popular targets as well as the ones that are emerging as targets. In addition, it discusses different forms of therapy that are coming up for its treatment. Other than that, a major portion of the book is focused on studying different disciplines at the interface of biology and other areas of science that are being used to understand cancer biology in depth.

Issues in Life Sciences: Cellular Biology: 2011 Edition Springer Nature

Membrane Proteins, Volume 128 in the Advances in Protein Chemistry and Structural Biology series highlights new advances in the field, with this new volume presenting interesting chapters written by an international board of authors. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the Advances in Protein Chemistry and Structural Biology series Updated release includes the latest information on the membrane proteins

Mammalian Endocrinology and Male Reproductive Biology CRC Press

This contributed volume offers a comprehensive and detailed overview of the various aspects of long non-coding RNAs and discusses their emerging significance. Written by leading experts in the field,

it motivates young researchers around the globe, and offers graduate and postgraduate students fascinating insights into genes and their regulation in eukaryotes and higher organisms.

Systems and Synthetic Biology CRC Press

This book reviews recent advances in the molecular and infection biology, pathology, and molecular epidemiology of *Mycobacterium tuberculosis*, as well as the identification and validation of novel molecular drug targets for the treatment of this mycobacterial disease. Despite being completely curable, tuberculosis is still one of the leading global causes of death. *M. tuberculosis*, the causative organism – one of the smartest pathogens known – adopts highly intelligent strategies for survival and pathogenesis. Presenting a wealth of information on the molecular infection biology of *M. tuberculosis*, as well as nontuberculous mycobacteria (NTM), the book provides an overview of the functional role of the PE/PPE group of proteins, which is exclusive to the genus *Mycobacteria*, of host-pathogen interactions, and virulence. It also explores the pathogenesis of the infection, pathology, epidemiology, and diagnosis of NTM. Finally it discusses current and novel approaches in vaccine development against tuberculosis, including the role of nanotechnology. With state-of-the-art contributions from experts in the respective domains, this book is an informative resource for practitioners as well as medical postgraduate students and researchers.

Long Non Coding RNA Biology EduBubs Publishing House

The proceedings of this conclave include invited talks from nearly a dozen persons of eminence from across the country including the Industry, academia and the Government organisations. This Conclave Brought together all the stake-holders, viz., Industry, Academic, Innovators, Entrepreneurs, R&D organisations, and Policy makers to synergistically discuss, share, display and learn about the cutting edge innovations and technologies that can help enhancing the productivity, improve quality of production, enhance self-reliance and act as a catalyst to the economic growth of the country.

Mycobacterium Tuberculosis: Molecular Infection Biology, Pathogenesis, Diagnostics and New Interventions Cambridge University Press

Droplets of Life: Membrane-Less Organelles, Biomolecular Condensates, and Biological Liquid-Liquid Phase Separation provides foundational information on the biophysics, biogenesis, structure, functions, and roles of membrane-less organelles. The study of liquid-liquid phase separation has attracted a lot of attention from disciplines such as cell biology, biophysics, biochemistry, and others trying to understand how, why, and what roles these condensates play in homeostasis and disease states in living organisms. This book's editor recruited a group of international experts to provide a current and authoritative overview of all aspects associated with this exciting area. Sections introduce membrane-less organelles (MLOs) and biomolecular condensates; MLOs in different sizes, shapes, and composition; and the formation of MLOs due to phase separation and how it can tune reactions, organize the intracellular environment, and provide a role in cellular fitness. . Presents the first book to establish the foundations of this exciting research area Combines biophysics, structural and cell biology, and biochemistry perspectives into a single volume Edited and authored by world-leading scientists Covers basic physical and biological principles and health and disease implications

From Physiology and Chemistry to Biochemistry ScholarlyEditions

Integrated Methods in Protein Biochemistry: Part A, Volume 677, the latest release in the *Methods in Enzymology* series, highlights new advances in the field with this new volume presenting interesting

chapters on topics such as DNA and protein engineering to create protein bioswitches with new functions, Interaction and cross-talk of prelamin A with integral membrane zinc metalloproteases, An experimental protocol to study lipid transfer proteins, Synthesis of small heat shock proteins, Druggable p-p interacting sites for Co-chaperone DNAJA1 and its partner proteins, An experimental protocol for glycoconjugate analysis, Methods for proximity-based biotinylation combined with Mass Spectrometry, and more. Additional chapters cover Synthetic antibody fragments as conformational sensors of protein activation and trafficking, Expression, purification, functional analysis and crystallization of Rag GTPase, Purification of bacterial transcription elongation complexes by photoreversible immobilization, Inhibition of c-Myc-MAX heterodimerization, Fluorogenic RNA aptamers to probe transcription by multi-subunit RNA polymerases, and much more. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the *Methods in Enzymology* series Updated release includes the latest information on *Integrated Methods in Protein Biochemistry*

Research and Development in Biological Sciences Allied Publishers

Thousands of secondary metabolites are produced by plants to withstand unfavourable environmental conditions and are important molecules for nutraceutical, agro, cosmetic and pharmaceutical industries, etc. Harvesting of plants for the extraction of these important metabolites can threaten the plant germplasm, and various medicinally important plants are at the verge of extinction. Based on need, various methods and strategies were developed and followed by researchers from time to time to save the plant germplasm and produce important secondary metabolites efficiently to meet their growing demands. *Biotechnological Approaches to Enhance Plant Secondary Metabolites: Recent Trends and Future Prospects* provides a comprehensive introduction and review of state-of-the-art biotechnological tools in this field of research at global level. The methodologies are highlighted by real data examples in both in vitro and in vivo level studies. The book: • Highlights and provides overviews of the synthesis, classification, biological function and medicinal applications of the recent advancements for the enhanced production of novel secondary metabolites in plants • Provides an overview of the role of induced mutation, salinity stress and brassinosteroids impact to increase the secondary metabolic contents in plants and suggests an increase in enzymatic activity in plants could be due to various point mutations, which in turn could play a role at transcriptome levels • Discusses the significant role of endophytes to enhance the contents of plant secondary metabolites • Alternatively, suggests the urgent need to set up the standard operating procedures using hydroponics system of cultivation for significant enhancement of secondary metabolite contents • Enlists various in vitro techniques to enhance plant secondary metabolites contents using plant tissue culture approaches • Provides a systematic overview of state-of-the-art biotechnological tools CRISPER Cas9 and RNAi to enhance the plant secondary metabolite contents • Recommends CRISPER Cas9 technology over RNAi, ZFNs and TALENs because of its relatively simple and high precision method with an easily programmable tool This serves as a reference book for the researchers working in the field of plant secondary metabolites and pharmaceutical industries at global level.

Issues in Biological and Life Sciences Research: 2011 Edition Academic Press

The second volume of the *Book-Industrial Microbiology and Biotechnology* covers various emerging

concepts in microbial technology which have been developed to harness the potential of the microbes. The book examines the microbes-based products that have widespread applications in various domains i.e., agriculture, biorefinery, bioremediation, pharmaceutical, and medical sectors. It focusses on recent advances and emerging topics such as CRISPR technology, advanced topics of genomics, including functional genomics, metagenomics, metabolomics, and structural and system biology approaches for enhanced production of industrially relevant products. It further gives an insight into the advancement of genetic engineering with special emphasis on value-added products via microalgal systems and their techno-economics analysis and life cycle assessment. The book towards the end presents recent advancements in the use of microbes for the production of industrial relevant enzymes, amino acids, vitamins, and nutraceuticals, on vaccine development and their biomedical applications. The book is an essential source for researchers working in allied fields of microbiology, biotechnology, and bioengineering.

Droplets of Life Academic Press

Phenotypic Switching: Implications in Biology and Medicine provides a comprehensive examination of phenotypic switching across biological systems, including underlying mechanisms, evolutionary significance, and its role in biomedical science. Contributions from international leaders discuss conceptual and theoretical aspects of phenotypic plasticity, its influence over biological development, differentiation, biodiversity, and potential applications in cancer therapy, regenerative medicine and stem cell therapy, among other treatments. Chapters discuss fundamental mechanisms of phenotypic switching, including transition states, cell fate decisions, epigenetic factors, stochasticity, protein-based inheritance, specific areas of human development and disease relevance, phenotypic plasticity in melanoma, prostate cancer, breast cancer, non-genetic heterogeneity in cancer, hepatitis C, and more. This book is essential for active researchers, basic and translational scientists, clinicians, postgraduates and students in genetics, human genomics, pathology, bioinformatics, developmental biology, evolutionary biology and adaptive opportunities in yeast. Thoroughly addresses the conceptual, experimental and translational aspects that underlie phenotypic plasticity Emphasizes quantitative approaches, nonlinear dynamics, mechanistic insights and key methodologies to advance phenotypic plasticity studies Features a diverse range of chapter contributions from international leaders in the field

Proceedings of the Society of Biological Chemists, India Springer

This textbook has been conceptualized to provide a detailed description of the various aspects of Systems and Synthetic Biology, keeping the requirements of M.Sc. and Ph.D. students in mind. Also, it is hoped that this book will mentor young scientists who are willing to contribute to this area but do not know from where to begin. The book has been divided into two sections. The first section will deal with systems biology - in terms of the foundational understanding, highlighting issues in biological complexity, methods of analysis and various aspects of modelling. The second section deals with the engineering concepts, design strategies of the biological systems ranging from simple DNA/RNA fragments, switches and oscillators, molecular pathways to a complete synthetic cell will be described. Finally, the book will offer expert opinions in legal, safety, security and social issues to present a well-balanced information both for students and scientists.

Biotechnological Approaches to Enhance Plant Secondary Metabolites Pearson Education India

This exclusive coverage of the opportunities, technological challenges, solutions, and state of the art of large MIMO systems provides an in-depth discussion of algorithms for large MIMO signal processing, suited for large MIMO signal detection, precoding and LDPC code designs. An ideal resource for researchers, designers, developers and practitioners in wireless communications.

Biomaterials Science and Tissue Engineering Cambridge University Press

This book covers the basics of the biomaterials science its applications to bone tissue engineering. The introductory section describes the most necessary concepts and techniques related to the cell and molecular biology with a particular focus on evaluating the biocompatibility property. The layout of this book facilitates easier understanding of the area of bone tissue engineering. The book integrates the Materials Science and Biological Science. It covers processing and basic material properties of various biocompatible metals and ceramics-based materials, in vitro and in vivo biocompatibility and toxicity assessment in the context of bone tissue engineering, and processing and properties of metal-, ceramic- and polymer-based biocomposites, including the fabrication of porous scaffold materials. The book can be used as a textbook for senior undergraduate and graduate coursework. It will also be a useful reference for researchers and professionals working in the area.

Omic Science for Rhizosphere Biology Springer

Description of the book • Oswaal Topper's Handbooks Classes 11 & 12 • Tips to crack various entrance exams • Study Material for in-depth learning • Mind Maps for concept clarity • Real time videos for hybrid learning • Appendix for enhancement of knowledge • Revision Notes for quick revision • Commonly Made Errors to polish concepts

From Physiology and Chemistry to Biochemistry ScholarlyEditions

Sirtuin Biology in Medicine: Targeting New Avenues of Care in Development, Aging, and Disease provides a fascinating and in-depth analysis of sirtuins in the body during normal physiology as well during disease highlighting the targeting of sirtuin-controlled pathways for the development of innovative, efficacious, and safe therapeutic strategies for multiple disorders in the body that ultimately can affect lifespan extension. Sirtuins are expressed throughout the body, have broad biological effects, and can significantly impact both cellular survival and longevity during acute and long-term illnesses. These histone deacetylases play an intricate role in the pathology, progression, and treatment of several disease entities ranging from neurodegenerative disorders, cardiovascular disease, immune system dysfunction, reproductive dysfunction, endocrine disorders, gastrointestinal disease, drug dependency, and aging-related disorders. Implementing a translational medicine format, this unique reference highlights novel signaling pathways for sirtuins that promote stem cell proliferation, enhance cellular protection, modulate pathways of apoptosis and autophagy, and extend life span. Each chapter is presented with insightful detail that will be of interest and a comprehensive resource to audiences that include scientists, physicians, pharmaceutical industry experts, nutritionists, and students. Chapters are authored by internationally recognized experts who discuss the broad role of sirtuins in health and disease Details the basic and clinical role of sirtuins for the development of new clinical treatments Summarizes the multidiscipline views and publications for the compelling discipline of sirtuins by covering systems throughout the body Serves as an important resource for a broad audience of healthcare providers, scientists, drug developers,

and students in both clinical and research settings

Phenotypic Switching Academic Press

Plant Receptor-like Kinases: Role in Development and Stress presents the latest research in receptor-like kinases (RLKs), a class of development and defense-response proteins in plants. As one of the largest protein families, with roles ranging from growth and development to stress response, RLKs are involved in every aspect of the plant life cycle, including growth and development, reproduction, and immunity. Development of high throughput sequencing technology has improved the identification and characterization of numerous gene families in plants in the recent years, allowing researchers to identify and characterize numerous RLK sub-families in model plant species

and agro-economically important crop plants like rice, wheat, sorghum, tomatoes, and more. This book provides foundational knowledge on the classification of RLKs, their mechanism of action and their roles in the plant life cycle, as well as the most up-to-date advances in the applications of RLKs.

It is an essential read for researchers interested in plant signaling and plant genomics. Presents detailed information on receptor like kinases (RLKs), including their mechanism of action and classification Analyzes numerous sub-families of RLKs and their roles in plant development and stress management Highlights the function of RLKs in plant innate immunity

Science and Technology Springer Nature

Biology for Engineers is an interdisciplinary textbook designed for the students of various engineering streams to appreciate the link between biological science and engineering.