

Book Reviews

Editorial Policy. Recently published books and journals (one copy) are invited by the Editorial Office for announcement and review in ANTICANCER RESEARCH (no fee). Each announcement should include the full title of the publication, authors or editors, the number of pages, price, year of publication, ISBN and publisher. Publishers will be notified upon receipt of books and tear sheets of reviews will be sent after publication. Books will be returned to the sender only if the announcement is rejected. Reviews will be objective and clear regarding the content, quality and usefulness of the publication.

DNA Electrophoresis. Methods and Protocols.

Edited by K. Hanada.

2020, pp 228, EUR 171.19, ISBN: 978-1-07-160322-2.
Springer Science+Business Media, LLC, New York City, NY, USA.

This volume explores the latest techniques used by researchers to study DNA electrophoresis, with focus on various species including bacteria, yeasts, and mammalian cells. The chapters in this book cover topics such as two-dimensional gel electrophoresis; DNA replication; pulsed-field gel electrophoresis; ChIP; and post-labeling/PAGE method for detection of DNA adducts. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

This book is a valuable resource for any researchers looking to learn more about this developing field.

Cancer Immunology. A Translational Medicine Context.

Edited by N. Rezaei.

2020, pp 802, EUR 207.99, ISBN: 978-3-030-30844-5.
Springer International Publishing, Cham, Switzerland.

This book focusing on the immunopathology of cancers is published as part of the three-volume Springer series *Cancer Immunology*, which aims to provide an up-to-date, clinically relevant review of cancer immunology and immunotherapy. Readers will find detailed descriptions of the interactions between cancerous cells and various components of the innate and adaptive immune system. The principal focus, however, is very much on clinical aspects, the aim being to educate clinicians in the clinical implications of the latest research and novel developments in the field.

In the new edition of this very well received book, first published in 2015, the original chapters have been significantly updated and additional chapters included on, for example, current knowledge on the roles of T-helper cells and NK cells in tumor immunity, the part played by oncoviruses in the development of various cancers, and the applications of fluorescent in situ hybridization, bioluminescence, and cancer molecular and functional imaging. *Cancer Immunology: A Translational Medicine Context* will be of special value to clinical immunologists, hematologists, and oncologists.

Immune Mediators in Cancer. Methods and Protocols.

Edited by I. Vancurova, Y. Zhu.

2020, pp 373, EUR 176.79, ISBN: 978-1-07-160246-1.
Springer Science+Business Media, LLC, New York City, NY, USA.

This book provides a comprehensive collection of classic and cutting-edge methodologies as well as bioinformatics and genome-editing approaches that are used to quantify immune mediators and analyze their function and biological activity in cancer cells and tissues. Beginning with a section on the detection of immune mediators in samples, the volume continues with sections covering cytokine bioassays, the expression and regulation of immune mediators in cancer cells, and methods to navigate the enormous datasets created by modern DNA and RNA sequencing and proteomic technology. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

This book serves as a valuable resource for biochemists, molecular biologists, cancer biologists, and immunologists, as well as for physician-scientists working in the field of immunology and cancer research.

Stem Cell Transcriptional Networks. Methods and Protocols.

Edited by B. Kidder.

2020, pp 308, EUR 166.39, ISBN: 978-1-07-160300-0.
Springer Science+Business Media, LLC, New York City, NY, USA.

This second edition provides techniques used to study of the underlying transcriptional programs of stem cells that promote self-renewal and differentiation. Chapters detail next-generation sequencing technologies, data analysis, protocols on analysis and visualization of single-cell RNA-Seq data, analysis of 3D chromatin architecture, interpretation of large-scale interaction networks, transcriptional networks in embryonic and adult stem cells, derivation of stem cells, and transcriptional programs that promote reprogramming, transdifferentiation, and cancer formation. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

This book aims to provide a key resource for biologists seeking to interrogate these vital networks.

Essential Current Concepts in Stem Cell Biology.

Edited by B. Brand-Saberi.

2020, pp 242, EUR 67.59, ISBN: 978-3-030-33922-7.
Springer International Publishing, Cham, Switzerland.

This textbook describes the biology of different adult stem cell types and outlines the current level of knowledge in the field. It clearly explains the basics of hematopoietic, mesenchymal and cord

blood stem cells and also covers induced pluripotent stem cells. Further, it includes a chapter on ethical aspects of human stem cell research, which promotes critical thinking and responsible handling of the material.

Based on the international masters program Molecular and Developmental Stem Cell Biology taught at Ruhr-University Bochum and Tongji University Shanghai, the book is a valuable source for postdocs and researchers working with stems cells and also offers essential insights for physicians and dentists wishing to expand their knowledge.

This textbook is a valuable complement to *Concepts and Applications of Stem Cell Biology*, also published in the Learning Materials in Biosciences textbook series.

T-Cell Receptor Signaling. Methods and Protocols.

Edited by C. Liu.

2020, pp 296, EUR 166.39, ISBN: 978-1-07-160265-2.

Springer Science+Business Media, LLC, New York City, NY, USA.

This volume provides current and new advanced methods and protocols to study T cells. Chapters guide readers through T cell diversity using mass cytometry, analyzing T cells from single cell level, CRISPR/Cas9 techniques to study the T cell activation, techniques to study subsets of T cells, procedures to study artificial antigen presentosomes for T cell activation, techniques to study the T cell development, two-photon microscopy, and MAIT cells. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

This book aims to provide a wide range of approaches and be an invaluable resource for present and future generations of T cell researchers.

Computational Methods and Data Analysis for Metabolomics.

Edited by S. Li.

2020, pp 491, EUR 176.79, ISBN: 978-1-07-160238-6.

Springer Science+Business Media, LLC, New York City, NY, USA.

This book provides a comprehensive guide to scientists, engineers, and students that employ metabolomics in their work, with an emphasis on the understanding and interpretation of the data. Chapters guide readers through common tools for data processing, using database resources, major techniques in data analysis, and integration with other data types and specific scientific domains. Written in the highly successful *Methods in Molecular Biology* series format, chapters include introductions to their respective topics, practical guidance of methods and techniques, useful web supplements, and connect the steps from experimental metabolomics to scientific discoveries.

This book ensures successful results in the further study of this vital field.

Cell Biology and Translational Medicine, Volume 6. Stem Cells: Their Heterogeneity, Niche and Regenerative Potential.

Edited by K. Turksen.

2020, pp 223, EUR 145.59, ISBN: 978-3-030-32822-1.

Springer International Publishing, Cham, Switzerland.

Much research has focused on the basic cellular and molecular biological aspects of stem cells. Much of this research has been fueled by their potential for use in regenerative medicine applications, which has in turn spurred growing numbers of translational and clinical studies. However, more work is needed if the potential is to be realized for improvement of the lives and well-being of patients with numerous diseases and conditions.

This book series "*Cell Biology and Translational Medicine (CBTMED)*" as part of Springer Nature's longstanding and very successful *Advances in Experimental Medicine and Biology* book series, has the goal to accelerate advances by timely information exchange. Emerging areas of regenerative medicine and translational aspects of stem cells are covered in each volume. Outstanding researchers are recruited to highlight developments and remaining challenges in both the basic research and clinical arenas. This current book is the sixth volume of a continuing series.

Immuno-Oncology. Cellular and Translational Approaches.

Edited by S.-L. Tan.

2020, pp 262, EUR 166.39, ISBN: 978-1-07-160170-9.

Springer Science+Business Media, LLC, New York City, NY, USA.

This book serves as a guide for identifying and applying commonly used cell-based translational assays as well as for assessing the therapeutic potential of new immuno-oncology therapeutics and advancing their mechanism of action. The detailed chapters within will provide readers with a baseline understanding of the pros and cons as well as key considerations for applying assays that are more reflective of the human immune-tumor microenvironment in order to increase their translatability into the clinic. Written for the *Methods in Pharmacology and Toxicology* series, the contents of this volume include the kind of specifics and real-world implementation advice to ensure success in the lab.

This book aims to aid researchers working on biotechnology and pharmaceutical efforts to search for the next generation of safer and more effective cancer immunotherapeutics.

Nanoscience in Medicine Vol. 1.

Edited by H.K. Daima, N. PN, S. Ranjan, N. Dasgupta, E. Lichtfouse.

2020, pp 494, EUR 155.99, ISBN: 978-3-030-29206-5.

Springer International Publishing, Cham, Switzerland.

This book takes a systematic approach to address the gaps relating to nanomedicine and bring together fragmented knowledge on the

advances on nanomaterials and their biomedical applicability. In particular, it demonstrates an exclusive compilation of state-of-the-art research with a focus on fundamental concepts, current trends, limitations, and future directions of nanomedicine.

**Beyond Our Genes.
Pathophysiology of Gene and Environment Interaction
and Epigenetic Inheritance.**

Edited by R. Teperino.

2020, pp 266, EUR 166.39, ISBN: 978-3-030-35212-7.

Springer International Publishing, Cham, Switzerland.

The genotype/phenotype dichotomy is being slowly replaced by a more complex relationship whereby the majority of phenotypes

arise from interactions between one's genotype and the environment in which one lives. Interestingly, it seems that not only our lives, but also our ancestors' lives, determine how we look.

This newly recognized form of inheritance is known as (epi)genetic, as it involves an additional layer of information on top of the one encoded by the genes. Its discovery has constituted one of the biggest paradigm shifts in biology in recent years. Understanding epigenetic factors may help explain the pathogenesis of several complex human diseases (such as diabetes, obesity and cancer) and provide alternative paths for disease prevention, management and therapy.

This book introduces the reader to the importance of the environment for our own health and the health of our descendants, sheds light on the current knowledge on epigenetic inheritance and opens a window to future developments in the field.