

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.

Cancer Driver Genes.

Edited by T. Starr.

2019, pp 214, EUR 155.99, ISBN: 978-1-4939-8966-9.
Springer Science+Business Media, New York, NY, USA.

This book presents protocols for identification of genetic drivers of cancer. Chapters guide readers through a brief history of cancer gene discovery, *in silico* approaches, *in vitro* approaches, and *in vivo* approaches using forward genetic screens in mice. 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 protocols that will be used and adapted by cancer researchers to expand the knowledge base of molecular mechanisms contributing to initiation, progression, and metastasis of cancer.

Cell-free DNA as Diagnostic Markers.

Edited by V. Casadio, S. Salvi.

2019, pp 224, EUR 155.99, ISBN: 978-1-4939-8972-0.
Springer Science+Business Media, New York, NY, USA.

This book describes the most important techniques used for studying cfDNA in the different samples; serum, plasma, urine. Chapters detail methods on liquid biopsy for cancer disease, methods in cancer, epigenetic modifications, fetal and pediatric diseases, physical activity, and urinary cell free DNA. 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 ensure successful results in the further study of this vital field.

Epitranscriptomics.

Edited by N. Wajapeyee, R. Gupta.

2019, pp 298, EUR 166.39, ISBN: 978-1-4939-8807-5.
Springer Science+Business Media, New York, NY, USA.

This volume provides readers with the latest technologies to study changes in the epitranscriptome. The protocols described in this

book explore both targeted and unbiased high-throughput analysis associated with post-transcriptional RNA modification. The chapters in this book also cover specific topics such as transcriptome-wide detection of 5-methylcytosine; HAMR; iRNA-2OM; genome-wide annotation of circRNAs; immune-northern blotting; and detection and quantification of pseudouridine in RNA. 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 an important resource for both expert and novice scientists who are interested in learning more about this field.

Hepatic Stem Cells.

Edited by N. Tanimizu.

2019, pp 248, EUR 166.39, ISBN: 978-1-4939-8960-7.
Springer Science+Business Media, New York, NY, USA.

This volume looks at the liver's epithelial cells—hepatocytes and cholangiocytes—and their progenitors. This book is divided into five parts: isolation of progenitor cells; characterization of liver progenitors *in vivo*; generation of hepatocytes, cholangiocytes, and their progenitors; reconstitution of liver tissue structures; and liver injury models. The chapters in this book cover topics such as expansion of bipotential liver stem/progenitor cells (LPCs) from fetal and neonatal liver; identifying progenitor cells involved in liver regeneration *in vivo*; methods for generating hepatocytes and cholangiocytes from multiple cellular sources; 3D tissue structures *ex vivo*; and resolving hepatic fibrosis by bone marrow transplantation. 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 to help researchers understand the current theories used to study hepatic stem/progenitor cells, and aid them in performing experiments related to liver biology and pathophysiology.

Decellularized Scaffolds and Organogenesis.

Edited by K. Turksen.

2018, pp 347, EUR 114.399, ISBN: 978-1-4939-7655-3.
Springer Science+Business Media, New York, NY, USA.

This practical, hands-on volume examines the use of decellularized tissues and organs as biologically-active scaffolds by providing numerous approaches from experts in the field. While knowledge of how to grow and differentiate cells in culture has dramatically improved over time, the book addresses the challenges of how to instruct particular cells of interest to recognize and respond to their environment so as to proliferate, differentiate, and function for restoration of original tissue and organ form and function. Written for the highly successful *Methods in Molecular Biology* series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible

protocols, and tips on troubleshooting and avoiding known pitfalls. This book shares novel approaches and insights that will provide new opportunities for those already in the field or moving to enter the field.

Introduction to Bioinformatics in Microbiology.

Edited by H. Christensen.

2018, pp 213, EUR 77.99, ISBN: 978-3-319-99279-2
Springer International Publishing AG, Cham, Switzerland.

This textbook introduces to the basic concepts of bioinformatics and enhances students' skills in using software and tools relevant for investigations in microbiology. The most relevant methods to analyze data are shown and readers are introduced on how to draw valid conclusions based on the results obtained. Software and servers which are free to use on the internet are presented and more advanced stand-alone programs are suggested as a second option. Exercises and training quizzes are provided at the end of each chapter to facilitate learning. The book targets Ph. D. students and advanced undergraduates in microbiology, biotechnology, and (veterinary) medicine with little to basic knowledge in bioinformatics.

Pericyte Biology - Novel Concepts.

Edited by A. Birbrair.

2018, pp 170, EUR 145.59, ISBN: 978-3-030-02600-4.
Springer International Publishing AG, Cham, Switzerland.

This volume explores novel concepts of pericyte biology. The present book is an attempt to describe the most recent developments in the area of pericyte biology which is one of the emergent hot topics in the field of molecular and cellular biology today. Here, we present a selected collection of detailed chapters on what we know so far about the pericytes. Together with its companion volumes *Pericyte Biology in Different Organs* and *Pericyte Biology in Disease*, *Pericyte Biology - Novel Concepts* presents a comprehensive update on the latest information and most novel functions attributed to pericytes. To those researchers newer to this area, it will be useful to have the background information on these cells' unique history. It will be invaluable for both advanced cell biology students as well as researchers in cell biology, stem cells and researchers or clinicians involved with specific diseases.

Alternatives to Animal Testing.

Edited by H. Kojima, T. Seidle, H. Spielmann.

2019, pp 130, EUR 51.99, ISBN: 978-981-13-2446-8.
Springer Singapore, Singapore.

This book presents recent advances in the pure sciences that are of significance in the quest for alternatives to the use of animals in research and describes a variety of practical applications of the three key guiding principles for the more ethical use of animals in experiments – replacement, reduction, and refinement, collectively known as the 3Rs. Important examples from across the world of

implementation of the 3Rs in the testing of cosmetics, chemicals, pesticides, and biologics, including vaccines, are described, with additional information on relevant regulations. The coverage also encompasses emerging approaches to alternative tests and the 3Rs. The book is based on the most informative contributions delivered at the Asian Congress 2016 on Alternatives and Animal Use in the Life Sciences. It will be of value for those working in R&D, for graduate students, and for educators in various fields, including the pharmaceutical and cosmetic sciences, pharmacology, toxicology, and animal welfare. The free, open access distribution of *Alternatives to Animal Testing* is enabled by the Creative Commons Attribution license in International version 4: CC BY 4.0.

Immunotherapy of Sarcoma.

Edited by S. D'Angelo, S. Pollack.

2019, pp 152, EUR 88.39, ISBN: 978-3-319-93529-4.
Springer International Publishing AG, Cham, Switzerland.

This book describes recent progress in the development of immunotherapies for advanced sarcoma, paying special attention to the potential role of manipulations of the sarcoma tumor immune microenvironment in improving patient outcomes. Readers will find a thorough overview of the state of the art in tumor immunology and immunotherapy as they relate to sarcoma. Among the topics addressed are advances in vaccine therapy; cytokine therapies; natural killer cells; the development of adoptive T cell strategies; and the scope for use of checkpoint inhibitors in patients with sarcoma, mirroring the tremendous breakthroughs made in other malignancies. Detailed information is provided on laboratory and clinical research, with analysis of outcomes of recent trials and identification of key challenges. There is every reason to believe that more effective and less toxic therapies for metastatic sarcoma can be attained by deepening our understanding of cancer immunology and building on the advances in immunotherapy for other solid tumors. In this context, *Immunotherapy of Sarcoma* will be of high interest for all medical oncologists responsible for the treatment of sarcoma patients.

Multifunctional Nanoprobes.

From Design Validation to Biomedical Applications.

Edited by Y. Liu.

2018, pp 151, EUR 57.19, ISBN: 978-981-10-6167-7.
Springer Singapore, Singapore.

This thesis mainly focuses on the design and synthesis of novel multifunctional nanoprobes, investigating their feasibility for applications involving sensing, molecular imaging, and the simultaneous diagnosis and therapy of cancer. Above all, it discusses the development of innovative nanomaterials to address the issues limiting the effectiveness of currently available nanoprobes such as the synthesis shortcoming and poor performance in sensing, imaging and therapeutic applications. One of the strengths of this thesis is its integration of knowledge from chemistry, materials science and biomedicine. Further, it presents the theoretical fundamentals in the design of nanoprobes, which can offer guidance for future studies

on the development of novel multifunctional nanomaterials with significantly enhanced performance.

Cancer and AIDS.

Part I: An Historical Perspective.

Edited by C.K.O. Williams.

2019, pp 61, EUR 135.19, ISBN: 978-3-319-99358-4.

Springer International Publishing AG, Cham, Switzerland.

This series of books is about the nature of cancer and retroviral diseases, including AIDS, their presentation and the challenges associated with their control, especially in the low- and middle-income countries. Anxiety about these diseases is a global phenomenon, and so also is the confusion about their origins. Studies of Egyptian mummies in paleopathology have documented the ancient occurrence of cancer, but not for AIDS and allied disorders, for which a role of modern lifestyle is more likely. These diseases share a background of worldwide variability of opulence and poverty, rather than heredity, in their manifestation and control. This book is the work of an extensively traveled oncologist and human retrovirology enthusiast with an international educational and professional background in resource poor and developed countries, who therefore, is able to compare and contrast health related observations and challenges in diverse settings.

Practicing and academic physicians in the emerging economies of Eastern Europe, Asia, South America and Africa, who are facing the challenge of cancer and AIDS as their populations transition from traditional to more affluent lifestyles, will find this series of books particularly informative. Oncologists, retrovirologists and others in developed countries, who are concerned about the global impact of cancer and AIDS, and are promoting related global health interventions, should read this collection, the topic of which is also relevant to officials of international agencies and resource-limited national public health policy units.

Synthesis of Therapeutic Oligonucleotides.

Edited by S. Obika, M. Sekine.

2018, pp 284, EUR 145.59, ISBN: 978-981-13-1911-2.

Springer Singapore, Singapore.

This book presents the latest knowledge on a broad range of topics relating to the synthesis of natural and artificial oligonucleotides with therapeutic potential. Nucleic acid-based therapeutics are attracting much attention, and numerous therapeutic oligonucleotides, such as antisense oligonucleotides, siRNAs, splice-switching oligonucleotides, and nucleic acid aptamers, are being evaluated in clinical trials for the treatment of a variety of diseases. *Synthesis of Therapeutic Oligonucleotides* covers a broad range of topics in the field that are of high relevance to researchers, including the synthesis of natural and chemically modified oligonucleotides, the development of novel nucleic acid analogs, industrial scale synthesis and purification of oligonucleotides, and important aspects of chemistry, manufacturing, and controls

(CMC). The aim is to provide new insights and inspire fresh ideas in nucleic acid chemistry that may ultimately lead to novel concepts and techniques and the discovery of more effective nucleic acid drugs. The book will be of high value for both established researchers in the field and students intending to specialize in nucleic acid chemistry research.

Oxford Case Histories in Lung Cancer.

Edited by H.K. Makker, A. Ainley, S. Popat, J. Singer, M. Hayward, A. Hagen.

2018, pp 312, GBP 49.99, ISBN: 978-019-88-1303-3.

Oxford University Press, Oxford, UK.

This book contains a comprehensive selection of 40 clinical cases that reflects the multidisciplinary approach to the management of lung cancer. Written by authors specialising in respiratory medicine, oncology, pathology, radiology, palliative care, and thoracic surgery, the cases cover both incidents commonly faced in clinical practice, or those that pose particular challenges. Each case consists of a brief case history, followed by questions and answers to discuss common questions arising during the management of lung cancer. The answers are based on the best available evidence from the latest research, and should help optimise the diagnostic pathways available to patients. The text is also extensively illustrated with over 75 CT and MRI scans and X-ray images to help the reader develop interpretative skills. The book may also be used in multidisciplinary sessions to help make arguments for patient care decisions based on real-life scenarios. This is an essential new resource for both trainees and recently appointed consultants who will work with patients who have lung cancer, specialist nurses, and lung cancer MDT co-ordinators.

Hybrid Nanostructures for Cancer Theranostics.

Edited by R.A. Bohara, N. Thorat.

2019, pp 276, USD 153.00, ISBN: 978-012-81-3906-6.

Elsevier, Cambridge, MA, USA.

Hybrid nanostructures are nanoparticles which incorporate two or more structures. These structures may represent organic or inorganic material, but they synergistically improve the application of the material for end users. *Hybrid Nanostructures for Cancer Theranostics* explores how hybrid nanostructures are used in cancer treatment.

Focusing on the properties of hybrid nanostructures, the book demonstrates how their unique characteristics can be used to create more effective treatment techniques. In the second half of the book, the chapters examine how hybrid nanostructures are currently being used in practice, assessing the pros and cons of using different types of nanostructures for different treatments. This valuable resource will allow readers to understand the core and emerging concept of functionalization, bioconjugation, hyperthermia and phototherapy of nanoparticles which allows for the greater use of hybrid nanomaterials in cancer theranostics.