

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.

Fluorescence In Situ Hybridization (FISH) - Application Guide.

Edited by T. Liehr.

2017, pp 606, Eur 114.39, ISBN: 978-3-662-52957-7. Springer-Verlag, Berlin, Germany.

This manual offers detailed protocols for fluorescence in situ hybridization (FISH) and comparative genomic hybridization approaches, which have been successfully used to study various aspects of genomic behavior and alterations. Methods using different probe and cell types, tissues and organisms, such as mammals, fish, amphibians (including lampbrush-chromosomes), insects, plants and microorganisms are described in 57 chapters. In addition to multicolor FISH procedures and special applications such as the characterization of marker chromosomes, breakpoints, cryptic aberrations, nuclear architectures and epigenetic changes, as well as comparative genomic hybridization studies, this 2nd edition describes how FISH can be combined with other techniques. The latter include immunostaining, electron microscopy, single cell electrophoresis and microdissection.

This well-received application guide provides essential protocols for beginning FISHERS and FISH experts alike working in the fields of human genetics, microbiology, animal and plant sciences.

Mesenchymal Stromal Cells as Tumor Stromal Modulators. 1st Edition.

Edited by M. Bolontrade, M. García.

2016, pp 642, Eur 138.00, ISBN: 978-0-12-803102-5. Academic Press, Elsevier, Cambridge, MA, USA.

Mesenchymal stromal/ stem cells (MSCs) represent a heterogeneous cell population with immunomodulating, tissue repairing, differentiating, migratory and angiogenic abilities, making 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.

Mesenchymal Stromal Cells as Tumor Stromal Modulators is a comprehensive source for the 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.

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, from adipose tissue and from 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, tumor immune privileges.

Inflammation: Methods and Protocols.

Edited by B.E. Clausen, J.D. Laman.

2017, pp 464, Eur 98.79, ISBN: 978-1-4939-6784-1. Springer International Publishing, Cham, Switzerland.

This volume presents a broad selection of cutting-edge methods and tools that will enable the reader to investigate the multifaceted manifestations of inflammation. *Inflammation: Methods and Protocols* is divided into four sections: the first three sections describe protocols investigating immune-mediated inflammatory disease models affecting barrier organs to the environment; the skin, the lung, and the intestinal and oral mucosa. The fourth section illustrates inflammatory disease models of the brain, joints, and vasculature. 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 notes on troubleshooting and avoiding known pitfalls.

This book aims to inspire the experienced investigator and the young experimenter alike to disentangle the fascinating process of inflammation.

Cardio-Oncology. 1st Edition.

Edited by R. Gottlieb, P. Mehta.

2016, pp 356, Eur 154.80, ISBN: 978-0-12-803547-4. Academic Press, Elsevier, Cambridge, MA, USA.

Cardio-Oncology: Principles, Prevention and Management is a clinical volume that focuses on the basic science of cardio-oncology, addresses cardiotoxicity as a consequence of cancer therapy, and discusses prevention, diagnosis and management of cardiovascular disease in patients with cancer.

This comprehensive volume presents unique perspectives ranging from basic science to clinical medicine in the field of cardio-oncology. It would be a valuable resource for cardiologists, oncologists, internists, and pediatricians caring for patients with cancer who have cardiovascular risk factors, as well as for cardio-oncology researchers. View more >

Key Features

- Covers basic science of cardio-oncology to provide readers with the necessary background
- Addresses cardiotoxicity related to current cancer therapeutic modalities.

Anticancer Treatments and Cardiotoxicity. Mechanisms, Diagnostic and Therapeutic Interventions. 1st Edition.

Edited by P. Lancellotti, J. Zamorano, M. Galderisi.
2016, pp 470, Eur 129.60, ISBN: 978-0-12-802509-3.
Academic Press, Elsevier, Cambridge, MA, USA.

Anticancer Treatments and Cardiotoxicity: Mechanisms, Diagnostic and Therapeutic Interventions presents cutting edge research on the adverse cardiac effects of both radiotherapy and chemotherapy, brought together by leaders in the field. Cancer treatment-related cardiotoxicity is the leading cause of treatment-associated mortality in cancer survivors and is one of the most common post-treatment issues among survivors of adult cancer. Early detection of the patients prone to developing cardiotoxicity, taking in to account the type of treatment, history and other risk factors, is essential in the fight to decrease cardiotoxic mortality.

This illustrated reference describes the most effective diagnostic and imaging tools to evaluate and predict the development of cardiac dysfunction for those patients undergoing cancer treatment. In addition, new guidelines on imaging for the screening and monitoring of these patients are also presented. *Anticancer Treatments and Cardiotoxicity* is an essential reference for those involved in the research and treatment of cardiovascular toxicity.

Key Features

- Provides algorithms essential for the use of imaging, and biomarkers for the screening and monitoring of patients
- Written by world-leading experts in the field of cardiotoxicity
- Includes high-quality images, case studies, and test questions
- Describes the most effective diagnostic and imaging tools to evaluate and predict the development of cardiac dysfunction for those patients undergoing cancer treatment

Wnt Signaling. Methods and Protocols.

Edited by Q. Barrett, L. Lum.
2016, pp 198, Eur 98.79, ISBN: 978-1-4939-6391-1.
Springer Science+Business Media, New York, NY, USA.

Now poised to evaluate the potential in modulating Wnt signaling for therapeutic agendas in cancer, wound healing, and degenerative disease, this book collects protocols from an exciting area of study. The methodologies include using Wnt modulating chemicals in engineering tissues from induced pluripotent and embryonic stem cells, monitoring Wnt transcriptional responses in diverse tissues such as bone and skin, and using specific biochemical markers of Wnt signaling to either screen molecular libraries or evaluate novel reagents. These protocols also leverage unique experimental strengths from five different model organisms. 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 support researchers in understanding Wnt signal transduction in any effort to improve outcomes in regenerative medicine and cancer management.

In Vitro Mutagenesis. Methods and Protocols.

Edited by A. Reeves.
2017, pp 511, Eur 145.59, ISBN: 978-1-4939-6470-3.
Springer Science+Business Media, New York, NY, USA.

In vitro mutagenesis remains a critical experimental approach for investigating gene and protein function at the cellular level. This volume provides a wide variety of updated and novel approaches for performing *in vitro* mutagenesis using such methods as genome editing, transposon (Tn) mutagenesis, site-directed, and random mutagenesis. *In Vitro Mutagenesis: Methods and Protocols* guides readers through methods for gene and genome editing, practical bioinformatics approaches for identifying mutagenesis targets, and novel site-directed and random mutagenesis approaches aimed at gaining a better understanding of protein-protein and protein-cofactor interactions. 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 highly accessible and practical manual for current and future molecular biology researchers, from the beginner practitioner to the advanced investigator in fields such as molecular genetics, biochemistry, and biochemical and metabolic engineering.

Cohesin and Condensin. Methods and Protocols.

Edited by K. Yokomori, K. Shirahige.
2017, pp 276, Eur 114.39, ISBN: 978-1-4939-6543-4.
Springer Science+Business Media, New York, NY, USA.

The volume provides comprehensive, state-of-the-art experimental techniques that are now available to dissect the molecular mechanisms of regulation and function of cohesin and the related factor condensin *in vitro* and *in vivo* across different model organisms, as well as in human cells. The book is divided into three parts: Part I explores various *in vitro* and *in vivo* systems used to study the fundamental mechanism of cohesin regulation in mitosis and meiosis; Part II summarizes experimental systems in a variety of organisms that are used to address interphase functions of cohesin and Nipbl in gene regulation and chromatin interaction, ribosome biogenesis and DNA repair, which contribute significantly to cohesion-associated disorders; Part III covers related condensin complex and describes techniques to study its role in mitosis and interphase. 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 diverse audiences with interests in the relationship between chromatin organization and genomic functions.

Navelbine® and Taxotère®. 1st Edition.

By *M. Le Roux, F. Gueritte.*

2017, pp 260, Eur 129.60, ISBN: 978-1-7854-8145-1.

ISTE Press, Elsevier, London, UK.

Among the many forms of cancer treatment, chemotherapy remains an important part of the arsenal in which Navelbine and Taxotere play a major role.

These medicines result from molecules discovered by French researchers of the Institut de Chimie des Substances Naturelles (ICSN) of the CNRS, directed by Pierre Potier. By recounting this history, the authors of this book attempt to illustrate how the work of themselves and others, united in a community, has helped obtain these results. After having explained the strategy of the French policy makers to promote the French chemistry of natural substances, the authors explore how the academic efforts in this field have evolved, and the alignment between science and its applications has become increasingly present. The contributions of the CNRS to the industry, and vice versa, offer an alternative image of public research relationships and industrial research, where CNRS researchers are able to extend the limits of freedom and creativity. It is to account for this complexity that the authors here have chosen to write this history together, which is in a sense exemplary.

Due to an association between history and chemistry, this book explains these discoveries by placing them in their specific politic, economic and scientific contexts.

Key Features

- Provides an overview of how the French research system facilitated the discovery of the two molecules, Navelbine and Taxotere, and their anticancer activity
- Based on a collaboration between a chemist and an historian of science, technology and innovation
- Offers a unique perspective, bringing together the specific knowledge and skills of chemistry and history
- Embeds chemistry in the general history thereby opening a window on science in action.

Reviews of Physiology, Biochemistry and Pharmacology, Vol. 171.

Edited by *B. Nilius, P. de Tombe, T. Gudermann, R. Jahn, R. Lill, O. Petersen.*

2016, pp 136, Eur 114.39, ISBN: 978-3-319-43813-9.

Springer International Publishing, Cham, Switzerland.

Leading researchers are specially invited to provide a complete understanding of a key topic within the multidisciplinary fields of physiology, biochemistry and pharmacology. In a form

immediately useful to scientists, this periodical aims to filter, highlight and review the latest developments in these rapidly advancing fields.

Problem Solving Through Precision Oncology.

Edited by *E. Copson, P. Hall, R. Board, G. Cook, P. Selby.*

2016, pp 256, GBP 39.95, ISBN: 978-1-846-92111-7.

Clinical Publishing, Oxford, UK.

The linking of specific cancer genetic alterations to molecular targeted therapies is driving a new era of personalised medicine. We now have the capacity to identify the abnormalities in genes and proteins that introduce the risk of individuals developing cancer; healthcare teams are able to better diagnose cancer, evolve preventive strategies, and develop and deploy targeted therapies. Precision oncology facilitates better prevention strategies and ensures that therapeutic interventions can be concentrated on those who will benefit, reducing expense and sparing side effects for those who will not.

This book from editors who lead research and clinical teams at four UK centres of excellence, provides a succinct, practical overview of the latest progress in the field, and includes a ground-breaking collection of case studies (“Problems”) showing precision oncology in practice.

The clear, readable summary of developments, alongside real-life case studies, provides a valuable update for all involved in the oncology community.

Problem Solving in Older Cancer Patients: A case-study based reference and learning resource.

Edited by *A. Ring, D. Harari, T. Kalsi, J. Mansi, P. Selby.*

2016, pp 272, GBP 39.95, ISBN: 978-1-846-92110-0.

Clinical Publishing, Oxford, UK.

An evidence-based guidebook that will assist the physician manage the older cancer patient implementing the appropriate treatment strategy taking account of comorbidities, frailty, and patient choice.

Each clinical case will include a concise discussion on patient presentation and of scenarios underpinning issues experienced by older patients followed by a clear appraisal of how the latest clinical research impacts on patient management.

This large cohort of patients requires both innovative care and individual attention, and this carefully crafted book shares the experience of an expert multidisciplinary team in the interest of patient centred care.

Ovarian Cancers.

Advances Through International Research Cooperation (GINECO, ENGOT, GCIG).

Edited by *E. Pujade-Lauraine, I. Ray-Coquard, F. Lécuru.*

2017, pp 286, Eur 114.39, ISBN: 978-3-319-32108-0.

Springer International Publishing, Cham, Switzerland.

This book provides an overview of the latest developments in the concepts and management of ovarian cancer. The new data presented throughout opens the way to radically different

therapeutic approaches. Surgery remains the core of ovarian cancer treatment, but its ultimate goal and the standard surgical procedure have evolved, giving rise to the question of how to label expert centers for debulking surgery. Neo-adjuvant chemotherapy is becoming more popular and is also a new field for testing novel drug combinations.

Over recent years, ovarian cancer management has embraced molecular biology. It is now more correct to talk about cancers of the ovary rather than ovarian cancer, since it is not a unique disease but several entities with different molecular drivers. The significant advances in drugs targeting the microenvironment or the tumor cell DNA repair mechanisms are presented in detail together with exciting future perspectives.

All these advances would not have been possible without collaborative groups such as the GINECO group in France and their integration in wider clinical research networks at the European (ENGOT) and international (GCIG) level.

Oncologic Imaging: Urology.

Edited by S.H. Kim, J.Y. Cho.

2017, pp 260, Eur 114.39, ISBN: 978-3-662-45217-2. Springer-Verlag Berlin, Heidelberg, Germany.

This book is designed as a reference and working guide for practitioners who deal with patients with neoplastic diseases of the urinary tract and male genitalia, including tumors of the kidney, ureter and urinary bladder, prostate, testis, adrenal gland, and retroperitoneum. Each chapter describes and illustrates key imaging findings relevant to the characterization, differential diagnosis, and staging of lesions. Pattern recognition is facilitated through the use of schematic drawings, and imaging findings on post-treatment follow-up also form an important component of the book. Brief core descriptions of related multidisciplinary fields, such as nuclear medicine, pathology, urologic surgery, and radiation oncology are included whenever relevant.

The Actin Cytoskeleton.

Edited by B. Jockusch.

2017, pp 352, Eur 321.36, ISBN: 978-3-319-46369-8. Springer International Publishing, Cham, Switzerland.

Actin is one of the most abundant proteins and ubiquitously expressed in all eukaryotes. In recent years, the analysis of structure and function of such complexes has shed new light on actin's role in cellular and tissue morphogenesis, locomotion and various forms of intracellular motility, but also on its role in nuclear processes like chromatin architecture and transcription. Progress in understanding these different physiological phenomena, but also in unravelling the basis of actin-based pathophysiological processes has been made by combining video microscopy, molecular biology, genetics and biochemistry. Thus, the current research on actin, as ongoing in many international laboratories, is a "hot spot" in basic and translational research in life sciences. In this book on "The Actin Cytoskeleton", twelve internationally renowned authors present specific chapters that

cover their recent work concerned with the various roles of actin mentioned above. This comprehensive volume is therefore an attractive handbook for teachers and students in many fields of medicine and pharmacology.

Polymer Nanoparticles for Nanomedicines. A Guide for their Design, Preparation and Development.

Edited by C. Vauthier, G. Ponchel.

2016, pp 641, Eur 238.16, ISBN: 978-3-319-41419-5. Springer International Publishing, Cham, Switzerland.

This volume serves as a valuable handbook for the development of nanomedicines made of polymer nanoparticles because it provides researchers, students, and entrepreneurs with all the material necessary to begin their own projects in this field. Readers will find protocols to prepare polymer nanoparticles using different methods, since these are based on the variety of experiences that experts encounter in the field. In addition, complex topics such as, the optimal characterization of polymer nanoparticles is discussed, as well as practical guidelines on how to formulate polymer nanoparticles into nanomedicines, and how to modify the properties of nanoparticles to give them the different functionalities required to become an efficient nanomedicine for different clinical applications. The book also discusses the translation of technology from research to practice, considering aspects related to industrialization of preparation and aspects of regulatory and clinical development.

Melanoma Development. Molecular Biology, Genetics and Clinical Application.

Edited by A. Bosserhoff.

2017, pp 447, Eur 176.79, ISBN: 978-3-319-41317-4. Springer International Publishing, Cham, Switzerland.

This book focuses on malignant melanoma, discussing the current state of scientific knowledge and providing insights into the underlying basic mechanisms, the molecular changes, genetics and genomics.

Human melanoma is a dangerous type of skin cancer affecting an increasing population, and a better understanding of its development will help in finding sophisticated targeted therapies.

The second revised edition features the latest research findings and offers updates on the latest advances and potential novel melanoma therapies.

It is a valuable resource for researchers and clinicians working in the fields of melanoma, cancer research and therapy as well as dermatology.

Molecular Pathology in Cancer Research.

Edited by S.R. Lakhani, S. Fox.

2016, pp 369, Eur 176.79, ISBN: 978-1-4939-6641-7. Springer Science+Business Media, New York, NY, USA.

The aim of the book is to discuss the application of molecular pathology in cancer research, and its contribution in the classification of different tumors and identification of potential molecular targets, as well as how this knowledge may be translated into clinical practice, and the huge impact this field is likely to have in the next 5 to 10 years.

Current Strategies in Cancer Gene Therapy.

Edited by W. Walther.

2016, pp 121, Eur 140.39, ISBN: 978-3-319-42932-8.

Springer International Publishing, Cham, Switzerland.

This book describes important developments and emerging trends in experimental and clinical cancer gene therapy. It reflects the tremendous advances made over recent years with respect to immunogenes, suicide genes and gene correction therapies, as well as in gene suppression and miRNA therapies. Many of the described strategies focus on the generation of more efficient and specific means of attack at known and novel cellular targets associated with tumor development and progression. The book also details parallel improvements in vector design, vector delivery, and therapeutic efficacy. It offers readers a stimulating, broad overview of advances in the field, linking experimental strategies to their clinical applications.

Immunotherapy for Gastrointestinal Cancer.

Edited by D. Kerr, R. Johnson.

2017, pp 252, Eur 140.39, ISBN: 978-3-319-43061-4.

Springer International Publishing, Cham, Switzerland.

This book is about the manipulation of the immune system as a therapeutic approach to gastrointestinal cancer and its clinical applications, exploring therapeutic approaches which might be taken under the broad banner of immunotherapy.

Starting by introducing concepts of modern immunology, the clinical applications of immunotherapy are then discussed. The reader will learn about the three broad classes of immune therapeutic agents: cell-based treatment; antibody therapy; cytokine application and the key effector cells and mechanisms which might cause tumour rejection. The reverse side of this equation, the genetic and molecular mechanisms which the tumour can use to escape immune control and regulation, is also discussed. Through reviewing the most up-to-date evidence, this volume provides an overview of the important scientific lessons learned from past failure of immunotherapeutics in the clinic and highlights more positive recent data, coupled to practical guidelines for clinical usage.

Written by a team of worldwide experts, this is an indispensable guide for medical oncologists, surgical oncologists, radiation therapists, pharmacists, oncology nurse specialists.

Stress Signaling in Plants: Genomics and Proteomics Perspective, Volume 2.

Edited by M. Sarwat, A. Ahmad, M.Z. Abdin, M.M. Ibrahim.

2017, pp 350, Eur 163.27, ISBN: 978-3-319-42182-7.

Springer International Publishing, Cham, Switzerland.

This two-volume set takes an in-depth look at stress signaling in plants from a uniquely genomic and proteomic perspective and offers a comprehensive treatise that covers all of the signaling pathways and mechanisms that have been researched so far. Currently, plant diseases, extreme weather caused by climate change, drought and an increase in metals in soil are amongst the major limiting factors of crop production worldwide. They devastate not only the food supply but also the economy of a nation. With global food scarcity in mind, there is an urgent need to develop crop plants with increased stress tolerance so as to meet the global food demands and to preserve the quality of our planet. In order to do this, it is necessary to understand how plants react and adapt to stress from the genomic and proteomic perspective. Plants adapt to stress conditions by activating cascades of molecular mechanisms, which result in alterations in gene expression and synthesis of protective proteins. From the perception of the stimulus to the transduction of the signal, followed by an appropriate cellular response, the plants employ a complex network of primary and secondary messenger molecules. Cells exercise a large number of noticeably distinct signaling pathways to regulate their activity. In order to contend with different environmental adversities, plants have developed a series of mechanisms at the physiological, cellular and molecular levels that respond to stress. Each chapter in this volume provides an in-depth explanation of what we currently know of a particular aspect of stress signaling and where we are heading. Together with the highly successful first volume, *Stress Signaling in Plants: Genomics and Proteomics Perspective, Volume 2* covers an important aspect of plant biology for both students and seasoned researchers.

Structural Bioinformatics Tools for Drug Design.

By J. Koča, R. Svobodová Vařeková, L. Pravda, K. Berka, S.

Geidl, D. Sehnal, M. Otyepka.

2016, pp 144, Eur 51.99, ISBN: 978-3-319-47387-1.

Springer International Publishing, Cham, Switzerland.

The book describes the individual steps necessary for biomacromolecular fragments analysis, as well as a list of essential software tools. For each step, it also shows corresponding web-based tools in detail and provides practical examples of their use.

All tools and databases mentioned in the examples are available free of charge, platform-independent, web-based, user-friendly and do not require a prior IT background to be fully used.