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.

Bone Cancer. Primary Bone Cancers and Bone Metastases. Second Edition.

Edited by D. Heymann.
2015, pp. 709, Eur 109.65, ISBN: 978-0-1241-6721-6.
Academic Press, San Diego, CA, USA.

This book, a comprehensive description of bone tumors from basic to clinical aspects by the most recent data available, is specifically useful to medical students and scientists, health professionals, researchers and teachers working in the osteo-articular field. This second edition, enriched by additional reviews, includes 58 chapters divided into 7 main sections: I. Basic aspects. 1. Epidemiology of bone cancer; 2. Bone microenvironment and bone cancer; 3. Markers of bone cancer (cells, genes and proteins); II. Primary bone tumors. 1. Specific biological aspects; 2. Pre-clinical and clinical aspects (Imaging; Animal models; New therapeutic approaches); III. Bone metastases. 1. Specific biological aspects; 2. Pre-clinical and clinical aspects (Animal models of bone metastases; Imaging of bone metastases; Bone pain and cancer; New therapeutic approaches).

Atlas of Organ Transplantation. Second Edition.

Edited by A. Humar, M.L. Sturdevant.
2015, pp. 449, Eur 160.49, ISBN: 978-1-4471-4774-9.
Springer-Verlag, London, UK.

This comprehensive, step-by-step account of current abdominal organ transplant surgery provides the reader with a clear visual and written description of the major transplant procedures. Atlas of Organ Transplantation, Second Edition emphasises new procedures, and those that have undergone significant modifications. With the help of schematic diagrams, high-quality intra-operative photographs and videos, the reader is able to clearly visualize the course of the operative procedures. Written by experts in the field, this Atlas is essential reading for all transplant surgeons, residents and fellows, as well as operating room nurses and transplant nurses.

Additional material to this book can be downloaded from http://extras.springer.com.

Atlas of Breast Reconstruction.

Edited by M. Rietjens, M.C. Schorr, V. Lohsiriwat.
2015, pp. 543, Eur 160.49, ISBN: 978-88-470-5519-3.
Springer-Verlag, Milan, Italy.

Breast reconstructive and oncoplastic surgery can reduce the sense of mutilation resulting from oncologic surgery and meets the need to provide breast cancer treatment that will not only eradicate the cancer but also re-establish the patient's quality of life. However, the difficulties inherent in preoperative planning and the intraoperative complexity of breast reconstruction and oncoplastic techniques represent major challenges for the breast surgeon.

This atlas, intended for surgeons at every level, is an all-inclusive guide that documents surgical techniques step by step by means of a wealth of more than 1800 color photos, additional high-quality drawings and illustrations, and succinct accompanying text. Both common, established procedures and the most recently introduced techniques are covered, ensuring that readers will have at their disposal multiple approaches for breast repair, remodeling, and reconstruction. In addition to the comprehensive descriptions of techniques, preoperative planning is explained, indications and contraindications are identified, and the management of surgical complications is discussed. Tips, pitfalls, and key points are highlighted.

The Atlas of Breast Reconstruction is an unprecedented tool that will increase and refine the arsenal at the oncoplastic surgeon's disposal in order to ensure that the best treatment can be offered to each individual patient.

Immunocytochemistry and Related Techniques.

Edited by A. Merighi, L. Lossi.
2015, pp. 473, Eur 117.69, ISBN: 978-1-4939-2312-0.
Springer Science + Business Media, New York, NY, USA.

This volume presents a collection of protocols for immuno-cytochemical analysis of neurons and neural networks. Chapters focus on immunocytochemical localization at light and electronic levels, biochemical characterization, and functional analysis in vivo or ex vivo by novel types of microscopy, as well as protocols for development and production of genetic probes. Written for the popular Neuromethods series, chapters include the kind of detail and key implementation advice that ensures successful results in the laboratory.

Essential and authoritative, Immunocytochemistry and Related Techniques is intended for a large audience of scientists, including histologists, biochemists, cellular and molecular biologists, electrophysiologists that are currently active in the field or are willing to enter the exciting area of neuroscience research.

Mouse Models of Cancer. Methods and Protocols.

Edited by R. Eferl, E. Casanova.
2015, pp. 463, Eur 117.69, ISBN: 978-1-4939-2296-3.
Springer Science + Business Media, New York, NY, USA.

This volume is essential for geneticists, molecular biologists, biochemists, and medical doctors interested in the use of mouse models in cancer research. Recent genome studies, together with refined genetic engineering techniques, have greatly increased the

value of using mice for research on cancer and other human disorders. The chapters of this book will support scientists in choosing the most suitable mouse models for their research questions. The book provides detailed methodological information for genetic or chemical induction of different types of cancer, histomorphometric cancer analysis, and in vivo imaging, as well as protocols to investigate oncogene addiction, immune surveillance, and hallmarks of cancer such as angiogenesis or metastasis. Four review-like articles provide background information on mouse technologies and histopathologic differences between mouse and human cancers. The mouse models described in individual chapters will fuel the understanding of cancer initiation, immune system roles, tumor angiogenesis, invasion, metastasis, and the relevance of molecular diversity observed among human cancers. 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.

Mouse Models of Cancers: Methods and Protocols, is a valuable laboratory resource for all researchers, from the graduate level upwards, who study cancer and new possibilities for its treatment.

Oral Cancer. Diagnosis and Therapy.

Edited by T. Kirita, K. Omura.
2015, pp. 426, Eur 203.29, ISBN: 978-4-431-54937-6.
Springer Science + Business Media, Tokyo, Japan.

Oral cancer is frequently diagnosed late, when the disease has advanced with lesions that are large and deeply invasive and with metastasis to regional lymph nodes, leading to increased mortality. Moreover, late diagnosis and treatment often result in considerable morbidity of oral and maxillofacial structures and poor appearance and function following therapy. This book provides head and neck oncologists, oral oncologists, oral and maxillofacial surgeons, medical oncologists, dentists and other members of dental teams furnishing supportive care with a systematic review of recent diagnostic and therapeutic advances in oral cancer. The various authoritative chapters are prepared by specialists who are active leaders in each basic and clinical field. All chapters address individual and collective issues that arise in managing oral cancer patients with difficult treatment problems and provide insight into the multiple valid management approaches available. The authors offer an extensive source of information about oral cancers and encourage the clinician to be flexible and innovative, giving physicians and medical personnel the background information to make the best, educated, responsible decisions for individual patients.

Pelvic Cancer Surgery. Modern Breakthroughs and Future Advances.

Edited by H.R.H Patel, T. Mould, J.V. Joseph, C.P. Delaney.
2015, pp. 678, Eur 203.29, ISBN: 978-1-4471-4257-7.
Springer Science + Business Media, London, UK.

This volume brings together the three main pelvic specialties (Urology, Gynecological Oncology and Colorectal Surgery) into one volume. Patients have been shown to benefit from a multidisciplinary approach since it allows surgeons of different specialties to learn from one another therefore enhancing the treatment for the patient.

Pelvic cancer outcomes are poor in low volume centres. These centres account for 80% of the global centres dealing with these cancers. Pelvic Cancer Surgery: Modern Breakthroughs and Future Advances is a much needed book that can focus training and assist health professionals in their care of patients with pelvic dysfunction.

Pelvic Cancer Surgery: Modern Breakthroughs and Future Advance is complete with full color illustrations and schematic diagrams and makes use of key points and stepwise figures for an enhanced learning experience.

Handbook of Biomedical Imaging. Methodologies and Clinical Research.

Edited by N. Paragios, J. Duncan, N. Ayache.
2015, pp. 511, Eur 266.43, ISBN: 978-0-387-09748-0.
Springer Science + Business Media, New York, NY, USA.

Biomedical image analysis has become a major aspect of engineering sciences, and radiology in particular has become a dominant player in the field. Recent developments have made it possible to use biomedical imaging to view the human body from an anatomical or physiological perspective in a non-invasive fashion. Computer-aided diagnosis consists of developing algorithms and intelligent software components that can automatically process images and spot potential irregularities in the health chain.

This book explains the process of computer assisted biomedical image analysis diagnosis through mathematical modeling and inference of image-based bio-markers. It covers five crucial thematic areas: methodologies, statistical and physiological models, biomedical perception, clinical biomarkers, and emerging modalities and domains.

The dominant state-of-the-art methodologies for content extraction and interpretation of medical images include fuzzy methods, level set methods, kernel methods, and geometric deformable models. The models and techniques discussed are used in the diagnosis, planning, control and follow-up of medical procedures. Throughout the book, challenges and limitations are explored along with new research directions.

This complete volume is an exceptional tool for radiologists, research scientists, senior undergraduate and graduate students in health sciences and engineering, and university professors. This book offers a unique guide to the entire chain of biomedical imaging, explaining how image formation is done, and how the most appropriate algorithms are used to address demands and diagnoses.

Non-Hodgkin Lymphoma. Pathology, Imaging, and Current Therapy.

Edited by A.M. Evens, K.A. Blum.
2015, pp. 344, Eur 149.79, ISBN: 978-3-319-13149-8.
Springer Science + Business Media, Cham, Switzerland.

This book provides clinical practitioners and the research community with detailed information on the diagnosis, prognosis, and treatment of non-Hodgkin lymphoma, taking into account the significant growth in knowledge including multiple therapeutic advances that have been achieved over the past 5-10 years. The work is subdivided into epidemiology, pathogenesis, pathology, imaging, and therapy of the non-Hodgkin lymphomas. The full range of therapeutic options are examined according to the major subtypes of non-Hodgkin lymphoma and the most up-to-date information is provided on current standard treatment options, including stem cell transplantation as well as new cutting-edge therapeutics.

Targeted Therapies for Solid Tumors. A Handbook for Moving Toward New Frontiers in Cancer Treatment.

Edited by A. Russo, R. Rosell, C. Rolfo.
2015, pp. 269, Eur 106.99, ISBN: 978-1-4939-2046-4.
Springer Science + Business Media, New York, NY, USA.

This volume provides readers a comprehensive and state-of-the-art overview about the range of applications of targeted therapies for solid tumors. The sections of the book have been structured to review the oncogene addicted tumors, the pharmacology and clinical development of new molecularly targeted agents, the use of biomarkers as prognostic, predictive and surrogate endpoints, and the evaluation of tumor response and specific malignancies treated with targeted agents. The book also covers some of the newest developments in cancer therapy that are not adequately covered by any current available literature.

Written by recognized experts in the field, this handbook provides a unique and valuable resource in the field of molecular oncology, both for those currently in training, and for those already in clinical or research practice.

Comparative Effectiveness in Surgical Oncology. Key Questions and How to Answer Them.

Edited by K.Y. Bilimoria, C.A. Minami, D.M. Mahvi.
2015, pp. 259, Eur 128.39, ISBN: 978-3-319-12552-7.
Springer Science + Business Media, Cham, Switzerland.

Despite tremendous recent advances in the treatment of most malignancies, there remain several critical questions for each cancer. This particularly true for the surgical management of solid-organ malignancies. Comparative effectiveness is a relatively new term which encompasses the age-old concepts of how best to treat cancer patients. Comparative effectiveness is defined as the direct comparison of healthcare interventions to determine which work best for which patients when considering the benefits and risks. The Institute of Medicine has defined comparative effectiveness research(CER) as the generation and synthesis of evidence that compares the benefits and harms of alternative methods to prevent, diagnose, treat, and monitor a clinical condition or to improve the delivery of care. CER is certainly best done with well-conducted randomized controlled trials. Unfortunately, clinical trials are not always feasible owing to the impracticality of conducting the trial, the considerable cost, and the time required to complete the trial. These challenges are even more pronounced with respect to surgical treatment. Thus alternative approaches may need to be considered in order to address pressing questions in the care of the oncology patient. These approaches may include well-conducted retrospective cohort studies from cancer registries and other data sources, decision and cost-effectiveness analyses, and other novel methodologies. This book lays out the current critical questions for each major malignancy and proposes approaches to gain answers to these pressing questions.

Pediatric Neuro-Oncology.

Edited by K. Scheinemann, E. Bouffet.
2015, pp. 318, Eur 106.99, ISBN: 978-1-4939-1540-8.
Springer Science + Business Media, New York, NY, USA.

This is a succinct introduction to pediatric neuro-oncology. It summarizes the key advances in molecular biology that have helped transform this rapidly evolving field and provides up-to-date coverage of major and emerging treatment modalities as well as supportive care. Separate chapters present each kind of pediatric brain cancer and its diagnosis and treatment. As more children survive brain cancer, the importance of quality of life issues and helping survivors to cope with the neuropsychological impact and long-term effects of current therapies has come into sharper focus; these topics are also addressed in the book, as are palliative care and pediatric neuro-oncology in countries with limited resources. The book is aimed at trainees and practitioners who seek an up-to-date text in pediatric neuro-oncology that is both comprehensive and concise.

Supportive Care in Pediatric Oncology. A Practical Evidence-Based Approach.

Edited by J.H Feusner, C.A. Hastings, A.K. Agrawal.
2015, pp. 304, Eur 106.99, ISBN: 978-3-662-44316-3.
Springer Science + Business Media, Berlin, Germany.

Much of the gains in survival over the last 50 years in pediatric oncology have occurred through successively more intensive treatment regimens and concomitant improvement in the supportive care required to manage the complications of such regimens. This volume provides a thorough, up-to-date review of the medical literature to provide an evidence-basis and grading of recommendations for supportive care management. Where evidence is lacking, consensus guidelines and "expert" opinion are also graded based on the available literature to support such recommendations. Commonly encountered acute issues are addressed including the management of febrile neutropenia, prevention of infection and immunization practice; transfusion support and utilization of hematopoietic growth factors; tumor lysis syndrome and hyperleukocytosis; neurologic, cardiopulmonary and abdominal emergencies; pain, nausea and vomiting, and mucositis; nutritional issues;

thrombosis and management of central venous catheters; and radiation side effects. Finally, knowledge gaps and opportunities for research within the supportive care field are highlighted.

Applied Microbiology.

Edited by S. Saxena.
2015, pp. 190, Eur 149.79, ISBN: 978-81-322-2258-3.
Springer, New Delhi, India.

The book is oriented towards undergraduates science and engineering students; postgraduates and researchers pursuing the field of microbiology, biotechnology, chemical - biochemical engineering and pharmacy. Various applications of microorganisms have been covered broadly and have been appropriately reflected in depth in 12 different chapters. The book begins with an insight to the diverse niche of microorganisms which have been explored and exploited in development of various biotechnological products and green processes. Further, how these microorganisms have been genetically modified to improve the desired traits for achieving optimal production of microbially derived products is discussed in the second chapter. Major route of production of microbially derived products and processes is through fermentation technology and therefore due emphasis on different aspects of fermentation technology has been given in the subsequent chapter.

The development and deployment of biopesticides and biofertilizers which find tremendous application have been separately discussed under agricultural applications. Application of microbes for the removal of pollutants, recovery of metals and oils has also been discussed under environmental applications. The role of microbial systems in development of fermented foods and beverages have also been discussed in Chapter 6. The application of microbes in production of commodity chemicals and fine chemicals has also been discussed in separate chapters. A chapter has been dedicated to the tremendous applications of microbially produced enzymes in different industrial sectors. Another unique facet of this book is explaining the different methods by which desired traits of microorganisms have been improved for their efficacious and economical exploitation in the industry. A chapter is dedicated to exploitation of microorganisms in development of vaccines for human and veterinary use. Finally, the last chapter discusses the role of immobilization in optimization of industrial processes and development of microbial biosensors for industrial applications. Thus, this book is a holistic approach providing information on the present applications of microorganisms.

Pre-Analytics of Pathological Specimens in Oncology.

Edited by M. Dietel, C. Wittekind, G. Bussolati, M. von Winterfeld.
2015, pp. 133, Eur 64.19, ISBN: 978-3-319-13956-2.
Springer Science + Business Media, Cham, Switzerland.

This book presents an overview of the most important current developments in the pre-analytical handling of tissue. It addresses in particular potential ways to improve the situation whereby methods employed in the pre-analytical phase – the period from surgical removal of tissue to the start of pathological processing – have remained essentially unchanged for decades with only modest standardization. It is examined how the pre-analytical period can be optimized, resulting not only in an increase in diagnostic quality but also in a reduction in processing time and costs. Among the key topics examined are the so-called cold ischemia time between tissue removal and fixation, the potential superiority of vacuum-based preservation over immediate formalin fixation, two-temperature fixation, molecular analysis methods, and the pre-analytics of specimens from particular tissues. Readers will find this book to be an important update that reveals the full importance of the pre-analytical phase for quality of pathological work-up.

Targeted Therapy of Acute Myeloid Leukemia.

Edited by M. Andreeff.
2015, pp. 826, Eur 192.59, ISBN: 978-1-4939-1392-3.
Springer Science + Business Media, New York, NY, USA.

This book provides an unprecedented overview of "Targeted Therapies" for acute myeloid leukemias. It aims at an almost comprehensive coverage of the diverse therapeutic strategies that have been developed during the last decade and are now being evaluated in early clinical trials. Paired and authoritative chapters by leading research scientists and clinicians explain basic concepts and clinical translation of topics that include the underlying genetic and proteomic abnormalities of AML, the development of novel nucleoside analogues, the roles of microRNAs, apoptosis regulators Bcl-2 and p53 and of critical cell signaling proteins such as PIM, FLT3, Raf/MEK, PI3K/AKT/mTOR and aurora kinases. Chapters on epigenetic mechanisms, nuclear receptors, cell surface antigens, the hypoxic leukemia microenvironment, stem cells and leukemia metabolism provide insights into leukemia cell vulnerabilities. Cell therapies utilizing T-, NK- and mesenchymal stem cells and progress in hematopoietic transplantation strategies round up this overview of the multi-dimensional therapeutic landscape in which leukemia specialists develop treatment strategies that are expected to make "leukemia history" in the near future.

Medicinal Chemistry of Anticancer Drugs. Second Edition.

Edited by C. Avendaño, J.C. Menéndez.
2015, pp. 725, Eur 121.55, ISBN: 978-0-4446-2649-3.
Elsevier BV, Amsterdam, the Netherlands.

Medicinal Chemistry of Anticancer Drugs, Second Edition, reviews all aspects of drug design and discovery in the cancer field and discusses the different types of cancer treatment and prevention. Organized by the target involved in the primary mechanism of action of each drug, the book focuses on the mechanism of action of antitumor drugs from the molecular point of view and on the relationship between chemical structure and chemical and biochemical reactivity of antitumor agents. Through a mechanistic approach, this valuable guide provides

the reader with the principles of modern drug design methods and their application in the cancer field.

Key Features:

- Explains with many clear figures the biological basis of cancer treatment and the role of chemists in developing and improving anticancer drugs.
- Provides historical background alongside a comprehensive and practical guide on cancer research and anticancer drug development.
- Covers drugs used in cancer therapy and those under clinical study.
- Examines different approaches to treating cancer, drug resistance, and cancer prevention.

Multi-Targeted Approach to Treatment of Cancer.

Edited by V. Gandhi, K. Mehta, R. Grover, S. Pathak, B.B. Aggarwal.
2015, pp. 410, Eur 149.79, ISBN: 978-3-319-12252-6.
Springer Science + Business Media, Cham, Switzerland.

In this book, clinicians and basic scientists from USA, India, and other countries discuss the rationales and clinical experiences with targeted approaches to treat, prevent, or manage cancer. Cancer is a hyperproliferative disorder that is regulated by multiple genes and multiple cell signaling pathways. Genomics, proteomics, and metabolomics have revealed that dysregulation of dozens of genes and their products occur in any given cell type that ultimately leads to cancer. These discoveries are providing unprecedented opportunities to tackle cancer by multi-faceted approaches that target these underpinnings. This book emphasizes a multi-targeted approach to treating cancer, the focus of the 5th International Conference on Translational Cancer Research that was held in Vigyan Bhawan, Delhi (India) from Feb 6-9, 2014.

Resistance to Photodynamic Therapy in Cancer.

Edited by V. Rapozzi, G. Jori.
2015, pp. 248, Eur 149.79, ISBN: 978-3-319-12729-3.
Springer International Publishing, Cham, Switzerland.

This volume provides a comprehensive review of resistance induced by photodynamic therapy (PDT) in tumor cells. Understanding the underlying mechanisms in this process leads to the improvement of therapeutic modality, in combination with chemotherapy, immunotherapy, and radiotherapy. Photodynamic therapy is a minimally invasive therapeutic procedure that can exert a selective or preferential cytotoxic activity toward malignant cells. The procedure involves administration of an intrinsically non-toxic photosensitizing agent (PS) followed by irradiation at a wavelength corresponding to a visible absorption band of the sensitizer. In the presence of oxygen, a series of events lead to direct tumor cell death, damage to the microvasculature, and induction of a local inflammatory reaction. Studies reveal that PDT can be curative, particularly in early stage tumors and this volume explores the potential of PDT, but also reveals strategic approaches to overcome resistance in tumor cells.

Textbook of Cell Signalling in Cancer. An Educational Approach.

Edited by J. Robert.
2015, pp. 328, Eur 74.89, ISBN: 978-3-319-14339-2.
Springer International Publishing, Cham, Switzerland.

This book provides a simplified, yet comprehensive, overview of the signalling pathways operating between and inside cells, which will help younger oncologists find their way in the labyrinth of signalling pathways and in the multitude of signals and signal receptors, transducers and effectors that contribute to oncogenesis.

This comprehensive reference text is based on the master's courses delivered by Prof. Jacques Robert to graduate students at the University of Bordeaux, France. It includes a large number of colour schemas and figures that have been improved year after year for educational purposes. Signalling pathways are described individually and in depth, but without ignoring the multiplicity of interconnections and crosstalk. The presentation of each pathway is followed by a brief description of the alterations found in cancers as well as of the targeted pharmacological approaches that can be used to prevent or overcome the consequences of these oncogenic alterations. The basic mechanisms of molecular biology at the DNA replication, RNA transcription and protein activity levels are presented in a series of didactic annexes, enabling readers to better understand the alterations in signalling pathways.

Cell Polarity 1. Biological Role and Basic Mechanisms.

Edited by K. Ebnet.
2015, pp. 397, Eur 128.39, ISBN: 978-3-319-14462-7.
Springer International Publishing, Cham, Switzerland.

This work provides an overview on the most relevant aspects of cell polarity.

Volume 1 addresses cell polarity and cell migration (front-rear polarity), cell polarity and barrier formation (apico-basal polarity) and neuronal polarity. It particularly focuses on cell polarity at the molecular level and the underlying molecular mechanisms. It also elaborates the common principles and mechanisms that regulate cellular polarization in different cell types and contexts.

Both volumes are intended for professors, group leaders and researchers in cell biology as well as medical professionals in the fields of anatomy, cell biology, physiology, pathology and tumor biology.

Proteomic Profiling. Methods and Protocols.

Edited by A. Posch.
2015, pp. 501, Eur 117.69, ISBN: 978-1-4939-2549-0.
Springer Science + Business Media, New York, NY, USA.

This volume presents the latest developments of the main pillars of protein analysis, such as sample preparation, separation and characterization. The book begins by describing basic but

important sample preparation protocols. It then goes on to describe more sophisticated procedures on enriching specific protein classes and concludes with detailed descriptions of integrated work-flows for comprehensive protein analysis and characterization. The authors of the individual chapters are renowned protein biochemists who have all set value to provide a detailed representation of their lab work. Throughout the chapters, these authors share important tips and tricks for a successful and reproducible employment of their protocols in other laboratories. 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.

Authoritative and cutting-edge, Proteomic Profiling: Methods and Protocols is the perfect guide for students of Biochemistry, Biomedicine, Biology, and Genomics and will be an invaluable source for the experienced, practicing scientists.

Stem Cells and Good Manufacturing Practices. Methods, Protocols, and Regulations.

Edited by K. Turksen.
2015, pp. 220, Eur 101.64, ISBN: 978-1-4939-2434-9.
Springer Science + Business Media, New York, NY, USA.

This volume collects a series of protocols describing the kinds of infrastructures, training, and standard operating procedures currently available to actualize the potential of stem cells for regenerative therapies. Stem Cells and Good Manufacturing Practices: Methods, Protocols, and Regulations pulls together key GMP techniques from laboratories around the world. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls.

Inclusive and authoritative, Stem Cells and Good Manufacturing Practices: Methods, Protocols, and Regulations will be an invaluable resource to both basic and clinical practitioners in stem cell biology.

Small Non-Coding RNAs. Methods and Protocols.

Edited by M. Rederstorff.
2015, pp. 238, Eur 101.64, ISBN: 978-1-4939-2546-9.
Springer Science + Business Media, New York, NY, USA.

This volume contains state-of-the-art methods tackling all aspects of small non-coding RNAs biology. It describes customized dedicated protocols and technologies that will be of valuable help to all those willing to contribute deciphering the numerous functions of small non-coding RNAs. Written in the highly successful Methods of 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 key tips on troubles troubleshooting and avoiding known pitfalls.

Instructive and practical, this book reaches out to biochemists, cellular and molecular biologists already working in the field of RNA biology and to those just starting to study small non-coding RNAs.

Protein Kinase CK2 Cellular Function in Normal and Disease States.

Edited by K. Ahmed, O.-G. Issinger, R. Szyszka.
2015, pp. 378, Eur 160.49, ISBN: 978-3-319-14543-3.
Springer International Publishing, Cham, Switzerland.

The field of protein kinases has greatly impacted our understanding of the basic mechanisms in cell function. The field has also been a major focus of drug development that considers the broad reach of the protein kinase function under diverse conditions. One member of the kinome, protein kinase CK2, continues to emerge as a major signaling molecule involved in diverse functions in health and disease. This kinase has unique features, most notably its ubiquitous and highly conserved nature. Its vast number of potential substrates exemplifies its involvement in various functions in cells under both the normal and diseased states. Of particular note is the observation that due to its ubiquitous nature, CK2 has been found to be dysregulated in all cancers that have been examined. As such, it is now being considered a potentially important target for cancer therapy.

Protein Kinase CK2 plays equally important functions in development and intracellular activities, and has a global impact on cell growth and proliferation. An additional key function of CK2 is the impact of its activity on cell death processes. Given the vast nature of its functions, CK2 has been proposed to serve as a "master regulator" of cell function. The chapters included in this work cover a wide range of topics dealing with some of the functions mentioned above, providing an important starting point for research investigators and graduate students interested in this field.

Epigenetics Territory and Cancer.

Edited by P. Mehdipour.
2015, pp. 539, Eur 181.89, ISBN: 978-94-017-9638-5.
Springer Science + Business Media, Dordrecht, the Netherlands.

This book explores epigenetic strategies, bridging fundamental cancer epigenetics, different paradigms in tumor genetics and translational understanding for both the clinic and improved lifestyles. The work provides target-based insights for treating different types of cancers and presents research on evolutionary epigenetics, introducing 'Medical Epi- Anthropology' and 'Cancer Epi-Anthropology'. Translating multi-disciplinary research into therapeutic design is at the core of this book. Readers may explore how cancer management involves unmasking the involved networks and the interactive status of different genes to achieve the appropriate methylome based therapy. Early chapters explore fundamental aspects and brain tumours, whilst later chapters investigate breast cancer and

various other cancers, and the final chapter presents an evolutionary insight in cancer epigenetics, considering that the epigene is beyond DNA methylation, RNA interference and histone modification in cancer development. This book will be of interest to researchers in different medical and scientific fields, including clinical management (diagnosis, prognosis, prediction, prevention, and guidelines), genetic education, nutrition and nutrigenomics, industrial chemistry, and drug innovation. Because of the unique bridging between science and medicine this book will also be useful as an educational and translational research package.

Nanomedicine. Volume 1: Principles of Nanomedicine and Volume 2: Perspectives of Nanomedicine.

Edited by Y. Ge, S. Li, S. Wang, R. Moore.
2015, pp. 413, Eur 139.09, ISBN: 978-1-4614-2139-9.
Springer Science + Business Media, New York, NY, USA.

Increasing demand for and awareness of the applications of nanotechnology in medicine has resulted in the emergence of a new fast-growing multidisciplinary area - nanomedicine. This book offers comprehensive knowledge of and diverse perspectives on nanomedicine through two independent volumes. It aims to bridge the gap between nanotechnology and medicine through contributions by world-renowned experts from wide range of backgrounds including academia, industry, professional consultancy, and government agencies.

Each contribution integrates knowledge from a wide range of areas to present the fundamentals of new applications and products of nanomedicine, as well as an outlook for the future. This book can well serve as a reference and guide for students, academics, researchers, scientists, engineers, clinicians, government researchers, and healthcare professionals.

Kinesins and Cancer.

Edited by F. Kozielski.
2015, pp. 271, Eur 149.79, ISBN: 978-94-017-9731-3.
Springer Science + Business Media, Dordrecht, the Netherlands.

This interdisciplinary volume collates research work on kinesins and cancer. Authors attempt to validate members of the kinesin superfamily as potential targets for drug development in cancer chemotherapy. The work begins by highlighting the importance of kinesins, summarising current knowledge and how they are shown to be crucial for mitosis. Chapters go on to explore how this family of proteins are emerging as a novel target for chemotherapeutic intervention and drug development.
Readers will learn how kinesins travel along microtubules to fulfill their many roles in intracellular transport or cell division. Several compounds that inhibit two mitotic kinesins (called Eg5 and CENP-E) have entered Phase I and II clinical trials and are explored in these chapters. Additional mitotic kinesins are currently being validated as drug targets, raising the possibility that the repertoire of kinesin-based drug targets may expand in the future.

The book is suitable as a reference standard for the field of kinesins and cancer. It will interest those in academia and pharmaceutical companies, and anyone with an interest in the medical relevance of these proteins, which cutting edge methodologies are now enabling us to understand in astonishing detail.

Handbook of Vascular Biology Techniques.

Edited by M. Slevin, G. McDowell.
2015, pp. 477, Eur 106.99, ISBN: 978-94-017-9715-3.
Springer Science + Business Media, Dordrecht, the Netherlands.

A wide range of research methods for the study of vascular development, from basic laboratory protocols to advanced technologies used in clinical practice, are covered in this work. A range of methodologies such as molecular imaging platforms and signalling analysis, along with tumour models are collated here.

Four sections explore in vitro techniques, in vivo and ex vivo manipulations, imaging and histological analysis and other novel techniques in vascular biology. Readers will discover basic methodologies used for analysis of endothelial cell growth in vitro, including co-culture models of vessel formation. Authors also explore isolation and purification of cells and methods for analysis of data and visualization of localized vasculature with modern imaging platforms. Both animal models and human disease are covered in this work.

Each chapter contains helpful sections on trouble shooting, additional notes and links, supporting the reader to carry out protocols. This book will appeal to students, researchers and medical professionals working in all vascular-linked fields such as cardio- and cerebrovascular, cancer and dementia.

Dynamics of Cell Fate Decision Mediated by the Interplay of Autophagy and Apoptosis in Cancer Cells. Mathematical Modeling and Experimental Observations.

Edited by I. Tavassoly.
2015, pp. 79, Eur 106.99, ISBN: 978-3-319-14961-5.
Springer International Publishing, Cham, Switzerland.

This interdisciplinary thesis introduces a systems biology approach to study the cell fate decision mediated by autophagy. A mathematical model of interaction between Autophagy and Apoptosis in mammalian cells is proposed. In this dynamic model autophagy acts as a gradual response to stress (Rheostat) that delays the initiation of bistable switch of apoptosis to give the cells an opportunity to survive. The author shows that his dynamical model is consistent with existing quantitative measurements of time courses of autophagic responses to cisplatin treatment. To understand the function of this response in cancer cells, he has provided a systems biology experimental framework to study quantitative and dynamical aspects of autophagy in single cancer cells using live-cell imaging and quantitative fluorescence microscopy. This framework can provide new insights on function of autophagic response in cancer cells.

Inflammation and Immunity in Cancer.
Edited by T. Seya, M. Matsumoto, K. Udaka, N. Sato.
2015, pp. 268, Eur 149.79, ISBN: 978-4-431-55326-7.
Springer Science + Business Media, Tokyo, Japan.

This book overviews cancer immunity from broad scientific fields, based on the concept that cancer is a sort of by-product of infection, inflammation, and host immune response. The innate and acquired arms of the immune system mainly participate in tumor immune surveillance, and their activation is critically modulated by the situation of the tumor microenvironment. Many types of immune cells join the formation of the microenvironment. In particular, macrophages and dendritic cells enter the tumor mass to be main players in the inflammatory milieu of tumors. After introducing these topics, the book discusses immunotherapy for cancer patients as an outgrowth of this concept of infection and inflammation.

With the contributions of leading scientists actively involved in the field of antitumor immunity study, this book encourages readers to understand the mechanism of general cancers based on inflammation and will facilitate prevention and the development of therapeutics for cancer.

Aptamers Selected by Cell-SELEX for Theranostics.
Edited by W. Tan, X. Fang.
2015, pp. 352, Eur 139.09, ISBN: 978-3-662-46225-6.
Springer-Verlag, Berlin, Germany.

This edited volume describes cell-SELEX as the fundamental tool used to generate aptamer molecules for a wide range of applications in molecular medicine, bioanalysis and chemical biology. Easily integrated into the natural heterogeneous cell matrix, aptamers can be effectively used in theranostics, bioanalysis, environment detection and biomedical studies. The book gathers reviews that reflect the latest advances in the field of aptamers, and consists in fourteen chapters demonstrating essential examples of these aptamers and aptamer-nanomaterial assemblies, depending on the types of applications and biological systems. It also includes a separate chapter on the utilization of aptamers in real clinics and what will be required to achieve this significant goal. The book will be both appealing and useful to a broad audience, including biologists, bioscientists, and clinicians whose interests range from chemistry and biomedical engineering to cell and molecular biology and biotechnology.

Microscopic Scale of Cancer Systems Biology.
Edited by A. Masoudi-Nejad, G. Bidkhori, S.H. Ashtiani, A. Najafi.
2015, pp. 77, Eur 53.49, ISBN: 978-3-319-14007-0.
Springer International Publishing, Cham, Switzerland.

This book introduces and explains various facets of the cancer systems biology in microscopic scale. This book is organized into three parts. After an introduction of cancer biology, the authors describe the modeling algorithms and their applicability limitations. Then, in part two, microscopic scale modeling of cancer will be covered, followed by the modeling of the networks dealing with cell proliferation, cell survival, angiogenesis, migration and metastasis. At the end, the modeling of EGFR signaling in lung cancer is discussed as a case study and then two normal and cancerous EGFR signaling models are compared.

New Approaches to Natural Anticancer Drugs.
Edited by S. Saeidnia.
2015, pp. 106, Eur 53.49, ISBN: 978-3-319-14026-1.
Springer International Publishing, Cham, Switzerland.

This book provides an up-to-date review of recently identified natural anti-tumor compounds from various natural origins including plants, fungi, endophytic fungi and marine organisms. It also includes discussion of new areas such as biotechnology and nanoparticles.

Chapters explain the challenges and developments in anti-cancer drug discovery approaches, traditional remedies for prevention and treatment of cancer, marine-derived anti-cancer compounds, and antibiotics used as anti-cancer agents, as well as different classes of terpenoids and carbohydrates, which have been the subject of discussion in this field as efficient anti-cancer candidates. This book will be a concise guide for researchers in the field of pharmaceutical sciences, students and residents in pharmacy and medicine as well as those researching phytochemistry and natural products.

Cancer Nanotheranostics.
Edited by P. Gopinath, S.U. Kumar, I. Matai, B. Bhushan, D. Malwal, A. Sachdev, P. Dubey.
2015, pp. 119, Eur 53.49, ISBN: 978-981-287-434-4.
Springer Science + Business Media, Singapore.

This Brief provides a clear insight of the recent advances in the field of cancer theranostics with special emphasis upon nano scale carrier molecules (polymeric, protein and lipid based) and imaging agents (organic and inorganic).