

## 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 Vaccines. Methods and Protocols.**

*Edited by M.J.P. Lawman, P.D. Lawman.*

2014, pp. 569, Eur 133.74, ISBN: 978-1-4939-0344-3.

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

This volume explores the manipulation and modification of immune cells, the manipulation and modification of tumor cells, as well as the manipulation of immune/tumor interactions and various delivery mechanisms, with the overall end goal of evoking a tumor-specific response and overcoming the immunoevasive mechanisms employed by the tumor cells. This detailed volume also covers the subject of cancer vaccines in a more global sense with its section on the advances, challenges, and future of cancer vaccines. Written in the 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.

Comprehensive and authoritative, *Cancer Vaccines: Methods and Protocols* aims to help guide researchers toward developing further generations of cancer vaccines that are both safe and efficacious, with the hope that cancer vaccines will be the standard of care in the very near future.

### **Complexities in Colorectal Surgery.**

*Edited by S.R. Steele, J.A. Maykel, B.J. Champagne, G.R. Orangio.*

2014, pp. 632, Eur 139.09, ISBN: 978-1-4614-9021-0.

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

This volume provides a unique, modern, practical guide that covers the strategic evaluation, specific approaches, and detailed management techniques utilized by expert colorectal surgeons caring for patients with complex problems—whether they result from underlying colorectal disease or from complications arising from previous surgical therapy. The text is formatted as both a “how-to” manual as well as an algorithm-based guide allowing the reader to understand the thought process behind the proposed treatment strategies. By making use of evidence-based recommendations, each chapter will include not only diagnostic and therapeutic guidelines, but also a narrative by the author on his/her operative technical

details and perioperative “tips and tricks” that they utilize in the management of these complex surgical challenges. This text includes chapters on the assessment of risk and nutritional intervention methods utilized to minimize perioperative complications. In addition, sections on medical and surgical therapies for abdominal, pelvic and anorectal disease are incorporated. Moreover, the technical challenges of managing complications resulting from the original or subsequent operations is addressed. The underlying focus throughout the text is to provide pragmatic and understandable solutions that can be readily implemented by surgeons of varying experience to successfully treat complex colorectal problems. The text also goes beyond the technical aspects of Colorectal Surgery and includes special sections highlighting the essence of a surgeon. These include chapters describing the importance of the first encounter, building patient rapport, and demonstrating confidence and competence while showing humility and avoiding arrogance. Additionally, aspects involving the medical-legal, ethical, and economic challenges confronting surgeons are covered.

### **Handbook of Pharmacogenomics and Stratified Medicine.**

*Edited by S. Padmanabhan.*

2014, pp. 1093, Eur 180.00, ISBN: 978-0-12-386882-4.

Academic Press / Elsevier, London, UK.

The *Handbook of Pharmacogenomics and Stratified Medicine* is a comprehensive resource to understand this rapidly advancing field aiming to deliver the right drug at the right dose to the right patient at the right time. This book is designed to provide a detailed, but accessible review of the entire field from basic principles to applications in various diseases. The chapters are written by international experts to allow readers from a wide variety of backgrounds, clinical and non-clinical (basic geneticists, pharmacologists, clinicians, trialists, industry personnel, ethicists) to understand the principles underpinning the progress in this area, the successes, failures and the challenges ahead. To be accessible to the widest range of readers, the clinical application section introduces the disease process and existing therapies followed by specific pharmacogenomics and stratified medicine details.

Medicine is the cornerstone of modern therapeutics prescribed on the basis that its benefit should outweigh risk. It is well known that people respond differently to medications and in many cases the risk-benefit ratio for a particular drug may be a gray area. The last decade has seen a revolution in genomics both in terms of technological innovation and discovering genetic markers associated with disease. In parallel there has been steady progress in trying to make medicines safer and tailored to the individual.

This has occurred across the whole spectrum of medicine, some more than others. In addition there is burgeoning interest from the pharmaceutical industry to leverage pharmacogenomics and stratification for more effective and efficient clinical drug development.

**Transgenerational Epigenetics. Evidence and Debate.***Edited by T. Tollefsbol.*

2014, pp. 396, Eur 118.00, ISBN: 978-0-12-405944-3. Academic Press / Elsevier, London, UK.

*Transgenerational Epigenetics* provides a comprehensive analysis of the inheritance of epigenetic phenomena between generations. Few areas of the exponentially growing field of epigenetics have attracted as much interest and debate as transgenerational epigenetics. The goal of this volume is to cover this exciting and rapidly developing field of generational transfer of epigenetic information and its impact on basic biological processes and clinical disorders. There are many ongoing debates surrounding organismal inheritance of epigenetic phenomena and this seminal book on transgenerational epigenetics not only confronts these controversies, but also illuminates many other aspects of transgenerational epigenetics. Leading researchers in the field have contributed chapters on topics as diverse as the definitions and history of generational epigenetic inheritance, germline epigenetics, epidemiology and basic mechanisms of epigenetic inheritance, model organisms applied to studies of transgenerational epigenetics, the evolution of transgenerational epigenetics, parental epigenetic inheritance and environmental epigenetic effects of the offspring. Numerous chapters are also presented on the clinical relevance of the impact of transgenerational epigenetics on disorders and diseases such as metabolic, reproductive, cardiovascular and mental diseases. Finally, this volume closes with a chapter dedicated to the controversies and debates surrounding the potentially powerful yet developing field of transgenerational epigenetics

**Stem Cell Engineering. A WTEC Global Assessment.***Edited by R.M. Nerem, J. Loring, T.C. McDevitt, S.P. Palecek, D.V. Schaffer, P.W. Zandstra.*

2014, pp. 308, Eur 106.99, ISBN: 978-3-319-05073-7. Springer Science + Business Media, New York, NY, USA.

This book describes a global assessment of stem cell engineering research, achieved through site visits by a panel of experts to leading institutes, followed by dedicated workshops. The assessment made clear that engineers and the engineering approach with its quantitative, system-based thinking can contribute much to the progress of stem cell research and development. The increased need for complex computational models and new, innovative technologies, such as high-throughput screening techniques, organ-on-a-chip models and in vitro tumor models require an increasing involvement of engineers and physical scientists. Additionally, this book will show that although the US is still in a leadership position in stem cell engineering, Asian countries such as Japan, China and Korea, as well as European countries like the UK, Germany, Sweden and the Netherlands are rapidly

expanding their investments in the field. Strategic partnerships between countries could lead to major advances of the field and scalable expansion and differentiation of stem cells. This study was funded by the National Science Foundation (NSF), the National Institutes of Health (NIH) and the National Institute of Standards and Technology (NIST).

**Stem Cell Transcriptional Networks. Methods and Protocols.***Edited by B.L. Kidder.*

2014, pp. 286, Eur 101.64, ISBN: 978-1-4939-0511-9. Springer Science + Business Media, New York, NY, USA.

This volume collects techniques used to increase our understanding of the underlying transcriptional programs of stem cells that promote self-renewal and differentiation. The volume opens with a section on next-generation sequencing library preparation and data analysis. Continuing with a collection of protocols on visual analysis and interpretation of large-scale interaction networks, this detailed compilation features transcriptional networks in embryonic and adult stem cells, embryo culture and derivation of stem cells, as well as transcriptional programs that promote self-renewal, reprogramming, and transdifferentiation. Written for the highly successful *Methods in Molecular Biology* series, chapters include introductions to their respective topics, lists of the necessary materials, step-by-step, readily reproducible protocols, and tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, *Stem Cell Transcriptional Networks: Methods and Protocols* aims to provide a key resource for biologists seeking to interrogate these vital networks.

**Stem Cells in Cancer: Should We Believe or Not?***Edited by E. Grande, L. Antón Aparicio.*

2014, pp. 299, Eur 149.79, ISBN: 978-94-017-8753-6. Springer Science + Business Media, New York, NY, USA.

This volume explores the latest developments in a novel area of molecular biology and a hot topic in the field of oncology: cancer stem cells. These chapters from expert contributing authors present concepts such as the universal stem cell, new molecular pathways, new targeted agents, the different roles that cancer stem cells seem to have according to the organ they are placed in, and the future role that targeting cancer stem cells may have in the management of patients in the clinic.

Exploring the latest research including new data from randomized trials, this book examines important proposals over the origin of cancer stem cells such as the possibility that cancer stem cells may arise from mutated stem cells or a fully differentiated cell that may undergo several mutations that drive it back to a stem-like state. The authors consider the role that stem cells seem to have in the onset, development and resistance to classical antitumoral treatments of cancer and discuss possible potential future treatment modalities for the management of advanced cancer patients.

The question, "Are stem cells involved in cancer?" may not have a simple answer, but ongoing investigations, in-depth consideration and a broad spectrum of information can be found in this book, allowing the reader to arrive at his or her own answer.

This book will appeal to researchers in the field of oncology and cancer research and biomedical scientists with an interest in stem cells.

### **Adult Stem Cells. Second Edition.**

*Edited by K. Turksen.*

2014, pp. 429, Eur 149.79, ISBN: 978-1-4614-9568-0.  
Springer Science + Business Media, New York, NY, USA.

*Adult Stem Cells*, second edition, takes a critical look at issues concerning the developmental or differentiation potential for a variety of tissue types and for specific adult stem cell types. Since the first edition appeared a decade ago, our understanding of adult stem cells, and more specifically tissue-specific adult stem cells, has advanced tremendously. And an increased interest in regenerative medicine and potential stem cell applications has driven a quest for better understanding of stem cell biology. In turn, this has spawned much activity on generation and utilization of more and better reagents to identify and isolate stem cells and stem cell-like subpopulations, and on assays elucidating their developmental or differentiation potential and functional integration with host tissues and organs.

In this fully updated new edition, chapters cover topics ranging from signaling pathways maintaining stemness in hematopoietic cells to regeneration after injury and endocrine mechanisms underlying the stem cell theory of aging. Other chapters cover stem cells by organ or system including pituitary, cardiac, epithelial, teeth, lung, ovary, prostate, liver, and many more. Importantly, the authors of the chapters have not only summarized their successes, but have also summarized some of the difficulties that each particular field is still facing with respect to maximizing the utility of stem cells in clinical settings. Collectively, they impart both the excitement and challenges facing stem cell utilization for repair and regeneration making this book essential reading for those involved in stem cell research as well as those involved in clinical assays.

### **Bone Marrow and Stem Cell Transplantation. Second Edition.**

*Edited by M. Beksac.*

2014, pp. 313, Eur 101.64, ISBN: 978-1-4614-9436-2.  
Springer Science + Business Media, New York, NY, USA.

The second edition of *Bone Marrow and Stem Cell Transplantation* expands upon the previous edition with current, detailed methods on HLA, minor-HLA and Killer Immunoglobulin Like Receptor typing. With new chapters on immunophenotyping and functional characterization of stem cells are included. 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 practical, this volume serves as a guide in the application of molecular methods for routine or investigational purposes.

### **Fluorescence Microscopy. Super Resolution and Other Novel Techniques.**

*Edited by A. Cornea, P. M. Conn.*

2014, pp. 249, Eur 108.00, ISBN: 978-0-12-409513-7.  
Academic Press / Elsevier, London, UK.

This volume delivers a comprehensive review of current advances in fluorescence microscopy methods as applied to biological and biomedical science. Armed with contributions selected for clarity, utility, and reproducibility, the work provides practical tools with which to face these ground-breaking developments. With emphasis on super-resolution techniques, light sheet microscopy, sample preparation, new labels, and analysis techniques, this work keeps pace with the innovative technical advances that are increasingly vital to biological and biomedical researchers.

Equipped with a wide use of graphics, inter-method comparisons, and tricks and approaches not revealed in primary publications, *Fluorescence Microscopy* encourages readers to both understand these methods, and to adapt them to other systems. Instruction on the best visualization to derive quantitative information about cell biological structure and function is also offered, delivering crucial guidance on best practices in related laboratory research.

### **Cancer Immunotherapy. Second Edition.**

*Edited by G.C. Prendergast, E.M. Jaffee.*

2013, pp. 655, Eur 92.95, ISBN: 978-0-12-394296-8.  
Academic Press / Elsevier, London, UK.

There has been major growth in understanding immune suppression mechanisms and its relationship to cancer progression and therapy. This book highlights emerging new principles of immune suppression that drive cancer, and it offers radically new ideas about how therapy can be improved by attacking these principles. Following work that firmly establishes immune escape as an essential trait of cancer, recent studies have now defined specific mechanisms of tumor immune suppression. It also demonstrates how attacking tumors with molecular targeted therapeutics or traditional chemotherapeutic drugs can produce potent anti-tumor effects in preclinical models. This book provides basic, translational, and clinical cancer researchers with an indispensable overview of immune escape as a critical trait in cancer and how applying specific combinations of immunotherapy and chemotherapy to attack this trait may radically improve the treatment of advanced disease.

**Cancer Theranostics.***Edited by X. Chen, S.T.C. Wong.*

2014, pp. 526, Eur 143.00, ISBN: 978-0-12-407722-5.

Academic Press / Elsevier, San Diego, CA, USA.

Aiding researchers seeking to eliminate multi-step procedures, reduce delays in treatment and ease patient care, *Cancer Theranostics* reviews, assesses, and makes pertinent clinical recommendations on the integration of comprehensive in vitro diagnostics, in vivo molecular imaging, and individualized treatments towards the personalization of cancer treatment.

*Cancer Theranostics* describes the identification of novel biomarkers to advance molecular diagnostics of cancer. It encompasses new molecular imaging probes and techniques for early detection of cancer. It describes molecular imaging-guided cancer therapy. Discussion also includes nanoplatfoms incorporating both cancer imaging and therapeutic components. It concludes with both clinical translation and future perspectives.

**Adult and Pluripotent Stem Cells. Potential Regenerative Medicine of the Cardiovascular System.***Edited by J. Hescheler, E. Hofer.*

2014, pp. 170, Eur 149.79, ISBN: 978-94-017-8656-0.

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

Adult, embryonic and recently available induced pluripotent stem cells not only foster our understanding of differentiation of endo-, ecto- and mesodermal lineages to all organs of the body, but foremost nourish the hope that cells grown in culture can be used for regeneration of diseased organs such as the heart damaged by myocardial infarction. This book focuses on perspectives of stem cells for regenerative therapy of cardiovascular diseases. Based on the EC consortium INELPY, it reviews the field and disseminates major outcomes of this project. Thus it introduces the reader to this fascinating area of research and incorporates very recent findings interesting to the expert, spanning the field from bench to bedside. The compilation of contributions is unique as there is yet no similar comprehensive overview combining stem cell research with preclinical and clinical evaluation as well as engineering of tissue patches for transplantation. As such it will be an invaluable source of information for all researchers in the stem cell and tissue regeneration field including bioengineers as well as for all clinicians interested in regenerative therapies, especially for ischemic cardiomyopathies.

**Mitosis. Methods and Protocols.***Edited by D.J. Sharp.*

2014, pp. 308, Eur 101.64, ISBN: 978-1-4939-0328-3.

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

This volume provides state-of-the-art overviews on the most important approaches currently used in mitosis research spanning from the analysis of single molecules in isolation to

their utilization within the complex environment of the cell. The volume is divided into four parts, each focused on methods pertaining to distinct aspects of mitosis research. Part I presents approaches for visualizing and analyzing the dynamic behaviors of the spindle apparatus, the microtubule based machine that drives chromosome segregation. Part II focuses more generally on methods for studying and manipulating the microtubule cytoskeleton in cells and complex cell free extracts. Part III provides state of the art biophysical and high resolution microscopy approaches for assessing complex interactions between microtubules and microtubule-associated proteins in isolation as well as microtubule structure in cells. Part IV provides methods for studying the effects of cell shape on cell division, and methods for quantifying aneuploidy (aberrant chromosome number) which frequently results from mitotic defects and has been linked to human maladies ranging from birth defects to cancer. Written in the 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 key tips on troubleshooting and avoiding known pitfalls.

Authoritative and practical, *Mitosis: Methods and Protocols* seeks to provide diverse methods and new techniques to address new or old questions related to the mechanisms of mitosis.

**Small Molecules in Oncology. Second Edition.***Edited by U.M. Martens.*

2014, pp. 417, Eur 106.99, ISBN: 978-3-642-54489-7.

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

Extensive research into the molecular mechanisms of cancer has heralded a new age of targeted therapy. The field of personalized cancer therapy is now growing rapidly, and the progress being made will result in significant changes in the treatment algorithms for cancer patients. Numerous novel targets that are crucial for the survival of cancer cells can be attacked by small molecules such as protein tyrosine kinase inhibitors. This book, written by acknowledged experts, discusses in detail the most recent developments in targeted cancer therapy using small molecules. A wide range of small molecules is covered, including, in addition to tyrosine kinase inhibitors, mTOR, proteasome, and multikinase inhibitors, among others. For each molecule, aspects such as chemical structure, mechanism of action, drug targets, drug interactions, preclinical studies, clinical trials, treatment applications, and toxicity are discussed.

**DNA Cloning and Assembly Methods.***Edited by S. Valla, R. Lale.*

2014, pp. 303, Eur 101.64, ISBN: 978-1-62703-763-1.

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

In this volume, expert researchers in the field detail many of the methods which are now commonly used for DNA cloning

and make cloning procedures faster, more reliable and also suitable for high-throughput handling. These include methods and protocols that are based on several mechanisms including type II and IIS restriction enzymes, single stranded annealing, sequence overlap, and recombination. With additional chapters on software programs that are suitable for primer design, a feature crucial for the functionality of the described methods. Written in the 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 key tips on troubleshooting and avoiding known pitfalls.

### **High-Dimensional Single-Cell Analysis. Mass Cytometry, Multi-parametric Flow Cytometry and Bioinformatic Techniques.**

*Edited by H.G. Fienberg, G.P. Nolan.*

2014, pp. 215, Eur 149.79, ISBN: 978-3-642-54826-0. Springer Science + Business Media, New York, NY, USA.

This volume highlights the most interesting biomedical and clinical applications of high-dimensional flow and mass cytometry. It reviews current practical approaches used to perform high-dimensional experiments and addresses key bioinformatic techniques for the analysis of data sets involving dozens of parameters in millions of single cells. Topics include single cell cancer biology; studies of the human immune; exploration of immunological cell types such as CD8+ T cells; decipherment of signaling processes of cancer; mass-tag cellular barcoding; analysis of protein interactions by proximity ligation assays; Cytobank, a platform for the analysis of cytometry data; computational analysis of high-dimensional flow cytometric data; computational deconvolution approaches for the description of intracellular signaling dynamics; and hyperspectral cytometry. All 10 chapters of this book have been written by respected experts in their fields. It is an invaluable reference book for both basic and clinical researchers.

### **Viruses and Human Cancer.**

*Edited by S.D. Hudnall.*

2014, pp. 386, Eur 128.39, ISBN: 978-1-4939-0869-1. Springer Science + Business Media, New York, NY, USA.

This book provides a comprehensive review of the seven currently known human tumor viruses and their associated cancers with an emphasis on epidemiology, clinicopathologic features, and pathogenesis. Chapters are written by internationally recognized experts, and all are generously illustrated with tables, diagrams, and photographic images. *Viruses and Human Cancer* serves as a concise review of the field of human tumor virology for virologists, pathologists, oncologists and infectious disease specialists. It is of great value to practicing physicians, residents and clinical fellows in these specialties.

### **Necrotic Cell Death.**

*Edited by H.-M. Shen, P. Vandenabeele.*

2014, pp. 397, Eur 160.49, ISBN: 978-1-4614-8219-2. Springer Science + Business Media, New York, NY, USA.

This essential volume in the *Cell Death in Biology and Diseases* series presents comprehensive coverage of necrosis from recognized experts at leading academic and medical institutions around the world, thus keeping pace with the emerging research interest in necrosis. Starting with discussion of basic concepts and the molecular mechanisms of necrosis, this book looks first at the several forms of necrotic cell death that have been identified, including necroptosis, autophagic cell death, and PARP-mediated cell death. As necrotic cell death is increasingly known to play a critical role in many physiological processes, the next chapters discuss its effect on metabolism, inflammation, immunity, and development. Necrotic cell death is closely implicated in human diseases like cancer so the next chapters examine its relevance to human diseases, and final chapters cover methodologies for measuring necrosis.

### **Tumor Metabolome Targeting and Drug Development.**

*Edited by S. Kanner.*

2014, pp. 198, Eur 149.79, ISBN: 978-1-4614-9544-4. Springer Science + Business Media, New York, NY, USA.

In this volume, the major metabolic alterations identified in cancer and tumor-associated cells are explored, including discussions of former and emerging approaches to drug development in targeting cancer cell metabolism.

The metabolic network in cells promotes the generation of both energy and biomass needed for them to grow, divide and differentiate. However, the metabolism of malignant cells generally varies from that of normal cells. These differences provide a platform for the discovery of new approaches to targeting potential vulnerabilities in cancer cells for therapeutic options. Some of the significant changes that occur involve ATP production and consumption that modulates the ATP to ADP ratio, hypoxia and the effects of reactive oxygen species on glycolysis, regulation of mitochondrial respiration, induction and suppression of autophagy, and the Warburg effect and "reverse" Warburg effect--these topics and more are discussed in this volume.

### **Animal Endo-SiRNAs. Methods and Protocols.**

*Edited by A. Werner.*

2014, pp. 182, Eur 101.64, ISBN: 978-1-4939-0930-8. Springer Science + Business Media, New York, NY, USA.

This volume presents a variety of approaches to investigate endo-siRNAs. These include protocols applicable to study short RNAs expressed at a low level and model systems that are particularly suitable to investigate specific aspects of endo-siRNAs, their synthesis, their genomics or regulatory role. 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 practical, this book contains practical tips that are absent in standard lab manuals.

### **MicroRNAs: Key Regulators of Oncogenesis.**

*Edited by S. Babashah.*

2014, pp. 433, Eur 160.49, ISBN: 978-3-319-03724-0.

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

Aberrant expression and function of microRNAs (miRNAs) in cancer have added a new layer of complexity to the understanding of development and progression of the disease state. It has been demonstrated that miRNAs play a momentous role in oncogenesis via regulating cell proliferation and apoptosis as oncogenes or tumour suppressors. Expression signatures of miRNAs offer exciting opportunities for crafting cutting edge strategies in the diagnosis, prognosis, and therapy of cancer. Since miRNAs can function as either oncogenes or tumor suppressor genes in the tortuous route of oncogenesis, the promise represented by using these small RNAs as therapeutic targets presents new perspectives to the landscape of cancer therapy by either inhibiting or augmenting their activity. This book devotes efforts to provide a broad framework for obtaining an in depth understanding of the state-of-the-art knowledge on abnormalities of miRNAs found to be associated with cancer pathogenesis and possible mechanisms underlying the substantial roles played by miRNAs in cancer development and progression. Also, it intends to pave the way for readers to gain novel insights into using miRNAs as cancer biomarkers and therapeutic platforms.

### **MicroRNA in Development and in the Progression of Cancer.**

*Edited by S.R. Singh, P. Rameshwar.*

2014, pp. 407, Eur 149.49, ISBN: 978-1-4899-8064-9.

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

MicroRNAs (miRNAs) are small 22-nucleotides long non-coding RNAs that regulate the gene expression through translational repression and mRNA degradation in varieties of species. miRNAs play regulatory role in several fundamental biological processes from normal development to regulation of stem cells, cancer stem cells and various human diseases including cancer. miRNAs can be used as potential biomarkers for disease diagnosis and have been considered potential therapeutic strategies in cancer treatment.

This is a timely and specialized book providing the current understanding of miRNAs and their potential application in cancer diagnosis, prognosis, and therapeutic strategies in cancer treatment. This book will be a valuable source of information for the scientists in the field of cancer research as well as undergraduate and graduate students who want to pursue their research careers in cancer biology.

### **MicroRNA Targeted Cancer Therapy.**

*Edited by F.H. Sarkar.*

2014, pp. 351, Eur 149.49, ISBN: 978-3-319-05133-8.

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

Since the discovery of microRNAs (miRNAs) some twenty years ago by Victor Ambros, David Baulcombe and Gary Ruvkun, these three scientists worked to uncover the mystery of miRNA, the small segments of nucleotides that silence genes. While studying the development of the nematode worm, Ambros and Ruvkun discovered miRNA in animals, while Baulcombe discovered it in plants. Since their discovery, it took more than two decade to fully appreciate the value of miRNA in human health and diseases. Emerging evidence suggest that the activation of oncogenes and/or the inactivation of tumor suppressor genes contribute to the development and progression of tumors. The regulation of genes is by far controlled by many transcription factors which are often deregulated during the development and progression of cancer. In addition, emerging evidence clearly suggests that the deregulation of miRNAs or small non-coding RNAs could also regulate the expression of genes, and likewise, miRNA genes are also regulated by transcription factors. The most attractive feature of miRNAs is that one miRNA can regulate many target genes (mRNAs), and thus miRNA targeted therapy is highly promising because multiple genes could be regulated by targeting a single miRNA, which becomes very important for the killing of highly heterogeneous populations of cancer cells within a tumor mass. Therefore, miRNA targeted therapy is an attractive attribute of miRNA research, which is covered through eighteen chapters compiled in this book. It is hoped that the field of miRNA research will be appreciated through critical reading of these chapters on the cutting-edge research on miRNAs.

### **Gene Correction. Methods and Protocols.**

*Edited by F. Storici.*

2014, pp. 463, Eur 117.69, ISBN: 978-1-62703-760-0.

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

Gene correction is a technology that gives us the tools for both repairing and mutating DNA, for discovering gene functions and for engineering new genetic variants. Gene Correction: Methods and Protocols provides a user friendly, detailed and up-to-date collection of strategies and methodologies utilized for generating specific sequence changes in the DNA of cells in the laboratory, while also tackling the major problems that the field of gene correction faces. This volume brings together many experts in the field of gene correction to disclose a wide and varied array of specific gene correction protocols for engineering mutations in DNA, for delivering correcting DNA to target cells, and for improving the accuracy and safety of the gene correction process. Written in the 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 protocols, and notes on troubleshooting and avoiding known pitfalls.

**Structural Genomics and Drug Discovery. Methods and Protocols.***Edited by W.F. Anderson.*2014, pp. 344, Eur 117.69, ISBN: 978-1-4939-0353-5.  
Springer Science + Business Media, New York, NY, USA.

This volume focuses on high throughput structure determination methods and how they can be applied to lay the groundwork for structure aided drug discovery. The methods and protocols that are described can be applied in any laboratory interested in using detailed structural information to advance the initial stages of drug discovery. 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 troubleshooting and avoiding known pitfalls.

Authoritative and practical, this book seeks to aid scientists in the further study into structural genomics approach as an efficient initial step toward drug discovery and the methods described will be useful to anyone interested in moving in this direction.

**Caspases, Paracaspases, and Metacaspases. Methods and Protocols.***Edited by P.V. Bozhkov, G. Salvesen.*2014, pp. 266, Eur 101.64, ISBN: 978-1-4939-0356-6.  
Springer Science + Business Media, New York, NY, USA.

This book is a collection of laboratory protocols covering current methods that are employed to measure and detect activities of these proteases in diverse biological systems, ranging from unicellular organisms to mammals. Broken into two parts, the first part focuses on methods to measure, detect, and inhibit activation and activity of a subset of or specific caspases in vitro and in several model systems and organisms, primarily in the context of programmed cell death. The second part of the book provides experimental protocols for purification and in vitro and in vivo analysis of yeast, protozoan and plant metacaspases, as well as of a human paracaspase MALT1. The chapters include the kind of detailed description and implementation advice that is crucial for getting optimal results in the laboratory.

**Infectious Complications in Cancer Patients.***Edited by V. Stosor, T.R. Zembower.*2014, pp. 511, Eur 160.49, ISBN: 978-3-319-04219-0.  
Springer Science + Business Media, New York, NY, USA.

While advances in both the treatment of cancer and the management of its complications have led to significant improvement in patient survival, infections remain a significant cause of morbidity and mortality in patients with neoplastic disease. In this patient population, infection risk results from a complex interplay between the host's underlying immunodeficiencies, local tumor effects, and treatment-induced immunosuppression. New chemotherapeutic approaches and antimicrobial prophylaxis and treatment practices continue to shape the spectrum of infections in these patients. Clinicians who treat infections in cancer patients are

continually challenged by the emergence of new pathogens and by the increasing antimicrobial resistance of established ones.

The aim of this book, is to emphasize unique aspects of management of infectious diseases in the cancer patient. With the increasing complexity of this patient population, optimal management requires a multidisciplinary approach, and this fact is fully reflected in the contributions, all from recognized authorities in the field. Ultimately, it is hoped that this volume will assist specialists in infectious diseases and haematology/oncology in the diagnosis, management, and prevention of infection and optimization of the overall care of patients with malignancies.

**Renal Neoplasms.***Edited by T. Antic and J.B. Taxy.*2014, pp. 69, Eur 74.89, ISBN: 978-1-4939-0430-3.  
Springer Science + Business Media, New York, NY, USA.

This book provides a comprehensive review of cytology and all the morphologic correlates, including their respective limitations, related to a broad spectrum of renal neoplasms with special emphasis on cyto-histo correlation. The book also discusses related usual radiologic appearances, gross features and possible targeted therapies where appropriate. The volume features an integrated approach that provides step-by-step guidance in the morphologic evaluation of renal neoplasms. Furthermore, all chapters are written by experts who deal with this type of specimen in their daily practice and have insights into the pathology as well as the clinical aspects of these tumors.

Illustrated with high quality color microphotographs and formatted for ease of use in the lab, this volume is a helpful guide to everyday pathology practice, especially for pathologists who rarely encounter this type of specimen.

**Progress in Heritable Soft Connective Tissue Diseases.***Edited by J. Halper.*2014, pp. 245, Eur 160.49, ISBN: 978-94-007-7892-4.  
Springer Science + Business Media, New York, NY, USA.

This volume is a reference handbook focusing on diseases like Marfan syndrome, Ehlers-Danlos syndrome, Loeys-Dietz syndrome and other heritable soft connective tissue diseases. The book presents detailed information for both basic scientists and for clinicians seeing patients. It is also a stepping stone for new investigations and studies that goes beyond the facts about the composition and biochemistry of the connective tissue and extracellular matrix, as the authors connect individual components to specific aspects of various soft tissue disorders and to the actual or potential treatment of them.

*Progress in Heritable Soft Connective Tissue Diseases* features very prominent physicians and scientists as contributors who bring their most recent discoveries to the benefit of readers. Their expertise will help clinicians with proper diagnosis of sometimes elusive and uncommon heritable diseases of soft connective tissues.

This book also offers an update on the pathophysiology of these diseases, including an emphasis on unifying aspects such as connections between embryonic development of the different types of connective tissues and systems, and the role of TGF- $\beta$  in development and physiology of soft tissues. This new set of data explains, at least in part, why many of these disorders are interconnected, though the primary pathophysiological events, such as gene mutations, may be different for each disorder.

### **Targeted Intraoperative Radiotherapy in Oncology.**

*Edited by M. Keshtgar, K. Pigott, F. Wenz..*

2014, pp. 170, Eur 106.99, ISBN: 978-3-642-39820-9.

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

Targeted intraoperative radiotherapy is a major advance in the management of cancer patients and has been attracting massive interest worldwide following publication of the results of an important randomized controlled trial in *The Lancet*. This textbook is designed to introduce this innovative technology in a comprehensive manner to clinicians dealing with cancer patients. Throughout, the emphasis is on practical aspects, and the text is supported by many excellent illustrations. The editors of the book have extensive experience in targeted intraoperative radiotherapy and include co-directors of the TARGIT Academy, which runs international training courses on the technology in the United Kingdom and Germany. They have brought together multidisciplinary contributors from different centers across the world who have wide experience in the field and whose work has been recognized internationally. It is the editors' hope that this book will succeed in ensuring that targeted intraoperative radiotherapy is used effectively worldwide.

### **Molecular Determinants of Head and Neck Cancer.**

*Edited by B. Burtness, E.A. Golemis.*

2014, pp. 362, Eur 160.49, ISBN: 978-1-4614-8814-9.

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

Head and neck cancers, involving sites from the nasopharynx to the subglottic larynx, are frequently devastating cancers that afflict patients around the world. These cancers are frequently locally advanced prior to detection, and require multimodality therapy that is associated with high morbidity. As this book addresses this difficult disease, it accomplishes three main goals.

First, it introduces the etiology and subclasses of squamous cell carcinomas of the head and neck (SCCHNs), and how these factors affect prognosis. Although habitual exposures to tobacco, alcohol, and other agents have historically been the main causes of SCCHN, a rising proportion of oropharynx cancers arise from transforming human papillomavirus (HPV) infection. These two broad classes of SCCHN have significant differences in disease profile and response to treatment, as we discuss.

Second, it summarizes the current state of understanding of the genetic, epigenetic and protein expression changes associated with the various classes of SCCHN. In the past decade, disease pathogenesis of SCCHN has been appreciated

to involve deregulation of multiple tumor pathways, including the receptor tyrosine kinases (RTKs) EGFR, ERBB2, ERBB3, c-MET, and IGF1R; transforming growth factor  $\beta$  (TGF $\beta$ ); Notch; cytoplasmic signaling proteins including PTEN, PI3K, JAK/STAT, and Wnt-responsive  $\beta$ -catenin; mutation control systems, including p53 and the DNA damage repair (DDR) machinery; and hypoxic response. The specific understanding of the action of these proteins in SCCHN is presented here. Finally, this book defines potential therapeutic targets for improved management of the disease in the future, discussing prospects for improved prediction of prognosis.

### **Current Advances in Osteosarcoma.**

*Edited by E.S. Kleinerman.*

2014, pp. 359, Eur 160.49, ISBN: 978-3-319-04842-0.

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

This book summarizes molecular and genetic characteristics, new therapeutic ideas, and biological characteristics that have been uncovered in this field over the past 10 years. Osteosarcoma is an aggressive malignant neoplasm and is the most common histological form of bone cancer. Osteosarcoma accounts for approximately 56% of new bone tumors, making it the most primary malignant bone tumor in children and adolescents. The lungs are the most common site of metastases and once osteosarcoma spreads to the lungs, it is very difficult to treat.

In order to improve the outcome of this disease, the biology of osteosarcoma needs to be better understood. There are numerous investigators around the world who have made seminal discoveries about the important molecular pathways and genetic alterations that contribute to the development and metastases of osteosarcoma. Other investigators have proposed novel therapeutic strategies including some based on the molecular and genetic phenotype of the disease. This volume will provide a comprehensive review of these new discoveries in one singular text, which will help move the field forward.

### **Successes and Limitations of Targeted Cancer Therapy.**

*Edited by S. Peters, R.A. Stahel.*

2014, pp. 117, CHF 163.00, ISBN: 978-3318-025415.

S. Karger AG, Basel, Switzerland.

The treatment of patients with advanced malignancies has undergone remarkable change in the last few years. While in the past decisions about systemic therapy were largely based on the performance status of a patient, oncologists today also take into account the pathological and molecular characteristics of the patient's tumor. Targeting specific molecular pathways important for tumorigenesis has become the preferred way of treatment for many types of malignancies. With these advances come new challenges including the optimization of therapy, recognizing and dealing with side effects and, importantly, the development of resistance.

This book provides an up-to-date overview of the advances and limitations of targeted therapy for several tumor entities

including breast cancer, colon cancer, gastrointestinal stromal tumors, lung cancer, melanoma, ovarian cancer and renal cell carcinoma. Written by over a dozen internationally renowned scientists, the book is suitable for advanced students, postdoctoral researchers, scientists and clinicians who wish to update their knowledge of the latest approaches to targeted cancer therapies.

### **Cancer Therapeutics.**

*Cell Press Reviews.*

2014, pp. 305, Eur 25.95, ISBN: 978-0-12-420192-7.  
Academic Press / Elsevier, London, UK.

*Cell Press Reviews: Cancer Therapeutics* provides an overview of key recent advances and open research questions in cancer treatment. With articles written by leading researchers in the field, this publication offers the most up-to-date insights into how genetics influences treatment decisions and how the immune system can be employed to battle cancer, and describes the current state-of-the-art in drug discovery and targeted treatments. Contributors to this compilation include many prominent researchers in the field, such as: Daniel A. Haber, Director of Massachusetts General Hospital Cancer Center and Professor at Harvard Medical School; Tony Kouzarides, Professor at the University of Cambridge, Deputy Director of the Wellcome Trust/Cancer Research UK Gurdon Institute, and a founder of the cancer drug discovery company Chroma Therapeutics; and Charles L. Sawyers, Chair of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center, President of the American Association for Cancer Research, member of the presidentially appointed National Cancer Advisory Board, and recipient of the 2013 Breakthrough Prize in Life Sciences.

This book will assist both experts and those new to the field in understanding the current state and future direction of cancer therapy.

### **Molecular Diagnostics and Treatment of Pancreatic Cancer. Systems and Network Biology Approaches.**

*Edited by Asfar Azmi.*

2014, pp. 446, Eur 71.95, ISBN: 978-0-12-408103-1.  
Academic Press / Elsevier, London, UK.

This volume describes the different emerging applications of systems biology that are shaping modern pancreatic cancer research. This book begins by introducing the current state of the art knowledge, trends in diagnostics, progress in disease model systems, and addresses new treatment and palliative care strategies in pancreatic cancer. Specific sections are dedicated to enlighten the readers to newer discoveries that have emerged from gene expression profiling, proteomics, metabolomics and systems level analyses of pancreatic cancer datasets. First of a kind and novel network strategies to understand oncogenic Kras signaling in pancreatic tumors are presented along with the attempts to computationally model and prioritize microRNAs that cause pancreatic cancer resistance.

Additionally, *Molecular Diagnostics and Treatment of Pancreatic Cancer* provides insights into important network evaluation methodologies related to microRNAs targetome and dedicates chapters to critical aspects of the evolving yet controversial field of pancreatic cancer stem cells. This work concludes by discussing the applications of network sciences in pancreatic cancer drug discovery and clinical trial design.

### **Atlas of Musculoskeletal Tumors and Tumorlike Lesions.**

*Edited by P. Picci, M. Manfrini, N. Fabbri, M. Gambarotti, D. Vanel.*

2014, pp. 387, Eur 149.79, ISBN: 978-3-319-01747-1.  
Springer Science + Business Media, New York, NY, USA.

This book reflects the experience of the Rizzoli Orthopedic Institute during more than 100 years of treatment of musculoskeletal tumor and tumorlike lesions. It presents a wide range of lesions from a multidisciplinary perspective, highlighting pertinent clinical, radiological, and histological correlations. Treatment is briefly reported for each entity. In addition, the more recent biomolecular findings of use for diagnosis, prognosis, and treatment are carefully analyzed. The Rizzoli case archive spans more than a century, the first treated case dating back to 28 September 1900, and contains the original material – clinical charts, imaging, paraffin blocks, and histological slides – of more than 40,000 cases, including about 29,000 bone lesions and 11,000 soft tissue lesions. This book reports the most relevant entities and reflects the improvements in knowledge of musculoskeletal tumors as presented during the yearly international course held at the Rizzoli Institute.

### **Prostate Cancer Prevention.**

*Edited by J. Cuzick, M.A. Thorat.*

2014, pp. 169, Eur 106.99, ISBN: 978-3-642-45194-2.  
Springer Science + Business Media, New York, NY, USA.

Prostate cancer is by far the most common cancer in men and the second leading cause of death due to cancer. It comprises a mixed group of tumours displaying varying clinical behaviour: while some have a very aggressive course, others are rather indolent. Prevention of prostate cancer and discrimination between aggressive and indolent forms are important clinical goals, and the acquisition of significant new evidence on means of achieving these aims makes this book particularly timely. A wide range of topics are covered by leading authorities in the field. The biology and natural history of prostate cancer are reviewed, and the role of lifestyle and dietary factors, assessed. Detailed attention is paid to risk prediction biomarkers and to the role of novel high-throughput nucleic acid-based technologies in improving risk prediction and thereby allowing tailored approaches to cancer prevention. Potential means of chemoprevention of prostate cancer are also reviewed in depth, covering the very positive new data on the impact of aspirin as well as evidence regarding 5 $\alpha$ -reductase inhibitors, DFMO, and

lycopene. Guidance is provided on the differentiation of aggressive from indolent disease, and the policy and research implications of recent findings are examined. This book will be of interest to both clinicians and researchers.

### **Breast Endocrine and Surgical Oncology.**

*Edited by B.J. Coventry.*

2014, pp. 227, Eur 74.89, ISBN: 978-1-4471-5420-4.

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

Written by internationally acclaimed specialists, this book provides pertinent and concise procedure descriptions spanning benign and malignant problems and minimally invasive procedures. Complications are reviewed when appropriate for the organ system and problem, creating a book that is both comprehensive and accessible. Stages of operative approaches with relevant technical considerations are outlined in an easily understandable manner. The text is illustrated throughout by photographs that depict anatomic or technical principles.

Forming part of the series, *Surgery: Complications, Risks and Consequences*, this volume provides a valuable resource for all general surgeons and residents in training. Other healthcare providers will also find this a useful resource.

### **Management of Neuroendocrine Tumors of the Pancreas and Digestive Tract. From Surgery to Targeted Therapies: A Multidisciplinary Approach.**

*Edited by E. Raymond, S. Faivre, P. Ruszniewski.*

2014, pp. 236, Eur 85.59, ISBN: 978-2-8178-0429-3.

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

This book pursues a multidisciplinary approach, presenting chapters with updated information on various aspects of treatment for patients with neuroendocrine tumors. Authors have been selected from expert centers in Europe and the United States. The goal of this book is to comprehensively summarize recent data and provide inspiring ideas to optimize the care of patients with neuroendocrine tumors.

Neuroendocrine tumors are multifaceted diseases that can primarily localize in many organs with various presentations. These tumors are rare but their increasing incidence renders likely that physicians caring for cancers may have either already faced or may be certainly exposed to diagnose and/or treat a patient with neuroendocrine tumors. Over the last years, novel therapeutic options have emerged for neuroendocrine tumors, profoundly challenging practices that had previously been the standards for decades. These include - but are not limited to - somatostatin analogues, targeted therapies such as tyrosine kinase and mTOR inhibitors, antiangiogenic compounds, but also peptide-receptor targeted therapy or radioembolization. This changing field has generated novel treatment algorithms to guide medical decisions. To better understand and handle the multidisciplinary approaches that are required for optimizing the care of neuroendocrine tumor patients, physicians are now looking for references from experts and comprehensive reviews

summarizing current knowledge on treatments for patients with neuroendocrine tumors.

### **Multidisciplinary Management of Prostate Cancer. The Role of the Prostate Cancer Unit.**

*Edited by V. Gentile, V. Panebianco, A. Sciarra.*

2014, pp. 152, Eur 50.46, ISBN: 978-3-319-04384-5.

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

Prostate cancer is the most common neoplasm in men and its management is very complex, in terms of both diagnosis and treatment. In recent years the value of multidisciplinary management within a prostate cancer unit has been increasingly recognized. Such a multidisciplinary approach within a specialized unit involves a variety of specialists, including urologists, oncologists, radiotherapists, radiologists and pathologists. This book describes in detail the advantages of multidisciplinary management of prostate cancer. It opens by explaining the nature of the required multidisciplinary team and the potential benefits of the prostate cancer unit as a structure for the delivery of specialist multidisciplinary care. Epidemiological aspects favoring multidisciplinary management are described and each element of care within the context of the prostate cancer unit is then discussed; also has been described the role of advanced imaging (Multiparametric MRI) in the management of PCa. Early diagnosis, risk classification, treatment decision making, surgery, radiotherapy, medical therapies and health care support are all fully considered. This book will be informative and enlightening for all who are involved in the management of patients with prostate cancer.

### **SCF and APC E3 Ubiquitin Ligases in Tumorigenesis.**

*Edited by H. Inuzuka and W. Wei.*

2014, pp. 118, Eur 53.49, ISBN: 978-3-319-05025-6.

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

This SpringerBrief explores the physiological roles of Skp1-Cullin1-F-box Complex (SCF) and Anaphase Promoting Complex (APC) in normal cells and in tumor formation. These two related, multi-subunit E3 ubiquitin ligase enzymes, APC and SCF are thought to be the major driving forces governing proper cell cycle progression. Defective cell cycle regulation leads to genomic instability and ultimately, cancer development. Selective degradation of key cell cycle regulators by the ubiquitin-proteasome system has been proven to be a major regulatory mechanism for ensuring ordered and coordinated cell cycle progression. The SCF and APC E3 ligases have been characterized to play pivotal roles in regulating the cell cycle progression by timely degrading various critical cell cycle regulators. This Brief reviews recent studies that have shown that deregulation of signaling pathways in which the two ubiquitin ligases are involved causes aberrant cell cycle regulation, in turn leading to tumorigenesis. The text also discusses how SCF and APC may present promising therapeutic targets to treat various cancers.

**Practical Informatics for Cytopathology.**

*Edited by L. Pantanowitz, A.V. Parwani.*

2014, pp. 204, Eur 64.19, ISBN: 978-1-4614-9580-2.

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

This volume provides a concise and practical overview of pathology informatics. The book offers a succinct overview of basic computing and laboratory information systems applied specifically to the field of cytopathology. Readers are exposed to emerging areas in pathology informatics, such as specimen tracking and digital imaging. Valuable features of this volume include summary tables, diagrams, vital resources and a glossary of informatics terms to help readers.

Written by authorizes in the field, *Practical Informatics for Cytopathology* is a vital resource that provides users with a solid, comprehensive foundation and practical working knowledge of the rapidly emerging field of pathology informatics.

**Gene Therapy for Cartilage and Bone Tissue Engineering.**

*Edited by Y.-C. Hu.*

2014, pp. 89, Eur 53.49, ISBN: 978-3-642-53922-0.

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

This book outlines the tissue engineering and possible applications of gene therapy in the field of biomedical engineering as well as basic principles of gene therapy, vectors and gene delivery, specifically for cartilage and bone engineering. It is intended for tissue engineers, cell therapists, regenerative medicine scientists and engineers, gene therapist and virologists.

**Gene Therapy for HIV. From Inception to a Possible Cure.**

*Edited by G. Bauer, J. S. Anderson.*

2014, pp. 72, Eur 53.49, ISBN: 978-1-4939-0433-4.

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

This book discusses the unique aspects of this therapy, including its limitations and proper safety precautions and outline a path for a possible functional cure for HIV using stem cell gene therapy based on a cure already achieved with a bone marrow stem cell transplantation performed in Germany using donor stem cells with a naturally arising CCR5 mutation. In addition, the Brief provides a thorough and methodical explanation of the basics of gene therapy, gene therapy vector development, in vitro and in vivo models for HIV gene therapy and clinical applications of HIV gene therapy, including Good Manufacturing Practices.

**Cell-Based Microarrays. Review of Applications, Developments and Technological Advances.**

*Edited by E. Palmer.*

2014, pp. 100, Eur 53.49 , ISBN: 978-1-4939-0593-5.

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

This book is a review on the evolution of cell-based microarrays and an update to the author's earlier book *Methods in Molecular Biology: Cell-Based Microarrays*. Since their development in 2001, cell-based microarrays have advanced significantly to include expression arrays, short interfering RNA arrays and antibody arrays. The surface used to coat the glass slides has also been significantly improved to allow non-adherent cells to bind to the arrays.