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.

Targeting the DNA Damage Response for Anti-Cancer Therapy.

Edited by J. Pollard, N. Curtin.
2018, pp 401, EUR 213.99, ISBN: 978-3-319-75834-3.
Springer International Publishing AG, Cham, Switzerland.

Over the past decade a complex role for DNA damage response (DDR) in tumorigenesis has emerged. A proficient DDR has been shown to be a primary cause for cellular resistance to the very many DNA damaging drugs, and IR, that are widely used as standard-of-care across multiple cancer types. It has also been shown that defects in this network, predominantly within the ATM mediated signaling pathway, are commonly observed in cancers and may be a primary event during tumorigenesis. Such defects may promote a genomically unstable environment, facilitating the persistence of mutations, any of which may provide a growth or survival advantage to the developing tumor. In addition, these somatic defects provide opportunities to exploit a reliance on remaining repair pathways for survival, a process which has been termed synthetic lethality. As a result of all these observations there has been a great interest in targeting the DDR to provide anti-cancer agents that may have benefit as monotherapy in cancers with high background DNA damage levels or as a means to increase the efficacy of DNA damaging drugs and IR.

In this book, a series of important topics that are of great interest to a broad range of academic, industrial and clinical researchers is reviewed, including the basic science of the DDR, its role in tumorigenesis and in dictating response to DNA damaging drugs and IR. Additionally, there is focus on the several proteins that have been targeted in attempts to provide drug candidates, each of which appear to have quite distinct profiles and could represent very different opportunities to provide patient benefit.

Stem Cell Genetics for Biomedical Research.

Edited by R. Delgado-Morales.
2018, pp 426, EUR 149.79, ISBN: 978-3-319-90694-2.
Springer International Publishing AG, Cham, Switzerland.

This book looks at where stem cell technology is presently and how it is instrumental in advancing the field of disease modeling and cell transplantation. By focusing on major human disorders such as Alzheimer's disease, cancer, and heart disorders, the book summarizes the major findings in the field of human stem cells and dissect the current limitations on our understanding of stem cells biology. The chapters focus on the genetics, genomics, epigenetics and physiology of stem cells models, together with technological advances on molecular biology such as CRISPR/Cas9 or epigenetic editing, that will be instrumental in the future of human disease modeling and treatment.

In base of the limitations of current disease models and in front of the unmet necessity of finding therapeutical interventions for human disorders, the availability of stem cell technology has opened new doors for several fields. The unlimited self-renewal capacity and more extensive differentiation potential of stem cells offers a theoretically inexhaustible and replenishable source of any cell subtype. Since Professor Shinya Yamanaka described it, 10 years ago in his seminal paper, that somatic cells could be reprogrammed to inducible stem cells (iPSC) just by expressing four transcription factors, the field of has exploded, especially its applications in biomedical research.

Biochemistry and Molecular Biology. Sixth Edition.

Edited by D. Papachristodoulou, A. Snape, W.H. Elliott, D.C. Elliott.
2018, pp 640, GBP 39.99, ISBN: 978-0-198-76811-1.
Oxford University Press, Oxford, UK.

The ideal text for any bioscience student encountering biochemistry and molecular cell biology for the first time. Exceptionally clear explanations, frequent diagrams, and a user-friendly design and layout ensure that the text provides a perfect introduction to this complex yet fascinating subject area.

Key Features: Accessible writing style and carefully gauged level of detail make the text ideal for students encountering the subject for the first time; its broad coverage takes readers from the basic building blocks of life right through to metabolism, gene regulation, cell signalling and the immune system; clear sub headings and extensive cross referencing make the text easy to navigate and allow chapters to be read in any order; the user-friendly design and layout are complemented by frequent diagrams to illustrate important concepts.

Immunopharmacology and Inflammation.

Edited by C. Riccardi, F. Levi-Schaffer, E. Tiligada.
2018, pp 331, EUR 171.19, ISBN: 978-3-319-77657-6.
Springer International Publishing AG, Cham, Switzerland.

A comprehensive overview of the current research on inflammation and immunopharmacology, with particular attention to the use of anti-inflammatory drugs, this book discusses future trends in this area of pharmacological research. It addresses an audience with basic knowledge in the inflammatory process, immune system and pharmacology. The book meets the needs of

graduate students, junior and senior researchers and is useful as a source of the most current information for those already working in these fields.

Biological Inorganic Chemistry. 3rd Edition.

Edited by R. Crichton.
2018, pp 692, USD 106.25, ISBN: 978-0-128-11741-5.
Academic Press, London, UK.

This book provides a comprehensive discussion of the biochemical aspects of metals in living systems. The fascinating world of the role of metals in biology, medicine and the environment has progressed significantly since the very successful Second Edition of the book published in 2012. Beginning with an overview of metals and selected nonmetals in biology, the book supports the interdisciplinary nature of this vibrant area of research by providing an introduction to basic coordination chemistry for biologists and structural and molecular biology for chemists.

Having built this accessible foundation, the book progresses to discuss biological ligands for metal ions, intermediary metabolism and bioenergetics, and methods to study metals in biological systems. The book also covers metal assimilation pathways; transport, storage, and homeostasis of metal ions; sodium and potassium channels and pumps; magnesium phosphate metabolism and photoreceptors; calcium and cellular signaling; the catalytic role of several classes of mononuclear zinc enzymes; the biological chemistry of iron; and copper chemistry and biochemistry.

Key Features: Includes a thorough survey of metals in biological systems: in the human body, in medicine and in the environment; previous winner (Second Edition) of the 2013 Textbook Excellence Award (Texty) from the Text and Academic Authors Association; features new sections: an overview of the different functions of essential metal ions; toxic metals in diagnosis and therapeutics; crystal and ligand field theory and their limitations; molecular orbital theory; genetic and molecular biological approaches to study metals; more complex cofactors and their biosynthesis; photosynthetic oxidation of water; man-made environmental pollution; and metals as poisons.

Rethinking Platinum Anticancer Drug Design: Towards Targeted and Immuno-chemotherapeutic Approaches.

Edited by Y.Q.D. Wong.
2018, pp 147, EUR 128.39, ISBN: 978-981-10-8593-2.
Springer Singapore, Singapore.

This thesis describes the authors' pioneering efforts in the conceptualization and implementation of combined platinum-based immuno-chemotherapeutics, which represent a significant paradigm shift from the conventional approach of directly targeting cancer. The work described has opened up a rich and largely unexplored area for platinum-based drug design, and ultimately paves the way for superior immuno-chemotherapeutics with better clinical outcome for patients. Historically, the contribution of the immune system to chemotherapy outcomes has been neglected, as anticancer drugs were believed to be immunosuppressive. However, this has been challenged by contemporary evidence suggesting that many chemotherapeutics, including platinum-based agents, stimulate the innate and/or adaptive immune system and that these "secret allies" contribute tangibly to clinical outcomes. A multi-pronged immuno-chemotherapeutic approach not only shrinks tumors, but more importantly, reactivate dormant immune responses to malignancies, eliminating residual cancer cells.

Obesity, Fatty Liver and Liver Cancer.

Edited by J. Yun.
2018, pp 157, EUR 160.49, ISBN: 978-981-10-8683-0.
Springer Singapore, Singapore.

This volume covers a state-of-the-art illustration of recent discoveries concerning obesity-related fatty liver diseases and liver cancer. The contents are extensive and comprehensive. It brings important topics in the field all together under one umbrella, from epidemiology and etiology, molecular pathogenesis, cellular biology, epigenetics, immunology, microbiology, animal models to therapeutic approaches and treatments. All the book contributors are leading experts in the field. It will appeal to researchers, clinicians and graduate students in obesity, fatty liver diseases, GI/Liver cancer field. It may also yield benefits for pharmaceutical companies with regard to drug discovery.

Palladium-Catalyzed Modification of Nucleosides, Nucleotides and Oligonucleotides. 1st Edition.

Edited by A. Kapdi, D. Maiti, Y. Sanghvi.
2018, pp 358, USD 127.50, ISBN: 978-0-128-11292-2.
Elsevier, Oxford, UK.

This book describes the procedures and protocols related to the modification of nucleosides, nucleotides and oligonucleotides via Pd-mediated cross-coupling processes. The book highlights the growing area of nucleic acid modification and how Pd-mediated coupling reactions can assist this development. Users will find key synthetic protocols for these reactions in this latest volume in the *Latest Trends in Palladium Chemistry* series. As most of the research in the field of antiviral agents has centered on the use of modified nucleosides that have exhibited promising activity, this book provides an up-to-date reference for both professionals in industry and other interested parties.

Key Features: Provides synthetic routes for useful nucleoside molecules, information otherwise found only through time-consuming literature searches; covers metal-mediated and metal-catalyzed cross coupling processes of nucleosides and related compounds; includes Suzuki-Miyaura, Stille and Sonogashira

reactions, as well as C-H bond functionalization; highlights the growing area of nucleic acid modification and how Pd-mediated coupling reactions can assist.

Antimicrobial Peptides in Gastrointestinal Diseases. 1st Edition.

Edited by C.H. Cho.
2018, pp 186, USD 106.25, ISBN: 978-0-128-14319-3.
Academic Press, London, UK.

Antimicrobial peptides (AMPs), including cathelicidins and defensins are host defence peptides that carry out multiple roles in the gastrointestinal (GI) tract. *Antimicrobial Peptides in Gastrointestinal Diseases* presents knowledge about the physiological functions and pharmacological actions of AMPs in inflammation, cancer, and further infection of the GI tract. The book provides coverage from the basic research to clinical application for GI diseases. Current research and development of AMPs is presented, opening the way for further work on these peptides, not only in the context of GI diseases, but also for similar pathologies in other organs. AMPs are key to the regulation of human microbiome and second line defence in the GI mucosa, prevent colonization of pathogens and modulation of innate response to invading pathogens, and modify immunological reactions during inflammatory processes and oncogenic development in the GI mucosa. More importantly, AMPs possess diversified anti-microbial actions against various infectious diseases in the GI tract. With these physiological functions and pharmacological actions, AMPs have significant potential as therapeutic agents for the treatment of inflammation, cancer and further infection in the GI tract.

Key Features: Provides an overview of AMPs, particularly cathelicidin and defensin, in different diseases; covers inflammation and ulcer repair in the stomach and colon and carcinogenesis in the GI tract; presents AMP information and knowledge in a concise manner; gives useful information on all aspects of AMPs; promotes research on AMPs and their development as drugs, from bench, to clinical application.

Chemical Sciences in Early Drug Discovery. 1st Edition.

Edited by P. Seneci.
2018, pp 194, USD 68.81, ISBN: 978-0-080-99420-8.
Elsevier, Oxford, UK.

This book describes how new technologies and approaches can be used to improve the probability of success in fulfilling the perennial goal of finding and developing new drugs. Drawing on the author's extensive experience consulting and teaching in medicinal chemistry, the book outlines ways in which medicinal chemistry is widening its reach to meet modern demands, and how modern technologies and approaches are facilitating this growth into new fields. Supported by examples throughout, the book is a practical resource for organic-medicinal chemists, biological chemists and pharmacologists involved in drug discovery.

Key Features: Reviews the key application of chemistry in drug discovery for both medicinal and non-medicinal chemists, clarifying and explaining the role of medicinal chemistry in supporting the modern drug discovery pipeline; shows how a wider medicinal chemistry view is essential for anyone in an integrated drug discovery project looking to reduce costs and save time; provides the critical success factors needed to successfully identify hits from both biological and chemical perspectives.

Chikungunya and Zika Viruses. 1st Edition. Global Emerging Health Threats.

Edited by S. Higgs, D. Vanladingham, A. Powers.
2018, pp 398, USD 140.25, ISBN: 978-0-128-11865-8.
Academic Press, London, UK.

This book is the go-to resource for both historical and current information on this important virus that is rapidly increasing its global range. Epidemics since 2005 have spread from Africa and Asia, and through Europe, and an ongoing epidemic has caused nearly two million cases in the Americas. It causes severe crippling arthritis, with symptoms lasting for months or years. As no vaccine or treatment is available, there is international interest in the virus, thus funding opportunities for research have dramatically increased. This book presents our understanding of the virus, bringing comprehensive knowledge in a single source.

Key Features: Provides a comprehensive collection of the state-of-the-art on CHIKV biology in a go-to reference book; edited by leaders in the field who provide a single, up-to-date source of information; gives a better understanding of the transmission and spread of chikungunya virus, a clear, coherent description of the outcomes of infection (both acute and chronic), and its biology and risk factors; pulls relevant background information to justify projects of many professionals developing vaccines and mosquito vector control approaches.