Book Reviews

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Regenerative Nephrology. 2nd Edition.

Edited by M. Goligorsky.
2021, pp 528, USD 148.75, ISBN: 978-0-128-23318-4.
Academic Press, Elsevier, Cambridge, MA, USA.

Since the publication of the first edition of this book in 2010, an explosion of spectacular discoveries in the field of regeneration has compelled the current revisit of the field of Regenerative Nephrology. This second edition features subjects as diverse as age and gender influencing regenerative processes; mechanisms and pathways of premature cell senescence affecting kidney regeneration; the ways intrinsic regenerative processes can become subverted by noxious stressors eventuating in disease progression; novel mechanistic and engineering efforts to recreate functional kidney or its component parts; cell reprogramming and reconditioning as emerging tools of future regenerative efforts; and effects of various biologicals on kidney regeneration. These newer additions to the armamentarium of Regenerative Medicine and Nephrology have become an integral part of the second edition of the book. Cutting-edge investigations are summarized by the constellation of the most experienced contributing authors coming together from around the world under the umbrella of the second edition.

Key Features: A significant expansion of section on induced pluripotent cells and trajectories of their differentiation. This will be followed by mechanisms and modalities of cell reprogramming for therapeutic purposes; A new section on tissue engineering of the kidney of interest to nephrologists and urologists; An entire section dedicated to causes of regenerative failure with the emphasis on recent discoveries of senescent cells in kidney disease, pathologic effects of senescent cells, advents in senotherapies and rejuvenation therapies; A vastly expanded section on pharmacotherapies promoting kidney regeneration, trials of engineered organs, manufacturing in regenerative medicine and smooth transition to the clinical trials, with an update on some ethical issues.

Glioblastoma Resistance to Chemotherapy: Molecular Mechanisms and Innovative Reversal Strategies, Volume 15. 1st Edition.

Edited by R. Paulmurugan, T. Massoud.
2021, pp 828, USD 148.75, ISBN: 978-0-128-21567-8.
Academic Press, Elsevier, Cambridge, MA, USA.

Glioblastoma Resistance to Chemotherapy: Molecular Mechanisms and Innovative Reversal Strategies brings current knowledge from an international team of experts on the science and clinical management of glioblastoma chemoresistance. The book discusses topics such as molecular mechanisms of chemoresistance, experimental models to study chemoresistance, chemoresistance to drugs other than Temozolomide, and specific strategies to reverse chemoresistance. Additionally, it encompasses information on how to mitigate chemoresistance by targeted enhancement of p53 function. This book is a valuable resource for cancer researchers, oncologists, neuro-oncologists and other members of the biomedical field. Glioblastoma (GBM) is the most invasive and malignant primary brain tumor in humans with poor survival after diagnosis, therefore it is imperative that molecular and cellular mechanisms behind therapy resistant GBM cells, as well as the therapeutic strategies available to counter the resistance are comprehensively understood.

Key Features: Provides comprehensive, core knowledge related to the entire discipline of glioblastoma chemoresistance, from its many etiological mechanisms, to specific strategies to reverse resistance; Presents current information from an international team of experts on the basic science, pre-clinical research, and clinical management of glioblastoma chemoresistance; Discusses molecular and cellular mechanisms behind therapy resistant glioblastoma cells, as well as the therapeutic strategies available to counter this resistance.

The Lung. 1st Edition.

Edited by A. El-Hashash.
2021, pp 174, USD 148.75, ISBN: 978-0-128-21206-6.
Academic Press, Elsevier, Cambridge, MA, USA.

In the lung, more recent data have been accumulated on lung stem cell biology/function and the potential applications of stem cells in pulmonary diseases that are facilitated by the recent development of a broad range of cutting edge in vitro and in vivo research tools and approaches, including mouse and human organoid cultures, genetic editing in vitro and in vivo, human induced pluripotent cell (iPS cell) models of disease, haploid cells for genetic as well as compound screening paradigms, genetically engineered mice, and stem cell transplantation to cure diseases.

Stem Cell Innovation in Health and Disease: Volume 2: The Lung, contains two major sections describing cutting edge research for understanding stem cell functions in the lung and respiratory system, and for developing methods to bring stem cells from bench to bedside; respectively. Each section includes insights ranging from using mouse and human organoid cultures, genetic editing in vitro and in vivo, and human induced pluripotent cells (iPSCs) to study stem cell functions and model lung diseases, through the cutting-edge research aiming to bring stem cells from bench to bedside, including the potential application of iPSCs, ESCs and blood stem cells (stem cell transplants) in the treatment of lung diseases/disorders. This book, therefore, discusses the fact-based promise of stem cells and regenerative medicine in the lung in the real world.

Key Features: Provides intensive scientific background and most recent information on cutting edge research to understand respiratory stem cell functions and develop methods to bring stem cells from bench to bedside for different lung diseases; Analyzes the current

state, opportunities, and challenges of innovative technologies and stem cells from bench to bed, including organoids and iPSC-derived alveolar epithelia cell therapy in the lung; Contains two major sections describing cutting-edge research for understanding stem cell functions and for developing methods specific to the lung.

The Intestine. 1st Edition.

Edited by A. El-Hashash, E. Meguid.
2021, pp 204, USD 148.75, ISBN: 978-0-128-21269-1.
Academic Press, Elsevier, Cambridge, MA, USA.

The intestine is among the leading organs, in which several cutting edge in vitro and in vivo research tools and approaches have recently been developed and used to investigate stem cell biology/function, and the potential applications of stem cells in the treatment of intestinal diseases. These cutting-edge research tools and approaches involve human and murine organoid cultures, genetic editing in vitro and in vivo, human induced pluripotent cell (iPS cell) models of disease, haploid cells for genetic as well as compound screening paradigms, genetically engineered mice, and stem cell transplantation to cure diseases.

Stem Cell Innovation in Health and Disease: Volume 1: The Intestine contains two major sections describing cutting edge research for understanding stem cell functions in the intestine, and for developing methods to bring stem cells from bench to bedside; respectively. Each section includes insights ranging from using mouse and human organoid cultures, genetic editing in vitro and in vivo, and human induced pluripotent cells (iPSCs) to study stem cell functions and model intestinal diseases, through the cutting-edge research, including the potential application of iPSCs, ESCs and blood stem cells (stem cell transplants) in the treatment of intestinal diseases/disorders. This volume, therefore, discusses the fact-based promise of stem cells and regenerative medicine in the intestine in the real world.

Key Features: Provides intensive scientific background and most recent information on cutting edge research to understand intestinal stem cell functions and develop methods to bring stem cells from bench to bedside for different intestinal diseases; Analyzes the current state, opportunities, and challenges of innovative technologies and stem cells from bench to bed, including organoids and the CRISPR gene editing system in the intestine; Contains two major sections describing cutting-edge research for understanding stem cell functions and for developing methods specific to the intestine.

Methods in iPSC Technology. 1st Edition.

Edited by A. Birbrair.
2021, pp 370, USD 148.75, ISBN: 978-0-323-85766-6.
Academic Press, Elsevier, Cambridge, MA, USA.

Methods in iPSC Technology, Volume Nine in the Advances in Stem Biology series, addresses the methods used for induced pluripotent stem cell formation, maintenance, expansion and differentiation. The ability to reprogram different cell types to induced pluripotent stem cells offers an opportunity to generate pluripotent patient-specific cell lines that can help in the understanding of multiple human disorders. This volume addresses a variety of methods used with iPSCs, such as magnetic nanoparticles, combining bioscaffolds, hiPSC expansion and differentiation, biomaterials for iPSCs, CRISPR/Cas9, and much more. The volume is written for researchers and scientists in stem cell therapy, cell biology, regenerative medicine and organ transplantation; and is contributed by world-renowned authors in the field.

Key Features: Ideal for researchers and scientists in stem cell therapy, cell biology, regenerative medicine and organ transplantation; Presents a comprehensive solution for both graduate and undergraduate students in a variety of fields of study.

Practical Biostatistics. 2nd Edition. A Step-by-Step Approach for Evidence-Based Medicine.

Edited by M. Suchmacher, M. Geller.
2021, pp 206, USD 84.95, ISBN: 978-0-323-90102-4.
Academic Press, Elsevier, Cambridge, MA, USA.

Practical Biostatistics: A Step-by-Step Approach for Evidence-Based Medicine, Second Edition presents a complete resource of biostatistical knowledge meant for health sciences students, researchers and health care professionals. The book's content covers the investigator's hypothesis, collective health, observational studies, the biostatistics of intervention studies, clinical trials and additional concepts. Chapters are written in a didactic way, making them easier to comprehend by readers with little or no background on statistics. Evidence-based medicine aims to apply the best available evidence gained from the scientific method to medical decision-making using statistical analyses of scientific methods and outcomes to drive further experimentation and diagnosis. With a detailed outline of implementation steps complemented by a review of important topics, this book can be used as a quick reference or hands-on guide on how to effectively incorporate biostatistics in clinical trials and research projects.

Key Features: Explains biostatistics in a didactic way for students, researchers and professionals of health sciences with little or no background on mathematics; Presents a new section dedicated to epidemiology and public health, broadening content from the previous edition; Written by medical doctors with vast experience on biostatistics and teaching who develop the content based on real cases for better applicability by readers.