



River Publishers

River Publishers Book Catalogue

Series in Biotechnology and Medical
Research

River Publishers Series in Biotechnology and Medical Research

Artificial Intelligence for Health 4.0: Challenges and Applications

Editors:

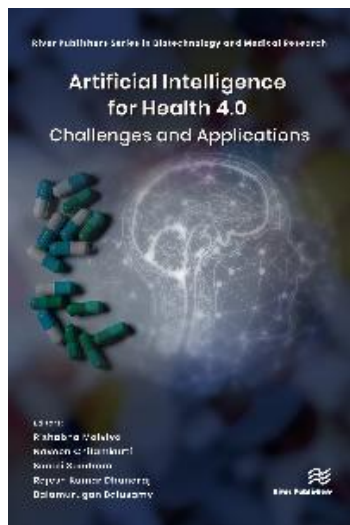
Rishabha Malviya, Galgotias University, India
Naveen Chilamkurti, La Trobe University, Australia
Sonali Sundram, Galgotias University, India
Rajesh Kumar Dhanaraj, Galgotias University, India
Balamurugan Balusamy, Galgotias University, India

ISBN: 9788770227841

e-ISBN: 9788770227834

Available From: September 2022

Price: € 108.50



Description:

Healthcare is one of the major success stories of our times. Medical science has improved rapidly, raising life expectancy around the world. However, as longevity increases, healthcare systems face growing demands for their services, rising costs, and a workforce that is struggling to meet the needs of its patients. Healthcare is one of the most critical sectors in the broader landscape of big data because of its fundamental role in a productive, thriving society. Building on automation, artificial intelligence (AI) has the potential to revolutionize healthcare and help address some of the challenges set out above. The application of AI to healthcare data can literally be a matter of life and death. AI can assist doctors, nurses, and other healthcare workers in their daily work. AI in healthcare can enhance preventive care and quality of life, produce more accurate diagnoses and treatment plans, and lead to better patient outcomes overall. This book gives insights into the latest developments of applications of AI in biomedicine, including disease diagnostics, pharmaceutical processing, patient care and monitoring, biomedical information, and biomedical research. It also presents an outline of the recent breakthroughs in the application of AI in healthcare, describes a roadmap to building effective, reliable, and safe AI systems, and discusses the possible future direction of AI augmented healthcare systems. AI has countless applications in healthcare. Whether it's being used to discover links between genetic codes, to power surgical robots or even to maximize hospital efficiency; AI has been a boon to the healthcare industry.

Keywords: Artificial Intelligence, Healthcare, Drug Discovery, Patient Monitoring, Disease Diagnosis, Machine learning, Computational Tools, Targeted Medical Imaging

River Publishers Series in Biotechnology and Medical Research

Stem Cell Biology and Regenerative Medicine, Second edition

Editors:

Charles Durand, Sorbonne Université, France

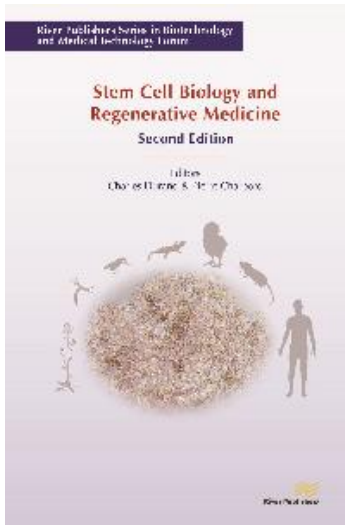
Pierre Charbord, Inserm, France

ISBN: 9788770224031

e-ISBN: 9788770224024

Available From: September 2021

Price: € 115.00



Description:

The study of stem cell biology is under intensive investigation. Because stem cells have the unique capability to self-renew and differentiate into one or several cell types, they play a critical role in development, tissue homeostasis and regeneration. Stem cells also constitute promising cell candidates for cell and gene therapy.

The aim of this book is to provide readers and researchers with timely and accurate knowledge on stem cell biology and regenerative medicine. This book will cover many topics in the field and is based on conferences given by recognized scientists involved in the international master course on stem cell biology at Sorbonne Université in Paris.

Keywords: pluripotent stem cells, adult stem cells, ontogeny, phylogeny, differentiation, reprogramming, microenvironment, transcription, epigenetics, regeneration, repair, cancer, cell therapy, gene therapy, omics and computational biology, epistemology, regulatory issues.

River Publishers Series in Biotechnology and Medical Research

Hot topics in Cardio-Oncology

Editors:

Valentina Mercurio, Federico II University, Italy

.Pasquale Pagliaro, University of Turin, Torino, Italy and National Institute for Cardiovascular Research (INRC), Italy

Claudia Penna, University of Turin, Torino, Italy and National Institute for Cardiovascular Research (INRC), Italy

Raffaella Rastaldo, University of Turin, Torino, Italy

ISBN: 9788770226288

e-ISBN: 9788770226271

Available From: August 2021

Price: € 95.00



Description:

Over the last years, thanks to growing advances in the field of cancer therapies, a considerable decrease in cancer mortality has been observed. Unfortunately, such therapies have shown a wide spectrum of cardiotoxicities.

This book provides the readers with the latest advances and insights in the ever-expanding field of Cardio-Oncology. Specific topics discussed in the book include the potential role of inflammation in Cardio-Oncology and the description of the different manifestations of cardiotoxicities (including vascular toxicity, systemic hypertension, arrhythmias), analyzing the complex relationships between cancer and heart failure, two conditions whose prevalence increases with ageing. Furthermore, the role of biomarkers and imaging in cardio-oncology is discussed.

Keywords: cardio-oncology, cardiotoxicity, chemotherapies, inflammation, vascular toxicity, systemic hypertension, arrhythmias, heart failure, biomarkers, metabolomic, imaging.

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River Publishers Series in Biotechnology and Medical Research

Basic Cardiovascular Physiology **From Molecules to Translational Medical Science**

Authors:

Pasquale Pagliaro, University of Turin, Italy, and National Institute for Cardiovascular Research (INRC), Italy

Claudia Penna, University of Turin, Italy, and National Institute for Cardiovascular Research (INRC), Italy

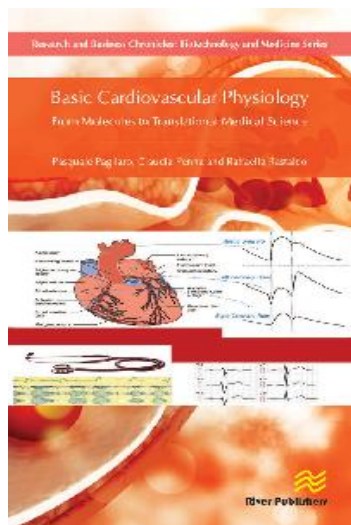
Raffaella Rastaldo, University of Turin, Italy

ISBN: 9788770222006

e-ISBN: 9788770221993

Available From: July 2020

Price: € 95.00



Description:

This book focuses on established cardiovascular principles and highlights some of the progress achieved by recent research in the cardiovascular field. The authors report the basic concepts related to the functioning of the cardiovascular system necessary for medical students to understand. To foster learning, in each chapter the fundamental points are highlighted in italics and/or bold. In addition, we have added boxes that contain some more detailed information about physiological mechanisms or clinical aspects are analyzed and described in greater detail. The book describes the structure and function of the heart and vascular system for the reader to understand how the cardiovascular system responds in both health and disease. The book conveys a unified vision of the function of the heart and the vascular system, explaining the complexity of the system that goes far beyond the integrated connection between preload, afterload and cardiac contractility. The endothelium covers the internal part of the whole cardiovascular system; therefore, endothelial physiology is treated in several chapters. Given the importance of coronary circulation in cardiac pathophysiology, this special circulation is described in detail and enriched with the most up-to-date information. Several paragraphs and boxes on clinical implications are dedicated to the principles of electrophysiology and the electrocardiogram. A space is also dedicated to myocardial ischemia/reperfusion injury and cardioprotective procedures. The book is written in a linear and simple language without compromising the scientific rigor of the various topics covered.

Keywords: Arrhythmias, Baroreceptors, Biology of Cardiomyocytes, Biology of Endothelial Cells, Biology of Vascular Smooth Muscle, Cardiac Cycle, Cardiac Output, Cardiovascular Pathophysiology, Cardiovascular Receptors, Cardiovascular Response to Stress, Chemoreceptors, Coronary Circulation, Cutaneous Circulation, Electrocardiogram, Flow, Functional Tissues of the Heart, Hemodynamics, Lymph, Pressure, Pulmonary Circulation, Renal Circulation, Resistance to Blood Flow, Solute and Fluid Exchange, Splanchnic Circulation, Stroke Volume, Sympathetic and Parasympathetic Systems.

River Publishers Series in Biotechnology and Medical Research

Chlamydiae and Chlamydial Infections

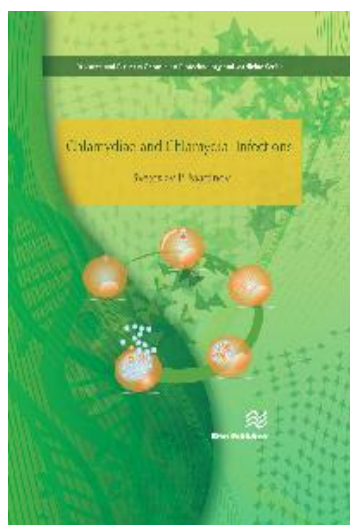
Author: Svetoslav P. Martinov, National Diagnostic and Research Veterinary Medical Institute – Sofia, Bulgaria

ISBN: 9788793609518

e-ISBN: 9788793609501

Available From: April 2018

Price: € 90.00



Description:

Chlamydiae are a group of obligate intracellular microorganisms with a homogeneous group-specific antigenic structure, and a unique mode of development. The infections caused by them are unprecedented and wide-spread throughout the world, including a broad range of hosts among domestic and animal species and humans, and a variety of clinical manifestations. The uniqueness of chlamydia pathology consists mainly in the fact that the agents of the individual diseases are so close in their biological properties that they are represented only by the single genus Chlamydia, which includes all currently recognized species.

Although chlamydiae and chlamydial infections were discovered a long time ago, they are still under-researched and relatively unknown to broad circles of microbiologists, virologists, epidemiologists and clinicians. A number of issues relating to molecular biology, pathogenesis, mechanisms of Chlamydia development and their interactions with cells, as well as their genetic conditioning and regulation, remain unclear. The same is true for ambiguities, problems and contradictions related to epidemiology, diagnostic approaches, immunity and vaccines. Based on scientific facts and the analysis of literature, and the experience of the author, Chlamydiae and Chlamydial Infections attempts to shed light on the cited problems, in terms of modern microbiology, cell biology and molecular biology. The scientific topics discussed include:

- Biological, morphological and antigenic properties of Chlamydia spp
- Genes, genomic structure and genetic regulations
- Conventional diagnostic methods and examinations
- Detection and differentiation of Chlamydia organisms by DNA detection systems
- Clinical forms and manifestations and drug therapy
- Pathology
- Epidemiological peculiarities of Chlamydia - induced diseases in animals and humans
- Immunity and vaccines

Keywords: Chlamydia, chlamydial infections, chlamydiosis, psittacosis, ornithosis, experimental infections, ultrastructure, elementary bodies, developmental cycle, genes, genomic structure, molecular biology, polymerase chain reaction, antigens, antibodies, isolation and cultivation, epidemiology, clinical diseases, pathologic changes

River Publishers Series in Biotechnology and Medical Research

Recent Trends in Nanomedicine and Tissue Engineering

Editors:

Jince Thomas, Mahatma Gandhi University, Kerala, India

Sabu Thomas, Mahatma Gandhi University, Kerala, India

Jiya Jose, Mahatma Gandhi University, Kerala, India

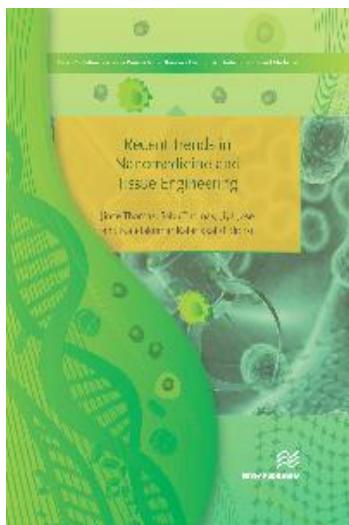
Nandakumar Kalarikkal, Mahatma Gandhi University, Kerala, India

ISBN: 9788793609167

e-ISBN: 9788793609150

Available From: December 2017

Price: € 90.00



Description:

Recent trends in Nanomedicine and Tissue Engineering covers numerous recent technological and research accomplishments in the area of Nanomedicine and Tissue Engineering. The introduction of nanomaterials and nanotechnology have led to crucial advancements in the fields of nanomedicine and tissue engineering, as well as cancer therapies and drug delivery systems.

The book follows recent trends in drug delivery systems, wound healing fields, cancer therapies, protection of teeth and also other health care systems.

Technical topics discussed include:

- Nanorobots
- Tissue engineering
- Gene therapy
- Drug delivery
- Nanomotors
- Nanogels

Keywords: Cancer therapies, drug delivery, tissue engineering, wound healing, nanogels, toxicity

River Publishers Series in Biotechnology and Medical Research

Q Fever

Author: Svetoslav P. Martinov, National Diagnostic and Research Veterinary Medical Institute, Sofia, Bulgaria

ISBN: 9788793519497

e-ISBN: 9788793519480

Available From: February 2017

Price: € 90.00



Description:

Information on the changing epidemiology and expanding nosological range of Q fever in humans has gained much attention in the past decade. Q fever is a zoonotic disease caused by the highly infectious pathogen *Coxiella burnetii* and has global distribution with important health, social and economic implications. A number of other properties and characteristics of the causative agent and disease, define Q fever as a lasting and difficult veterinary and epidemiological problem, namely: the adaptability of *C. burnetii* and its high resistance in the external environment; the possibility of the existence of the agent in three- and two-member parasitic systems; the availability of natural and agricultural foci of infection; peculiarities of pathogenesis in humans and animals, and the mechanisms of excretion of the pathogen into the environment; and the high susceptibility of non-immune populations of animals and people. Given that *C. burnetii* is included in the arsenal of bacteriological weapons as agent with potential bioterrorist threat must be borne in mind the strategic importance of this microorganism

This book summarizes and analyzes the scientific facts and developments about Q Fever researched worldwide and performed by the author to propose a system for monitoring, control and prevention covering the main necessary actions, measures and activities in the fight against this fever. There is an uneven level of knowledge of Q fever in animals and humans in various countries on the planet, while the assessment of the relevance of the problem is often ambiguous and unrealistic in terms of veterinary, medical and social and economic aspects, which can result in an incomplete diagnosis, inaccurate information about the spread of disease and lack of purposeful struggle.

The scientific topics discussed include:

- Biological, morphological and immunological properties of *Coxiella burnetii*
- Diagnosis, clinical forms and manifestations, pathologic changes
- Epidemiology of Q fever in animals and humans
- Prevention and Control

Keywords: Q fever, *Coxiella burnetii*, epidemics, diagnosis, disease prevention

River Publishers Series in Biotechnology and Medical Research

Inflammatory Bowel Disease, 2nd Edition

Editors:

Wilton Schmidt Cardozo, Padre Bento Hospital Complex, Brazil

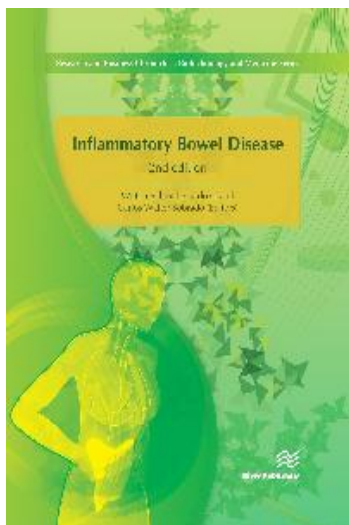
Carlos Walter Sobrado, São Paulo Medical Association, Brazil

ISBN: 9788793379190

e-ISBN: 9788793379183

Available From: March 2016

Price: € 115.00



Description:

Inflammatory Bowel Disease, 2nd edition presents updated information about inflammatory bowel disease in health-care workers. The theoretical content is based on controlled and randomized clinical studies in the meta-analyzes, conducted appropriately and especially in global consensus and led by international experts. As such, the reader has access the important topics required to understand the ulcerative colitis and Crohn's disease.

The editors and chapter authors, all established names within gastroenterology and coloproctology, and having extensive experience in assisting patients with inflammatory bowel disease, provide a concise book with quick and objective reference texts that complement the knowledge of students, doctors, nurses, nutritionists and psychologists of daily clinical practice.

Keywords: Inflammatory Bowel Disease, Medicine, Clinical Medicine, Gastroenterology, Coloproctology, Ulcerative Colitis, Crohn's Disease, Perianal Fistulizing, Histopathological Diagnosis, Radiological Diagnosis, Endoscopic Diagnosis, Video Capsule Endoscopy, Ophthalmologic Manifestations in Inflammatory Bowel Disease, Rheumatological Manifestations, Hematological Manifestations, Thromboembolic Manifestations, Hepatic Manifestations

River Publishers Series in Biotechnology and Medical Research

Post-Genomic Approaches in Cancer and Nano Medicine

Editors:

Kishore R. Sakharkar, Omicsvista, Singapore

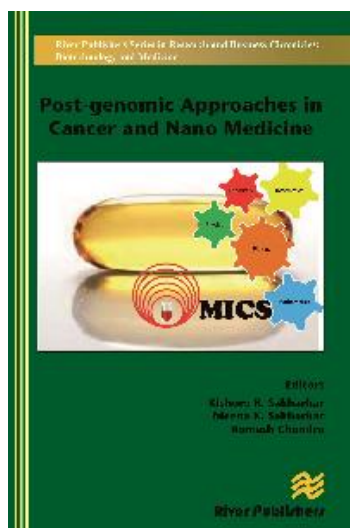
Meena K. Sakharkar, University of Saskatchewan, Canada

Ramesh Chandra, University of Delhi, India

ISBN: 9788793102866

Available From: April 2015

Price: € 95.00



Description:

Understanding the molecular mechanisms of cancer is the key for transforming cancer medicine. A substantial proportion of human genes show alternative splicing and mis-regulation of Pre-mRNA splicing is seen in several cancers.

This book further investigates these matters. The first few chapters provide an update on the role of genomics in understanding alternative splicing, and targets in cancer pathogenesis. Advances and prospects in applications of nanotechnology for cancer prevention, detection and treatment are a promising field of research. The subsequent chapters provide insights on how nanotechnology-based therapeutics are moving towards revolutionizing cancer and infectious disease treatment by minimizing toxicity and facilitating targeted delivery of drugs.

Technical topics discussed in the book include:

- Alternative splicing and cancer
- Cancer imaging
- Nanomaterials in infectious diseases
- Nanomedicine in oxidative stress and cancer
- Nanoparticle based drug delivery systems

Keywords: Cancer, alternative splicing, non-coding RNAs, PPAR gamma, cancer imaging, nanomedicine, nanoparticles, nanomaterials, drug delivery

River Publishers Series in Biotechnology and Medical Research

Post-Genomic Approaches in Drug and Vaccine Development

Editors:

Kishore R. Sakharkar, Omicsvista, Singapore

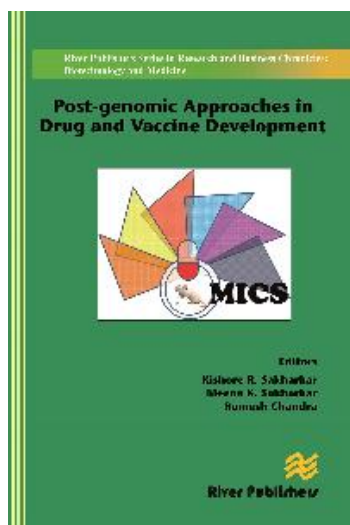
Meena K. Sakharkar, University of Saskatchewan, Canada

Ramesh Chandra, University of Delhi, India

ISBN: 9788793102842

Available From: April 2015

Price: € 95.00



Description:

Over the past decade, genome sequencing projects and the associated efforts have facilitated the discovery of several novel disease targets and the approval of several innovative drugs. To further exploit this data for human health and disease, there is a need to understand the genome data itself in detail, discover novel targets, understand their role in physiological pathways and associated diseases, with the aim to translate these discoveries to clinical and preventive medicine. It is equally important to understand the labors and limitations in integrating clinical phenotypes with genomic, transcriptomic, proteomic and metabolomic approaches. This book focuses on some key advances in the field.

Technical topics discussed in the book include:

- Drug discovery
- Target identification and prioritization
- Hypothesis driven multi-target drug design
- Genomics in vaccine development
- Gene regulatory networks
- Vaccine design and development
- Prediction of drug side effects *in silico*

Keywords: Target identification, target prioritization, drug discovery, genomics, drug design, GRN, vaccine development, vaccine design, systems biology

River Publishers Series in Biotechnology and Medical Research

Stem Cell Biology and Regenerative Medicine

Editors:

Pierre Charbord, University Pierre and Marie Curie

Charles Durand, University Pierre and Marie Curie

ISBN: 9788793237070

Available From: January 2015

Price: € 115.00



Description:

The study of stem cell biology is under intensive investigations. Because stem cells have the unique capability to self-renew and differentiate into one or several cell types, they play a critical role in development, tissue homeostasis and regeneration. Stem cells also constitute promising cell candidates for cell therapy.

The aim of this book is to provide an accurate knowledge on stem cell biology and regenerative medicine. This book will cover many topics in the field and is based on seminars given by recognized scientists involved the international master program on stem cell biology at the University Pierre and Marie Curie (UPMC) in Paris.

Keywords: pluripotent stem cells, adult stem cells, ontogeny, phylogeny, differentiation, reprogramming, microenvironment, transcription, epigenetics, regeneration, repair, cancer, cell therapy, epistemology, regulatory issues.

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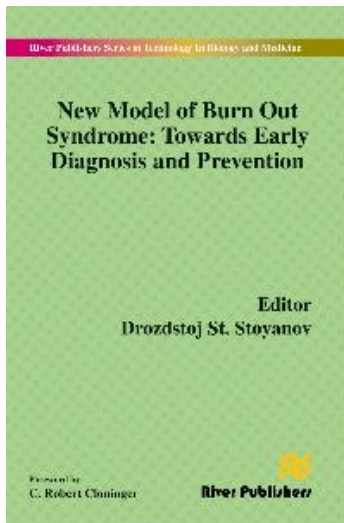
New Model of Burn Out Syndrome: Towards early diagnosis and prevention

Editor: Drozdstoj Stoyanov, Medical University, Plovdiv. Bulgaria

ISBN: 9788793102705

Available From: June 2014

Price: € 90.00



Description:

This book is based on our most recent investigations revealing the complexity of the determinants of burn out in different populations at risk (health care professions, teachers, social workers etc.). Based on our empirical study we have developed a model of vulnerability to burn out which explains it as a specific complementary interaction between certain personality profile and the psychological climate at work place. In the course of evaluation there have been employed different inventories which are now validated as an assessment battery in about 300 subjects. Temperament and Character Inventory (revised) has been exclusively standardized for Bulgarian population as well. Although burn out syndrome (BOS) is thoroughly discussed in modern literature, the present proposal is unique in the following aspects:

- It emphasizes the role of personality profiling understood as complementary construct to the dimensional measures of psychological climate. In this way the authors challenge traditional views of BOS as systematic phenomenon
- This book aims at establishment of the vulnerability to BOS (proneness) as well as to revealing of the protective factors and therefore to underpin early diagnosis and prevention programs.
- Our book brings together several perspectives: the clinical (psychological and psychopathological) with the management perspective. In this way it is most suitable for both general and specialized audience, including health care managers and mental health professionals, such as trainees in psychiatry
- This book consist of entirely original investigation of BOS in specific populations at risk with novel battery of assessment tools

Keywords: burn out syndrome, temperament, character, psychological climate, vulnerability, health management

River Publishers Series in Biotechnology and Medical Research

Fisiologia cardiovascolare: Un approccio integrato

Author: Gianni Losano, Raffaella Rastaldo, Pasquale Pagliaro, Università di Torino, Italia, Amedeo Chiribiri, King's College London, UK

ISBN: 9788792982063

Available From: January 2013

Price: € 110.00



Description:

Lo scopo generale di questo testo è quello di offrire una presentazione integrata dei vari aspetti della fisiologia cardiovascolare. L'integrazione riguarda anche le parti di ogni singolo capitolo in modo che il lettore sia utilmente seguito nell'apprendimento. Accanto a questa impostazione, gli autori hanno anche cercato di fornire alcuni aggiornamenti collegandoli con le nozioni ormai consolidate. Per adeguarsi al piano prefissato, il libro descrive la fisiologia del cuore dalla struttura alla funzione. Di conseguenza l'elettrofisiologia è illustrata con lo scopo di chiarire le proprietà dei tessuti funzionali del cuore, vale a dire l'automatismo, la conduttività, l'eccitabilità e la contrattilità, quest'ultima vista come base dell'emodinamica. Inoltre la fisiologia del cuore è trattata negli aspetti che la collegano al postcarico arterioso, alla gettata e al ritorno venoso in condizioni normali e patologiche. Un'efficace integrazione delle varie parti richiede ovviamente una scrittura semplice, che tuttavia non comprometta il rigore del discorso scientifico.

A differenza di altri pur prestigiosi testi che spesso limitano assai la descrizione della circolazione coronarica, questo libro cerca di trattare in modo adeguato un argomento estremamente importante nella patologia cardiaca. Spazio infine è stato dato a temi emergenti quali i fattori endoteliali e le procedure di protezione miocardica.

Contenuto: Prefazione; Il cuore e il circolo; Struttura della fibra miocardica; Elettrofisiologia cardiaca; I tessuti funzionali del cuore; Il ciclo cardiaco; La gettata cardiaca e il ritorno venoso al cuore; I fattori che controllano la forza di contrazione nel cuore; La pressione arteriosa; Il lavoro e il metabolismo cardiaco; L'elettrocardiogramma; L'emodinamica vascolare; Il controllo nervoso dell'apparato cardiovascolare; Il controllo umorale dell'apparato cardiovascolare; Le circolazioni distrettuali; La circolazione polmonare; Adattamenti dell'apparato cardiovascolare a situazioni di emergenza; La protezione del miocardio contro danni da ischemia-riperfusion; La circolazione della linfa; Imaging funzionale dell'apparato cardiovascolare: come studiare la fisiologia umana in vivo

Keywords: Fisiologia cardiovascolare, Cuore, Miocardio, Ciclo cardiaco, Circolazione, Vasi.

The Principles and Practice of Antiaging Medicine for the Clinical Physician

Author: Vincent C. Giampapa, University of Medicine and Dentistry of New Jersey, USA

ISBN: 9788792329431

Available From: January 2013

Price: € 98.50



Description:

This book takes a whole new perspective concerning the approach to treating aging process. Most doctors feel they have no other options but to operate on the physical processes that occur as we grow older. Now, for the first time, there is another scientific approach that impacts on the causes of aging and not just on the effects.

The basic principles and practice of anti-aging medicine and age management clearly and succinctly explains the solid scientific research behind doctor Giampapa's revolutionary theories, revealing that a key number of bio chemical processes at the cellular level can be clinically manipulated to successfully improve the physical signs of aging even without surgery.

Dr. Giampapa gives the clinical dermatologist and plastic surgeon the knowledge and tools to successfully incorporate anti-aging medicine into their practice. These tools not only improve the longevity of their cosmetic procedures but markedly enhance the quality of life and health that patients can experience.

Throughout the book a new concept of aging is built around preserving DNA function and replication. Treatment concepts are centered around:

- Controlling blood sugar levels and glycation;
- Inhibiting cellular inflammation;
- Supplying the correct combination of antioxidants;
- Improving gene regulation and methylation;
- Following a simple diet guide and exercise plan;
- Regulating age-related hormonal declines;
- Improving DNA repair and decreasing DNA damage.

Containing hundreds of scientific medical references as a valuable resource for future investigation and information, this book is an essential addition to the cosmetic physicians library.

Keywords: The Principles and Practice of Antiaging Medicine for the Clinical Physician

Tumor marker & Carcinogenesis

Author: Manjul Tiwari

ISBN: 9788792329370

Available From: November 2012

Price: € 70.00



Description:

Cancer may be regarded as a group of diseases characterized by an (i) abnormal growth of cells (ii) ability to invade adjacent tissue and even distant organs and (iii) the eventual death of the affected patient if the tumor has progressed beyond that stage when it can be successfully removed. Cancer can occur at any site or tissue of the body and may involve any type of cells.

In 1995 the south East Asia Region of WHO found that there is great majority of cancers of the oral cavity in India. These and other international variations in the pattern of oral cancer are attributed to multiple factors such as environmental factors, food habits, life style, genetic factor or even inadequacy in detection and reporting of cases. Oral cancers are also predominantly environment related and have socio-cultural relationship³¹.

Majority of malignancies arising in oral mucosa are epithelial in origin approximately 90% of being squamous cell carcinomas. Management of oral carcinoma includes early diagnosis, accurate assessment of prognosis and proper therapeutic intervention. Tumormarkers play an important role in all the aspect of management of oral cancer.

Tumor markers are a group of proteins (oncoprotein, immunoglobulin, albumin, globulin), hormones (adrenal corticotrophic hormone (ACTH), calcitonin, catecholamines), enzymes (acid phosphatase, alkaline phosphatase, amylase, creatine kinase), receptors (estrogen receptor, progesterone receptor, interleukin-2 receptor, and epidermal growth factor receptor), and other cellular products that are over expressed (produced in higher than normal amounts) by malignant cells⁴⁸. Tumor markers are usually normal cellular constituents that are present at normal or very low levels in the blood of healthy persons and the Carcinogenesis (meaning literally, the creation of cancer) is the process by which normal cells are transformed in to cancer cells.

Carcinogenesis is a multistep process resulting from the sequential perturbation of both positive and regulatory networks that normally allow the somatic cell to live a cooperative existence within the society of normal cells that comprise an organism. Normal cells even programmed to give their own life for the good of the organism. Any genetic or epigenetic changes that allow a cell to escape these societal constraints represent a step toward cancer. Survival of the fittest cells allows for the clonal expansion of progeny cells with ever increasing numbers of genetic or epigenetic changes that favor even greater antisocial and selfish behavior of the cancer cell within the organism. Carcinogenesis is caused by mutation of the genetic material of normal cells, which upsets the normal balance between proliferation and cell death. This results in uncontrolled cell division and tumor formation. The uncontrolled and often rapid proliferation of cells can lead to benign tumors. Some types of these may turn in to malignant tumors.

Keywords: Tumor

River Publishers Series in Biotechnology and Medical Research

Alcohol, Tobacco and Oral Precancerous Disorders

Author: Manjul Tiwari, Sharda University, India

ISBN: 9788792329851

Available From: December 2011

Price: € 50.00



Description:

The combined effect of chewing tobacco (areca quid chewing) alcohol drinking and smoking greatly increase the risk of Oral Precancerous Disorders (like Leukoplakia, Erythroplakia, Oral submucous fibrosis and Verrucous lesions) in oral cavity. In developing countries of South East Asia, Indian people develop more oral precancerous disorders like Leukoplakia, Erythroplakia, Oral submucous fibrosis and Verrucous lesions compare to many other developed countries. It is estimated that in India 75% of cancers of oral cavity are attributable to tobacco chewing, smoking and alcohol drinking. So the purpose of this book is to present the correlations of these premalignant disorders microscopically with in tobacco users and alcohol drinkers.

Keywords: Alcohol, Tobacco and Oral Precancerous Disorders

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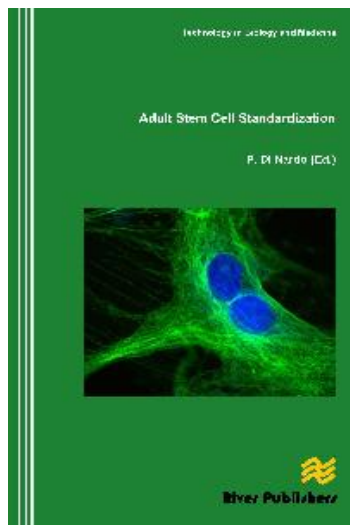
Adult Stem Cell Standardization

Editor: Paolo Di Nardo, University of Rome Tor Vergata, Rome, Italy

ISBN: 9788792329745

Available From: November 2011

Price: € 90.00



Description:

Stem cell research and technology represent a major challenge for treating otherwise non-curable patients. A decade of intensive research has demonstrated that initial hopes based more on the will to succeed than on solid scientific bases can be translated into factual techniques only by adopting more rigorous procedures and strategies. Among other major impediments, the failure so far experienced in applying stem cell technologies to repair parenchymal organs can be ascribed to the lack of sufficient knowledge of basic mechanisms, but also to the lack of standardized criteria and protocols. Very often each laboratory follows its own "recipe" using erratic nomenclature and non-comparable, if not confusing, experimental protocols. All this makes it difficult to learn from the others and, ultimately, hampers the advance of knowledge on stem cell behavior.

The ambitious goal of this book is to gather the most innovative and scientifically robust knowledge and technologies on stem cells and involve investigators from academy and industry in formulating recommendations to standardize the isolation and manipulation of stem cells using solid and well-documented knowledge rather than fragmentary and often unrepeatable experimental reports.

Keywords: Adult, Stem Cell, Paolo Di Nardo , Stem cell research and technology

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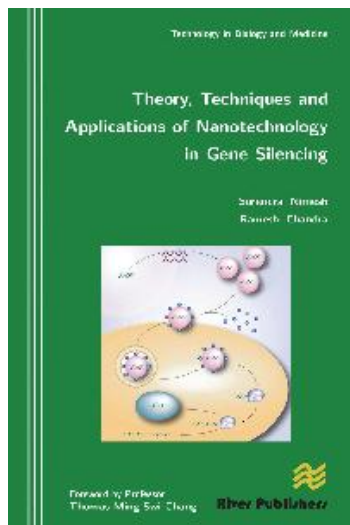
Theory, Techniques and Applications of Nanotechnology in Gene Silencing

Author: Surendra Nimesh, Clinical Research Institute of Montreal and Ramesh Chandra, University of Delhi, India

ISBN: 9788792329837

Available From: November 2011

Price: € 110.00



Description:

Gene silencing mediated through short interfering RNAs (siRNAs) is rapidly emerging as a new class of therapeutics for the treatment of inherited and acquired diseases. However, poor cellular uptake and instability in physiological conditions limits its therapeutic potential, hence there arises a need to develop a delivery system which can protect and efficiently transport siRNA to the target cells. Nanotechnology based non-viral vectors have been proposed as a potential alternate. Various polymeric nanoparticles have been shown as suitable delivery candidates with high cellular uptake efficiencies and advantage of reduced cytotoxicity. These delivery vectors form condensed complexes with siRNA which in turn provides protection to siRNA from enzymatic degradation and further leads to enhanced tissue and cellular targeting. Nanoparticles prepared from various polymers like polyethylenimine, chitosan have been largely exploited, as they bear several advantages such as, easy manipulability, high stability, low cost and high payload. Though numerous publications have appeared in the literature, there was still need to get more information under one roof, as book compilation which could provide a systematic account of all the aspects of nanotechnology mediated gene silencing right from the preparation of nanoparticles to in vitro and in vivo characterization followed by various applications in vitro and in vivo models. This book focuses on various aspects of nanotechnology based gene silencing. The initial chapters detail the techniques available for in vitro and in vivo characterization of nanoparticles. In the later chapters, exhaustive details about various polymeric systems employed for gene silencing has been accounted.

The important topics discussed in the book include:-

- Introduction to Nanotechnology
- Physicochemical? Characterization of Nanoparticles
- In Vitro and In Vivo Characterization of Nanoparticles
- Concept and Barriers to Gene Silencing
- Nanoparticles Mediated Targeted siRNA delivery
- Polymers for siRNA Delivery
- Chitosan
- Polyethylenimine
- Poly-L-lysine
- Atelocollagen
- Protamine
- Dendrimers
- Cyclodextrin
- Poly (D, L-lactide-co-glycolide)
- Nanomaterials for siRNA delivery; Keyword Index

Keywords: Nanotechnology, gene silencing, nanoparticles, nanoparticles characterization, nanospheres, nanocapsules, nanomaterials, siRNA delivery, polymers, dendrimers, chitosan, polyethylenimine, poly-L-lysine, atelocollagen, protamine, cyclodextrin, PLGA, gold nanoparticles, mesoporous silica nanoparticles, carbon nanotubes

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Description:

Welcome Message from the Chairman

Stem cell research and technology represent a major challenge for treating non-otherwise curable patients. A decade of intensive research has demonstrated that initial hopes based more on enthusiasm than on solid scientific bases can be translated in factual techniques only by adopting more rigorous procedures and strategies. Among other major impediments, the failure so far experienced in applying stem cell technologies to repair parenchymal organs can be ascribed to the lack of sufficient knowledge on basic mechanisms, but also standardized criteria and protocols. Very often, each laboratory follows its own "recipe" using erratic nomenclature and non comparable, if not confusing, experimental protocols.

All this makes it difficult to learn from the others and, ultimately, hampers the progression of knowledge on stem cell behaviour. The ambitious goal of this meeting is to gather the most innovative and scientifically robust knowledge and technologies on stem cells and involve investigators from academy and industry in formulating recommendations to standardize the isolation and manipulation of stem cells using solid and well-documented knowledge rather than fragmentary and often unrepeatabe experimental reports.

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