Cancer Immunology 1st Edition

#cancer immunology #immunotherapy #immune system cancer #oncology research #tumor microenvironment

Explore the foundational principles of cancer immunology with this essential 1st Edition. Delve into how the immune system recognizes and responds to cancer, offering crucial insights into immunotherapy and the complex interplay within the tumor microenvironment. This comprehensive guide is perfect for researchers, students, and clinicians seeking a thorough understanding of oncology immunology and the exciting advancements in combating cancer.

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Tumor Immunology

Advances in Immunology, a long-established and highly respected publication, presents current developments as well as comprehensive reviews in immunology. Articles address the wide range of topics that comprise immunology, including molecular and cellular activation mechanisms, phylogeny and molecular evolution, and clinical modalities. Edited and authored by the foremost scientists in the field, each volume provides up-to-date information and directions for the future. This volume focuses on tumor immunology. Contributions from leading authorities Informs and updates on all the latest developments in the field

Cancer Immunotherapy

For some time immunotherapy has been heralded as a breakthrough approach for cancer treatment. Although the potential of this strategy remains solid, the approach needs considerable refinement. Whilst some programmes are looking to increase the understanding of molecular and cellular mechanisms underlying the stimulation of antitumor immunity, others are trying to find the most appropriate clinical setting that will reveal the role of the immune system in combating cancer. Among the most important discoveries have been tumor-specific antigens. This thematic volume highlights some key issues and discusses where they may move forward. It has been put together by two leading cancer immunotherapists from two eminent institutions that focus on cancer research.

Cancer Immunology and Immunotherapy

Delivery Technologies for Immuno-Oncology: Volume 1: Delivery Strategies and Engineering Technologies in Cancer Immunotherapy examines the challenges of delivering immuno-oncology therapies. Immuno-oncology (IO) is a growing field of medicine at the interface of immunology and cancer biology leading to development of novel therapeutic approaches, such as chimeric antigen receptor T-cell (CAR-T) and immune checkpoint blockade antibodies, that are clinically approved approaches for cancer therapy. Although currently approved IO approaches have shown tremendous promise for

select types of cancers, broad application of IO strategies could even further improve the clinical success, especially for diseases such as pancreatic cancer, brain tumors where the success of IO so far has been limited. Nanotechnology-based targeted delivery strategies could improve the delivery efficiency of IO agents as well as provide additional avenues for novel therapeutic and vaccination strategies. Additionally, a number of locally-administered immunogenic scaffolds and therapeutic strategies, such as the use of STING agonist, could benefit from rationally designed biomaterials and delivery approaches. Delivery Technologies for Immuno-Oncology: Volume 1: Delivery Strategies and Engineering Technologies in Cancer Immunotherapy creates a comprehensive treaty that engages the scientific and medical community who are involved in the challenges of immunology, cancer biology, and therapeutics with possible solutions from the nanotechnology and drug delivery side. Comprehensive treaty covering all aspects of immuno-oncology (IO) Novel strategies for delivery of IO therapeutics and vaccines Forecasting on the future of nanotechnology and drug delivery for IO

Immunotherapy of Cancer

Immunotherapy of Cancer, Volume 143, the latest release in the Advances in Cancer Research series, provides invaluable information on the exciting and fast-moving field of cancer research. Contributions from leading experts in the field make this a must have update on the topic. Provides that latest information on cancer research Offers outstanding and original reviews on a range of cancer research topics Serves as an indispensable reference for researchers and students alike

Fundamental Mechanisms in Human Cancer Immunology

The interplay between tumors and their immunologic microenvironment is complex, difficult to decipher, but its understanding is of seminal importance for the development of novel prognostic markers and therapeutic strategies. The present review discusses tumor-immune interactions in several human cancers that illustrate various aspects of this complexity and proposes an integrated scheme of the impact of local immune reactions on clinical outcome. Current active immunotherapy trials have shown durable tumor regressions in a fraction of patients. However, clinical efficacy of current vaccines is limited, possibly because tumors skew the immune system by means of myeloid-derived suppressor cells, inflammatory type 2 T cells and regulatory T cells (Tregs), all of which prevent the generation of effector cells. To improve the clinical efficacy of cancer vaccines in patients with metastatic disease, we need to design novel and improved strategies that can boost adaptive immunity to cancer, help overcome Tregs and allow the breakdown of the immunosuppressive tumor microenvironment.

Cancer Immunology and Immunotherapy

This book explains the immunology of organ-specific malignancies and discusses novel immunotherapy strategies for their treatment. Since the first, very successful edition of the book was published in 2015, a number of entirely new chapters have been included. The range of cancers considered has accordingly been extended, with coverage of the latest immunotherapy approaches for cancers in different organs. In addition, the original chapters have been updated to document the latest advances in immunotherapy for pediatric solid tumors, hematologic malignancies, gastrointestinal tumors, bone tumors, central nervous tumors, lung cancer, genitourinary tract tumors, and breast cancer, among others. The book is published as part of the three-volume Springer series Cancer Immunology, which aims to provide an up-to-date, clinically relevant review of cancer immunology and immunotherapy. Other volumes in the series address the translational medicine context and bench to bedside immunotherapy. Cancer Immunology: Cancer Immunotherapy for Organ-Specific Tumors will be of special value to clinical immunologists, hematologists, and oncologists.

Cancer Immunology

Advances in Immunology, Volume 160, the latest release in a long-established and highly respected publication, presents current developments and comprehensive reviews in immunology. Presents current developments and comprehensive reviews in immunology Provides the latest in a longstanding and respected serial on the subject matter Focuses on recent advances in t cells and HIV infection

Advances in Immunology

Immunology has emerged as a key component of the curricula of graduate and postgraduate courses in biotechnology, microbiology, biochemistry, bioinformatics, and other interdisciplinary fields of biology,

including zoology, veterinary science, and medicine. As a basic introductory textbook on one of the fastest-moving and most challenging areas of immunological science, this book contains the most recent information about immunologic mechanisms and their importance, along with various molecular techniques employed in immunology. The short and concise text helps make the structures, processes, and interactions of the immune system easily comprehensible. The book includes chapters on immunoinformatics as well as the immune system of the brain, rarely found in any of the immunology books published so far. Many diverse and interesting aspects of the advances in immunology have also been covered, including tumor immunology and immunodeficiency disorders. The easy-to-understand concepts presented in the textbook make it an ideal companion for learners preparing for competitive and other examinations. Undergraduate, postgraduate, and PhD students, people from the industry and academia, and research scholars will immensely benefit from it.

Immunology

Thoroughly updated to reflect major advances in the field of immuno-oncology, this second edition of Cancer Immunotherapy Principles and Practice, from the Society for Immunotherapy of Cancer (SITC), remains the definitive resource for information on tumor immunology and cancer immunotherapy treatments. An essential reference for both novice and experienced cancer researchers, oncologists, and related practitioners alike, the book not only guides readers through the fundamental scientific principles of the field all the way to translational and practical clinical applications for treating and managing oncologic disease, but also provides a comprehensive understanding of the regulatory processes that support the safe and effective delivery of immunotherapy to patients with cancer. The expanded and updated second edition now spans 68 chapters, including 12 new chapters, covering major topics and innovations that have shaped the rapid development of immunotherapy and its ascension into the standard of care as first-line treatment for a growing number of disease settings. New to this edition are chapters with deeper insight into our understanding of cancer genomics and determinants of response, immunogenic cell death, cancer and stromal cell-intrinsic pathways of immune resistance, cancer immune exclusion, adoptive cell therapy, metabolomics, tumor mutation burden, immunotherapy in combination with radiation therapy, synthetic biology, and more. Complete with detailed illustrations, tables, and key points for targeted reference, Cancer Immunotherapy Principles and Practice, Second Edition is the most comprehensive and authoritative resource for scientists and clinicians looking to expand their knowledge base of this dynamic field. Key Features: Offers key insights and perspectives on cancer immunology and immunotherapy treatments from renowned experts in the field Covers the basic principles and science behind cancer immunotherapy and tumor immunology Includes treatment strategies for a vast array of available immunotherapy classes and agents, such as cytokine therapies, oncolytic viruses, cancer vaccines, CAR T therapies, and combination immunotherapies Provides essential information on FDA-approved immunotherapies, including clinical management and outcome data related to response rates, risks, and toxicities Discusses special considerations for immunotherapy in the context of specific disease settings, including skin cancers, genitourinary cancers, gastrointestinal cancers, hepatocellular carcinomas, gynecologic malignancies, breast cancers, lung cancers, head and neck cancers, brain tumors, sarcomas, pediatric cancers, and treatments combined with radiation therapy Clarifies the complex regulatory aspects behind the development and approval of immunotherapy drugs

Cancer Immunotherapy Principles and Practice, Second Edition

First Published in 1988, this book offers a full, comprehensive guide into the relationship between macrophages and Cancer. Carefully compiled and filled with a vast repertoire of notes and references this book serves as a useful reference for Students of Medicine, Oncology and other practitioners in their respective fields.

Macrophages & Cancer

Immunological Surveillance

Immunological Surveillance

Signal Transduction in Cancer and Immunity, Volume 361 in the International Review of Cell and Molecular Biology series highlights new advances in the field, with this new volume presenting interesting chapters on a variety of timely topics. Each chapter is written by an international board of authors. Provides the authority and expertise of leading contributors from an international board of

authors Presents the latest release in the International Review of Cell and Molecular Biology series Updated release includes the latest information on signal transduction in cancer and immunity

Signal Transduction in Cancer and Immunity

This translational, clinically oriented book describes in detail novel approaches to cancer immunotherapy, current strategies to target tumor immunosuppression, and prognostic biomarkers for personalized cancer treatments. Since the first, very successful edition of the book was published in 2015, the original chapters have been significantly updated and entirely new chapters are included on, for example, cancer immunoprevention, aptamer-mediated cancer gene therapy, haploidentical bone marrow transplantation for pediatric malignancies, and nanoimmunotherapy. The book is published as part of the three-volume Springer series Cancer Immunology, which aims to provide an up-to-date, clinically relevant review of cancer immunology and immunotherapy. Other volumes in the series address the translational medicine context and cancer immunotherapy for organ-specific tumors. Cancer Immunology: Bench to Bedside Immunotherapy of Cancers will be of special value to clinical immunologists, hematologists, and oncologists.

Cancer Immunology

This book focusing on the immunopathology of cancers is published as part of the three-volume Springer series Cancer Immunology, which aims to provide an up-to-date, clinically relevant review of cancer immunology and immunotherapy. Readers will find detailed descriptions of the interactions between cancerous cells and various components of the innate and adaptive immune system. The principal focus, however, is very much on clinical aspects, the aim being to educate clinicians in the clinical implications of the latest research and novel developments in the field. In the new edition of this very well received book, first published in 2015, the original chapters have been significantly updated and additional chapters included on, for example, current knowledge on the roles of T-helper cells and NK cells in tumor immunity, the part played by oncoviruses in the development of various cancers, and the applications of fluorescent in situ hybridization, bioluminescence, and cancer molecular and functional imaging. Cancer Immunology: A Translational Medicine Context will be of special value to clinical immunologists, hematologists, and oncologists.

Cancer Immunology

Strategies to Mitigate the Toxicity of Cancer Therapeutics, Volume 155 in the Advances in Cancer Research series, highlights new advances in the field, with this new volume presenting interesting chapters, each of which is written by an international board of authors. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the Advances in Cancer Research series Includes the latest information on Strategies to Mitigate the Toxicity of Cancer Therapeutics

Strategies to Mitigate the Toxicity of Cancer Therapeutics

Advances in Cancer Research provides invaluable information on the exciting and fast-moving field of cancer research. Here, once again, outstanding and original reviews are presented on a variety of topics. Provides information on cancer research Oustanding and original reviews Suitable for researchers and students

Advances in Cancer Research

Immunotherapeutics, Volume 129 in the Advances in Protein Chemistry and Structural Biology series highlights new advances in the field, with this new volume presenting interesting chapters on a variety of topics, including Vaccines for the prophylaxis and treatment of HPV, Lung-targeted RNA-based therapeutics, Clostridium difficile: Current overview and future perspectives, Antivenoms for treatment of snake bites, Natural killer cell-based strategies for immunotherapy of cancer, Immunological insights of selectins in human disease mechanism, Current update, challenges, and future aspects of immunotherapeutics in non-small cell lung cancer, In silico interaction analysis of NEMO binding domain peptide on the NFkB protein, and much more. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the Advances in Protein Chemistry and Structural Biology series Updated release includes the latest information on Immunotherapeutics

Immunotherapeutics

At the time of the first edition of Principles of Cancer Biotherapy in 1987, this book represented the first comprehensive textbook on biological therapy. In 1991, when the second edition was published, there was still some doubt on the part of many oncologists and cancer researchers as to the therapeutic value of these new approaches. By 2003 and the fourth edition, it was generally agreed that biopharmaceuticals were producing major opportunities for new cancer therapies. Cancer biotherapy has now truly matured into the fourth modality of cancer treatment. This fifth revised edition describes the tremendous progress that has been made in recent years using biologicals in cancer treatment. This book summarizes an evolving science and a rapidly changing medical practice in biotherapy. In this new millennium, it is now possible to envision a much more diversified system of cancer research and treatment that will afford greater opportunities for a patient's personalized cancer treatment. This was first envisioned in the 1987 initial edition of this textbook and is now a "new" and popular approach to cancer treatment. Some forms of cancer biotherapy use the strategy of tumor stabilization and control through continued biological therapy, akin to the use of insulin in the treatment of diabetes. This textbook illustrates new methods of thinking and new strategies for control of cancer. It is always difficult to move from past dogma to future opportunity, but this fifth edition of Principles of Cancer Biotherapy illustrates why it is so important to the patients for researchers and clinicians to explore and quickly apply these new opportunities in cancer biotherapy.

Principles of Cancer Biotherapy

The treatment of cancer has been revolutionized by therapies that modulate the immune system, with benefits for quality of life and survival. Standards of care have changed to reflect developments, but the area is moving fast. Keeping abreast of new therapies and trial data can be challenging. This second edition of 'Fast Facts: Immuno-Oncology' takes you from the fundamentals of immunology through to the new concepts of immunoediting and immunotherapy and likely future directions. Whether you have worked in oncology for decades and need a refresher or you are just starting out and need a crash course, this book provides all you need to know about immuno-oncology, concisely summarized. Table of Contents: • Components of the immune system • How cancers evade the immune system • How cancer immunotherapy works • Clinical use of immune checkpoint inhibitors • The future of immuno-oncology

Fast Facts: Immuno-Oncology

Cancer Immunotherapy Principles and Practice, from the Society of Immunotherapy of Cancer (SITC), is the authoritative reference on cancer immunobiology and the immunotherapy treatments that harness the immune system to combat malignant disease. Featuring five sections and over 50 chapters covering the Basic Principles of Tumor Immunology, Cancer Immunotherapy Targets and Classes, Immune Function in Cancer Patients, Disease Specific Treatments and Outcomes, and Regulatory Aspects of Cancer Immunotherapy, this book covers all major topics that have shaped the development of immunotherapy and propelled it to its current place at the forefront of cancer treatment innovation. This volume is a comprehensive resource for oncologists and fellows, immunologists, cancer researchers, and related practitioners seeking understanding of the basic science and clinical applications of cancer immunotherapy. As well as presenting the evidence for immune-based cancer treatment, it positions immunotherapy in the context of other available cancer treatments and provides data on response rates, risks, and toxicities across a variety of diseases. Filled with detailed tables, and instructive illustrations, as well as key points for quick reference, Cancer Immunotherapy Principles and Practice simplifies a challenging and dynamic subject. Key Features: Clearly summarizes the basic principles and research supporting cancer immunotherapy clinical translation Contains expert guidance and treatment strategies for all immunotherapy classes and agents, including cell-based therapies, monoclonal antibodies, cytokine therapies, checkpoint inhibitors, oncolytic viruses, adjuvant approaches, and treatment combinations Includes expert perspectives from leading authorities in the field Provides information on all FDA-approved immunotherapies, including clinical management and outcome data Discusses clinical aspects of immunotherapy for individual cancer types, including melanoma and other skin cancers, lung cancers, gynecologic cancers, gastrointestinal cancers, hematologic cancers, genitourinary cancers, head and neck cancers, sarcomas, brain and other CNS cancers, breast cancer, and pediatric malignancies. Explains regulatory aspects behind the development and approval of immunotherapy drugs Includes Online Access to the Digital Book

Cancer Immunotherapy Principles and Practice

First published in 1986, the influence of hormones secreted or regulated by the pituitary gland on the immune system is examined in detail, including discussions of adrenocorticotropic hormone, glucocorticoids, catecholamines, growth hormone, insulin, prolactin, gonadotropins, sex steroid hormones, and thyroid hormones. The relative importance of various hormones in immunoregulation is considered, and evidence for interaction between the immune and neurohormonal systems is presented. The possible effects of hormonal immunomodulation in reproduction, infections and parasitic disease, autoimmu-nity, and cancer are examined. This comprehensive reference serves both basic and clinical researchers and practitioners in immunology, microbiology, endocrinology, reproduction biology, neurology, oncology, psychology, medicine, and veterinary medicine.

Pituitary Function and Immunity

Encyclopedia of Immunobiology, Five Volume Set provides the largest integrated source of immunological knowledge currently available. It consists of broad ranging, validated summaries on all of the major topics in the field as written by a team of leading experts. The large number of topics covered is relevant to a wide range of scientists working on experimental and clinical immunology, microbiology, biochemistry, genetics, veterinary science, physiology, and hematology. The book is built in thematic sections that allow readers to rapidly navigate around related content. Specific sections focus on basic, applied, and clinical immunology. The structure of each section helps readers from a range of backgrounds gain important understanding of the subject. Contains tables, pictures, and multimedia features that enhance the learning process In-depth coverage allows readers from a range of backgrounds to benefit from the material Provides handy cross-referencing between articles to improve readability, including easy access from portable devices

Encyclopedia of Immunobiology

Translational Immunotherapy of Brain Tumors gives researchers and practitioners an up-to-date and comprehensive overview of the field. Chapters include adoptive immunotherapy, immunosuppression, CAR therapy of brain tumors, and dendritic cell therapy for brain tumors. Very few agents have been shown to be efficacious in the treatment of malignant gliomas. Recently, there have been a number of studies demonstrating the potential success of immunotherapy for brain tumors. Immunotherapeutics are becoming the most frequent drugs to be used in cancer therapy. These new breakthroughs, now approved by the FDA, are a part of multiple phase III international trials and ongoing research in malignant glioma, meaning that the information in this cutting-edge book will be of great importance to practitioners and researchers alike. Comprehensive overview, providing an update on immunology, translational immunotherapy, and clinical trials relating to malignant gliomas Edited by a prominent neurosurgeon with contributions by leading researchers in the field Ideal resource for researchers and practitioners interested in learning about mechanisms that use the immune system to treat brain tumors

Translational Immunotherapy of Brain Tumors

Immunotherapy is a rapidly evolving field that mandates frequent revision of the book as new insights to fight cancer emerge. The third edition of Immunotherapy is an updated overview of immuno-oncology in different cancer types and toxicities associated with immunotherapy. It explores the breath of immunotherapeutic strategies available to treat a wide range of cancers, from melanoma and non-small cell lung cancer to gastrointestinal, genitourinary, gynecologic and nervous system malignancies. With increasing use of checkpoint inhibitors as standard of care and in clinical trials, the challenges associated with their use undoubtedly increase. As objective response is limited to a subset of patients and is often associated with distinct immune related side effects that are potentially life threatening, it is essential to identify patients who are likely to respond to immunotherapy and those who are at a risk for developing treatment-related side effects. In the absence of a validated predictive biomarker, innovative technologies and assays are being used to identify critical biomarkers that drive the immune response. Hence, a chapter to provide a basic understanding of the diagnostic procedures has been included besides the chapter on the cellular components of the human immune system. This new edition will also inform readers on use of novel microbiome and imaging approaches. Finally, the book includes a chapter on patient-reported outcomes in patients treated with immunotherapies as the authors recognize the importance of including missing patient voice in clinical trials and longitudinal assessment of symptom reports. In short, the third edition of this book provides a comprehensive overview of the latest developments in the field of immune-oncology that will help health care professionals make

informed treatment decisions. The book’s chapters are written by a diverse cast of experts conducting cutting-edge research, providing the reader with the most up-to-date science.

Immunotherapy

This volume is the second in the 'Cancer Treatment and Research' series focussing on basic and clinical tumor immunology. It has a rather different focus or emphasis from that of the first volume, published two years ago. That work (Basic and Clinical Tumor Immunology, R.B. Herberman, ed., Martinus Nijhoff Publishers, 1983) devoted considerable attention to up dated summaries in various areas of classical tumor immunology: specific antitumor immunity, the immunologic competence of cancer patietns, char acterization of human tumor-associated antigens, the ability to propagate specifically immune T cells in culture in the presence of interleukin 2, and the use of such cells for adoptive immunotherapy of established tumors. of evidence concerning the immune However, it also reviewed the status surveillance hypothesis and pointed out the need to consider non-T cell mediated mechanisms of host resistance. In particular, one chapter sum marized information on the role of macrophages in host resistance against tumors. The present volume continues to emphasize one of the major themes of the first volume, innovative approaches to the therapy of cancer. It involves contributions from leading investigators on several primary types of therapeutic interventions related to monoclonal antibodies, the col laboration of monoclonal antibodies with macro phages to mediate antibody dependent cellular cytotoxicity, lymphokines, tumor vaccines, and natural killer cells. It also has an up-to-date summary of the immunologic aspects of the exciting and promising work being performed on human T cell leukemia virus in the laboratory of Dr. Robert Gallo.

Cancer Immunology: Innovative Approaches to Therapy

First Published in 1997, this book offers a full, comprehensive investigation into the relationship between our Immune System and Disease. Carefully compiled and filled with a vast repertoire of notes, diagrams, and references this book serves as a useful reference for students of medicine, and other practitioners in their respective fields.

Naturally Occuring Biological Immunosuppressive Factors and Their Relationship to Disease

A comprehensive account of cancer immunity and immunotherapy, examining recent results, current areas of interest and the specific issues that are affecting the research and development of vaccines. It provides insight into how these problems may be overcome as viewed by leaders in the field.

Tumor Immunology and Immunotherapy

Maintaining the high standard of quality that made previous editions so successful, this totally revised and updated text incorporates the most recent advances in basic and clinical immunology-empha-sizing diagnostic and clinical applications as well as state-of-the-art discussions of the principles and strategies for modulation of the immune response and treatment of hypersensitivity, autoimmune, and immune deficiency diseases. Includes clinical case studies as well as end-of-chapter questions-in the USML multiple choice format-for self-evaluation and preparation for licensure and specialty boards! Continuing as the only textbook providing a balanced discussion of basic and clinical immunology, the Fifth Edition of Medical Immunology offers a current review of the basic principles that govern the immune response an updated review of phagocytic cell physiology and functional deficiencies a new comprehensive section on diagnostic immunology extensively revised and updated discussions on tolerance, autoimmunity, and hypersensitivity diseases state-of-the-art discussion of immunosup-pression and immunomodulation a modern overview of cancer immunology current discussions on the diagnosis, pathogenesis, and management of primary and secondary immune deficiency diseases and more! Written by seasoned experts in the field, the Fifth Edition of Medical Immunology is an exceptional text for advanced undergraduate and graduate students taking courses in immunology in departments of medicine, dentistry, and veterinary science; medical fellows, residents, and interns; and practicing physicians taking seminars in clinical immunology.

Medical Immunology

The interplay between tumors and their immunologic microenvironment is complex, difficult to decipher, but its understanding is of seminal importance for the development of novel prognostic markers and therapeutic strategies. The present review discusses tumor-immune interactions in several human

cancers that illustrate various aspects of this complexity and proposes an integrated scheme of the impact of local immune reactions on clinical outcome. Current active immunotherapy trials have shown durable tumor regressions in a fraction of patients. However, clinical efficacy of current vaccines is limited, possibly because tumors skew the immune system by means of myeloid-derived suppressor cells, inflammatory type 2 T cells and regulatory T cells (Tregs), all of which prevent the generation of effector cells. To improve the clinical efficacy of cancer vaccines in patients with metastatic disease, we need to design novel and improved strategies that can boost adaptive immunity to cancer, help overcome Tregs and allow the breakdown of the immunosuppressive tumor microenvironment.

Cancer Immunology and Immunotherapy

Immunology is a distinctive subject that rose in the mid-20th century. The subject developed as scientists started to unravel the mysteries about the defense system against pathogens. Researchers started to understand the mechanisms employed by the innate and the adaptive immune system in defense against pathogens. During the last decade, the subject of immunology has been in sharp focus as the immunotherapies against diseases like cancer and AIDS seems last hope. Employing the body's own defense system against diseases like cancer and AIDS by activating specific cells of the immune system looks promising, and therapies like CAR-T cell therapy have been approved. In the first edition of the book "The Fundamentals of Immunology" we have explained the basics of the defense system of our body. The book is organised into four volumes. The first volume comprises of ten chapters and it describes the rise, history and scope of immunology and the building blocks of the immune system viz., cells, molecules and organs of the immune system. The second chapter describes the cells of the innate and the adaptive immune system and how the granulocytes and macrophages employ defense mechanisms to protect the body against pathogenic invasions. In the third chapter of this book, we have described the organs of the immune systems and how different organs are involved in the differentiation and maturation of immune cells. The chapter also focused on the structure of lymph nodes and their function in concentrating the antigens. In chapter four of this book, we have described the terms like antigens, immunogens, antigenicity, immunogenicity and how immunogenicity of an antigen is affected and how antigenicity of an immunogens is related to the immune response. The innate and adaptive immune systems and the different types of cells and molecules employed by the two branches of immunity have been described in a separate chapter. The structure and biology of immunoglobulins, their types and function in antigen binding and antibody dependent cellular cytotoxicity (ADCC) have been described well in chapter six. Focus has been laid on the distinction between an antibody and an immunoglobulin. The structure and function and major histocompatibility complex (MHC) has been described. The education of cells about self and non-self during their maturation and the processing and presentation of antigens by MHC bearing cells and how MHC coordinates both humoral and cell-mediated immune responses has been explained well throughout the book. The book has explained the complement system and its components, mechanisms and functions in a separate chapter. At the end of the book, we have given an insight about the vaccines, their history, development and how they are useful and helpful in the defense against diseases. The book also discusses the immune disfunction and diseases associated with the dysregulation of immune responses.

Basics and Fundamentals of Immunology

First Published in 1988, this book offers a full, comprehensive guide into the relationship between macrophages and Cancer. Carefully compiled and filled with a vast repertoire of notes and references this book serves as a useful reference for Students of Medicine, Oncology and other practitioners in their respective fields.

Macrophages and Cancer

Advances in Immunology in China - Part A, Volume 144, the latest release in the Advances in Immunology series, presents the latest release in a long-established and highly respected publication. The book includes current developments and comprehensive reviews in immunology. Articles address the wide range of topics that comprise immunology, with this release focusing on advances in immunology in China. Presents current developments and comprehensive reviews in immunology Provides the latest in a longstanding, respected serial on the subject matter Focuses on recent advances in the advancing area of Advances in Immunology in China

Advances in Immunology in China - Part A

The Immune Response is a unique reference work covering the basic and clinical principles of immunology in a modern and comprehensive fashion. Written in an engaging conversational style, the book conveys the broad scope and fascinating appeal of immunology. The book is beautifully illustrated with superb figures as well as many full color plates. This extraordinary work will be an invaluable resource for lecturers and graduate students in immunology, as well as a vital reference for research scientists and clinicians studying related areas in the life and medical sciences. Current and thorough 30 chapter reference reviewed by luminaries in the field Unique ‘single voice' ensures consistency of definitions and concepts Comprehensive and elegant illustrations bring key concepts to life Provides historical context to allow fuller understanding of key issues Introductory chapters 1-4 serve as an ‘Immunology Primer' before topics are discussed in more detail

The Immune Response

When the first edition of this book published in 1994, the psychoimmunology of cancer was still emerging as a topic for serious scientific study. Now, less than ten years later, there is a huge academic literature about the relationships between psychological variables, the immun system and cancer growth, accompanied by a lively popular interest. In this new edition leading specialists have provided broad critical reviews of the different aspects. Part I, which presents the biological background, will be of particular interest to those with technical knowledge of the relevant laboratory based disciplines. It covers mechanisms mediating the effects of psychological status in the immune system, and anti-cancer mechanisms involving the immune system. Part II is clinically oriented, and accessible to a wide audience. Whether psychotherapeutic interventions can help patients live longer, as well as coping better, is obviously the key question and several contributors considern the clinical evidence for this. A new speculative chapter on the spiritual context of immunity and cancer has also been added. The psychoimmunology of cancer involves many complex issues, understanding of which remains far from complete. However, the contributors, besides reviewing the current state of knowledge and the implications for cancer patients, offer predictions for the future and ideas about furhter research.

The Psychoimmunology of Cancer

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. Offers a synthesis of concepts that are useful to cancer immunologists and pharmacologists, who tend to work in disparate fields with little cross-communication Drs. Prendergast and Jaffee are internationally recognized leaders in cancer biology and immunology who have created a unique synthesis of fundamental and applied concepts in this important new area of cancer research Summarizes the latest insights into how immune escape defines an essential trait of cancer Includes numerous illustrations, including how molecular-targeted therapeutic drugs or traditional chemotherapy can be combined with immunotherapy to improve anti-tumor efficacy and how reversing immune suppression by the tumor can cause tumor regression

Cancer Immunotherapy

This publication provides a comprehensive account of the known groups of human tumour antigens, and the immune effector cells involved in tumour rejection. Chapters dealing with all the major groups of human tumour antigens are included, covering differentiation antigens, testes-associated antigens, CEA, mucin, viral antigens, anti-idiotypic antibodies as antigens, and fusion proteins. The role of heat shock proteins as mediators of tumour immunity is discussed and consideration is given to the immune mechanisms which mediate tumour rejection in both human and animal systems. The application of antibody targeting to identify cancers, and the mechanisms by which tumours evade immune detection and/or destruction is covered in detail. Although the focus of this publication is experimental, as with other recent publications progress in clinical immunotherapy is included in some detail, to provide postgraduate and post-doctoral scientists with in-depth reviews of the field.

Cancer Immunology

Immunity to Cancer documents the proceedings of a conference on """"Immunity to Cancer""""" held at Williamsburg, Virginia, September 10-12, 1984. This was the first open conference since the New York Academy of Sciences meeting in 1975 that attempted to address the entire range of topics encompassed by tumor immunology and immunotherapy. The papers presented in this volume were invited from experts in diverse areas of tumor immunology and closely related subjects. There was an attempt to proceed logically from a consideration of the antigenicity of tumors and the use of monoclonal antibodies ...

Immunity to Cancer

Advances in Tumor Immunology and Immunotherapy