Effector Mechanisms Of Cell Mediated Immunity

Understand all the essential concepts in immunology with Basic Immunology: Functions and Disorders of the Immune System! This concise, focused text provides you with an up-to-date, accessible introduction to the workings of the human immune system. Efficiently master the immunology information you need through clinically focused content, logically organized by mechanism. Apply what you've learned to real-world situations by referencing the appendix of clinical cases. Enhance your learning with the help of numerous full-color illustrations and useful tables, as well as summary boxes, review questions, and a glossary of immunology terms. Study immunology anywhere! Online access to www.StudentConsult.com opens the door to an enhanced e-book and ancillary components! Visualize complex immunology concepts with a completely updated art program. Test your knowledge. New PowerPoint Review slides added to www.StudentConsult.com are ideal for study sessions.

Principles of Immunopharmacology provides a unique source of essential knowledge on the immune response, its diagnosis and its modification by drugs and chemicals. The 4th edition of this internationally recognized textbook has been revised to include recent developments, but continues the established format, dealing with four related fields in a single volume, thus obviating the need to refer to several different textbooks. The first section of the book, providing a basic introduction to immunology and its relevance for human disease, has been updated to accommodate new immunological concepts, particularly the role of epigenetics and the latest understanding of cancer immunology. The second section on immunodiagnostics offers a topical description of widely used molecular techniques and a new chapter on imaging techniques. This is followed by a systematic coverage of drugs affecting the immune system, including natural products. This third section contains 15 updated chapters, covering classical immunopharmacological topics such as anti-asthmatic, anti-rheumatic and immunosuppressive drugs, but also deals with antibiotics, plant-derived and dietary agents, with new chapters on monoclonal antibodies, immunotherapy in sepsis and infection, drugs for soft-tissue autoimmunity and cell therapy. The book concludes with a chapter on immunotoxicology and drug safety tests. Aids to the reader include a two-column format, glossaries of technical terms and appendix reference tables. The emphasis on illustrations is maintained from the first three editions. The book is a valuable single reference for undergraduate and graduate medical and biomedical students, postgraduate chemistry and pharmacy students, researchers in chemistry, biochemistry and the pharmaceutical industry and researchers lacking basic immunological knowledge, who want to understand the actions of drugs on the immune system.

This volume explores several aspects of how antibodies mediate their activity in vivo, ranging from cancer immunotherapy to autoimmunity, infection, and vaccination. Divided into seven chapters, it provides in-depth insights into how antibodies and especially the antibody fragment crystallizable (Fc) domain modulate immune responses and antibody activity. The book begins by discussing evolutionary aspects of how the family of Fc receptors that are the key molecules for antibody activity evolved. In turn, it addresses the molecular and cellular pathways underlying IgG activity in cancer immunotherapy, and focuses on how IgG glycosylation regulates IgG and IgE activity in autoimmunity, allergy and infection. In closing, it presents strategies for developing novel antibody-based vaccination approaches. The book is intended for a very broad readership, including graduate students, postdocs and principal investigators with a basic grasp of immunology.

This textbook provides a unique support in gaining essential knowledge on the immune response, its diagnosis and its modification by drugs and chemicals. The first section of the book, covering a basic introduction to immunology and its relevance for human disease, has been updated to accommodate new immunological concepts. The second section on immunodiagnostics has been further expanded to describe widely used molecular techniques and is followed by a systematic coverage of drugs affecting the immune system, revised to cover recent developments. The book concludes with a chapter on immunotoxicology. This third edition continues the unique format dealing with four related topics in a single volume, obviating the need to refer to several different textbooks. New aids to the reader include a two-column format, glossaries of technical terms and appendix reference tables. The emphasis on illustrations is maintained from the first edition.

Antibody Fc:

A Historical Perspective on Evidence-Based Immunology

Basic Immunology E-Book

Functions and Disorders of the Immune System

Janeway's Immunobiology

Immune Response Activation and Immunomodulation

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

The Janeway's Immunobiology CD-ROM, Immunobiology Interactive, is included with each book, and can be purchased separately. It contains animations and videos with voiceover narration, as well as the figures from the text for presentation purposes.

Our motivation for putting together this book was the need for a single source reference that could be used as an introduction to cell-mediated cytotoxicity for newcomers to this field, such as students and fellows beginning work in our laboratories. At present no such book is available, and we felt that it would be useful as a teaching tool and as a way of conveying our enthusiasm about recent progress in the cytotoxicity field to our colleagues in allied areas. It was with some hesitation that we approached our colleagues with the proposal for this book, and we were pleased to find them very supportive of the idea and willing to participate. We thought it important to broaden the scope of the book to include historical, molecular, cell biological, and clinical aspects of cell-mediated cytotoxicity. To our knowledge this is the first book on cell-mediated cytotoxicity with such a broad scope. Historically, studies on cellular cytotoxicity were part of cellular immunology from its origin. One development of tremendous import was the advent of the 51 Cr assay, which allowed this arm of the immune response to be measured easily and quantitatively. Thus, a readout of this effector pathway is available within a few hours; other immune effector functions can take days or even longer to assay, and the assays are often less quantitative.

Written in the same engaging conversational style as the acclaimed first edition, Primer to The Immune Response, 2nd Edition is a fully updated and invaluable resource for college and university students in life sciences, medicine and other health professions who need a concise but comprehensive introduction to immunology. The authors bring clarity and readability to their audience, offering a complete survey of the most fundamental concepts in basic and clinical immunology while conveying the subject's fascinating appeal. The content of this new edition has been completely updated to include current information on all aspects of basic and clinical immunology. The superbly drawn figures are now in full color, complemented by full color plates throughout the book. The text is further enhanced by the inclusion of numerous tables, special topic boxes and brief notes that provide interesting insights. At the end of each chapter, a self-test quiz allows students to monitor their mastery of major concepts, while a set of conceptual questions prompts them to extrapolate further and extend their critical thinking. Moreover, as part of the Academic Cell line of textbooks, Primer to The Immune Response, 2nd Edition contains research passages that shine a spotlight on current experimental work reported in Cell Press articles. These articles also form the basis of case studies that are found in the associated online study guide and are designed to reinforce clinical connections. Complete yet concise coverage of the basic and clinical principles of immunology Engaging conversational writing style that is to the point and very readable Over 200 clear, elegant color illustrations Comprehensive glossary and list of abbreviations

Mechanisms of CD4 T Cell Antigen Recognition and Effector Cell Differentiation and Function

Molecular Biology of the Cell

How to analyze cellular immune responses against tumor associated antigens

Review of Medical Microbiology and Immunology 15E

Immune Effector Mechanisms in Disease

Principles of Immunopharmacology

This volume provides simple and accessible experiment protocols to explore thymus biology. T-Cell Development: Methods and Protocols is divided into three parts presenting short reviews on T cell development, analysis strategies, protocols for cell preparation, flow cytometry analyses, and multiple aspects of thymocyte biology. As a volume in the highly successful Methods in Molecular Biology series, chapters contain introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and tips on troubleshooting and avoiding known pitfalls. Concise and easy-to-use, T-Cell Development: Methods and Protocols aims to ensure successful results in the further study of this vital field.

Immune Response Activation and Immunomodulation has been written to address the perceived needs of both medical school and undergraduate curricula and to take advantage of new understandings in immunology. We have tried to achieve several goals and present the most important principles governing the function of the immune system. Our fundamental objective has been to synthesize the key concepts from the vast amount of experimental data that have emerged in the rapidly advancing field of immunology. The choice of what is most important is based on what is most clearly established by experimentation, what our students find puzzling, and what explains the wonderful efficiency and economy of the immune system. Inevitably, however, such a choice will have an element of bias, and our bias is toward emphasizing the cellular interactions in immune response by limiting the description of many of the underlying biochemical and molecular mechanisms to the essential facts. This book gives an insight into the role of cytokines in activating immune response during pathogenic invasion. Immunomodulation, aryl hydrocarbons, the role of the protein defensin and nucleated cells in provoking immune response, Bcl protein/gene-based apoptotic pathways, and plant-derived phytochemical-mediated immune response are all central themes of this book.

Building on the strengths of the first edition, the newly titled and expanded second edition remains a concise introduction to the fundamentals of immunology, with an expert synthesis of basic and clinical information., Augmented by color illustrations, and with increased emphasis on the molecular and genetic underpinnings of cellular phenomena, Textbook of Immunology covers the physiology of the immune system, disease entities related to immune system dysfunction, and the underlying pathophysiologic mechanisms of dysfunction. In response to advancing knowledge that influences the approach to presenting basic immunology, new chapters have been added on cytokines; host defense (non-specific immunity and specific immune responses); the aging immune system; and the pathophysiology, diagnosis, prevention, and therapy of AIDS., This book keeps pace with the explosion of information and data in immunology, and adeptly refines, organizes, and presents this body of knowledge to serve as a succinct introduction to modern immunologic concepts for medical students, and as an update and refresher in the basics for researchers and clinicians.

Antibody Fc is the first single text to synthesize the literature on the mechanisms underlying the dramatic variability of antibodies to influence the immune response. The book demonstrates the importance of the Fc domain, including protective mechanisms, effector cell types, genetic data, and variability in Fc domain function. This volume is a critical single-source reference for researchers in vaccine discovery, immunologists, microbiologists, oncologists and protein engineers as well as graduate students in immunology and vaccinology. Antibodies represent the correlate of protection for numerous vaccines and are the most rapidly growing class of drugs, with applications ranging from cancer and infectious disease to autoimmunity. Researchers have long understood the variable domain of antibodies, which are responsible for antigen recognition, and can provide protection by blocking the function of their target antigen. However, recent developments in our understanding of the protection mediated by antibodies have highlighted the critical nature of the antibody constant, or Fc domain, in the biological activity of antibodies. The Fc domain allows antibodies to link the adaptive and innate immune systems, providing specificity to a wide range of innate effector cells. In addition, they provide a feedback loop to regulate the character of the immune response via interactions with B cells and antigen-presenting cells. Clarifies the different mechanisms of IgG activity at the level of the different model systems used, including human genetic, mouse, and in vitro Covers the role of antibodies in cancer, infectious disease, and autoimmunity and in the setting of monoclonal antibody therapy as well as naturally raised antibodies Color illustrations enhance explanations of the immune system

Nijkamp and Parnham's Principles of Immunopharmacology

T-Cell Development

Mechanisms of Cell-Mediated Cytotoxicity II

Analyzing T Cell Responses

Indoor Allergens

Progress in Immunology

The ability for CD4 T cells to efficiently search for and subsequently respond to microbial pathogens is essential for protective immunity, but mechanisms controlling these responses are not completely understood. In this thesis I study the regulation of CD4 T cell responses at two different stages during an immune response. First, I analyze one of the most basic mechanisms by which T cells search for and become activated by an antigenic stimulus during the initial events in an adaptive immune response. Using human memory CD4 T cells in vitro I have identified a novel role for actin-rich invadapodia-like protrusions (ILPs) in overcoming the energy barrier required for the T cell receptor (TCR) to send signals into T cells when interacting with peptide-loaded MHC II. My studies show that ILPs, which are used during migration, are also essential for surveying the surface of other cells during cellular communication. Secondly, I explore the costimulatory requirements and function of T follicular regulatory (TFR) cells, a newly identified subset of regulatory T (TREG) cells. Using mouse models, I have discovered that the costimulatory receptor PD-1 inhibits the differentiation and function of TFR cells in vivo. My work also has revealed that TFR cells can circulate within the blood and that blood TFR cells can potently inhibit B cell mediated antibody production in vivo. Taken together, the studies presented here not only provide insights into the very initial events leading to adaptive immunity, but also demonstrate how adaptive immunity is controlled during the effector phase of an immune reaction.

This book is derived from contributions to the Second International Workshop on Mechanisms in Cell-Mediated Cytotoxicity, held in Annopolis, Maryland, June 10-13, 1984. This workshop was organized by an international committee of immunologists interested in lymphocyte cytotoxic mechanisms (G. Berke, W.R. Clark, P. Golstein, M. Hanna, P. Henkart, R. Herberman, H.R. MacDonald, E. Martz, and C. Nathan), who strove to invite participants who have made major contributions to this field. The Workshop was a follow-up to the highly successful 1981 Workshop, whose proceedings Workshop were published by Plenum as Mechanisms in Cell-Mediated Cytotoxicity, edited by W.R. Clark and P. Golstein. That volume has been much appreciated by researchers and students since it contains accounts of most of the current approaches to understanding cytotoxic lymphocyte mechanisms all in one volume. The present book may be viewed as a follow-up to the first one, and in our opinion fairly summarizes the varying current viewpoints on lymphocyte cytotoxic mechanism. It should be noted that the discussions have been transcribed directly by us, and the participants have not had an opportunity to edit their remarks. We have tried to maintain some of the style of the actual discussion in these transcripts. In some cases technical problems prevented usable transcriptions from being made, and hence not all of the actual discussion at the workshop is reproduced here.

Understand all the essential concepts in immunology with this book that provides you with an up-to-date, accessible introduction to the workings of the human immune system. This book enables you to efficiently master the immunology information you need through clinically focused content, logically organized by mechanism. You can apply what you have learned to real-world situations by referencing the appendix of clinical cases. It can enhance your learning with the help of numerous full-color illustrations and useful tables, as well as summary boxes, review questions, and a glossary of immunology terms. -- Publisher description.

Introductory Immunology quickly acquaints readers with natural immune responses manifesting in diseases and disorders. The book presents a complete picture of natural defenses to infectious agents, as well as the mechanisms that lead to autoimmune dysfunction. In addition, it examines immunologically based diseases, giving the reader sufficient knowledge to make sound clinical decisions leading to better treatment outcomes. Introductory Immunology is aimed at researchers, postgraduates, or any scientifically inclined reader interested in immunology. No prior expertise in medical, biochemical, or cellular science is needed to benefit from the clear presentation of immunology concepts in this book. Quick, concise introduction to immunological concepts Breaks down all of immunology into manageable, logically digestible building blocks Geared toward readers without medical, biochemical, or cellular expertise

Basic Immunology:Functions and Disorders of the Immune System With STUDENT CONSULT Online Access, 4/e

Introductory Immunology

First International Congrss of Immunology

Encyclopedia of Malaria

G Protein Pathways, Part C: Effector Mechanisms

Effector and Regulatory Mechanisms

Over the last several years, immunologists have re-discovered the importance of regulatory lymphocytes, formerly termed 'suppressor cells'. Many recent reports have documented their existence, effector functions and potential therapeutic benefits in autoimmunity and transplantation. However, even though modern techniques have allowed us to get a much more detailed picture of these cells, they are still highly controversial. Several unresolved issues responsible for this dilemma are discussed in this book: it is difficult to grow and clone such cells, their phenotypes and effector functions are diverse and can sometimes easily be lost, and it is not well understood how they interact with antigen-presenting cells. This book contains contributions from leading investigators from around the world, including lively discussion of the current state of the art in studies of regulatory lymphocytes. Topics featured are the physiological control of autoimmunity, the role of antigen-specific cells in various diseases and disease models and effector mechanisms. Therapeutic applications are considered, particularly for type 1 diabetes, tissue transplantation and the control of viral infection. This important and groundbreaking book should be of interest to all immunologists. Related Novartis Foundation symposia: 254 Immunoinformatics: bioinformatic strategies for better understanding of immune function Chair: Hans-Georg Rammensee 256 Cancer and inflammation Chair: Siamon Gordon

Periodontitis - A Useful Reference is a comprehensive book compiled by a team of experts with the objective of providing an overview of the basic pathology of "periodontitis" and its implication on oral health and general systemic health. Periodontitis has become a global health burden in recent days. It is noteworthy that oral health is being considered as the mirror of general health and the study of oral-systemic health connections has advanced among scientists, clinicians, and the public as well. We wish the array of chapters that highlights the importance and impact of periodontal health could be a useful guide for the community of public, students, and clinicians.

This third volume in the trio covering G proteins, features integrated approaches to studying G proteins. Methods pertaining to signaling mechanisms are presented, including theoretical and modeling approaches, biochemistry and molecular biology, and cell biology and physiology. The techniques for studying the structure and function of G proteins are important not only to those with specific research interests in them, but also endocrinologists and pharmacologists conducting research on signaling mechanisms that are increasingly understood to interact with G proteins.

Active specific immunotherapy is a promising but investigational modality in the management of cancer patients. Currently, several different cancer vaccine formulations such as peptides, proteins, antigen-pulsed dendritic cells, whole tumor cells, etc. in combination with various adjuvants and carriers are being evaluated in clinical trials (1-3). To determine the optimal cancer vaccine strategy, a surrogate immunological end-point that correlates with clinical outcome needs to be defined, since it would facilitate the rapid comparison of these various formulations. Traditional immunological assays such as ELISA, proliferation and cytotoxicity assays can detect immune responses in vaccinated patients but are not quantitative. In contrast, novel assays such as enzyme-linked immunospot (ELISPOT) assay, intracellular cytokine assay and tetramer assay can quantitate the frequency of antigen-specific T cells. Of these, the ELISPOT assay has the 5 lowest detection limit with 1/10 peripheral blood mononuclear cells (PBMC) and has been determined to be one of the most useful assays to evaluate immune response to cancer vaccines (4). However, the IFN-? ELISPOT assay is not an exclusive measure of cytotoxic T-lymphocyte (CTL) activity as non-cytotoxic cells can also secrete IFN-?. Additionally, CTL with lytic activity do not always secrete IFN-? (5). A more relevant approach to assess functional activity of cytotoxic lymphocytes would be to measure the secretion of molecules that are associated with lytic activity. One of the major mechanisms of cell-mediated cytotoxicity involves exocytosis of cytoplasmic granules from the effector toward the target cell.

Cancer Immunotherapy Principles and Practice

Cytotoxic Cells: Recognition, Effector Function, Generation, and Methods

Linking Adaptive and Innate Immunity

Periodontitis

Basic Immunology

Fc Mediated Activity of Antibodies

More than 50 million Americans, one out of five, suffer from hay fever, asthma, and other allergic diseases. Many of these conditions are caused by exposure to allergens in indoor environments such as the house, work, and school--where we spend as much as 98 percent of our time. Developed by medical, public health, and engineering professionals working together, this unique volume summarizes what is known about indoor allergens, how they affect human health, the magnitude of their effect on various populations, and how they can be controlled. The book addresses controversies, recommends research directions, and suggests how to assist and educate allergy patients, as well as professionals. Indoor Allergens presents a wealth of information about common indoor allergens and their varying effects, from significant hay fever to life-threatening asthma. The volume discusses sources of allergens, from fungi and dust mites to allergenic chemicals, plants, and animals, and examines practical measures for their control. Indoor Allergens discusses how the human airway and immune system respond to inhaled allergens and assesses patient testing methods, covering the importance of the patient's medical history and outlining procedures and approaches to interpretation for skin tests, in vitro diagnostic tests, and tests of patients' pulmonary function. This comprehensive and practical volume will be important to allergists and other health care providers; public health professionals; specialists in building design, construction, and maintenance; faculty and students in public health; and interested allergy patients.

Concepts of Biology is designed for the single-semester introduction to biology course for non-science majors, which for many students is their only college-level science course. As such, this course represents an important opportunity for students to develop the necessary knowledge, tools, and skills to make informed decisions as they continue with their lives. Rather than being mired down with facts and vocabulary, the typical non-science major student needs information presented in a way that is easy to read and understand. Even more importantly, the content should be meaningful. Students do much better when they understand why biology is relevant to their everyday lives. For these reasons, Concepts of Biology is grounded on an evolutionary basis and includes exciting features that highlight careers in the biological sciences and everyday applications of the concepts at hand.We also strive to show the interconnectedness of topics within this extremely broad discipline. In order to meet the needs of today's instructors and students, we maintain the overall organization and coverage found in most syllabi for this course. A strength of Concepts of Biology is that instructors can customize the book, adapting it to the approach that works best in their classroom. Concepts of Biology also includes an innovative art program that incorporates critical thinking and clicker questions to help students understand--and apply--key concepts.

This project was initiated to assess the role of virus-specific cellular immune responses in recovery from, and protection against togavirus infections. Initial studies have focused first on characterizing the salient features of Sindbis virus (SV) infections both in several inbred strains of mice, 6-8 weeks of age, and in cultured murine cell lines bearing the same major histocompatibility (H-2) antigens and, second, on determining the requirements and optimal conditions for inducing and measuring cell-mediated immune reactivity. Tentatively, it is concluded that: (1) the genetic background of the host is an important factor in determining its susceptibility to SV and possibly other alphaviruses and, (2) host cell H-2 antigens probably are involved in the induction of (and virus-specific recognition by) SV-specific effector lymphocytes.

The structure and genetics of antibodies; Lymphocyte membranes; The role of antibodies and complexes in immune tissue damage; Structure of ig (combining sites and chain interactions); Cell cooperation in the immune response; Effector mechanisms of cell-mediated immunity; Genetic control of immune responsiveness; Regulation of immune response; Immune disorders in man; Biological functions of the different classes of immunoglobulin; Tumor immunology; Transplantation in the human; Manipulation of the immune response.

A Useful Reference

Structural and Functional Diversity

Developments in Lymphoid Cell Biology

Togavirus-Specific Cellular Immune Effector Mechanisms

Primer to the Immune Response

Mechanisms of Cell-mediated Immunity

The First International Workshop on Mechanisms in Cell-Mediated Cytoxicity was held at Carry-le-Rouet, France, September 14-16, 1981. The Workshop brought together for the first time leading investiga tors in each of the principal areas of cell-mediated cytotoxicity, as well as experts in the area of complement-mediated cytoxicity. Formal research presentations were held to a minimum, the emphasis being on open discussion of current knowledge about mechanisms of cytoxicity in each of the systems under consideration. The major objectives of the Workshop were 1) to compare and integrate what is known about the mechanism(s) of cytoxicity in each system; 2) to determine whether, on the basis of information in hand, it seems likely that the mechanisms of cytotoxicity in the various systems are the same or are unique; and 3) to stimulate thinking about new approaches to elucidating the fundamental mechanisms by which certain cells are able to kill other cells.

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. The most concise, clinically relevant, and current review of medical microbiology and immunology Review of Medical Microbiology and Immunology is a succinct, high-yield review of the medically important aspects of microbiology and immunology. It covers both the basic and clinical aspects of bacteriology, virology, mycology, parasitology, and immunology and also discusses important infectious diseases using an organ system approach. The book emphasizes the real-world clinical application of microbiology and immunology to infectious diseases and offers a unique mix of narrative text, color images, tables and figures, Q&A, and clinical vignettes. • Content is valuable to any study objective or learning style • Essential for USMLE review and medical microbiology coursework • 650 USMLE-style practice questions test your knowledge and understanding • 50 clinical cases illustrate the importance of basic science information in clinical diagnosis • A complete USMLE-style practice exam consisting of 80 questions helps you prepare for the exam • Pearls impart important basic science information helpful in answering questions on the USMLE • Concise summaries of medically important organisms • Self-assessment questions with answers appear at the end of each chapter • Color images depict clinically important findings, such as infectious disease lesions • Gram stains of bacteria, electron micrographs of viruses, and microscopic images depict fungi, protozoa, and worms • Chapters on infectious diseases from an organ system perspective

NK Cells and Other Natural Effector Cells reviews the state of knowledge on NK cells and other natural effector mechanisms. The coverage of immune effector systems ranges from basic studies on their nature, regulation, and mechanisms of action to important practical issues such as their role in host resistance, their modulation by therapeutic intervention, and alterations of their activity in disease. The book is organized into 12 parts. Parts I and II examine the characteristics of NK cells and other natural effector cells, respectively. Part III focuses on the cell lineage of NK and related effector cells, providing evidence for or against T cell lineage, for or against macrophage lineage, and for or against other or separate lineage. Part IV deals with the genetics of natural resistance in the mouse and rat. Part V presents studies on the regulation of cytotoxic activity. Part VI examines the specificity of natural effector cells, covering the nature of target cell structures and the nature of recognition receptors in effector cells. Part VII discusses the cytotoxicity by cultured lymphoid cells while Part VIII turns to the mechanisms of cytotoxicity. Part IX deals with natural cell-mediated reactivity against primary tumor cells and against non-tumor targets. Part X examines NK cell tumors or the presence of NK cells at the site of tumor growth. Part XI presents clinical studies with natural effector cells. Part XII provides evidence for in vivo reactivity of natural effector cells.

A Historical Perspective on Evidence-Based Immunology focuses on the results of hypothesis-driven, controlled scientific experiments that have led to the current understanding of immunological principles. The text helps beginning students in biomedical disciplines understand the basis of immunologic knowledge, while also helping more advanced students gain further insights. The book serves as a crucial reference for researchers studying the evolution of ideas and scientific methods, including fundamental insights on immunologic tolerance, interactions of lymphocytes with antigen TCR and BCR, the generation of diversity and mechanism of tolerance of T cells and B cells, the first cytokines, the concept of autoimmunity, the identification of NK cells as a unique cell type, the structure of antibody molecules and identification of Fab and Fc regions, and dendritic cells. Provides a complete review of the hypothesis-driven, controlled scientific experiments that have led to our current understanding of immunological principles Explains the types of experiments that were performed and how the interpretation of the experiments altered the understanding of immunology Presents concepts such as the division of lymphocytes into functionally different populations in their historical context Includes fundamental insights on immunologic tolerance, interactions of lymphocytes with antigen TCR and BCR, and the generation of diversity and mechanism of tolerance of T and B cells

T Cell Subsets in Infectious and Autoimmune Diseases

Basic Concepts for Interdisciplinary Applications

NK Cells and Other Natural Effector Cells

Effector Mechanisms in CD8-Positive T Cell-mediated Rejection of Pancreatic Islet Allografts

Cytotoxic Effector Mechanisms

This volume presents a collection of reviews derived from work presented at the Aegean Conference: “5th Crossroads Between Innate and Adaptive Immunity”. This meeting was the fifth in a series, and assembled a team of scientists working on mechanisms by which the innate immune system of the host senses pathogens, the cellular and signaling networks that orchestrate the innate response and antigen presentation and adaptive immunity. The importance of the crosstalk between innate immunity and the adaptive immune response has only recently started to be appreciated. Although it is well recognized that dendritic cells, NK cells, NK-T cells and T cells are all critical for the host response to pathogens, the respective fields that study the biology of these immune cells tend to exist in parallel worlds with minimum exchange of information and ideas. This fragmentation hinders the integration of these fields towards a unified theory of host response. The Aegean Conference “Crossroads between Innate and Adaptive Immunity” brought together leading international scientists and experts to address critical areas of Innate and Adaptive Immunity, a necessary step in the development of more efficient scientific exchange and crosspollination between these fields. This conference attracted scientists from all over the world to discuss their latest findings on the various aspects of Innate and Adaptive Immunity, and maximized scientific interchange through lecture presentations, poster sessions and informal discussions.

Natural and Induced Cell-Mediated Cytotoxicity: Effector and Regulatory Mechanisms contains the proceedings of the Erwin Riesch Symposium organized on the occasion of the Fifth Centennial of the University of Tübingen in Germany on October 20-23, 1977. The symposium provided a forum for reviewing the progress that has been made in understanding the effector and regulatory mechanisms underlying natural and induced cell-mediated cytotoxicity. Topics covered range from the immunobiology of natural killer cells to the role of macrophages as regulator, accessory, and effector cells in cytotoxicity. Comprised of 27 chapters, this book begins by analyzing the characteristics of natural cytotoxic cells in mice, followed by a discussion on the generation in vivo of mouse natural cytotoxic cells and the role of cytotoxic T cells in the local defense against solid tumors. Subsequent chapters focus on the natural cytotoxicity of human lymphocytes; opposing effects of interferon on natural killer and target cells; susceptibility of cloned melanoma to natural cytotoxicity; and cell-mediated immunity against avian virus-induced tumor cells. The book also examines alternative routes of entry for cell surface antigens into the immune system before concluding with a chapter that considers interferon induction by Corynebacterium parvum. This monograph should be of value to students, researchers, and practitioners in the fields of biology and immunology.

T cells are a specialized population of immune cells that aid the immune system in combating various types of invading pathogens. This book presents up-to-the-minute data on the role of T cells in autoimmune diseases.

Janeway's ImmunobiologyGarland Science

Textbook of Immunology

Immunological Recognition and Effector Mechanisms in Infectious Diseases

Natural and Induced Cell-Mediated Cytotoxicity

Crossroads Between Innate and Adaptive Immunity V

Proceedings of the Fourth Irwin Strasburger Memorial Seminar on Immunology

Mechanisms of Cell-Mediated Cytotoxicity

In this volume the author by no means attempted to give a comprehensive view of the myriad of recent developments in immunology. The author has attempted, after introducing sufficient background in chapter 1, to highlight certain areas of lymphoid cell biology which are given less attention in current thinking but which seem to the author to offer exciting prospects for research. In other cases, the important topics of transplantation and tolerance are looked at from points of view which are somewhat less conventional in the hope that these aspects may stimulate others to look at the yet unsolved problems in these areas. In making the selection of topics and indeed in the selection of references within each chapter, the contributors and the author have attempted to select those which offered what seemed to be the best sources of information. They do not wish to minimize the important contributions of others but are guided by constraints of brevity and cogent expression.

Proceedings of a Meeting

Concepts of Biology

Assessing and Controlling Adverse Health Effects

Methods and Protocols

Generation and Effector Functions of Regulatory Lymphocytes