

Bacterial Superantigens Structure Function And Therapeutic Potential Molecular Biology Intelligence Unit

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Toxicology Hans Marquardt 1999-10-05 Toxicology is a comprehensive text for researchers and graduate students in toxicology and public health. It addresses every aspect of the field, starting with the fundamentals and incorporating such areas as organ toxicology, applications, and environmental toxicology. In addition to covering the traditional subject matter of toxicology, special emphasis has been placed on recent areas of interest, such as risk assessment, apoptosis, and methodical developments. **Key Features** * Comprehensive text, covering all aspects of the field of toxicology * Analyzes the importance of toxicokinetics and metabolism as well as cellular targets for the mechanisms of toxic effects * Identifies the various classes of chemical compounds responsible for the toxic effects * Describes the approaches and methods used by various disciplines which investigate toxic effects and their prevention * Adapted from a very successful German text, this edition is completely revised and expanded * The text is well illustrated with diagrams, charts, and tables

Bacterial Infection: Close Encounters at the Host Pathogen Interface Peter K. Vogt 1997-10-09 When it comes to bacterial disease, we are living in a state of false security. Antibiotics have indeed brought unprecedented health benefits, protection from and cure of bacterial diseases during the past 50 years. But there are ominous signs that the fortress and the defenses built on antibiotics are crumbling. They are crumbling because we wittingly or unwittingly created selective conditions for the emergence of superior pathogens that can no longer be controlled by antibiotics. There are numerous warnings. After a long period of eclipse tuberculosis has now emerged as a serious threat unchecked by antibiotic treatment. Recent years have seen reports of cholera epidemics, of anthrax infections, of serious problems with Salmonella and

even with *E. coli*, just to name a few. Mankind is in a race with microbial invaders. The challenge is to anticipate and respond to developments that affect the precarious balance between man and microbe. This will require new knowledge and it will take time for an effective application of that knowledge.

Acute Rheumatic Fever and Rheumatic Heart Disease, E-Book Dr. Scott Dougherty 2020-02-22 Acute Rheumatic Fever and Rheumatic Heart Disease is a concise, yet comprehensive, clinical resource highlighting must-know information on rheumatic heart disease and acute rheumatic fever from a global perspective. Covering the major issues dominating the field, this practical resource presents sufficient detail for a deep and thorough understanding of the latest treatment options, potential complications, and disease management strategies to improve patient outcomes. Divided into four distinct sections for ease of navigation: Acute Rheumatic Fever, Rheumatic Heart Disease, Population-Based Strategies for Disease Control, and Acute and Emergency Presentations. International editors and chapter authors ensure a truly global perspective. Covers all clinical aspects, including epidemiology, pathophysiology, clinical features, diagnosis, management, and treatment. Includes key topics on population-based measures for disease control for effective primary, secondary, and tertiary prevention. Consolidates today's available information and guidance into a single, convenient resource.

Superantigens Malak Kotb 2007 A comprehensive book on superantigen biology. It combines many aspects of superantigen biology from the basic molecular mechanisms of superantigen action to the clinical consequences of superantigen intoxication, superantigen related diseases, and measures to combat superantigen toxicity.

Doody's Rating Service Daniel J. Doody 1996

Head & Neck Surgery--otolaryngology Byron J. Bailey 2006 Newly revised and updated, this comprehensive, easy-to-use two-volume otolaryngology text is now in its Fourth Edition. More than 30 new chapters are included that reflect advances in the field, such as outcomes and evidence-based medicine, surgical management of nasal valve collapse and choanal atresia, immunology and allergy, allergic and non-allergic rhinitis, complications of rhinosinusitis, management of dysphagia, radiographic examination of the upper aerodigestive tract, endoscopic evaluation of the upper aerodigestive tract, cosmetic uses of Botox, and more. Coverage includes both adult and pediatric otolaryngology. All chapters are written by distinguished world-renowned authorities and contain summary highlights boxes, summary tables, and end-of-chapter reviews. More than 2,500 illustrations complement the text.

Superantigens Leung 1997-02-20 This up-to-date sourcebook covers viral and bacterial superantigens (SAGs) from molecular structure and immunological processes to pathology and treatment of superantigen-mediated human diseases. Discusses diseases beyond Toxic Shock Syndrome, such as autoimmune and inflammatory skin conditions, as well as the role of superantigens in other infectious diseases. Illustrated with molecular structures of superantigens.

Antibiotics and Bacterial Resistance Wiley 2013-01-14 The need for novel antibiotics is greater now than perhaps anytime since the pre-antibiotic era. Indeed, the recent collapse of many pharmaceutical antibacterial groups, combined with the emergence of hypervirulent and pan-antibiotic-resistant bacteria has severely compromised infection treatment options and led to dramatic increases in the incidence and severity of bacterial infections. This collection of reviews and laboratory protocols gives the reader

an introduction to the causes of antibiotic resistance, the bacterial strains that pose the largest danger to humans (i.e., streptococci, pneumococci and enterococci) and the antimicrobial agents used to combat infections with these organisms. Some new avenues that are being investigated for antibiotic development are also discussed. Such developments include the discovery of agents that inhibit bacterial RNA degradation, the bacterial ribosome, and structure-based approaches to antibiotic drug discovery. Two laboratory protocols are provided to illustrate different strategies for discovering new antibiotics. One is a bacterial growth inhibition assay to identify inhibitors of bacterial growth that specifically target conditionally essential enzymes in the pathway of interest. The other protocol is used to identify inhibitors of bacterial cell-to-cell signaling. This e-book — a curated collection from eLS, WIREs, and Current Protocols — offers a fantastic introduction to the field of antibiotics and antibiotic resistance for students or interdisciplinary collaborators. Table of Contents: Introduction Antibiotics and the Evolution of Antibiotic Resistance eLS Jose L. Martinez, Fernando Baquero Antimicrobials Against Streptococci, Pneumococci and Enterococci eLS Susan Donabedian, Adenike Shoyinka Techniques & Applications RNA decay: a novel therapeutic target in bacteria WIREs RNA Tess M. Eidem, Christelle M. Roux, Paul M. Dunman Antibiotics that target protein synthesis WIREs RNA Lisa S. McCoy, Yun Xie, Yitzhak Tor Methods High-Throughput Assessment of Bacterial Growth Inhibition by Optical Density Measurements Current Protocols Chemical Biology Jennifer Campbell Structure-Based Approaches to Antibiotic Drug Discovery Current Protocols Microbiology George Nicola, Ruben Abagyan Novel Approaches to Bacterial Infection Therapy by Interfering with Cell-to-Cell Signaling Current Protocols Microbiology David A. Rasko, Vanessa Sperandio

The Staphylococci in Human Disease Kent B. Crossley 1997 This is the first new book on all Staphylococcal infections in many years. It is particularly timely, considering the growing problem of antibiotic resistant staph infections. It covers all Staph infections including hospital infections, toxic shock syndrome, infections in prosthetic devices, immunocompromised patients, and more.

Coagulase-negative Staphylococci Per-Anders Mårdh 1986

HLA and MHC Michael J. Browning 1996 This is a review of the major histocompatibility complex (MHC), and the role it plays in the immune response and in disease. The emphasis throughout is on the human MHC, but relevant animal studies are included to give a comprehensive review of the subject.

Bacterial Superantigens Jacques Thibodeau 1995

Streptococcal Infections Dennis L. Stevens 2000 Streptococcal Infections: Clinical Aspects, Microbiology, and Molecular Pathogenesis offers an in-depth examination of the spectrum of hemolytic streptococcal infections and their complications. Additionally, the volume incorporates and discusses aspects of pneumococcal, enterococcal, and oral streptococcal disease. The recent resurgence of rheumatic fever, concomitant outbreaks of severe systemic group A streptococcal infections (often accompanied by toxic shock), an increasing incidence of multiple antibiotic resistance among streptococcal species, and an intensified effort to develop effective streptococcal vaccines have brought renewed attention to the continuing role of streptococci for causing significant medical and public health problems in both industrialized and developing countries. Addressing clinical and epidemiological aspects, and microbiological and other approaches of the research scientist, this volume is the first to

comprehensively address these clinically important organisms in many years. The contributors are internationally recognized for their expertise, making this book invaluable for infectious disease physicians, (internists, pediatricians, and family physicians, microbiologists, epidemiologists, and basic scientists with an interest in streptococcal infections and their complications.

Superantigen Protocols Teresa Krakauer 2008-02-05 Leading researchers in the biological, chemical, and physical investigation of superantigens describe in step-by-step detail their best experimental techniques to assess the physical characteristics and biological effects of superantigens. Their protocols range from those for investigating the interactions of superantigens with cellular receptors to those for the analysis of their immunological and biological effects, including methods for using BIOcore to determine binding kinetics and establishing various lymphocyte cell culture systems. There are also accounts of such methods as the RNase protection assay, cytokine ELISA, FACS analysis, and cytokine production at the single cell level..

Protein Structure — Function Relationship D.L. Smith 2012-12-06 Although many pursue understanding of the relationship between protein structure and function for the thrill of pure science, the pay-off in a much broader sense is the ability to manipulate the Earth's chemistry and biology to improve the quality of life for mankind. Immediately goals of this area of research include identification of the life-supporting functions of proteins, and the fundamental forces that facilitate these functions. Upon reaching these goals, we shall have the understanding to direct and the tools required to implement changes that will dramatically improve the quality of life. For example, understanding the chemical mechanism of diseases will facilitate development of new therapeutic drugs. Likewise, understanding of chemical mechanisms of plant growth will be used with biotechnology to improve food production under adverse climatic conditions. The challenge to understand details of protein structure/function relationships is enormous and requires an international effort for success. To direct the chemistry and biology of our environment in a positive sense will require efforts from bright, imaginative scientists located throughout the world. Although the emergence of FAX, e-mail, and the World Wide Web has revolutionized international communication, there remains a need for scientists located in distant parts of the world to occasionally meet face to face.

Molecular Medical Microbiology, Three-Volume Set Yi-Wei Tang 2001-10-23 The molecular age has brought about dramatic changes in medical microbiology, and great leaps in our understanding of the mechanisms of infectious disease. Molecular Medical Microbiology is the first book to synthesise the many new developments in both molecular and clinical research in a single comprehensive resource. This timely and authoritative 3-volume work is an invaluable reference source of medical bacteriology. Comprising over 100 chapters, organised into 17 major sections, the scope of this impressive work is wide-ranging. Written by experts in the field, chapters include cutting edge information, and clinical overviews for each major bacterial group, in addition to the latest updates on vaccine development, molecular technology and diagnostic technology. * The first comprehensive and accessible reference on Molecular Medical Microbiology * Two color presentation throughout * Full colour plate section * Fully integrated and meticulously organised * In depth discussion of individual pathogenic bacteria in a system-oriented approach * Includes a clinical overview for each major bacterial group * Presents the latest information on vaccine development, molecular

technology and diagnostic technology * Extensive indexing and cross-referencing throughout * Over 100 chapters covering all major groups of bacteria * Written by an international panel of authors expert in their respective disciplines * Over 2300 pages in three volumes

Clinical Immunology, Principles and Practice (Expert Consult - Online and Print), 4

Robert R. Rich 2013-01 Written and edited by international leaders in the field, this book has, through two best-selling editions, been the place to turn for authoritative answers to your toughest challenges in clinical immunology. Now in full color and one single volume, the 3rd Edition brings you the very latest immunology knowledge - so you can offer your patients the best possible care. The user-friendly book and the fully searchable companion web site give you two ways to find the answers you need quickly...and regular online updates keep you absolutely current. Leading international experts equip you with peerless advice and global best practices to enhance your diagnosis and management of a full range of immunologic problems. A highly clinical focus and an extremely practical organization expedite access to the answers you need in your daily practice. Cutting-edge coverage of the human genome project, immune-modifier drugs, and many other vital updates keeps you at the forefront of your field. A new organization places scientific and clinical material side by side, to simplify your research and highlight the clinical relevance of the topics covered. A multimedia format allows you to find information conveniently, both inside the exceptionally user-friendly book and at the fully searchable companion web site. Regular updates online ensure that you'll always have the latest knowledge at your fingertips. Includes many new and improved illustrations and four color design. Your purchase entitles you to access the web site until the next edition is published, or until the current edition is no longer offered for sale by Elsevier, whichever occurs first. If the next edition is published less than one year after your purchase, you will be entitled to online access for one year from your date of purchase. Elsevier reserves the right to offer a suitable replacement product (such as a downloadable or CD-ROM-based electronic version) should access to the web site be discontinued.

International Books in Print 1997

Emerging Infections 1998-02-09 Emerging Infections is the first volume of the new Biomedical Research Reports Series, which will provide annual updates on hot topics of interest to a broad spectrum of the biomedical research community. This book provides state-of-the-art reviews of new and reemerging bacterial, viral, and parasitic infections, their life cycles, host defense evasion strategies, and clinical features. It includes the history of infectious disease outbreaks, population and evolutionary biology of human pathogens, and current epidemiological models that describe how ecological and demographic changes produce new epidemics. Provides reviews on hot topics of interest to the biomedical research community Editor and contributors are renowned international experts Covers the major established pathogens as well as the new and sensational--such as mad cow disease, hantavirus pulmonary syndrome, pathogenic E. Coli, and flesh-eating bacteria

Durchflusszytometrische Analyse CD34-exprimierender hämatopoetischer Zellen in Blut und Zytaphereseprodukten Volker Kretschmer 1996

Janeway's Immunobiology Kenneth Murphy 2010-06-22 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.

Books in Print 1995

Bacterial Superantigens Jacques Thibodeau 1995 Although the field of superantigens (SAGs) has boomed in recent years, the function of these proteins in bacterial infection remains elusive. This volume begins with a brief introduction, followed by 15 chapters. Among the topics are structural studies of streptococcal pyrogenic exotoxin superantigens; *Yersinia* infection--the virulence determinants and SAGs they produce; structural features of T cell receptor recognition of SAGs; the pathophysiology of bacterial SAGs in vivo; and antibody targeted SAGs in experimental tumor therapy.

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Dynamics and the Problem of Recognition in Biological Macromolecules Oleg Jardetzky 2012-12-06 From within complex structures of organisms and cells down to the molecular level, biological processes all involve movement. Muscular fibers slide on each other to activate the muscle, as polymerases do along nucleic acids for replicating and transcribing the genetic material. Cells move and organize themselves into organs by recognizing each other through macromolecular surface-specific interactions. These recognition processes involve the mutual adaptation of structures that rely on their flexibility. All sorts of conformational changes occur in proteins involved in through-membrane signal transmission, showing another aspect of the flexibility of these macromolecules. The movement and flexibility are inscribed in the polymeric nature of essential biological macromolecules such as proteins and nucleic acids. For instance, the well-defined structures formed by the long protein chain are held together by weak noncovalent interactions that design a complex potential well in which the protein floats, permanently fluctuating between several micro- or macroconformations in a wide range of frequencies and amplitudes. The inherent mobility of biomolecular edifices may be crucial to the adaptation of their structures to particular functions. Progress in methods for investigating macromolecular structures and dynamics make this hypothesis not only attractive but more and more testable.

The Comprehensive Sourcebook of Bacterial Protein Toxins Joseph E. Alouf 2005-12-20 This book describes the major achievements and discoveries relevant to bacterial protein toxins since the turn of the new century illustrated by the discovery of more than fifty novel toxins (many of them identified through genome screening). The establishment of the three-dimensional crystal structure of more than 20 toxins during the same period offers deeper knowledge of structure-activity relationships and provides a framework to understand how toxins recognize receptors, penetrate membranes and interact with and modify intracellular substrates. Edited by two of the most highly regarded experts in the field from the Institut Pasteur, France 14 brand new chapters dedicated to coverage of historical and general aspects of toxinology Includes the major toxins of both basic and clinical interest are described in depth Details applied aspects of toxins such as therapy, vaccinology, and toolkits in cell biology Evolutionary and functional aspects of bacterial toxins evaluated and summarized Toxin applications in cell biology presented Therapy (cancer therapy, dystonias) discussed Vaccines (native and genetically engineered vaccines) featured Toxins discussed as biological weapons, comprising chapters on anthrax, diphtheria, ricin etc. *Staphylococcus Aureus* Pathogenicity Islands Paul Mano Orwin 2001

Treatments from Toxins Keith Alan Foster 2006-11-02 As little as two decades ago, deliberately injecting botulinum toxin into patients would have seemed foolhardy at best

and criminal at worst. The increased clinical use of botulinum toxins has expanded the body of knowledge available on the structure and function of these proteins. This knowledge can be applied to topics as varied as therapies based on the endopeptidase activity of the toxins, vaccine development, protection against botulism, and vectors for neuronal drug delivery. Based on recent scientific and clinical information from top international authorities, *Treatments from Toxins: The Therapeutic Potential of Clostridial Neurotoxins* reviews the status of current research and development and identifies significant developments. Drawing on their vast experience in this field, the editors present the basic background of the bacteriology and genetics of the neurotoxic clostridia, a history of the discovery of the neurotoxins, and an overview of the tetanus and botulism diseases. The chapters detailing common medical applications of the toxins cover side effects and novel uses, including neuronal drug delivery strategies, and provide a fresh look at what can still be achieved. They also explore the toxins as potential threat agents and the advent of the therapeutic use of botulinum toxins. Highlighting the pitfalls, successes, and challenges that exist when engineering complex proteins, the book brings together the clinical and theoretical worlds. It presents a broad overview of the current status of botulinum research and its clinical applications.

Medical and Health Care Books and Serials in Print 1997

RÖMPP Lexikon Chemie, 10. Auflage, 1996-1999 2014-06-11 Die bewährte 10.

Auflage der RÖMPP Enzyklopädie von 1999 enthält 44.000 Fachbegriffe, 5.000 Seiten in 6 Bänden, 120.000 Querverweise, 65.000 Literaturhinweise sowie 8.000 Abbildungen, Formeln und Tabellen rund um die Chemie und angrenzende Naturwissenschaften. Anwendungsbezogen und praxisnah werden die Stichwörter leicht verständlich erklärt, sodass auch Nicht-Chemiker den RÖMPP praktisch in Ihrem Arbeitsalltag einsetzen können. Folgende Fachgebiete sind in den 6 Bänden enthalten: Abfall, Analytik, Angewandte Chemie, Anorganik, Arbeitssicherheit, Biochemie, Biographien, Biologie, Biotechnologie, Elektrochemie, Farbstoffe, Fette/Tenside/Waschmittel, Firmenportraits, Gesetzgebung, Kohle- und Petrochemie, Labortechnik, Lebensmittelchemie, Makromolekulare Chemie, Medizin, Metallurgie, Mineralogie, Naturstoffe, Nomenklatur, Ökologie, Organik, Organisationen, Pflanzenschutz, Pharmazie, Physik, Physikalische Chemie, Radiochemie, Technische Chemie, Toxikologie und Umweltschutz, Warenzeichen.

Scientific Report Scripps Research Institute 1994

Viral Superantigens Kyuhei Tomonari 1997-05-30 Since the discovery of viral superantigens in 1991, immunologists have made a number of new discoveries. The discoveries, especially those relating to the interplay between the immune system and viruses producing superantigens, have had a great impact on immunology and virology, as it appears that some diseases are triggered or exacerbated by viral superantigens. *Viral Superantigens* presents a complete review of this new area of study. Edited by a leading researcher and authored by a distinguished team of contributors, this comprehensive analysis covers every aspect of viral superantigens and related subjects, including critical topics such as effects on the T cell repertoire and viral superantigen-mediated diseases. Immunologists and virologists, clinical practitioners, and graduate students will find this book an invaluable resource to encourage further advances in research.

Biological Weapons Defense Luther E. Lindler 2007-10-27 In 2003, the President's

budget for bioterrorism defense totalled more than \$5 billion. Today, the nation's top academic scientists are scrambling to begin work to understand *Bacillus anthracis* and develop new vaccines and drugs. However, just five years ago, only the US Department of Defense (DOD) seemed concerned about these "exotic" agents. In 1997, the DOD spent approximately \$137 million on biodefense to protect the deployed force, while academe, industry, local governments, and most of our federal leadership was oblivious to, and in some cases doubtful of, the seriousness of the threat. The National Institutes of Health (NIH) received the largest budget increase in the organization's history. Fortunately, during this time of national urgency, a sound base exists on which to build our defenses against this new threat. A relatively small cadre of dedicated scientists within the US Army Medical Research and Materiel Command (USAMRMC) laid this foundation over the past 20 years.

Mandell, Douglas, and Bennett's *Principles and Practice of Infectious Diseases* E-Book John E. Bennett 2009-10-19 After thirty years, PPID is still the reference of choice for comprehensive, global guidance on diagnosing and treating the most challenging infectious diseases. Drs. Mandell, Bennett, and Dolin have substantially revised and meticulously updated, this new edition to save you time and to ensure you have the latest clinical and scientific knowledge at your fingertips. With new chapters, expanded and updated coverage, increased worldwide perspectives, and many new contributors, Mandell, Douglas, and Bennett's *Principles and Practice of Infectious Diseases*, 7th Edition helps you identify and treat whatever infectious disease you see. Consult this title on your favorite e-reader, conduct rapid searches, and adjust font sizes for optimal readability. Compatible with Kindle®, nook®, and other popular devices. Get the answers to questions you have with more in-depth coverage of epidemiology, etiology, pathology, microbiology, immunology, and treatment of infectious agents than you'll find in any other infectious disease resource. Find the latest diagnoses and treatments for currently recognized and newly emerging infectious diseases, such as those caused by avian and swine influenza viruses. Put the latest knowledge to work in your practice with new or completely revised chapters on influenza (new pandemic strains); new Middle East respiratory syndrome (MERS) virus; probiotics; antibiotics for resistant bacteria; antifungal drugs; new antivirals for hepatitis B and C; *Clostridium difficile* treatment; sepsis; advances in HIV prevention and treatment; viral gastroenteritis; Lyme disease; *Helicobacter pylori*; malaria; infections in immunocompromised hosts; immunization (new vaccines and new recommendations); and microbiome. Benefit from fresh perspectives and global insights from an expanded team of international contributors. Find and grasp the information you need easily and rapidly with newly added chapter summaries. These bulleted templates include diagnosis, therapy, and prevention and are designed as a quick summary of the chapter and to enhance relevancy in search and retrieval on Expert Consult. Stay current on Expert Consult with a thorough and regularly scheduled update program that ensures access to new developments in the field, advances in therapy, and timely information. Access the information you need easily and rapidly with new succinct chapter summaries that include diagnosis, therapy, and prevention. Experience clinical scenarios with vivid clarity through a richly illustrated, full-color format that includes 1500 photographs for enhanced visual guidance.

Streptococcal Superantigens Anshu Babbar 2015-07-24 This book provides ample knowledge and better understanding of *Streptococcus pyogenes* and their

superantigens. Many illustrations make this a highly informative book. This book elucidates briefly *Streptococcus pyogenes* as a strict human pathogen possessing an array of virulence factors. These help in evading host immune responses such as by the activation of non-specific T-cell subpopulations by producing superantigens. This book mainly focuses on streptococcal superantigens and explains how they are different from conventional antigens. Moreover, it elaborates those diseases in which superantigens are actively involved. Useful aspects of superantigens and different therapeutic interventions to eradicate superantigens induced diseases are also discussed.

Cumulated Index Medicus 2000

The Journal of Immunology 1996-12

Bacterial Infection: Close Encounters at the Host Pathogen Interface Peter K. Vogt 2012-12-06 When it comes to bacterial disease, we are living in a state of false security. Antibiotics have indeed brought unprecedented health benefits, protection from and cure of bacterial diseases during the past 50 years. But there are ominous signs that the fortress and the defenses built on antibiotics are crumbling. They are crumbling because we wittingly or unwittingly created selective conditions for the emergence of superior pathogens that can no longer be controlled by antibiotics. There are numerous warnings. After a long period of eclipse tuberculosis has now emerged as a serious threat unchecked by antibiotic treatment. Recent years have seen reports of cholera epidemics, of anthrax infections, of serious problems with *Salmonella* and even with *E. coli*, just to name a few. Mankind is in a race with microbial invaders. The challenge is to anticipate and respond to developments that affect the precarious balance between man and microbe. This will require new knowledge and it will take time for an effective application of that knowledge.

Endotoxins: Structure, Function and Recognition Xiaoyuan Wang 2010-06-30

Endotoxins are potentially toxic compounds produced by Gram-negative bacteria including some pathogens. Unlike exotoxins, which are secreted in soluble form by live bacteria, endotoxins are comprised of structural components of bacteria. Endotoxins can cause a whole-body inflammatory state, sepsis, leading to low blood pressure, multiple organ dysfunction syndrome and death. This book brings together contributions from researchers in the forefront of these subjects. It is divided into two sections. The first deals with how endotoxins are synthesized and end up on the bacterial surface. The second discussed how endotoxins activate TLR4 and, in turn, how TLR4 generates the molecular signals leading to infectious and inflammatory diseases. The way endotoxins interact with the host cells is fundamental to understanding the mechanism of sepsis, and recent research on these aspects of endotoxins has served to illuminate previously undescribed functions of the innate immune system. This volume presents a description of endotoxins according to their genetic constitution, structure, function and mode of interaction with host cells.

American Book Publishing Record 1996

Natural Toxins 2 Bal Ram Singh 2012-12-06 From beach encounters, aquaculture perils, and processed-food poisoning to snake bites and biological warfare, natural toxins seem never to be far from the public's sight. A better understanding of toxins in terms of their origin, structure, structure-function relationships, mechanism of action, and detection and diagnosis is of utmost importance to human and animal food safety, nutrition, and health. In addition, it is now clear that many of the toxins can be used as

scientific tools to explore the molecular mechanism of several biological processes, be it a mechanism involved in the function of membrane channels, exocytosis, or cytotoxicity. Several of the natural toxins have also been approved as therapeutic drugs, which has made them of interest to several pharmaceutical companies. For example, botulinum neurotoxins, which have been used in studies in the field of neurobiology, have also been used directly as therapeutic drugs against several neuromuscular diseases, such as strabismus and blepharospasm. Toxins in combination with modern biotechnological approaches are also being investigated for their potential use against certain deadly medical problems. For example, a combination of plant toxin ricin and antibodies is being developed for the treatment of tumors. The great potential of natural toxins has attracted scientists of varying backgrounds-pure chemists to cancer biologists-to the study of fundamental aspects of the actions of these toxins.

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