

Lateral Flow Immunochemical Assay For Sensitive

Celiac disease (CD) occurs in about 1% of people worldwide. Diagnosis rates are increasing due to a true rise in incidence, rather than increased awareness and detection. CD affects genetically susceptible individuals who are triggered by the ingestion of gluten. The disease has many clinical manifestations, ranging from severe to minimally symptomatic or non-symptomatic presentations. Diagnosis requires the presence of duodenal chronic inflammation, and most patients have circulating antibodies against tissue transglutaminase. Our understanding of the basic and clinical aspects of CD increases, which is as a major health problem of almost global occurrence. Case finding, distinguishing CD from other gluten-sensitive conditions, better care, and balanced use of resources are the current challenges.

Fenner and White’s Medical Virology, Fifth Edition provides an integrated view of related sciences, from cell biology, to medical epidemiology and human social behavior. The perspective represented by this book, that of medical virology as an infectious disease science, is meant to provide a starting point, an anchor, for those who must relate the subject to clinical practice, public health practice, scholarly research, and other endeavors. The book presents detailed exposition on the properties of viruses, how viruses replicate, and how viruses cause disease. These chapters are then followed by an overview of the principles of diagnosis, epidemiology, and how virus infections can be controlled. The first section concludes with a discussion on emergence and attempts to predict the next major public health challenges. These form a guide for delving into the specific diseases of interest to the reader as described in Part II. This lucid and concise, yet comprehensive, text is admirably suited to the needs of not only advanced students of science and medicine, but also postgraduate students, teachers, and research workers in all areas of virology. Features updated and expanded coverage of pathogenesis and immunity

Contains the latest laboratory diagnostic methods Provides insights into clinical features of human viral disease, vaccines, chemotherapy, epidemiology, and control

Critical Issues in Alcohol and Drugs of Abuse Testing, Second Edition, addresses the general principles and technological advances for measuring drugs and alcohol, along with the pitfalls of drugs of abuse testing. Many designer drugs, for example, are not routinely tested in drugs of abuse panels and may go undetected in a drug test. This updated edition is a must-have for clinical pathologists, toxicologists, clinicians, and medical review officers and regulators, bridging the gap between technical and clinical information. Topics of note include the monitoring of pain management drugs, both salts, spices (synthetic marijuana), designer drugs and date rape drugs, and more. Serves as a ready resource of information for alcohol and drug testing Ideal resource for making decisions related to the monitoring and

Interpretation of results Includes concise content for clinical laboratory scientists, toxicologists and clinicians

Rapid tests, also known as point-of-care tests, have been in use for decades in the clinical and medical area and have become increasingly popular as an efficient screening method for conducting on-site analysis thanks to their simplicity, speed, specificity and sensitivity. Nowadays, rapid tests are widely applied for clinical, drug, food, forensic and environmental analysis and fields of application are rapidly increasing together with advances in the technology. The growing interest in rapid tests and their expanding application in diverse fields, together with requirements of improved sensitivity, reliability, multiple detection capacity and robustness, are prompting innovation in the design of novel platforms, and in the exploitation of innovative detection strategies. The book covers advances in materials, technology and test design.

Viral Infections of Humans

Epidemiology and Control

Advances in Design, Format and Diagnostic Applications

Point-of-Care Technologies Enabling Next-Generation Healthcare Monitoring and Management

Food Immunoassay

Handbook of Immunoassay Technologies

Agrochemicals—Advances in Research and Application: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Agrochemicals. The editors have built Agrochemicals—Advances in Research and Application: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Agrochemicals in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Agrochemicals—Advances in Research and Application: 2012 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

The increasingly widespread production of toxins by marine and freshwater microalgae raises serious concerns regarding seafood and drinking water safety. This book compiles studies on the influence of climate change on the spreading of toxin-producing species in aquatic systems. The chemistry and biology of toxin production is revised and an outlook on control and prevention of the toxins' impact on human and animal health is given.

This book offers the latest scientific research on applied microbiology presented at the IV International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2011) held in Spain in 2011. A wide-ranging set of topics including agriculture, environmental, food, industrial and medical microbiology makes this book interesting not only for microbiologists, but also for anyone who likes to keep up with cutting-edge research in microbiology and microbial biotechnology. Readers will find a major collection of knowledge, approaches, methods and discussions on the latest advances and challenges in applied microbiology in a compilation of 136 chapters written by active researchers in the field from around the world. The topics covered in this single volume include biodegradation of pollutants, water, soil and plant microorganisms, biosurfactants, antimicrobial natural products, antimicrobial susceptibility, antimicrobial resistance, human pathogens, food microorganisms, fermentation, biotechnologically relevant enzymes and proteins, microbial physiology, metabolism and gene expression mainly, although many other subjects are also discussed. Sample Chapter(s) A microcosm study on the die-off response of the indicator bacteria, Enterococcus faecium and Enterococcus faecalis (267 KB) Contents:Agriculture, Soil, Environmental and Marine-Aquatic MicrobiologyFood MicrobiologyIndustrial Microbiology. Methods. Quantitative Models and BioinformaticsMedical and Pharmaceutical Microbiology. Antimicrobial Agents and ChemotherapyMicrobial Physiology, Metabolism and Gene ExpressionBiotechnologically Relevant Enzymes and Proteins Readership: Professionals, microbiologists, clinicians, (bio)chemists, physicists, and engineers. Keywords:Microorganisms;Applied Microbiology;Environmental Microbiology;Industrial Microbiology;Microbial Biotechnology;BioMicroWorld2011 Conference Proceedings Book;Mendez-VilasKey Features:The topics covered in this single volume include biodegradation of pollutants, water, soil and plant microorganisms, biosurfactants, antimicrobial natural products, antimicrobial susceptibility, antimicrobial resistance, human pathogens, food microorganisms, fermentation, biotechnologically relevant enzymes and proteins, microbial physiology, metabolism and gene expression mainly, although many other subjects are also discussed

also occurs. New outbreaks of yellow fever have occurred in Colombia and Trinidad and new outbreaks of rift valley fever have occurred in Egypt. Chapter 6, Arenaviruses: The biochemical and physical properties have now been clarified, and they show a remarkable uniformity in the various viruses constituting the group. The possibility that prenatal infection with LCM may result in hydrocephalus and chorioretinitis has been raised. Serologic surveys have suggested the existence of Lassa virus infection in Guinea, Central African Empire, Mali, Senegal, Cameroon, and Benin. In addition to earlier identification in Nigeria, Liberia, and Sierra Leone. Chapter 7, Coronaviruses: New studies have confirmed the important role of these viruses in common respiratory illnesses of children and adults. The viruses are now known to contain a single positive strand of RNA. About 50% of corona virus infections result in clinical illness. About 5% of common colds are caused by strain DC 43 in winter. Chapter 8, Cytomegalovirus: Sections on pathogenesis of CMV in relation to organ transplantation and mononucleosis, as well as sections on the risk and features of congenital infection and disease, have been expanded. There are encouraging preliminary results with a live CMV vaccine, but the questions of viral persistence and oncogenicity require further evaluation.

Using Lateral Flow Immunoassay For Sensitive

Nanobiosensors

Nanobiotechnology and Nanotechnologies in Analytical Chemistry

ELISA

Critical Issues in Alcohol and Drugs of Abuse Testing

Theory and Applications of Ligand Binding, ELISA and Related Techniques

Nanobiosensors: Nanotechnology in the Agri-Food Industry, Volume 8, provides the latest information on the increasing demand for robust, rapid, inexpensive, and safe alternative technologies that monitor, test, and detect harmful or potentially dangerous foods. Due to their high sensitivity and selectivity, nanobiosensors have attracted attention for their use in monitoring not only biological contaminants in food, but also potential chemical and physical hazards. This book offers a broad overview regarding the current progress made in the field of nanosensors, including cutting-edge technological progress and the impact of these devices on the food industry. Special attention is given to the detection of microbial contaminants and harmful metabolites, such as toxins and hormones, which have a great impact on both humans and animal health and feed. Includes the most up-to-date information on nanoparticles based biosensors and quantum dots for biological detection Provides application methods and techniques for research analysis for bacteriological detection and food testing Presents studies using analytical tools to improve food safety and quality analysis

Nanoanalytics is a novel branch of analytical chemistry which explores applications of nanotechnologies in chemical analysis. This comprehensive publication gives an overview of the analytical techniques used to study nanoobjects and nanoparticles as well as the application of nanomaterials themselves in the development of new methods of analysis. The authors also address important metrology aspects and give future prospects of the area.

Biosensors combine biological recognition elements and signal conversion elements into a biodection system. This book describes the major technologies in the field in extensive technical detail, providing a user-friendly guide to this vital technology.

Immunological Methods in Microbiology, Volume 47 in the Methods in Microbiology series, highlights new advances in the field, with this new volume presenting interesting chapters on Immunological Techniques in the Clinical Laboratory, Immunologic Diagnosis of HIV and Opportunistic Infections, Combining Antigen Detection and Serology for the Diagnosis of Selected Infectious Diseases, Immunologic Detection of Lyme Disease and Related Borreliaes, Immunodetection of Bacteria Causing Brucellosis, Immunological Diagnostic Techniques Used to Identify and Type Pasteurella, Immunological Tests for Diarrhea caused by Diarrheogenic Escherichia coli Targeting Their Main Virulence Factors, and much more. Provides the authority and expertise of leading contributors from an international board of authors Presents the latest release in the Methods in Microbiology series Includes the latest information on Immunological Methods in Microbiology

A Prospective Way for Rapid Analysis

Bailey & Scott's Diagnostic Microbiology - E-Book

Body Fluid Testing

Affinity Acquisition and Method Design

Potential Applications and Possible Limitations

The Chemistry and Pharmacology of Opioids from a Non-Opium Source

This book includes an international group of researchers who present the latest achievements in the field of enzyme, immune system, and microbial and nano-biosensors. It highlights the experimental evidence for formation of biological fuel cells (BFCs)-which has a dual purpose - as a device that produces electricity and the systems which produce it simultaneously cleaning up the environment from polluting organic compounds. Considering the work in the field of macro, micro and nano-biosensors, considerable attention is paid to the use of nanomaterials for the modification of working electrodes. Nanomaterials in some cases can significantly improve the parameters of analytical systems. Readers will be interested in the projection of the presented theoretical and experimental materials in the field of practical application of modern analytical developments. The presented results in many cases imply the possibility of using the created models of macro, micro and nano-biosensors, and biotuel elements in the field of health, and protection/restoration of the environment. It includes information about all existing types of transducers of signals in biosensors - electrochemical, optical and quantum-optics, thermoelectric, data of atomic force microscopy, piezoelectric, and more. On the basis of these principles, descriptions are given about the functioning of macro, micro and nano- biosensors for the detection of compounds used in medicine, detection of compounds that clog the environment, and thus affect human health, for compounds that are potentially the basis for the production of drugs, for the selection of compounds that have medicinal activity, for immunodetection, and to assess the quality of food. These questions form the basis of research carried out in the field of biosensors in the world. Since the described models of biosensors have high sensitivity, high measurement speed and selectivity, the described results attract the attention of both the ordinary reader and business class specialists who create and implement analytical technologies. This book is very useful for researchers in life sciences, chemical sciences, physics, and engineering. In addition, it will be useful for the persons working in industry. Advanced technologies specialists will be attracted by the novelty of the proposed solutions and their relevance and ease of implementation. Since the studies contain sections describing the parameters of different biosensors, BFCs, they are easily navigated into assessing the effectiveness of the practical use of the proposed device. The relevant sections indicate such characteristics as detection ranges, life span, type of biological material used, the method of formation of the bio-receptor part. These parameters are of interest to both developers of new models of biosensors and BFC, and their manufacturers.

The book explores recent developments in the application of nanotechnology in the early detection of gastric cancer. It discusses various aspects, such as screening for gastric cancer-associated biomarkers; establishing new ultrasensitive detection methods based on nanoparticle labeling and nanoeffects; developing a new generation of nanodevices for high-throughput examination of serum and breath biomarkers; developing multifunctional nanoprobes for targeted imaging and simultaneous therapy of gastric cancer; evaluating the biosafety of multifunctional nanoprobes; and the establishment of a pre-warning and early diagnosis system. It also presents clinical applications and prospects. The book provides a valuable reference for researchers in nanomedicine and clinicians involved in gastric cancer and radiology.

Magnetic nanoparticles with diameters in the range of a few nanometers are today at the cutting edge of modern technology and innovation because of their use in numerous applications ranging from engineering to biomedicine. A great deal of scientific interest has been focused on the functionalization of magnetic nanoparticle assemblies. The understanding of interparticle interactions is necessary to clarify the physics of these assemblies and their use in the development of high-performance magnetic materials. This book reviews prominent research studies on the static and dynamic magnetic properties of nanoparticle assemblies, gathering together experimental and computational techniques in an effort to reveal their optimized magnetic properties for biomedical use and as ultra-high magnetic recording media.

21st Century Challenges in Antimicrobial Therapy and Stewardship addresses selected topics that are of importance in the practice of infectious disease management. The text starts by illustrating the global landscape of antimicrobial drug resistance, which influences antimicrobial use and therapeutic decisions in the clinic. The contributors explain the reasons for the spread of antibiotic resistance, the pharmacology of antibiotics of different classes, innovative drug delivery methods which can improve the efficacy and safety of new drug candidates and achieve targeted drug delivery as well as drug resistance monitoring techniques and issues in the practice of antimicrobial stewardship and infection control. Key Features: - 14 organized chapters on several aspects of antimicrobial therapy and stewardship - Introductory knowledge on global antimicrobial trends - Coverage of molecular basis of antimicrobial resistance in gram positive, gram negative and fungal microbes - Focused coverage on new developments in antimicrobial drug development, drug delivery, formulation and diagnostic tools - Information on unmet needs of patients and clinicians, including the treatment of difficult infections - Comprehensive coverage of issues in antimicrobial stewardship 21st Century Challenges in Antimicrobial Therapy and Stewardship brings to readers - healthcare administrators, educators, pharmacists, clinicians and students, alike - the knowledge of the molecular basis of antimicrobial drug therapy, drug resistance in pathogens and current practices in antimicrobial stewardship programs. This knowledge, in turn, fosters an awareness among healthcare industry participants to collaborate in an interprofessional environment to combat multidrug resistance.

Encyclopedia of Malaria

Fenner and White's Medical Virology

Kratom and Other Mitragynines

An Example Using Lateral Flow Immunochemical Assay For Sensitive

Investigation of Magneto-immunoassays in Lateral Flow Format

Methods in Microbiology

A comprehensive review of the science of drug testing in all its aspects, placing emphasis on technologies that use body fluids other than urine for determining the presence of drugs of abuse. The authors discuss the various body fluid specimens suitable for testing for illicit drugs-particularly saliva, sweat, and hair-describe the structural and manufacturing aspects of on-site testing devices based on lateral flow immunoassay, and detail the pitfalls of using these specimens. They also discuss in detail the problem of sample adulteration and its detection. Since oral fluid has the best potential of succeeding urine as the next major choice for drug detection, four popular saliva testing devices are examined: Intetec®0, the Drager Drug Test®, Oratec®0, and Drugwipe. Political, social, and legal issues are also considered in articles on privacy, the use of drug testing in courts, and the problem of sample adulteration.

Recent Advances and Future Prospects
Sensors in Water Pollution Monitoring: Role of Material
From Design to Applications
Biochemistry and Cell Culture
This book discusses the sensitivity, selectivity, and response times of different sensor materials and their potential application in the design of portable sensor systems for monitoring water pollutants and remediation systems. Beginning with an overview on water pollutants and analytical methods for their detection, the book then moves on to describing the advances in sensor materials research, and the scope for their use in different types of sensors. The book lays emphasis on techniques such as colorimetric, fluorescence, electrochemical, and biological sensing of conventional and emerging pollutants. This book will serve as a handy guide for students, researchers, and professional engineers working in the field of sensor systems for monitoring water pollutants to address various challenges.

Opioids such as morphine, codeine, and oxycodone are extracts or analogs isolated from a single source: the opium poppy. For a long time, it was believed to be nature’s only source of opioids. But it now appears that biological diversity has evolved an alternative source of opioid compounds—those derived from the plant Mitragyna speciosa. This plant, known as Kratom in Thailand or Bialk-Bialk in Malaysia, has long been used locally as treatment for pain, fever reduction, diarrhea, and even depression. Kratom and Other Mitragynines: The Chemistry and Pharmacology of Opioids from a Non-Opium Source presents an introduction to the chemical and biological properties of alkaloids isolated from M. speciosa as well as their synthetic analogs. The book covers various topics including phytochemistry, medicinal chemistry, and pharmacology. Current research, analgesic effects, and addiction potential are also discussed. As the first extensive text on the basic science and clinical use of Kratom, the book provides readers with a concise yet comprehensive introduction to nature’s “other opioid.”

Cell biology spans among the widest diversity of methods in the biological sciences. From physical chemistry to microscopy, cells have given up with secrets only when the questions are asked in the right way! This new volume of Methods in Cell Biology covers laboratory methods in cell biology, and includes methods that are among the most important and elucidating in the discipline, such as transfection, cell enrichment and magnetic batch separation. Covers the most important laboratory methods in cell biology Chapters written by experts in their fields

An essential guide that puts the focus on method developments and applications in aptamers In recent years, aptamer-based systems have been developed for a wide-range of analytical and medical applications. Aptamers for Analytical Applications offers an introduction to the topic, outlines the common protocols for aptamer synthesis, as well as providing information on the different optimization strategies that can obtain higher affinities to target molecules. The contributors’noted experts on the topic?provide an in-depth review of the characterization of aptamer-target molecule interaction and immobilization strategies and discuss the developments of methods for all the relevant applications. The book outlines different schemes to efficiently immobilize aptamers on substrates as well as summarizing the characterization methods for aptamer-ligand complexes. In addition, aptamer-based colorimetric, enzyme-linked, fluorescent, electrochemical, lateral flow and non-labeling analytical methods are presented. The book also reflects state-of-the-art and emerging applications of aptamer-based methods. This important resource: -Provides a guide to aptamers which provide highly specific and sensitive molecular recognition, with affinities in the range of antibodies and are much cheaper to produce -Offers a discussion of the analytical method developments and improvements with established systems and beyond -Offers a comprehensive guide to all the relevant application areas -Presents an authoritative book from contributors who are noted experts in the field Written for analytical chemists, biochemists, analytical researchers, Aptamers for Analytical Applications is a comprehensive book that adopts a methodological point of view to the important aspects of aptamer generation and modification with a strong emphasis on method developments for relevant applications.

Aptamers for Analytical Applications

Food Analysis

Biosensors and Biodection

Microbes in Applied Research

Lateral Flow Immunoassay

Laboratory Methods in Cell Biology

Containing cutting edge research on the hot topic of nanobiosensor, this book will become highly read Biosensor research has recently re-emerged as most vibrant area in recent years particularly after the advent of novel nanomaterials of multidimensional features and compositions. Nanomaterials of different types and striking properties have played a positive role in giving the boost and accelerated pace to biosensors development technology. Nanobiosensors - From Design to Applications covers several aspects of biosensors beginning from the basic concepts to advanced level research. It will help to bridge the gap between various aspects of biosensors development technology and applications. It covers biosensors related material in broad spectrum such as basic concepts, biosensors & their classification, biomarkers & their role in biosensors, nanostructures-based biosensors, applications of biosensors in human diseases, drug detection, toxins, and smart phone based biosensors. Nanobiosensors - From Design to Applications will prove a source of inspiration for research on biosensors, their local level development and consequently using for practical application in different industries such as food, biomedical diagnosis, pharmaceuticals, agriculture, drug discovery, forensics, etc. * Discusses the latest technology and advances in the field of nanobiosensors and their applications in human diseases, drug detection, toxins * Offers a broad and comprehensive view of cutting-edge research on advanced materials such as carbon materials, nitride based nanomaterials, metal and metal oxide based nanomaterials for the fast-developing nanobiosensors research * Goes to a wide scientific and industry audience Nanobiosensors - From Design to Applications is a resource for polymer chemists, spectroscopists, materials scientists, physical chemists, surface chemists, and surface physicists.

Perfect your lab skills with the gold standard in microbiology! Serving as both the #1 bench reference for practicing microbiologists and as a favorite text for students in clinical laboratory science programs, Bailey & Scott’s Diagnostic Microbiology, 14th Edition covers all the topical information and critical thinking practice you need for effective laboratory testing. This new edition also features hundreds step-by-step procedures, updated visuals, new case studies, and new material on the latest trends and equipment in clinical microbiology—including automation, automated streaking, MALDI-TOF, and incubator microscopes. It’s everything you need to get quality lab results in class and in clinical practice! More than 800 detailed, full-color illustrations aid comprehension and help in visualizing concepts. Expanded sections on parasitology, mycology, and virology eliminate the need to purchase separate books on this material. General and Species boxes in the organism chapters highlight the important topics that will be discussed in the chapter. Case studies provide the opportunity to apply information to a variety of diagnostic scenarios, and help improve decision-making and critical thinking skills. Hands-on procedures include step-by-step instructions, full-color photos, and expected results. A glossary of terms is found at the back of the book for quick reference. Learning objectives begin each chapter, offering a measurable outcome to achieve by the completing the chapter. Learning resources on the Evolve companion website enhance learning with review questions and procedures. NEW! Coverage of automation, automated streaking, MALDI-TOF, and incubator microscopes keeps you in the know on these progressing topics. NEW! Updated images provide a more vivid look into book content and reflect the latest procedures. NEW! Thoroughly reviewed and updated chapters equip you with the most current information. NEW! Significant lab manual improvements provide an excellent learning resource at no extra cost. NEW! 10 extra case studies on the Evolve companion website offer more opportunities to improve critical thinking skills.

This book describes the emerging point-of-care (POC) technologies that are paving the way to the next generation healthcare monitoring and management. It provides the readers with comprehensive, up-to-date information about the emerging technologies, such as smartphone-based mobile healthcare technologies, smart devices, commercial personalized POC technologies, paper-based immunoassays (IAs), lab-on-a-chip (LOC)-based IAs, and multiplex IAs. The book also provides guided insights into the POC diabetes management software and smart applications, and the statistical determination of various bioanalytical parameters. Additionally, the authors discuss the future trends in POC technologies and personalized and integrated healthcare solutions for chronic diseases, such as diabetes, stress, obesity, and cardiovascular disorders. Each POC technology is described comprehensively and analyzed critically with its characteristic features, bioanalytical principles, applications, advantages, limitations, and future trends. This book would be a very useful resource and teaching aid for professionals working in the field of POC technologies, in vitro diagnostics (IVD), mobile healthcare, Big Data, smart technology, software, smart applications, biomedical engineering, biosensors, personalized healthcare, and other disciplines.

Rapid multiplex detection of pathogens in the environment and in our food is a key factor for the prevention and effective treatment of infectious diseases. Biosensing technologies combining the high selectivity of biomolecular recognition and the sensitivity of modern signal detection platforms are a prospective option for automated analyses. They allow rapid detection of single molecules as well as cellular substances. This book, including 12 chapters from 50 authors, introduces the principles of identification of specific pathogen biomarkers along with different biosensor-based technologies applied for pathogen detection.

Analytical Chemistry Editor’s Pick 2021

Agrochemicals/Advances in Research and Application: 2012 Edition

Methods and Protocols Volume 2: Electrochemical and Mechanical Detectors, Lateral Flow and Ligands for Biosensors

Gastric Cancer Prewarning and Early Diagnosis System

From the Bench to the Clinic

Analytical Figures of Merit as a Means to Compare Methods

This volume is a practical biochemical guide to the Enzyme-Linked Immunosorbent Assay (ELISA), used to detect a target substance in a liquid sample. The ELISA is an important and widely used diagnostic tool in medicine, animal health, botany and quality assurance processes in food and beverage production. An introductory chapter orients the reader on the basic structure and function of immunoglobulins and their fragments while subsequent chapters outline the methodology to generate monoclonal antibodies using hybridoma technology and the general methods used to purify antibodies. Multiple chapters demonstrate how to creatively use the properties of the antibody to identify, localize and quantify target analytes to answer questions and resolve problems. The reader will learn how to use a variety of immunoassay strategies, reporters and detection systems that will undoubtedly facilitate their efforts to gain answers to their own questions. Written in the successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, ELISA: Methods and Protocols seeks to provide both professionals and novices with the technical information necessary for the reader to successfully use the immunoassay as part of the discovery process.

The fourth edition of The Immunoassay Handbook provides an excellent, thoroughly updated guide to the science, technology and applications of ELISA and other immunoassays, including a wealth of practical advice. It encompasses a wide range of methods and gives an insight into the latest developments and applications in clinical and veterinary practice and in pharmaceutical and life science research. Highly illustrated and clearly written, this award-winning reference work provides an excellent guide to this fast-growing field. Revised and extensively updated, with over 30% new material and 77 chapters, it reveals the underlying common principles and simplifies an abundance of innovation. The Immunoassay Handbook reviews a wide range of topics, now including lateral flow, microsphere multiplex assays, immunohistochemistry, practical ELISA development, assay interferences, pharmaceutical applications, qualitative immunoassays, antibody detection and lab-on-a-chip. This handbook is a must-read for all who use immunoassay as a tool, including clinicians, clinical and veterinary chemists, biochemists, food technologists, environmental scientists, and students and researchers in medicine, immunology and proteomics. It is an essential reference for the immunoassay industry. Provides an excellent revised guide to this commercially highly successful technology in diagnostics and research, from consumer home pregnancy kits to AIDS testing. www.immuoassayhandbook.com is a great resource that we put a lot of effort into. The content is designed to encourage purchases of single chapters or the entire book. David Wild is a healthcare industry veteran, with experience in biotechnology, pharmaceuticals, medical devices and immunodiagnosics, which remains his passion. He worked for Amersham, Eastman-Kodak, Johnson & Johnson, and Bristo-Myers Squibb, and consulted for diagnostics and biotechnology companies. He led research and development programs, design and construction of chemical and biotechnology plants, and integration of acquired companies. Director-level positions included Research and Development, Design Engineering, Operations and Strategy, for billion dollar businesses. He retired from full-time work in 2012 to focus on his role as Editor of The Immunoassay Handbook, and advises on product development, manufacturing and marketing. Provides a unique mix of theory, practical advice and applications, with numerous examples Offers explanations of technologies under development and practical insider tips that are sometimes omitted from scientific papers Includes a comprehensive troubleshooting guide, useful for solving problems and improving assay performance Provides valuable chapter updates, now available on www.immuoassayhandbook.com

This fourth edition of the anthrax guidelines encompasses a systematic review of the extensive new scientific literature and relevant publications up to end 2007 including all the new information that emerged in the 3-4 years after the anthrax letter events. This updated edition provides information on the disease and its importance, its etiology and ecology, and offers guidance on the detection, diagnostic, epidemiology, disinfection and decontamination, treatment and prophylaxis procedures, as well as control and surveillance processes for anthrax in humans and animals. With two rounds of a rigorous peer-review process, it is a relevant source of information for the management of anthrax in humans and animals.

Due to the simplicity, relative accuracy, fast result reporting, and user-friendliness of lateral flow immunoassay, its use has undergone tremendous growth in the diagnostic industry in the last few years. Such technology has been utilized widely and includes pregnancy and woman’s health determination, cardiac and emergency conditions monitoring and testing, infectious disease including Flu screening, cancer marker screening, and drugs abuse testing. This book covers the scope of utilization, the principle of the technology, the patent concerns, information on the development and production of the test device and specific applications will be of interest to the diagnostic industry and the general scientific community.

Allatoxins

Drugs of Abuse

Approaches, Performances, and Applications

Current Advances and Challenges

Nanoanalytics

Methods and Protocols

This book systematically covers immunoassays for food, presenting detailed approaches such as antigen design, food matrix pre-treatment and detection format optimization for 9 classes of food hazards and nutrition constituents. Offering ideas on how to improve the efficiency of recognized xenobiotics and food contents, this practical book also describes the discovery and utilization of novel immune agents like aptamer and molecular imprinted polymers in food analysis. It is intended for a broad range of areas, including biologists and food chemists, and is sure to become a key reference resource for students and professionals alike.

This book is broadly divided into five sections and 17 chapters, highlighting recent advances in aflatoxin research from epidemiology to molecular genomics and control measures, biocontrol approaches, modern analytical techniques, economic concerns and underlying mechanisms of contamination processes. This book will update readers on several cutting-edge aspects of aflatoxins research with useful up-to-date information for mycologists, toxicologists, microbiologists, agriculture scientists, plant pathologists and pharmacologists, who may be interest to understanding of the impact, significance and recent advances within the field of aflatoxins with a focus on control strategy.

Mycotoxins are poisonous chemical compounds produced by certain fungi. There are many such compounds, but only a few of them are regularly found in food and animal feedstuffs. Nevertheless, those that do occur in food and feed have great significance in the health of humans and livestock. The effects of some mycotoxins are acute, with symptoms of severe illness appearing very quickly. Other mycotoxins have longer term chronic or cumulative effects on health, including the induction of cancers and immune deficiency. Information about mycotoxins is far from complete, but enough is known to identify them as a serious problem in many parts of the world, causing significant economic losses in addition to their negative health effects. ‘The mycotoxin factbook’ is aimed at the latest developments to combat the mycotoxin problem. The book contains the peer-reviewed papers of the third conference of the World Mycotoxin Forum. The various chapters focus on mycotoxin food and feed risks in the context of human nutrition and animal feeding. Topics dealt with in ‘The mycotoxin factbook’ are: - Regulatory issues, international developments and the impact on worlwide - The latest information on major mycotoxins and emerging problems in the food chain - The impact of mycotoxins in the feed chain - New developments in mycotoxin prevention - Trends in mycotoxin analysis ‘The mycotoxin factbook’ is a valuable resource for researchers and professionals from the food and feed industry as well as from the scientific community. This book is an ideal supplement to ‘Heating the mycotoxin menace’ as published in 2004.

The Immunoassay Handbook

21st Century Challenges in Antimicrobial Therapy and Stewardship

The mycotoxin factbook

Food & feed topics

Anthrax in Humans and Animals

Immunological Methods in Microbiology