
Protein Microarray Technology

Protein Microarray for Disease Analysis

Exploration and Analysis of DNA Microarray and Protein Array Data

Applying Genomic and Proteomic Microarray Technology in Drug Discovery

Microarrays in Diagnostics and Biomarker Development

Proteomics for Biological Discovery

Rapid Test

Microarrays

Protein Microarray Technology

Applying Genomic and Proteomic Microarray Technology in Drug Discovery, Second Edition

Microarrays

Proteomics Approaches to Unravel Virus - Vertebrate Host Interactions

Protein Microarrays

Protein Microarray for Disease Analysis

Protein Microarrays for Disease Analysis

Proteomics Today

Microarrays

Bioarrays

Protein Arrays, Biochips and Proteomics

Microarray Technology

Microarray Innovations

Small Molecule Microarrays

Microarray Technology Through Applications

Microarray Technology in Practice

Exploration and Analysis of DNA Microarray and Other High-Dimensional Data

Microarrays in Clinical Diagnostics

Supramolecular Structure and Function 7

Peptide Microarrays
Functional Protein Microarrays in Drug Discovery
Microarray Technology and Its Applications
Reverse Phase Protein Arrays
Single Molecule Biology
Cell-Based Microarrays
Microarray Methods and Protocols
Microarrays
Use of the CDNA Microarray Technology in the Safety Assessment of GM Food Plants
Protein Arrays
Protein Microarrays
Proteomic and Metabolomic Approaches to Biomarker Discovery
Cell-Based Microarrays
Microarray Analysis

*Protein Microarray
Technology*

Downloaded from
ftp.bonide.com by guest

SAGE AIDAN

Protein Microarray for Disease Analysis
Springer Science & Business Media
Microarrays play an increasingly significant role in drug discovery. Written by a leader in the field, *Applying Genomic and Proteomic Microarray Technology in Drug Discovery* highlights, describes, and evaluates current scientific research using microarray technology in genomic and proteomic applications. The author

addresses the drawbacks, helping Exploration and Analysis of DNA Microarray and Protein Array Data Wiley
Leading academic and industrial investigators surveys the world of microarray technology, describing in step-by-step detail diverse DNA and protein assays in clinical laboratories using state-of-the-art technologies. The advanced tools and methods described are designed for mRNA expression analysis, SNP analysis, identification, and quantification of proteins, and for studies of protein-protein interactions. The protocols follow

the successful Methods in Molecular Biology™ series format, each offering step-by-step laboratory instructions, an introduction outlining the principle behind the technique, lists of the necessary equipment and reagents, and tips on troubleshooting and avoiding known pitfalls.

Applying Genomic and Proteomic Microarray Technology in Drug Discovery Elsevier

A cutting-edge guide to the analysis of DNA microarray data Genomics is one of the major scientific revolutions of this

century, and the use of microarrays to rapidly analyze numerous DNA samples has enabled scientists to make sense of mountains of genomic data through statistical analysis. Today, microarrays are being used in biomedical research to study such vital areas as a drug's therapeutic value-or toxicity-and cancer-spreading patterns of gene activity. Exploration and Analysis of DNA Microarray and Protein Array Data answers the need for a comprehensive, cutting-edge overview of this important and emerging field. The authors, seasoned researchers with extensive experience in both industry and academia, effectively outline all phases of this revolutionary analytical technique, from the preprocessing to the analysis stage. Highlights of the text include: A review of basic molecular biology, followed by an introduction to microarrays and their preparation Chapters on processing scanned images and preprocessing microarray data Methods for identifying differentially expressed genes in comparative microarray experiments Discussions of gene and sample clustering and class prediction Extension of analysis methods to protein array data Numerous

exercises for self-study as well as data sets and a useful collection of computational tools on the authors' Web site make this important text a valuable resource for both students and professionals in the field. Microarrays in Diagnostics and Biomarker Development CRC Press This detailed volume provides an updated overview of current uses of peptide microarray technology, showcasing consolidated applications while highlighting some of the most intriguing novelties and emerging fields of use. The methodologies within this collection are of considerable value for both advanced users and new-comers in the peptide microarray arena, as the renowned contributors describe full coverage of the aspects related to their workflows, from microchip manufacturing to advanced analytical applications. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step and readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known

pitfalls. Authoritative and up-to-date, Peptide Microarrays: Methods and Protocols, Third Edition aims to make the use of peptide microarrays more and more accessible while stimulating further developments to sustain exciting discoveries in the biochemistry and medicine realms. Proteomics for Biological Discovery BoD - Books on Demand This authoritative text begins with an introduction to basic microarray technology. The author then provides clear explanations of the conceptual and theoretical basis of this technology, followed by thorough and multi-disciplinary coverage of modern and emerging applications. The coverage includes chapters on microarray informatics, gene expression profiling, genetic diagnostics, and novel microarray technologies. **Rapid Test** Springer Science & Business Media Microarray technology allows us to answer many questions about gene expression and drug-target screening by employing high-throughput screening. This book dedicates itself to microarrays with clear

and understandable explanations and an overview of the presently available hardware, biochips and software. Separate chapters cover the different requirements for DNA and protein chips as well as spotters and scanners.

Microarrays Wiley-Liss

Protein microarrays have been used for a wide variety of important tasks, such as identifying protein-protein interactions, discovering disease biomarkers, identifying DNA-binding specificity by protein variants, and for characterization of the humoral immune response. In *Protein Microarray for Disease Analysis: Methods and Protocols*, expert researchers provide concise descriptions of the methodologies currently used to fabricate microarrays for the comprehensive analysis of proteins or responses to proteins that can be used to dissect human disease. These methodologies are the toolbox for revolutionizing drug development and cell-level biochemical understanding of human disease processes. Beginning with a section on protein-detecting analytical microarrays, the volume continues with sections covering antigen microarrays for

immunoprofiling, protein function microarrays, the validation of candidate targets, proteomic libraries, as well as signal detection strategies and data analysis techniques. Written in the highly successful *Methods in Molecular Biology*TM series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and key tips on troubleshooting and avoiding known pitfalls. Practical and cutting-edge, *Protein Microarray for Disease Analysis: Methods and Protocols* serves as a solid framework to aid scientists in understanding how protein microarray technology is presently developing and how it can be applied to transform our analysis of human disease.

Protein Microarray Technology John Wiley & Sons

An ideal text for biotechnologists, protein chemists, and biochemists, *Functional Protein Microarrays in Drug Discovery* explores all aspects of functional protein microarrays, including basic principles, methods, and applications. The book discusses the generation of functional

protein content and describes both standard and state-of-the-art fabrication methods. It reviews current and next generation approaches to assay detection and presents a wide range of applications, from biomolecular interaction discovery and characterization to immune response profiling. The book also addresses several fundamental computational issues, bioinformatics and data analysis.

Applying Genomic and Proteomic Microarray Technology in Drug

Discovery, Second Edition Springer Science & Business Media

Proteomics Approaches to Unravel Virus - Vertebrate Host Interactions, Volume 109 in the *Advances in Virus Research* series, highlights state-of-the art mass spectrometry techniques to elucidate the tight interplay of vertebrate viruses and their host cells. The volume includes chapters on Spatio-temporal resolution of host protein complexes during virus entry, Proteomic approaches to investigate gammaherpesvirus biology and associated tumorigenesis, *Applications of Mass Spectrometry Imaging in Virus Research*, Mapping surfaceome dynamics during viral infection, Characterization of proteolytic

events in virus-host interactions, Dynamic protein network modulation upon viral infection, and much more. Discusses the latest methodological breakthroughs in mass spectrometry-based proteomics Reviews how technology has advanced our knowledge on virus-host interactions Provides future perspectives on proteomics research in virology *Microarrays* Springer Science & Business Media

Microarray technology has made strong progress over the past decade, and there have also been significant changes in application areas, from nucleic acids to proteomics and from research to clinical applications. This book provides a comprehensive overview of microarrays in diagnostics and biomarker development, covering DNA, peptide, protein and tissue arrays. The focus is on entities that are in actual clinical use, or quite close, and on recent developments, such as peptide and aptamer arrays. A further topic is the miniaturisation towards “nanoarrays”, which is expected to have great potential in clinical applications. Relevant issues of bioinformatics and statistical analysis of array data are discussed in detail, as well

as the barriers to the commercialisation of array-based tests and the vexing IP issues involved. Thus, the book should be very useful for active array users as well as to newcomers seeking to make the best choice between different technologies. *Proteomics Approaches to Unravel Virus - Vertebrate Host Interactions* Springer Science & Business Media

Protein Microarrays is one of the first books in this exciting new technology and will be an essential reference for most biologists and biotechnology professionals. *Protein Microarrays* Jones & Bartlett Learning

From disease marker identification to accelerated drug development, Protein Arrays, Biochips, and Proteomics offers a detailed overview of current and emerging trends in the field of array-based proteomics. This reference focuses on innovations in protein microarrays and biochips, mass spectrometry, high-throughput protein expression, protein-protein interactions, structural proteomics, and the proteomic marketplace for comprehensive understanding of past, present, and future proteomic research. Offering an abundance of figures and

charts, the book compiles a wide variety of technologies and applications ranging from functionalized chip surfaces to strategies for protein expression.

Protein Microarray for Disease

Analysis John Wiley & Sons

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.

Protein Microarrays for Disease Analysis

Academic Press

This volume focuses on protein analysis, and covers a wide array of uses of protein microarray for disease analysis. The chapters in this book discuss different stages of protein microarrays from their construction to their use, including different types of protein microarrays such as recombinant proteins, antibody, phage, and NAPPA protein microarrays, in planar format or in solution via beads arrays. Written in the highly 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 laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Comprehensive and cutting-edge, *Protein Microarrays for Disease Analysis: Methods and Protocols* is a valuable resource for graduate and post-doctoral fellows interested in protein microarrays, as well as senior researchers interested in gaining more insight into this developing field.

Proteomics Today Garland Science

This book is a review on the evolution of cell-based microarrays and an update to

the author's earlier book *Methods in Molecular Biology: Cell-Based Microarrays*. Since their development in 2001, cell-based microarrays have advanced significantly to include expression arrays, short interfering RNA arrays and antibody arrays. The surface used to coat the glass slides has also been significantly improved to allow non-adherent cells to bind to the arrays.

Microarrays Springer Science & Business Media

Written by recognized experts in the study of proteins, *Proteomics for Biological Discovery* begins by discussing the emergence of proteomics from genome sequencing projects and a summary of potential answers to be gained from proteome-level research. The tools of proteomics, from conventional to novel techniques, are then dealt with in terms of underlying concepts, limitations and future directions. An invaluable source of information, this title also provides a thorough overview of the current developments in post-translational modification studies, structural proteomics, biochemical proteomics, microfabrication, applied proteomics, and

bioinformatics relevant to proteomics.

Presents a comprehensive and coherent review of the major issues faced in terms of technology development, bioinformatics, strategic approaches, and applications. Chapters offer a rigorous overview with summary of limitations, emerging approaches, questions, and realistic future industry and basic science applications. Discusses higher level integrative aspects, including technical challenges and applications for drug discovery. Accessible to the novice while providing experienced investigators essential information. *Proteomics for Biological Discovery* is an essential resource for students, postdoctoral fellows, and researchers across all fields of biomedical research, including biochemistry, protein chemistry, molecular genetics, cell/developmental biology, and bioinformatics.

Bioarrays CRC Press

Single molecule techniques, including single molecule fluorescence, optical tweezers, and scanning probe microscopy, allow for the manipulation and measurement of single biological molecules within a live cell or in culture.

These approaches, amongst the most exciting tools available in biology today, offer powerful new ways to elucidate biological function, both in terms of revealing mechanisms of action on a molecular level as well as tracking the behaviour of molecules in living cells. This book provides the first complete and authoritative treatment of this rapidly emerging field, explicitly from a biological perspective. The contents are organized by biological system or molecule. Each chapter discusses insights that have been revealed about their mechanism, structure or function by single molecule techniques. Among the topics covered are enzymes, motor proteins, membrane channels, DNA, ribozymes, cytoskeletal proteins, and other key molecules of current interest. An introduction by the editor provides a concise review of key principles and an historical overview. The last section discusses applications in molecular diagnostics and drug discovery. Organized by biological system or molecule Each chapter discusses insights into mechanism of action, structure, and function Covers enzymes, motor proteins, membrane channels, DNA, ribozymes, etc Includes an

introduction to key principles and an historical overview Discusses applications in molecular diagnostics and drug discovery Provides an expert's perspective on future development

Protein Arrays, Biochips and Proteomics Springer

Proteomic and Metabolomic Approaches to Biomarker Discovery demonstrates how to leverage biomarkers to improve accuracy and reduce errors in research. Disease biomarker discovery is one of the most vibrant and important areas of research today, as the identification of reliable biomarkers has an enormous impact on disease diagnosis, selection of treatment regimens, and therapeutic monitoring. Various techniques are used in the biomarker discovery process, including techniques used in proteomics, the study of the proteins that make up an organism, and metabolomics, the study of chemical fingerprints created from cellular processes. Proteomic and Metabolomic Approaches to Biomarker Discovery is the only publication that covers techniques from both proteomics and metabolomics and includes all steps involved in biomarker discovery, from study design to

study execution. The book describes methods, and presents a standard operating procedure for sample selection, preparation, and storage, as well as data analysis and modeling. This new standard effectively eliminates the differing methodologies used in studies and creates a unified approach. Readers will learn the advantages and disadvantages of the various techniques discussed, as well as potential difficulties inherent to all steps in the biomarker discovery process. A vital resource for biochemists, biologists, analytical chemists, bioanalytical chemists, clinical and medical technicians, researchers in pharmaceuticals, and graduate students, Proteomic and Metabolomic Approaches to Biomarker Discovery provides the information needed to reduce clinical error in the execution of research. Describes the use of biomarkers to reduce clinical errors in research Includes techniques from a range of biomarker discoveries Covers all steps involved in biomarker discovery, from study design to study execution **Microarray Technology** CRC Press
It has been stated that our knowledge doubles every 20 years, but that may be an

understatement when considering the Life Sciences. A series of discoveries and inventions have propelled our knowledge from the recognition that DNA is the genetic material to a basic molecular understanding of ourselves and the living world around us in less than 50 years. Crucial to this rapid progress was the discovery of the double-helical structure of DNA, which laid the foundation for all hybridization-based technologies. The discoveries of restriction enzymes, ligases, polymerases, combined with key innovations in DNA synthesis and sequencing ushered in the era of biotechnology as a new science with profound sociological and economic implications that are likely to have a dominating influence on the development of our society during this century. Given the process by which science builds on

prior knowledge, it is perhaps unfair to single out a few inventions and credit them with having contributed most to this avalanche of knowledge. Yet, there are surely some that will be recognized as having had a more profound impact than others, not just in the furthering of our scientific knowledge, but by leveraging commercial applications that provide a tangible return to our society. The now famous Polymerase Chain Reaction, or PCR, is surely one of those, as it has uniquely catalyzed molecular biology during the past 20 years, and continues to have a significant impact on all areas that involve nucleic acids, ranging from molecular pathology to forensics. Ten years ago microarray technology emerged as a new and powerful tool to study nucleic acid sequences in a highly multiplexed manner, and has since found

equally exciting and useful applications in the study of proteins, metabolites, toxins, viruses, whole cells and even tissues.

Microarray Innovations Humana Press
This volume provides updates of this established field in both methods and applications, as well as advances in applications of the microarray method to biomarkers such as DNAs, RNAs, proteins, glycans and whole cells. Written for the Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, *Microarray Technology: Methods and Applications* aims to ensure successful results in the further study of this vital field.