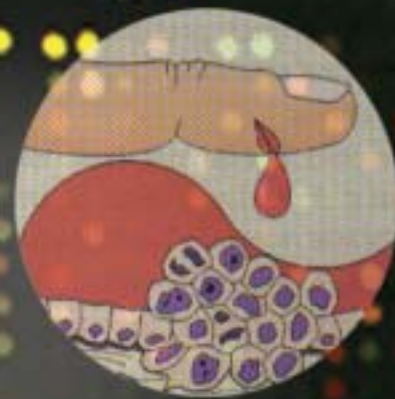


Bioarrays

From Basics to Diagnostics

Edited by

Krishnarao Appasani, PhD, MBA



 HUMANA PRESS

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Bioarrays: From Basics to Diagnostics provides an integrated and comprehensive collection of timely articles on the use of bioarray techniques in the fields of biotechnology and molecular medicine. The entire volume is broken into four sections—Bioarray Technology Platforms, Biomarkers and Clinical Genomics, Biomarker Identification Using Clinical Proteomics and Glycomics, and Emerging Technologies in Diagnostics—that create one well-integrated work. Particular emphasis is placed on DNA, protein, and carbohydrate biochips. The volume also looks extensively at oligonucleotides, cDNA, proteins, antibodies, and carbohydrate arrays.

Bioarrays: From Basics to Diagnostics will serve as an indispensable reference for graduate students, post-docs, and professors, as well as an explanatory analysis for executives and scientists in biotechnology and pharmaceutical companies.

Features

- The first book to comprehensively integrate molecular diagnostics and molecular pathology
- A well-integrated and cohesive collection of timely articles detailing molecular diagnostics
- Chapters written by a diverse group of experts, including researchers, physicians, and technicians

Contents

Part I. Bioarray Technology Platforms. Investigation of Tumor Metastasis by Using cDNA Microarrays. From Tissue Samples to Tumor Markers. Experimental Design for Gene Expression Analysis: *Answers Are Easy, Is Asking the Right Question Difficult?* From Microarrays to Gene Networks. **Part II.** Biomarkers and Clinical Genomics. Reduction in Sample Heterogeneity Leads to Increased Microarray Sensitivity. Genomics to Identify Biomarkers of Normal Brain Aging. Gene Expression Profiling for Biomarker Discovery. Array-Based Comparative Genomic Hybridization: *Applications in Cancer and Tuberculosis*. Regional Specialization of Endothelial Cells as Revealed by Genomic Analysis. **Part III.** Biomarker Identification by Using Clinical Proteomics and Glycomics.

Identification of Target Antigens in CNS Inflammation by Protein Array Technique. Differential Protein Expression, Protein Profiles of Human Gliomas, and Clinical Implications. Antibody-Based Microarrays: *From Focused Assays to Proteome-Scale Analysis*. Glycoprofiling by DNA Sequencer-Aided Fluorophore-Assisted Carbohydrate Electrophoresis: *New Opportunities in Diagnosing and Following Disease*. High-Throughput Carbohydrate Microarray Technology. **Part IV.** Emerging Technologies in Diagnostics. Microarrays and Blood Diagnostics. “Lab-On-A-Chip” Devices for Cellular Arrays Based on Dielectrophoresis. Genetic Disorders and Approaches to Their Prevention. Index.

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