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Nota di contenuto	Chapter 1_Experimental Design in Proteomic Mass Spectrometry Studies for Biomarker Discovery -- Chapter 2_Clinical Sample Considerations in Proteomics-Based Biomarker Studies: Advancing Precision Medicine -- Chapter 3_Analytical considerations: discovery or validation of biomarkers -- Chapter 4_Comparative Analysis of Shotgun and Targeted Proteomics: Insights for Biomarker Research -- Chapter 5_Considerations for characterizing protein expression changes with SWATH®-MS -- Chapter 6_ Biomarker Studies of Glycoproteins and Mass Spectrometry -- Chapter 7_Data analysis pipelines, potential pitfalls, and troubleshooting for MS-based biomarker discovery and validation -- Chapter 8_Proteins biomarkers for diagnosing gastric cancers: perspectives through mass spectrometry-based discoveries -- Chapter 9_ Prospects for the discovery of actionable molecular targets for Triple Negative Breast Cancer -- Chapter 10_Ex vivo drug assay as a potential hospital-based testing platform for clinical research and personalized treatment for solid tumors -- Chapter 11_Heat shock proteins as biosensor instruments for cancer detection -- Chapter 12_Current developments in optical and electrochemical biosensors for the identification of key inflammatory biomarkers -- Chapter 13_

DEVELOPMENT OF LIGAND ASSAY SYSTEMS USING SEMISYNTHETIC BIOSENSORS BASED ON PROTEIN -- Chapter 14_TECHNOLOGICAL ADVANCES IN BIOSENSORS FOR THE DETECTION OF HEALTH BIOMARKERS -- Chapter 15_ Identification of tear-based protein biomarkers: Its application -- Chapter 16_ Engineering a signal transduction mechanism for protein-based biosensors -- Chapter 17_ Protein Biomarkers Its Applications in Oral Health.

Sommario/riassunto

This book comprehensively reviews the fundamentals of biomarker discovery using mass-spectrometry-based proteomic and glycoproteomic methods. It also provides case studies of proteomic and glycoproteomic molecular signatures to illustrate the design and use of various mass spectrometry modes such as selected reaction monitoring (SRM), parallel reaction monitoring (PRM), and sequential window acquisition of all theoretical fragment ion spectra mass spectrometry (SWATH-MS). In turn, the book presents the challenges of the proteomic methods in biomarker discovery and approaches for overcoming these challenges by extending the performance by improving the sensitivity, throughput, and selectivity of the method. It also addresses the bottleneck of deriving useful biological interpretations from large multi-dimensional datasets emanating from these experiments by discussing data analysis pipelines and appropriate statistical analysis. Finally, a detailed discussion on the design, characterization, and application of protein/glycoprotein-based biosensors for clinical diagnostics is discussed. The book is intended to serve as a reliable resource for the students and researchers working in the area of biomarker discovery and validation using mass spectrometry-based methods and their subsequent applications for biosensor design.