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Nota di contenuto	Chapter 1. Introduction about Precision Medicine, Personalized Therapies in Health and Diseases -- Chapter 2. Microbiota profiling techniques: Recent advancement -- Chapter 3. Microbiota Drug Interaction and Its Influence on Drug Metabolism and Toxicity -- Chapter 4. Immunomodulatory Effects of Microbiome Derived Therapies -- Chapter 5. Alzheimer's Disease and Gut Microbiota -- Chapter 6. Parkinsons Disease and Gut Microbiota -- Chapter 7. Biomarker Role in Drug Delivery: Microbiota Implications and Nanotechnology for Personalized Therapeutics -- Chapter 8. Advancing Precision Therapeutics Integrating Microbiota Biomarkers and Nanotechnology

for Targeted Drug Delivery - Insights from Case Studies -- Chapter 9. Strategies for Biomarker Identification and Validation in Precision Medicine: Microbial Predictors, Data Integration, Machine Learning, and Clinical Trial Insights -- Chapter 10. Microbiota-Driven Precision Therapies: Applications in Autoimmune Disorders, Optimizing Cancer Therapy, and Advancements in Gastrointestinal Disease Treatment -- Chapter 11. Exploring Clinical Applications: Precision Medicine in Gastrointestinal Disorders, Microbiota-Driven Cancer Therapies and Innovative Interventions for Neurological Disorders-Insights from Case Studies -- Chapter 12. The Next Frontier in Microbiome-Based Therapeutics: Advanced Clinical -- Chapter 13. Navigating the Landscape: Regulatory Frameworks and Ethical Considerations in Microbiota-Based Precision Medicine -- Chapter 14. Challenges and Future Perspectives in Microbiota-Based Precision Medicine: Standardization of Profiling Methods, Ethical Considerations and the Potential for Preemptive Healthcare.

Sommario/riassunto

This book provides an in-depth exploration of microbiota profiling and precision medicine, including the underlying mechanisms, delivery methods, treatment strategies, and the impact of biomarker-targeted drug delivery. It incorporates the latest research findings, such as biomarker-targeted drug delivery, clinical assessment and diagnosis, and therapeutic approaches. The book offers a comprehensive overview of the latest developments in biomarker-targeted drug delivery strategies. It addresses the challenges faced by healthcare professionals, offering actionable strategies for effective multidisciplinary care, along with patient and family perspectives, coping mechanisms, and ways to improve quality of life. By combining scientific knowledge, clinical expertise, and patient insights, the book enhances understanding, diagnosis, and treatment options for these complex conditions. These qualities distinguish it from existing publications and make it a valuable resource for readers seeking a thorough and engaging overview of this subject. The chapters cover a broad range of topics, including recent advances in microbiota profiling techniques, microbiota's role in drug metabolism and toxicity, and its immunomodulatory effects. Special focus is given to the involvement of microbiota in neurodegenerative diseases such as Alzheimer's and Parkinson's, emphasizing the therapeutic potential of microbiome-targeted strategies. The authors provide expert analysis on integrating microbiota-derived data with innovative tools like nanotechnology and machine learning to improve drug delivery systems. Readers will also gain practical insights from case studies on microbiota-informed therapies for cancer, autoimmune conditions, and gastrointestinal disorders. This book is essential for researchers, clinicians, academicians, and students working in microbiome science, pharmacology, biotechnology, and precision medicine. It addresses key questions such as biomarker validation, data integration, and the ethical considerations necessary for the clinical use of microbiome-based therapies.