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Nota di contenuto	Cover -- Title -- Copyright -- End User License Agreement -- Contents -- Preface -- About the Authors -- Ecology of the Human Gastrointestinal Tract -- INTRODUCTION -- PROBIOTICS -- Beneficial Properties of Probiotics -- Probiotic and Gut Microbiota -- Modulation of the Intestinal Microbiota by the Application of Probiotics -- Modulation of Gut Microbiota-brain Axis by Probiotics -- PREBIOTICS -- Beneficial Properties of Prebiotics -- THE CONSUMPTION OF FUNCTIONAL FOODS AND THE ESTABLISHMENT OF GASTROINTESTINAL HEALTH -- Obstacles and Challenges in the Use of Probiotics -- NUTRITIONAL AND CLINICAL CONCERNS -- Systemic Infections and Chronic Diseases -- Over-Stimulation of the Immune System -- Transmission of Antibiotic-Resistance Genes -- Production of Toxic Metabolites -- Production of Biogenic Amines -- Production of D-Lactic Acid -- Limitations of Probiotic use in the Industry -- Lack of Viability and Stability -- Alteration of the Flavor and Aroma of Probiotic Products -- Postbiotics: A Solution to Leave Problems of the Production and Consumption of Probiotics -- MAIN POSTBIOTIC CONSTITUENTS AND THEIR BIOLOGICAL ACTIVITIES -- Trimethylamine-N-Oxide (TMAO) -- Short-Chain Fatty Acids (SCFAs) -- Long-Chain Fatty Acids (LCFAs) -- 4-Ethyl Phenyl Sulfate (4-EPS) -- Indole -- Other Protein-Derived Metabolites -- Polyamines -- Retinoic Acid -- Bile Acids --

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## Sommario/riassunto

Postbiotics: Science, Technology, and Applications explains fundamental and applied knowledge about postbiotics. Chapters cover the definition and classification of postbiotics, principal methods for preparing them, information about the main postbiotic constituents and their biological activities and their clinical health benefits. The authors also familiarize the reader with potential applications of postbiotics in the food industry, pharmaceutical chemistry, medicine, and veterinary practice. The text is supported by informative illustrations, tables, and references for further reading. This comprehensive reference, with its emphasis on both basic and applied

knowledge, is useful for researchers, academics, veterinarians, and students in the field of microbiology, immunology, pharmacology, biotechnology, food science, and agriculture.

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