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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Strategies for the design and discovery of novel antibiotics using genetic engineering and genome mining -- X-ray and Neutron Scattering Foundations for the Research in Antimicrobials -- Antibacterial, Antiviral and Antifungal Activity of Essential Oils: Mechanisms and Applications -- New antimicrobial agents of plant origin -- Advances in beta-lactam antibiotics -- The Cornerstone of Nucleic Acid-affecting Antibiotics in Bacteria -- Genetic analysis and manipulation of polyene antibiotic gene clusters as a way to produce more effective antifungal compounds -- Enzybiotics: The rush towards prevention and control of multi-resistant bacteria (MRB) -- New cell wall-affecting antifungal antibiotics -- Perspectives in the research on Antimicrobial peptides -- Glycopeptides and bacterial cell walls.
Sommario/riassunto	Since penicillin and salvarsan were discovered, a number of new drugs to combat infectious diseases have been developed, but at the same time, the number of multi-resistant microorganism strains is

increasing. Thus, the design of new and effective antibacterial, antiviral and antifungal agents will be a major challenge in the next years. This book reviews the current state-of-the-art in antimicrobial research and discusses new strategies for the design and discovery of novel therapies. Topics covered include the use of genetic engineering, genome mining, manipulation of gene clusters, X-ray and neutron scattering as well as the antimicrobial effects of essential oils, antimicrobial agents of plant origin, beta-lactam antibiotics, antimicrobial peptides, and cell-wall-affecting antifungal antibiotics.