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Nota di contenuto	Contents; Preface; Section I: Challenges for Antibiotics; 1 Antibiotics: Initial Concepts and Considerations; Waves of Resistant Bacterial Infections; Differential Susceptibility to Antibiotics; Empiric Therapy and Broad-spectrum Antibiotics; Antibiotic Flow Chart; Recent Approvals and the Current Antibiotic Pipeline; Recognition of Pressing Need for New Antibiotics: "The End is Near" Scenarios; Approach and Organization of This Volume; 2 Major Classes of Antibiotics and Their Modes of Action; Antibiotics Versus Antimicrobials: Antibacterial Versus Antifungal Versus Antiprotozoal Agents What Bacteria to TargetHow to Test for Antibiotic Activity; How to Find Antibiotics; A Golden Age of Antibiotic Medicinal Chemistry; What is the Capacity for Microbes to Make Antibiotics?; Target Classes Identified from the Major Antibiotic Groups; A Common Pathway for Bactericidal Antibiotics?; Section II: Mechanisms: Antibiotic Action by Bacterial Target Class; 3 Assembly of the Peptidoglycan Layer of Bacterial Cell Walls; Introduction; Nature of the PG Layer of the Cell Envelope; Biosynthesis and Insertion of PG Monomer Units PG Assembly: Phase 1 in the Cytoplasm-Generation of UDP-Muramyl PentapeptidePG Assembly: Phase 2 at the Inner Face of the Cytoplasmic Membrane-the C55 Bactoprenol Lipid Carrier; PG Assembly: Phase III-Chain Extension and Cross-Linking at the Outer Face of the

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Antibiotics Directed against Type II Topoisomerases

Sommario/riassunto

Antibiotics: Challenges, Mechanisms, Opportunities focuses on antibiotics as small organic molecules, from both natural and synthetic sources. Understanding the chemical scaffold and functional group structures of the major classes of clinically useful antibiotics is critical to understanding how antibiotics interact selectively with bacterial targets.
