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Nota di contenuto	Chapter 1. Medical Importance of ESKAPE pathogens -- Chapter 2. Antibiotic resistance profile and detection in ESKAPE pathogens -- Chapter 3. Mechanistic understanding of antibiotic resistance in ESKAPE pathogens -- Chapter 4. Standard microbiological techniques (staining, morphological and cultural characteristics, biochemical properties and serotyping) in the detection of ESKAPE pathogens -- Chapter 5. Nucleic acid amplification and molecular diagnostic techniques in the detection of ESKAPE bacterial pathogens -- Chapter 6. Biochemical, Molecular, and Computational Techniques for the Determination of Virulence Factors of ESKAPE Pathogens -- Chapter 7. Enterococcus faecium virulence factors and biofilm components: synthesis, structure, function and inhibitors -- Chapter 8. Staphylococcus aureus virulence factors and biofilm components: Synthesis, Structure, Function, and Inhibitors -- Chapter 9. Klebsiella pneumoniae virulence factors and biofilm components: Synthesis, Structure, Function and Inhibitors -- Chapter 10. Acinetobacter baumannii virulence factors and biofilm components: Synthesis, Structure, Function and Inhibitors -- Chapter 11. Pseudomonas aeruginosa virulence factors and biofilm components:

synthesis, structure, function and inhibitors -- Chapter 12. Enterobacter spp. virulence factors and biofilm components: Synthesis, Structure, Function and Inhibitors -- Chapter 13. Antibiotic adjuvants and their synergistic activity against ESKAPE pathogens -- Chapter 14. Phytochemicals as Potential Antibacterial Agents against ESKAPE Pathogens -- Chapter 15. Applications of photodynamic therapy for the eradication of ESKAPE pathogens -- Chapter 16. Antimicrobial peptides and antibacterial antibodies for the elimination of ESKAPE pathogens -- Chapter 17. Antimicrobial activity of Nanomaterials and Nanocomposites against ESKAPE pathogens -- Chapter 18. Bacteriophage therapy to combat ESKAPE pathogens -- Chapter 19. Computational Approaches for the Inhibition of ESKAPE Pathogens.

Sommario/riassunto

This book explores the medical importance of Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa, and Enterobacter spp. (ESKAPE) pathogens, and the challenges posed by antibiotic resistance. It covers the antibiotic resistance profile and detection of ESKAPE pathogens, as well as the mechanistic understanding of antibiotic resistance in these pathogens. The book discusses standard microbiological techniques, including staining, morphological and cultural characteristics, biochemical properties, and serotyping, as well as nucleic acid amplification and molecular diagnostic techniques for the detection of ESKAPE pathogens. In addition, the book explores biochemical, molecular, and computational techniques for the determination of virulence factors of ESKAPE pathogens. It also examines the synthesis, structure, function, and inhibitors of virulence factors and biofilm components in these pathogens. The book explores various strategies for combating ESKAPE pathogens, including antibiotic adjuvants and their synergistic activity, phytochemicals as potential antibacterial agents, photodynamic therapy, antimicrobial peptides and antibacterial antibodies, antimicrobial activity of Nanomaterials and Nanocomposites, and bacteriophage therapy. Finally, the book discusses in silico and computational approaches for the inhibition of ESKAPE pathogens. This comprehensive book is of interest to researchers, students, and healthcare professionals interested in the diagnosis, prevention, and treatment of ESKAPE pathogens.
