

# Phage Therapy

## Current Research and Applications

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The emergence of bacteria resistant to multiple antibiotics has become a serious threat to public health and is considered one of the greatest challenges for contemporary medicine. Phage therapy, the use of bacteriophages as anti-bacterial agents, may offer an alternative treatment for bacterial infections. Phages have many potential applications in human medicine as well as dentistry, veterinary science, agriculture and food protection.

Written by internationally recognized experts from leading world centres involved in phage research and phage therapy, this book provides comprehensive coverage of the topic with a focus on current research and emerging applications. The book opens with chapters covering the general characteristics of bacteriophages and the basic concepts of phage therapy. Further topics include the pharmacology of phage therapy, bacterial resistance, non-bactericidal effects of phages, main applications of bacteriophages in clinical medicine, plant pathosystems, animal production, food protection, and biofilm control, as well as regulatory and intellectual property aspects of phage therapy. Although the book focuses on applications of virulent bacteriophages, it also discusses genetically-engineered phages, phages as delivery vehicles for other antimicrobials, as well as phage lysins.

This volume is an essential reference for anyone interested in phage therapy and a highly recommended book for everyone working in the areas of antibacterial resistance, antimicrobial development, bacteriophage research, biocontrol and biodetection.

**Chapter 1.** General Characteristics of Bacteriophages. *Hans-Wolfgang Ackermann and Grzegorz Wegrzyn*

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