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Oligomeric Coiled-Coil Adhesins (Vc) -- Summary -- Type VI Secretion System (T6ss) -- Architecture and Mechanism of Transport -- Summary -- Type VII Secretion System (T7ss) -- Architecture and Mechanism of Transport -- Summary -- Conclusion -- References -- Chapter V Viruses -- Basic Structure -- The Viral Lifecycle within Host Cells -- Survey of Medically Important Viruses -- Therapeutic Strategies -- References -- Chapter VI The Innate Immune System -- Abstract -- 1. General Description.
2. Nature of the Innate Immune System Repertoire -- 3. Mechanisms of Recognition by the Innate System - Receptor-Specific Responses -- I. Secreted PRR -- II. Cytoplasmic PRR -- III. Cell Surface Receptors -- Toll-Like Receptors -- 4. Cell Types and Processes Involved in the Innate Immune System -- I. Innate Barriers to Infection -- II. Innate Immune Cells -- II. Innate Immune Cells -- IV. Cytokine and Chemokine Production -- 5. Inflammatory Responses -- 6. Antigen Processing - Role of Innate Immunity in Stimulating Adaptive Immune Responses -- 7. Disorders of the Innate Immune System -- References -- Chapter VII Respiratory Infections -- Abstract -- Introduction -- Pulmonary Infections -- Streptococcus Pneumoniae -- Colonization of Upper Airways -- Invasion and Dissemination -- Immune Defense and Inflammation -- Immune Evasion -- PSEUDOMONAS AERUGINOSA -- Clinical Significance -- Pseudomonas Aeruginosa in CF -- Mechanisms of Microbial Pathogenesis -- Apoptosis of Host Cells Caused by Pseudomonas Aeruginosa -- Molecular Mechanisms of Inflammation Caused by Pseudomonas Aeruginosa Infection -- The Role of Airway Epithelial Cells in the Pathogenesis of Pseudomonas Aeruginosa Pulmonary Infections -- Immune Evasion -- Conclusion -- References -- Chapter VIII Prions -- Abstract -- Introduction -- Infectious but Proteinaceous Pathogens -- Isolation of Infectious Agents Composed of Proteins only -- Identification of Prp Gene -- Protein-only Hypothesis -- Isoforms of Prion Protein: PrPc and PrPsc -- PrPc Function in Physiology and Prion Pathogenesis -- Structure of PrPc and PrPsc -- Models of PrPsc Aggregates -- Prion Replication -- Conclusion -- Acknowledgments -- References -- Chapter IX Transmissible Spongiform Encephalopathy (TSE) -- Abstract -- Introduction -- Transmission of TSEs -- Species Barrier -- Prion Strain -- Prion Pathogenesis.
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Sommario/riassunto

This book contains material relevant for students and researchers interested in the basic science of infectious diseases. The material in this book is organized into three major sections. The first describes the

structures of various pathogenic microbes. The emphasis in this section is on the surface structures as they mediate the critical step of adsorption of pathogens to their target host cells. There is also a subsection on protein secretion in bacteria. The second section reviews the basics of innate immunity as these are the first line of immune defense and are important to understand the immunological response and its consequences on the health status and physiological balance in the host. The third section provides a description of a number of infectious diseases, particularly those of the respiratory system and prion-related infections.