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Pseudomonas aeruginosa; 3.1 Introduction; 3.2 What is Adherence?; 3.3 Role of Adherence in Infection; 3.4 How is Bacterial Adherence Associated with Virulence? 3.5 *P. aeruginosa* Adhesins; 3.6 Surface Receptor Requirements of the Pilus Adhesin; 3.7 How Does PilA Mediate Attachment to Human Mucosal Surfaces?; 3.8 X-ray Crystallographic Structural Studies of the Pilin Structural Protein; 3.9 Structure of the Pilus Fiber; 3.10 Structure of the Receptor-Binding Domain and Location on the Pilus; 3.11 Structural Nature of the Receptor-Binding Domain; 3.12 Twitching Motility; 3.13 How Does the Pilus Attach to a Solid Surface?; 3.14 The Monkey-Bar Swing Paradox; 3.15 Molecular Basis for Receptor-binding Domain Interaction with Steel Surfaces; 3.16 Pili as Nanowires for Redox Reactions; 3.17 What is the Most Important Role of Adherence to *P. aeruginosa*; References; 4 Flagella and Pili of *Pseudomonas aeruginosa*; 4.1 Introduction; 4.2 Flagellum of *P. aeruginosa*; 4.2.1 Structure of the *P. aeruginosa* Flagellum; 4.2.2 Chromosomal Organization of the Flagellar Genes of *P. aeruginosa*; 4.2.3 Transcriptional Hierarchy of the Flagellar Genes; 4.2.4 Model Proposed for Flagellar Assembly in *P. aeruginosa*; 4.2.5 Environmental/Nonflagellar Regulators of Flagellar Expression; 4.2.6 Posttranslational Modification of Flagellin; 4.2.6.1 Flagellar Glycosylation Islands (GIs) in *P. aeruginosa*; 4.2.6.2 Polymorphism of the *P. aeruginosa* a-type GI; 4.2.7 Role of Flagella in Inflammation; 4.2.8 Role of Flagellum in Pathogenesis; 4.3 Pili of *P. aeruginosa*; 4.3.1 Structure of *P. aeruginosa* Pilus; 4.3.2 Pilus/Fimbrial Genes of *P. aeruginosa*; 4.3.3 Regulation of Pilus Assembly and Twitching Motility; 4.3.4 Assembly of Type IV Pili; 4.3.5 Pilin Classification; 4.3.5.1 Type IV a and b Pilins; 4.3.5.2 Group I-V Pilins

Sommario/riassunto

Concise and up-to-date, this handy guide fills a gap in the literature by providing the essential knowledge for everyone with an interest in the topic. The result is a comprehensive overview of the most important model organism in applied microbiology that covers basic biology, pathology and biotechnological applications.
