
Preface

This volume in the Methods in Molecular Biology series is a comprehensive collection of protocols in molecular diagnostics of bacteria that will suit the needs of molecular biologists, clinical laboratorians, and physician scientists alike. The benefits of applying a molecular diagnostic approach for bacterial detection and identification are many—including reduced time (especially for difficult to culture or slow-growing organisms) and, in some cases, higher specificity (such as strain-level identification rather than species-level identification). In the case of high-throughput sequencing, one may even collect all the information one needs to know about a pathogen (such as genus-, species-, and strain-level identification along with virulence potential and antibiotic resistance potential) from a single reaction, rather than by applying several different highly specialized culture-based assays.

With protocols that are specific for common bacterial pathogens as well as protocols that can be applied to diverse or even unknown pathogens, this volume is a valuable resource for anyone who wishes to delve into the molecular age of diagnostics. Topics included range from duplex real-time PCR to next-generation sequencing and the associated bioinformatic analyses. The protocols contained within this book truly represent a range of assay types that are all on the cutting edge of diagnostic bacteriology.

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