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Nota di contenuto	Detection of Highly Dangerous Pathogens: Microarray Methods for the Detection of BSL 3 and BSL 4 Agents; Contents; This Publication is Supported by COST; Preface; List of Contributors; 1 Introduction to Microarray-Based Detection Methods; 1.1 Introduction to Microarray Technology; 1.2 Technical Aspects of Microarray Technology; 1.2.1 Probes; 1.2.1.1 Genome Fragments; 1.2.1.2 PCR Products; 1.2.1.3 Oligonucleotide Probes; 1.2.2 Substrates for Printing; 1.2.2.1 Slides with Poly-L-lysine Coating; 1.2.2.2 Slides with Amino Silane Coating; 1.2.2.3 Slides with Aldehyde Coating 1.2.2.4 Slides with Epoxy Coating1.2.2.5 Proprietary Surface Chemistries; 1.2.2.6 Probe Spacers; 1.2.3 Targets for Microarray Analysis; 1.2.3.1 Target Amplifications and Sensitivity Issues; 1.2.3.2 Labeling of the Targets; 1.2.3.3 Hybridization and Wash Conditions; 1.2.4 Classical Commercially Available Microarray Formats; 1.2.4.1 Spotting Approaches; 1.2.4.2 In Situ Synthesis; 1.2.5 Alternative Methods for Improving Microarray-Based Detection Sensitivity; 1.2.5.1

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1.2.5.4 Three-Dimensional Microarray Formats1.2.6 Marker Genes Used on MDMs; 1.3 Analysis and Quality Control Aspects; 1.4 Applications of Microarray Technology in Microbial Diagnostics; 1.4.1 Gene Expression Studies; 1.4.2 Comparative Genomic Hybridization (CGH); 1.4.3 Generic or Universal Microarrays; 1.4.4 Microarrays for Sequence Analysis; 1.4.5 Microbial Diagnostic Microarrays (MDMs); 1.5 Further Developments and New Perspectives Regarding Array Sensitivity and Specificity; 1.6 Conclusions; References; Part I: Methods; 2 Long Oligonucleotide Microarray-Based Microbial Detection
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5.1 Introduction

Sommario/riassunto

Written by leading experts in the field as part of an interdisciplinary pan-European research program funded by the EU, the results provided in this booklet provide a unique and comprehensive overview of how microarray technology can be used in safely tracking the most highly dangerous pathogens. A must-have for public health agencies focused on bioterrorism as well as all laboratories working with BSL3 and/or BSL 4 agents.