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Nota di contenuto	Genetic Manipulation: Techniques and Applications; Contents; Contributors; Preface; Extraction, Purification and Assay of DNA; Isolation of DNA; Isolation of Plasmid DNA from Bacteria; Purification of DNA; Isolating Genomic DNA From Bacterial Cells; Isolating Mammalian DNA; Assay of DNA; References; Restriction Mapping of DNA; Restriction Enzymes; Approaches to Mapping; References; The Construction and Use of Cloning Vectors; The Commercially Available Vectors; The Construction of Vectors for Use with the Clostridia; References; Appendix I: Addresses of Suppliers of Cloning Vectors Appendix II: Addresses of Suppliers of Other Products Useful for Molecular BiologyAdaptor Based cDNA Cloning in the Phage Vectors Igt10 and Igt11; Experimental Methods; Results of cDNA Library Analysis; Discussion; Acknowledgements; References; Plasmid Profiling and DNA/DNA Hybridization for Distinguishing Between Mesophilic Aeromonas Bacteria; DNA/DNA Hybridization; Plasmid Profiling;

Methods; Results; Acknowledgements; References; Appendix: Reagents; Preparation and Screening of Bacterial Genomic Libraries; General Strategy; Construction of a Genomic Library by using IEMBL4 Screening of a IEMBL4 Library with Gene Probes Construction of a Igt11 Library and Screening with Antibodies; Acknowledgements; References; DNA Probes for Detection and Identification of Bacteria; Principle of Nucleic Acid Hybridization; Application of DNA Hybridization; The Polymerase Chain Reaction; References; Extraction and Purification of Eukaryotic mRNA; Basic Precautions Prior to RNA Extraction; RNA Extraction Protocols; Analysis of Purified RNA; Isolation of Polyadenylated mRNA from Total RNA; Storage of RNA Samples; Acknowledgements; References; cDNA Cloning How Many Clones are Required? Cloning Strategies; First-strand Synthesis; Second-strand Synthesis; Preparation of the cDNA for Cloning; Methylation of the cDNA; Linker Kinase Reaction; Test of Ligation Efficiency; Ligation of the Phosphorylated Linkers to the cDNA; EcoRI Digestion and Removal of Excess Linkers from the cDNA; Size Fractionation of the Linkered cDNA; Ligating Fragments into pUC Vectors; Transformation of Host Bacteria; Screening for Recombinant Phages and Plasmids; References; Primer Extension Sequencing of RNA Viruses; Precautions when Handling RNA Nucleotide Sequencing of Influenza Virus Genes Primer Extension Sequencing of Influenza A Viruses; Primer Extension Sequencing of Flavivirus Genes; Comments; References; Appendix: Buffers and Reagents; Forensic Applications of DNA Profiling; Multilocus Probes; Single Locus Probes; Methods; DNA Profiling in Forensic Casework; References; Application of Nucleic Acid Probes to the Identification of Bacterial Enteric Pathogens; Identification of Enterotoxigenic Escherichia coli from Faecal Specimens; Gene Probes for other Bacterial Enteric Pathogens Prospects for Nucleic Acid Probes in Clinical Microbiology

Sommario/riassunto

Genetic manipulation is no longer the province of the specialized researcher. It is finding widespread application in all fields of medicine and biology. Nevertheless, application of these relatively new techniques to new areas of research is often fraught with unexpected problems and difficulties. Based on the Society for Applied Bacteriology's Autumn 1989 Conference, this unique volume covers a wide and very up-to-date range of techniques used in genetic engineering. These include the isolation and analysis of DNA and RNA from cells and tissues, the selection and use of phage and plasmic vec
