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Nota di contenuto	Front Cover; Contents; Preface; Authors; Chapter 1: Strategies for Novel Research Projects and/or Research Grant Funding; Chapter 2: Rapid Isolation of Specific cDNAs or Genes by PCR; Chapter 3: Construction and Screening of Subtracted and Complete Expression cDNA Libraries; Chapter 4: Subcloning of Genes or DNA Fragments; Chapter 5: Nonisotopic and Isotopic DNA or RNA Sequencing; Chapter 6: Bioinformation Superhighway and Computer Databases of Nucleic Acids and Proteins; Chapter 7: Characterization of DNA or Genes by Southern Blot Hybridization Chapter 8: Gene Overexpression by Sense RNA in Mammalian SystemsChapter 9: Gene Underexpression in Cultured Cells and Animals by Antisense DNA and RNA Strategies; Chapter 10: Analysis of Gene Expression at Functional Genomic Level Using Northern Blotting or PCR; Chapter 11: Analysis of Gene Expression at Proteomic Level via Western Blotting; Chapter 12: Analysis of Cellular DNA or Abundance of mRNA by Radioactivity In Situ Hybridization; Chapter 13: Localization of DNA or Abundance of mRNA by Fluorescence In Situ Hybridization Chapter 14: In Situ PCR Hybridization of Low Copy Genes and in Situ RT-PCR Detection of Low Abundance mRNAsChapter 15: Isolation and Characterization of Genes from Genomic DNA Libraries; Chapter 16: Mouse Stem Cells as a Model Mammalian Cell Line for Gene Expression;

Chapter 17: Strategies for Gene Double Knockout; Chapter 18: Large-Scale Expression and Purification of Recombinant Proteins in Cultured Cells; Chapter 19: Quantitative Analysis of Functional Genome by Real-Time RT-PCR; Chapter 20: High-Throughput Analysis of Gene Expression by Cutting-Edge Technology-DNA Microarrays (Gene Chips) Chapter 21: Construction and Screening of Human Antibody Libraries Using Phage Display TechnologyChapter 22: Down-Regulation of Gene Expression in Mammalian Systems via siRNA Technology; Chapter 23: Strategies for Gene Cloning, Expression, and Identification of Protein-Protein Interaction; Chapter 24: Conditional Gene Knockout; Chapter 25: How to Write a Research Manuscript for Publication in an English Journal; Chapter 26: How to Protect Your Discovery and Invention : Patent 101; Chapter 27: Determination of Transgene Copy Numbers and Practical Biocalculation; Back Cover

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### Sommario/riassunto

The third edition of this popular reference covers a variety of techniques related to gene manipulation, including DNA isolation, preparation, screening, and analysis. Topics range from very basic methods to current and sophisticated technologies, including methodologies created and tested by the authors. Other topics include approaches to grant funding and SiRNA technology. The authors offer detailed, step-by-step explanations of protocols and helpful troubleshooting guides. This edition features new techniques for every chapter, as well as several new chapters--Provided by publisher.

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