

The only laboratory text on molecular biology techniques!

Experiments in Molecular Biology

Edited by **Robert J. Slater**

The Hatfield Polytechnic, Hertfordshire, UK

Offers detailed protocols ranging from chemical...to microbiological...methods. The format is sufficiently versatile to serve either a short workshop or a full academic year biochemistry laboratory.... This volume represents a successful effort of many contributors to provide us with a practical, pre-packaged guide to instructing students and technicians for today's biology laboratories.—Analytical Biochemistry

Each experiment is presented in a chapter including background information, a list of materials the student will encounter, a detailed protocol, information needed to interpret and discuss the results, and a few references. The first appendix provides general laboratory procedures and safety information. The second appendix lists materials and equipment necessary for a group of twenty students working in pairs....The procedures are designed...with a high probability of success on the first attempt....The lists of supplies, equipment, and material requiring advance preparation are comprehensive....Provides the information needed by beginning students and by their instructors for the presentation of many techniques of molecular biology and related fields.—ASM News

An excellent experimental guide to molecular biology.—Journal of Chromatography

Contents

Gingold: DNA Isolation and Transformation in *Escherichia coli*: An Introduction. **Boffey:** Isolation of Plasmid DNA: The Cleared Lysate and CsCl Gradient Technique. **Boffey:** Restriction Endonuclease Digestion and Agarose Gel Electrophoresis of DNA. **Hall:** Restriction Site Mapping. **Hall:** Southern Blotting. **Hall:** Preparative Electrophoresis: Extraction of Nucleic Acids from Gels. **Hall:** DNA Ligation and *Escherichia coli* Transformation. **Gingold:** Detection of Plasmid by Colony Hybridization. **Gingold:** Microisolation and Microanalysis of Plasmid DNA. **Grierson:** Isopycnic Centrifugation of DNA: Extraction and Fractionation of Melon Satellite DNA by Buoyant Density Centrifugation in Cesium Chloride Gradients. **Grierson:** Purification of Plant Ribosomal DNA: Use of Buoyant Density Centrifugation in Cesium Chloride-Actinomycin D Gradients and DNA-RNA Hybridization. **Slater:** The Extraction and Affinity Chromatography of Messenger RNA. **Slater:** Agarose Gel Electrophoresis of RNA. **Matthews/McKee:** In Vitro Protein Synthesis. **Walker:** SDS Polyacrylamide Gel Electrophoresis of Protein: Determination of Protein Molecular Weights and High-Resolution Silver Staining. **Walker:** Isoelectric Focusing (IEF) of Proteins in Thin-Layer Polyacrylamide Gels. **Walker:** Protein (Western) Blotting with Immunodetection. **Walker:** Thin-Layer Gel Filtration: Determination of Protein Molecular Weights. **Walker:** The Dansyl-Edman Method for Peptide Sequencing. **Cohen:** The Double Immunodiffusion Technique: Immunoprecipitation and Analysis of Antigenic Protein in Gel. **Walker:** Immuno-electrophoretic Techniques: 2-D Immuno-electrophoresis and Rocket Immuno-electrophoresis. **Goulding:** The Time Course of β -Galactosidase Inductions in *Escherichia coli*. **Goulding:** Experiments on Enzyme Induction in the Unicellular Green Alga *Chlorella fusca*. **Gingold:** Yeast Protoplast Fusion. **Gingold:** The Ames Test. Appendix I. Appendix II. Index.