



**Associate Editors**

David Bentley

*Guy's Hospital, London*

Richard Gibbs

*Baylor College of Medicine*

Eric Green

*Washington University*
*School of Medicine*

Richard Myers

*University of California, San Francisco*
**Editorial Board**

Johannes Bos

*University of Utrecht*

David Botstein

*Stanford University School of Medicine*

Jeff Chamberlain

*University of Michigan Medical School*

Henry Erlich

*Cetus Corporation*

Kenshi Hayashi

*National Cancer Research Institute, Tokyo*

Bernhard Horsthemke

*University of Essen*

Pieter de Jong

*Lawrence Livermore National Laboratory*

David Kemp

*Walter and Eliza Hall*
*Institute of Medical Research*

Kenneth Kidd

*Yale University School of Medicine*

Ulf Landegren

*University of Uppsala Medical Center*

Eric Lander

*Whitehead Institute of*
*Medical Research*

Hans Lehrach

*Imperial Cancer Research Fund*

Kary Mullis

*La Jolla, California*

David Nelson

*Baylor College of Medicine*

Debbie Nickerson

*California Institute of Technology*

Svante Pääbo

*University of Munich*

Steve Sommer

*Mayo Foundation*

Lap-Chee Tsui

*Hospital for Sick Children, Toronto*

James Weber

*Marshfield Medical*
*Research Foundation*

Mark Zoller

*Genentech, Inc.*
**Editor**

Judy Cuddihy

*Cold Spring Harbor Laboratory*
**Editorial Staff**

Elizabeth Ritcey, Production Editor

Christy Kuret, Production Assistant

Doris Lawrence, Editorial Secretary

Jim Suddaby, Design

*Advertising*

Nancy Kuhle

**February, 1992**  
**Volume 1, Number 3**
**REVIEW**

**151 Applications of the Polymerase Chain Reaction in Environmental Microbiology**  
 Asim K. Bej and Meena H. Mahbubani

**RESEARCH**

**160 A Sensitive, Quantitative Assay for Measurement of Allele-specific Transcripts Differing by a Single Nucleotide**  
 Judith Singer-Sam, Jeanne M. LeBon, Aihua Dai, and Arthur D. Riggs

**164 A PCR-based Assay for Reporter Gene Expression**  
 Peter Sperisen, Sam Ming Wang, Patrick Reichenbach, and Markus Nabholz

**171 Reliable and Efficient Direct Sequencing of PCR-amplified Double-stranded Genomic DNA Template**  
 M. Jung, A. Dritschilo, and U. Kasid

**175 RAPD and Other PCR-based Analyses of Plant Genomes Using DNA Extracted from Small Leaf Disk**  
 Jean-Marc Deragon and Benoit S. Landry

**181 A Method for Specific Amplification and PCR Sequencing of Individual Members of Multigene Families: Application to the Study of Steroid 21-Hydroxylase Deficiency**  
 Simon Collier, Mayada Tassabehji, and Tom Strachan

**187 Rapid Mapping of *Escherichia coli*::Tn5 Insertion Mutations by REP-Tn5 PCR**  
 Prem S. Subramanian, James Versalovic, Edward R.B. McCabe, and James R. Lupski

**TECHNICAL TIPS**

**193 Avoiding Strand Reassociation in Direct Sequencing of Double-stranded PCR Products with Thermolabile Polymerases**  
 Reinhard Wanner, Irmgard Tilmans, and Dietmar Mischke

**195 A Rapid PCR Protocol for Identification of Differentially Expressed Genes from a cDNA Library**  
 Kendra J. Mutchler, Steven W. Klemish, and Andrew F. Russo

**199 Sensitivity of Detection of Heterozygous Point Mutations in p53 cDNAs by Direct PCR Sequencing**  
 Jian Cheng and Martin Haas

**202 Detection by PCR and Differentiation by Restriction Fragment Length Polymorphism of *Acholeplasma*, *Spiroplasma*, *Mycoplasma*, and *Ureaplasma*, Based on 16S rDNA Genes**  
 Sujun Deng, Chuji Hiruki, Janet A. Robertson, and Gerald W. Stemke

**205 Site-directed Mutagenesis of Herpesvirus Glycoprotein Phosphorylation Sites by Recombination Polymerase Chain Reaction**  
 Zhengbin Yao, Douglas H. Jones, and Charles Grose

**208 Analysis of Transgenic Animal Pedigrees Using the Junction-Polymerase Chain Reaction**  
 Michael Ward, Wanda Abramow-Newerly, Susan Clapoff, and John C. Roder

**210 Erratum**