TIME TO CHANGE FOR THE BETTER

With Newly Upgraded TaKaRa Restriction Enzymes, Improve Cloning Efficiency in Less Time without Screening in conjunction with the Enforcement Cloning System pKF3.

Bulk Discount TaKaRa Restriction Enzymes Available

36 Prime Restriction Enzymes

The highest purity enzyme with the lowest exonuclease activity guaranteed using an innovative QC/QA methodology; the Enforcement Cloning System, highly selective and sensitive with detection of low frequency transfectant caused by trace amount of exonucelase.

Enforcement Cloning System pKF3

(Code No. 6086 for 10 clonings)

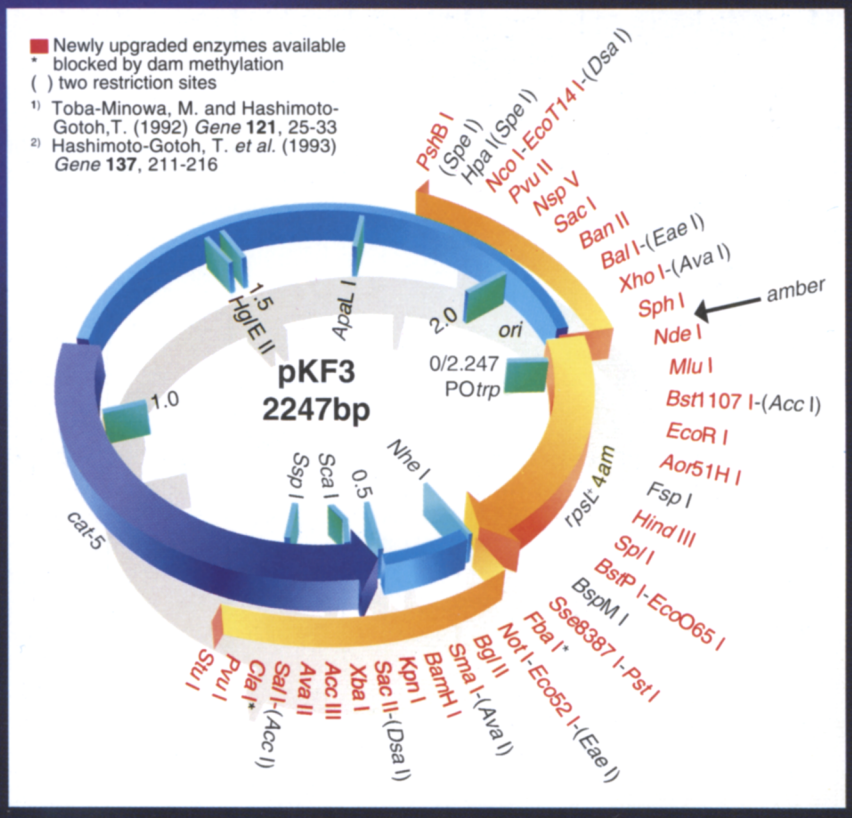
Comprised of pKF3 DNA and *E. coli* TH2 Competent Cells. This system has no cumbersome screening steps and is potent in a variety of applications such as library construction from shotgun cloning, subcloning of PCR products and colony hybridization.

pKF3 DNA:

A $Cm^{R}Sm^{S}$-enforcement plasmid vector contains 44 multi restriction sites within the PO_{trp}-driven *rpsL*$^{+}$4*am* gene.

***E. coli* TH2 Competent Cells:**

Highly competent cells are prepared from the TH2 *trpR*624 strain with *rpsL*$^{-}$, *supE*$^{-}$ and *trpR*$^{-}$, a variant of HB101, for the exclusive use with the pKF3 vector.



TAKARA SHUZO CO., LTD.
Biomedical Group
Otsu, Shiga, Japan
Phone: +81 775-43-7247
Fax: +81 775-43-9254

TaKaRa Biomedical Europe S.A.
92230 Gennevilliers, France
Phone: (1) 41 47 01 14
Fax: (1) 47 92 18 80

TaKaRa BIOMEDICALS

Distributors
North and South Americas
PanVera Corporation
Toll Free: (800) 791-1400
Phone: 608-233-5050
Fax: 608-233-3007
e-mail: info@panvera. com

Taiwan: **Cheng Chin Trading Co., Ltd.** Phone: (02) 331-3111 Fax: (02) 382-2197
Taiwan: **Protech Technology Enterprise Co., Ltd.** Phone: (02) 381-0844 Fax: (02) 311-8524
Malaysia: **Interscience Sdn Bhd** Phone: (03) 703-1888 Fax: (03) 703-8047
Singapore: **ITS Science and Medical Pte. Ltd.** Phone: (02) 273-0898 Fax: 65-273-0810
Thailand: **ITS (Thailand) Co., Ltd.** Phone: (02) 308-0611 Fax: (02) 308-0612

Reader Service No. 130

PCR Primer:
A Laboratory Manual

Edited by Carl Dieffenbach, *National Institute of Allergy and Infectious Diseases,* Gabriela Dveksler, *Uniformed Services University of the Health Sciences*

From its first-published account in 1985, the polymerase chain reaction has become a standard research tool in a wide range of laboratories. Its impact has been felt in basic molecular biological research, clinical research, forensics, evolutionary studies, and the Human Genome Project. The PCR technique originally conceived by Nobel laureate Kary Mullis has proven to be exceptionally adaptable and has been transformed into a myriad array of methods, each with different applications.

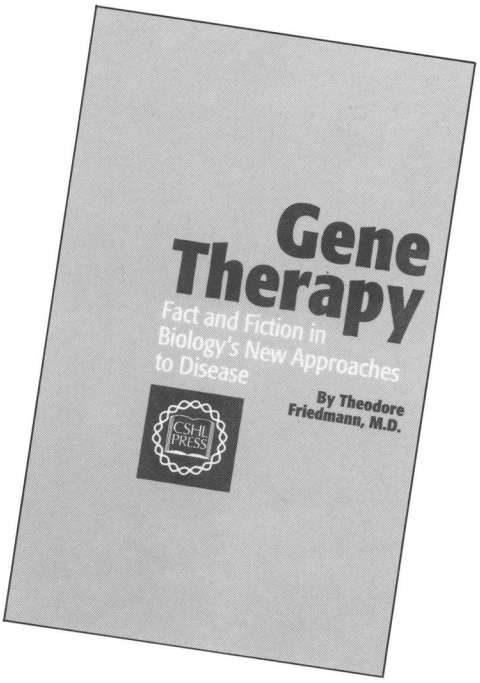
PCR Primer: A Laboratory Manual introduces the complex world of PCR by beginning at an accessible level and then moving to more advanced levels of application. First, the practical requirements for performing PCR and other amplification techniques in the lab are introduced and then the basic aspects of the technique are explained by exploring important issues such as sample preparation, primer design, efficiency, detection of products, and quantitation. Protocols for a wide range of PCR and amplification techniques–each written by an expert investigator–are presented for cloning, sequencing, mutagenesis, library construction and screening, exon trapping, differential display, and expression, and these include RT-PCR, RNA PCR, LCR, multiplex PCR, panhandle PCR, capture PCR, expression PCR, 3′ and 5′ RACE, in situ PCR, and ligation-mediated PCR. Each protocol is augmented by analysis and troubleshooting sections and complete references.

CONTENTS

1995, 625 pp. (approx.), illus., appendices, index
Cloth $160 **ISBN 0-87969-447-5**
Plastic comb binding $95 **ISBN 0-87969-448-3**

Gene Therapy

Fact and Fiction in Biology's New Approaches to Disease



By Theodore Friedmann, M.D., *University of California, San Diego*

In 1982, a meeting of unusual influence was held at the Banbury Conference Center of Cold Spring Harbor Laboratory. After an early attempt at treating clinical disease with transferred genes had ignited public attention and scientific controversy, a group of distinguished biologists and physicians came together to assess practical progress towards gene therapy and what its future might be. The geneticist Ted Friedmann wrote a narrative account of the participants' contributions to the meeting, ending with a personal discussion of ethical issues raised by genetic technologies.

His book, the first on gene therapy, was widely read but has long been unavailable. It has been reprinted with a new introduction entitled "Gene Therapy 1994," in which the author reviews the field's technical accomplishments and ethical dilemmas. Now that gene therapy has become part of the medical landscape, this volume is of interest as both a historical document and an assessment of the field's current challenges.

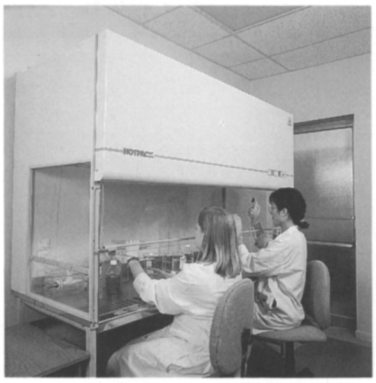
CONTENTS

1994, 124 pp. **ISBN 0-87969-446-7**
Paper $15

Product News. . . .

Product News features equipment, laboratory materials, and software that may be of interest to readers of this journal. Endorsement by *Genome Research*, or Cold Spring Harbor Laboratory, is not implied. Readers may obtain further information regarding these products by entering the appropriate numbers on the postage-free Reader Service Card included in this issue.

Research Genetics Radiation Hybrid Panels



Research Genetics now has two radiation hybrid panels at offer to researchers. Radiation hybrid (RH) mapping is a somatic cell hybrid technique that was developed to construct high-resolution, contiguous maps of mammalian chromosomes. RH mapping provides a method for ordering DNA markers spanning millions of basepairs of DNA at a resolution not easily obtained by other mapping methods.

The first panel, developed by David Cox at the Stanford Human Genome Mapping Center contains 83 clones plus two controls. The second panel, created by a collaboration of the labs of Peter Goodfellow and Jean Weissenback and adopted by the European Consortium on Radiation hybrid Mapping contains 93 clones plus two controls. In addition, a fine mapping service is also available in which we will order all markers in a region and establish the distance between these markers. Reader Service No. 132.

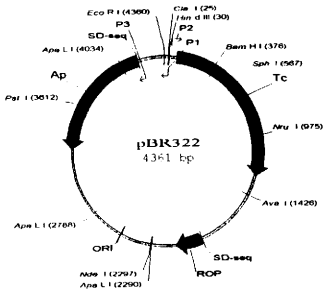
The DNA Engine™ Thermal Cycling System

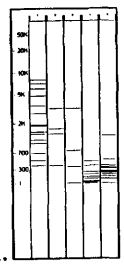
MJ Research's newest thermal cycler, the PTC-200 DNA Engine™, brings new capabilities to the field of DNA sequencing and amplification. This speedy Peltier instrument has a temperature range of −5° to 105°C, and it features a swappable block format for accommodating a wide variety of vessels (including 0.5 & 0.2 ml tubes, 90- and 192-well plates). Even dual, independent blocks are available. Adjustable Hot Bonnet™ heated lids gives improved oil-free cycling, and sophisticated software allows password protection of protocols as well as networking with desktop computers. For more information, call MJ Research toll-free at (800) 729-2165, or e-mail sales@mjr.com. Reader Service No. 133.

New England Biolabs Introduces LITMUS™ Cloning Vectors

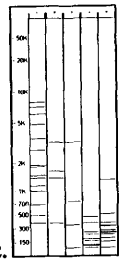
New England Biolabs introduces LITMUS™ Cloning Vectors for cloning, mutagenesis, and *in vitro* transcription. Designed for convenience and familiarity, these phagemid vectors feature universal sequencing primer sites, a streamlined pUC-derived plasmid backbone, M13 origin for single-stranded mutagenesis template production, blue/white selection, ampicillin resistance and polylinkers that contain a total of 32 unique restriction sites representing all commercially available 4-base extensions. The multipurpose LITMUS™ Cloning Vectors also contain a novel system for generating RNA probes in either direction using only T7 RNA Polymerase. For more technical information, call 800-NEB-LABS or via the Internet at info@neb.com. Reader Service No. 138.

Vector NTI—The First Intelligent Software for Molecular Biology





1.



2.

Vector NTI is an excellent software for molecular biology developed by InforMax, Inc. Vector NTI does the following: Designs new genetic molecules automatically using artificial intelligence; Recommends optimum cloning steps; Performs advanced PCR analysis, oligo-analysis, finds sequencing primers, creates hybridization probes; Imports/exports molecules in GenBank, EMBL and ASCII formats; Transfers changes made to molecules in child/parent trees which are built automatically; Creates restriction and functional maps, searches for ORFs and motifs; Has professional database of molecules and oligos with management and searching capabilities; Runs dynamic electrophoresis predicting the run time; Provides excellent graphics and publication quality printing.

To download demo use our home page: http://www.access.digex.net/~informax/home.html or call 1-800-357-3114. Reader Service No. 139.

Instructions to authors

GENOME RESEARCH welcomes high-quality research papers reporting new data in physical and genetic mapping, DNA sequencing, gene discovery, informatics, statistical and mathematical methods, DNA-based technology development, gene function, genome structure and function, and human disease. The journal also publishes review articles, short reports, and summaries of physical mapping and large-scale sequencing projects. All submissions to the journal will be peer-reviewed.

Publication time from acceptance of manuscript is within two months. For papers accepted subject to revision, only one revised version will be considered; it must be submitted within two months of the provisional acceptance.

The journal accepts papers that present original research that has not previously been published. Submission to the journal implies that a paper is not currently being considered for another journal or book. It is also understood that researchers who submit papers to this journal are prepared to make available to researchers materials needed to duplicate their work. Authors of accepted manuscripts must submit mapping and sequence data to the appropriate data bank and provide an accession number for this data at the page proof stage.

Papers should be submitted to:

Judy Cuddihy, Managing Editor
Genome Research
Cold Spring Harbor Laboratory Press
One Bungtown Road
Cold Spring Harbor, NY 11724
e-mail: cuddihyj@cshl.org

Manuscript preparation

Five copies of the manuscript should be submitted; at least four of these copies should have original art. A cover letter should include: (a) name, address, telephone number, FAX number, and e-mail address of author responsible for correspondence regarding the manuscript; (b) statement that the manuscript has been seen and approved by all listed authors; (c) any specific requirements for reproduction of art; (d) status of any statements of personal communication or other permissions needed; and (e) statement regarding databank submission of data.

The following order of manuscript sections is preferred: title page, abstract, introduction, results, discussion, methods, acknowledgments, references, tables, figure legends. Computer printouts of the manuscript should be of letter quality, and each page should be labeled with the first author's name and a page number. The methods presented should be detailed enough to allow any qualified researcher to duplicate the results.

References are name/date citations in text; please do not cite by number. Undated citations (unpublished, in preparation, personal communication) should include first initials and last names of authors. The reference list should be presented in alphabetical order. Bibliographic information should be supplied in the following order.
For journal articles: Saiki, R.K., S. Scharf, F. Faloona, K.B. Mullis, G.T. Horn, H.A. Erlich, and N. Arnheim. 1985. Enzymatic amplification of β-globin genomic sequences and restriction site analysis for diagnosis of sickle cell anemia. *Science* **230:** 1350–1354.
For books: Sambrook, J., E.F. Fritsch, and T. Maniatis. 1989. *Molecular cloning: A laboratory manual*, 2nd edition. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York.
For book chapter: Miller, J.H. 1972. Generalized transduction; use of P1 in strain construction. In *Experiments in molecular genetics* (ed. J.H. Miller), pp. 201–205. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

Figures should be supplied as high-quality, glossy prints. All figures should be labeled with the first author's name, the figure number, and an indication of the top of the figure. The size of the figures will be adjusted to fit the journal format; therefore, please try to keep labels, symbols, and other call-out-devices in proportion to the figure size and detail. Authors wishing to publish four-color art must pay the associated publication costs; price estimates will be provided on acceptance of the paper.

Accepted manuscripts

Paper length in the journal is between 2 and 12 journal pages. A manuscript of 28-32 typed, double-spaced pages with 27 lines of 11 point text per page (a manuscript of 63,000 characters) with 4-6 figures and 1 or 2 tables will translate to 12 printed pages in the journal.

Accepted manuscripts should be supplied as a printed-out manuscript and on a disc to expedite typesetting. Please supply the manuscript as an ASCII text file if possible. If a word-processing file is being sent, please do not include any underscoring, italic, or boldface; spell out special characters (Greek, math); use two carriage returns at the end of each paragraph, subheads, and list items. Indicate on the disc: computer brand name, type of file (text or word-processing), name of software, and disc format. Accepted manuscripts can be e-mailed to cuddihyj@cshl.org, but a confirming printout of the paper should to sent to the journal offices.

Proofs are considered the final form of the paper and corrections can be made only in the case of factual errors. If additional information must be added at this stage, it should be in the form of "Note added in proof," subject to the approval of the Editors.

To help defray the cost of publication, a charge of $20 per page will be made for publication in *Genome Research*. Authors unable to meet these charges should include a letter of explanation upon acceptance for publication; inability to meet these charges will have no effect on acceptance and publication of submitted papers.

Genes & Development announces a Super Deal for new subscribers in 1995!

Tired of waiting for the pass-along copy to reach you? Tired of discovering that the library copy is missing? Tired of missing out on all the important developments reported by *Genes & Development* **twice a month?** Now, you too can have *Genes & Development!* Act now and you can receive the last 8 issues of volume 9 for only $40.*

You too can gain immediate access to the latest breaking news in these areas:

- signal transduction
- cell cycle function
- tumor suppressor genes and oncogenes
- gene expression
- DNA replication
- pattern formation and regulation during development
- splicing
- chromosome structure and function
- disease models

SUBSCRIPTION INFORMATION
For last 8 issues of Volume 9

Individual Price (U.S.) $40
Individual Price (R.O.W. airlift delivery) $70

*Only **new** subscribers may qualify.

ISSN 0890-9369

Subscribe Today!

Cold Spring Harbor Laboratory Press 10 Skyline Drive, Plainview, N.Y. 11803-2500
Phone: 1-800-843-4388 or 516-349-1930 FAX: 516-349-1946