

# THE NEW DYNAZYME II DNA POLYMERASE WILL HELP YOUR RESEARCH REACH NEW HEIGHTS

At Finzymes we believe that scientific breakthroughs made by our skilled scientists should become a breakthrough for our customers as well. Our improved methods of producing thermostable DNA polymerase from *Thermus brockianus* have resulted in increased yields along with improved purity. We feel that it is only fair to pass along these benefits to our customers - benefits that **you** will feel in terms of considerable savings!



## Features of DynaZyme II DNA Polymerase

- **Source:** *Thermus brockianus* (F500)
- **Low error frequency**
- **Excellent thermal stability**
- **Very high purity**
- **Activities of the purified DNA Polymerase:**
  - 5' → 3' DNA polymerase activity
  - 5' → 3' exonuclease activity
- **Easy to optimize for primer extension reactions**
- **Supplied with optimized buffers**
- **High batch to batch consistency**
- **Economical**

**Think about it.  
And reach new heights  
in your research!**



**Finnzymes Oy**

P.O. Box 148,  
02201 Espoo, Finland  
Tel. +358-0-420 8077  
Fax +358-0-420 8653

**DISTRIBUTORS:** **AUSTRALIA:** Baxter Diagnostics Pty. Ltd. Tel. 7-273 71 11, Fax 7-273 71 22 **AUSTRIA:** BIO-TRADE Tel. 1-889 18 19, Fax 1-889 18 19 20 **BENELUX:** TechGen International nv/sa Tel. 02-466 22 50, Fax 02-466 99 04 **DENMARK:** MEDINOVA Tel. 31-56 20 00, Fax 31-56 19 42 **FRANCE:** Ab Services Tel. 61-69 61 00, Fax 61-69 61 01 **GREECE:** FARMALEX S.A. Tel. 1-644 56 12, Fax 1-644 56 90 **ISRAEL:** TAL RON Tel. 8-47 25 63, Fax 8-47 11 56 **ICELAND:** GENIS LTD. Tel. 1-68 70 00, Fax 1-87 74 09 **ITALY:** CELBIO S.r.l. Tel. 02-381 03 171, Fax 02-381 01 465 **KOREA:** CHOONG-IL CHEMICAL INC. Tel. 2-294 64 11, Fax 2-293 65 56 **MALTA:** FME Medical Imports Tel. 89 66 15, Fax 80 90 11 **NORWAY:** Ing. F. Heidenreich A/S Tel. 02-222 04 11, Fax 02-222 11 50 **PORTUGAL:** Quimigranel, Ida Tel. 1-858 15 64, Fax 1-858 37 10 **SINGAPORE AND MALAYSIA:** RESEARCH INSTRUMENTS PTE LTD Tel. 65-775 72 84, Fax 65-775 92 28 **REPUBLIC OF SOUTH AFRICA:** CHEMLAB (PTY) LIMITED Tel. 11-789 39 32, Fax 11-787 75 72 **SPAIN:** LANDERDIAGNOSTICO, S.A. Tel. 1-594 08 06, Fax 1-448 71 92 **SWEDEN:** In vitro AB Tel. 08-734 83 00, Fax 08-730 46 40 **SWITZERLAND:** BioConcept Tel. 061-481 47 13, Fax 061-481 71 12 **TAIWAN, R.O.C.:** CAPTAINBIO LABTECH INC. Tel. 2-507 43 95, Fax 2-505 34 01 or 2-505 43 48 **UNITED KINGDOM AND IRELAND:** Flowgen Instruments Ltd. Tel. 0795-42 97 37, Fax 0795-47 11 85

## Your Next PCR Cloning System Should Have:

- An Ultra-Stable Vector
- High Efficiency Ligation
- Only 90 min. from PCR Product to Plated Bacteria

### No Hidden Steps, No Excuses

No matter what your level of PCR experience, the Prime PCR Cloner™ kit is the complete answer to your cloning needs. Our high efficiency shuttle vector (pNoTA, 2.7 kb size) is stable for at least 1 year and contains an exceptionally versatile multiple cloning site. Optimized blunt end ligation typically provides insert yields of >90% for 600 bp products and 80+% for 1900 bp products. A 15 kbp genomic fragment has been inserted into this vector using the kit! Spin column cleanup minimizes false positives by removing "Primer-Dimers" and small PCR products. All this in **only an hour and a half from start to finish**. For more information or to receive a protocol, call or fax us at

**Tel: 800-533-5703 Fax: 303-440-0835**

5 Prime → 3 Prime, Inc. 5603 Arapahoe Ave. Boulder CO 80303



Reader Service No. 422

## Business Information

**Editorial Office:** Cold Spring Harbor Laboratory Press, 1 Bungtown Road, Cold Spring Harbor, New York 11724-2203. Phone: 516-367-8492; FAX 516-367-8532.

*PCR Methods and Applications* (ISSN 1054-9803) is published bimonthly for \$276 (U.S. institutional; \$292 R.O.W.), \$89.00 (individual making personal payment; \$105 R.O.W. surface, \$32 additional for airmail) by Cold Spring Harbor Laboratory Press, 1 Bungtown Road, Cold Spring Harbor, New York 11724. Second class postage pending is paid at Cold Spring Harbor and additional mailing offices. POSTMASTER: Send address changes to Cold Spring Harbor Laboratory, 10 Skyline Drive, Plainview, New York 11803-9729.

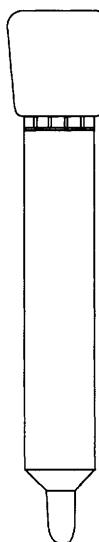
**Subscriptions:** Barbara Terry, Subscription Manager. Personal: U.S. \$89; R.O.W. \$105 surface mail, \$32 additional airlift delivery. Institutional: U.S. \$276; R.O.W. \$292. Orders may be sent to Cold Spring Harbor Laboratory Press, Fulfillment Department, 10 Skyline Drive, Plainview, New York 11803-9729. Telephone: Continental U.S. and Canada 1-800-843-4388; all other locations 516-349-1930. FAX 516-349-1946. Personal subscriptions must be prepaid by personal check, credit card, or money order. Claims for missing issues must be received within 4 months of issue date.

**Advertising:** Nancy Kuhle, Advertising Manager, Cold Spring Harbor Laboratory Press, 1 Bungtown Road, Cold Spring Harbor, New York, 11724-2203. Phone: 516-367-8351; FAX 516-367-8532.

**Copyright information:** Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted

## Oh! Drat! No PCR Product in ANY of the White Colonies!

### PCR SELECT® Columns



Actual Size

**Tel: 800-533-5703**  
**Fax: 303-440-0835**

5 Prime → 3 Prime, Inc.  
5603 Arapahoe Ave. Boulder CO 80303



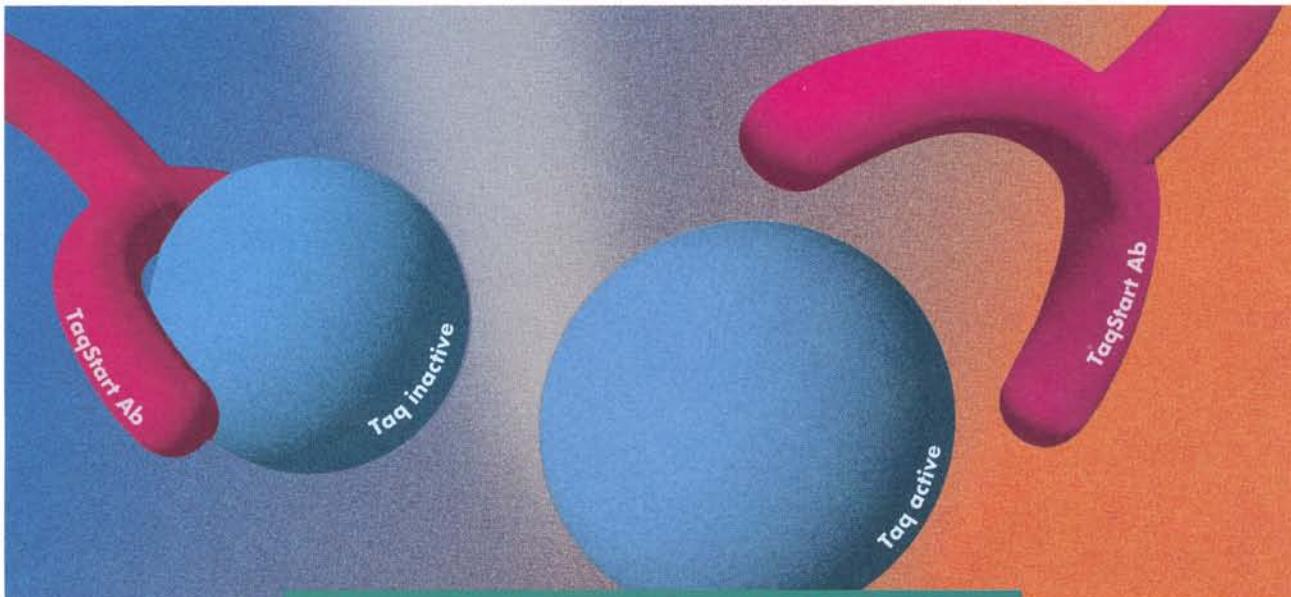
Reader Service No. 423

by Cold Spring Harbor Laboratory Press for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$5.00 per copy is paid directly to CCC, 21 Congress Street, Salem, Massachusetts 01970 (1054-9803/94 + \$5.00). This consent does not extend to other kinds of copying, such as copying for general distribution for advertising or promotional purposes, for creating new collective works, or for resale.

The methods, products, instructions of ideas contained in or suggested by this journal should be used only by experienced scientific researchers and only in accordance with prudent laboratory safety precautions. Their use by inexperienced or improperly trained individuals could result in serious injury. The publisher does not endorse the claims made by the advertisers in this journal.

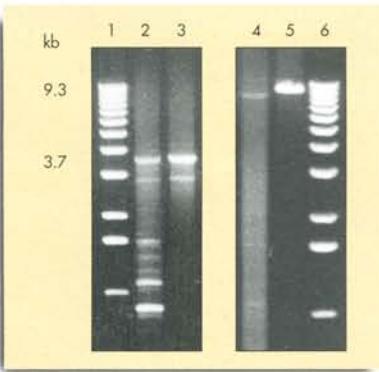
Copyright © 1994 by Cold Spring Harbor Laboratory Press

# TAQ START™ PCR – THE MOST CONVENIENT APPROACH TO HOT START PCR



## Introducing TaqStart™ Antibody

TaqStart Antibody gives you all the benefits of Hot Start PCR...without the hassle. With TaqStart, you get enhanced specificity, improved sensitivity, and higher yields in PCR amplifications, with greater convenience than with any other Hot Start method. This unique monoclonal antibody blocks Taq DNA polymerase activity during set-up of your PCR reactions. When thermal cycling



Results of the use of TaqStart Antibody to enhance specificity in long-distance PCR amplifications. Lanes 2 & 3: human p53 fragment (3.7 kb) without and with TaqStart, respectively. Lanes 4 & 5: human IFN- $\alpha$  receptor fragment (9.3 kb) without and with TaqStart, respectively. Lanes 1 & 6:  $\lambda$ X174/HaeIII digest.

begins, TaqStart dissociates from Taq; thus, Taq becomes fully active and amplification proceeds optimally. That's all. No messy waxes. No contamination from open tubes. No hassle. TaqStart Antibody. The simple, one-step, no-wax approach to Hot Start PCR. Only from CLONTECH. Call 1-800-662-CLON or contact your local distributor.

DON'T EXPERIMENT WITH ANYTHING ELSE.

**CLONTECH**

4030 Fabian Way, Palo Alto, California 94303 USA • Fax: 800/424-1350 415/424-1064 • Phone: 800/662-2566 415/424-8222  
e-mail: CLONTECH.com • ©1994 CLONTECH Laboratories, Inc. Patent pending.

PCR is covered by patents owned by Hoffmann-La Roche, Inc.

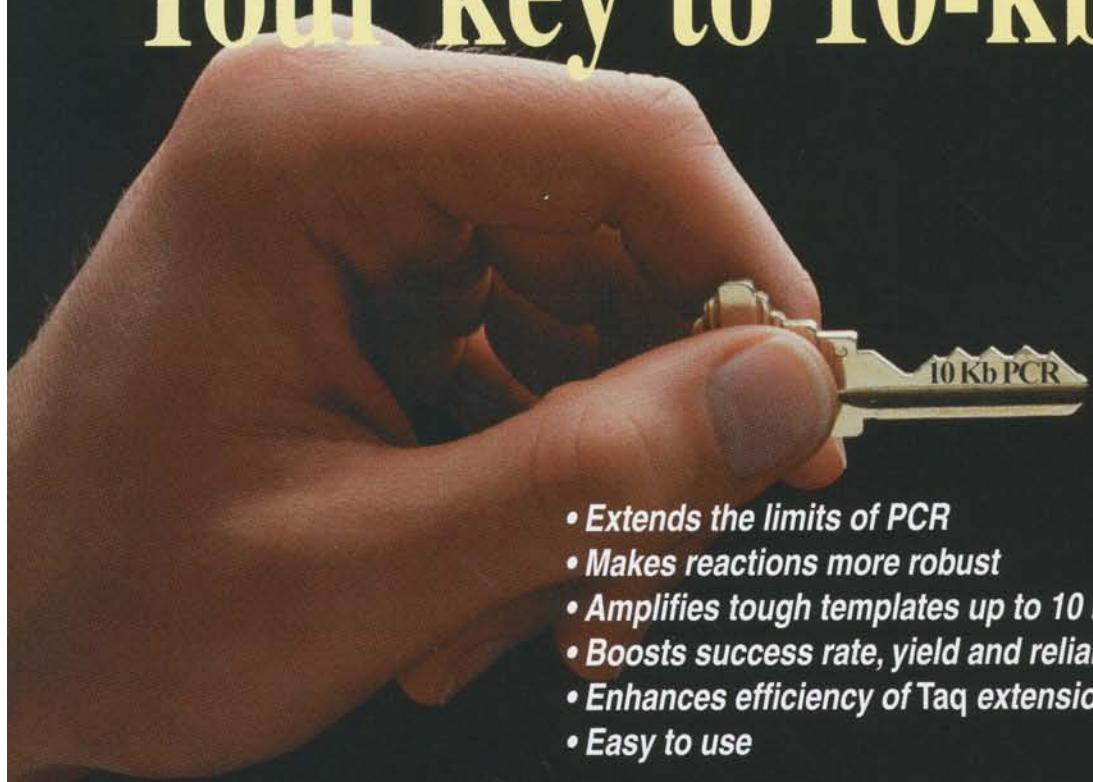
Reader Service No. 424

Come visit us at Neuroscience Booth #1448, 1450, 1547 & 1549

Come visit us at the San Diego Conference Booth #1

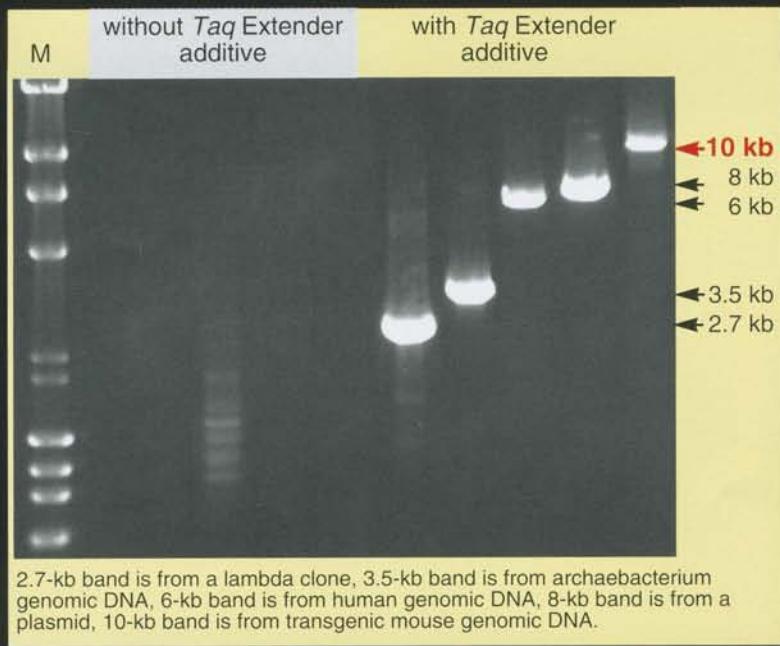
Come visit us at ASCB Booth #1502, 1504, 1601, & 1603

# Your key to 10-kb PCR<sup>†</sup>



- Extends the limits of PCR
- Makes reactions more robust
- Amplifies tough templates up to 10 kb
- Boosts success rate, yield and reliability
- Enhances efficiency of Taq extensions
- Easy to use

## Stratagene's *Taq* Extender<sup>TM</sup> PCR Additive



**Unlock your PCR potential!**

**Call Stratagene or your Stratagene distributor  
to order this breakthrough product.**

**Taq Extender PCR additive  
Catalog # 600148**



<sup>†</sup> The Polymerase Chain Reaction (PCR) process is covered by patents owned by Hoffmann-La Roche.  
Use of the PCR process requires a license.

# Need a quotation for economic large scale oligonucleotide synthesis?



*"OligoPilot from Pharmacia Biotech offers the reproducibility and flexibility required to scale-up traditional oligonucleotide synthesis. The synthesizer's unique flow-through design, in combination with the Pharmacia Biotech solid support, enables a high coupling efficiency to be maintained while minimizing reagent consumption. This potentially opens the way to economical pilot-scale production of highly pure oligonucleotides and their analogs."*

Dr. Tadeusz K. Wyrzykiewicz, Isis Pharmaceuticals Inc., Carlsbad CA, U.S.A.

For more information call Pharmacia Biotech Inc.  
In the US: 1-800-526-3593 In Canada: 1-800-463-5800

Leading companies bringing medical applications of oligonucleotide technology closer to market already know how well OligoPilot™ DNA/RNA Synthesizer performs. You can read more of what they have to say in the new brochure. Ask for your copy today.

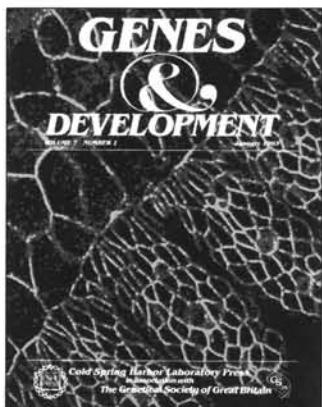
*OligoPilot. It's the breakthrough in economic, large scale oligonucleotide synthesis.  
And you can quote us on that.*

Visit us at the following exhibits:  
Human Genetics—Booth #513  
Society for Neuroscience—Booth #636  
San Diego Conference on Nucleic Acid Booth #26



**Pharmacia  
Biotech**

Reader Service No. 426



## Most Cited Journal in Its Field; Now Semimonthly

*Genes & Development* reports major advances of general interest and biological significance in molecular biology, molecular genetics, and related areas. The journal appears semimonthly and includes research papers and review articles.

**Volume 8, 1994, containing 24 semimonthly issues**

Individual Price (U.S.) \$115.00

Individual Price (R.O.W.\* airlift delivery) \$205.00

Student Price (U.S.) \$85.00\*\*

Student Price (R.O.W. airlift delivery) \$165.00\*\*

Institutional Price (U.S.) \$450

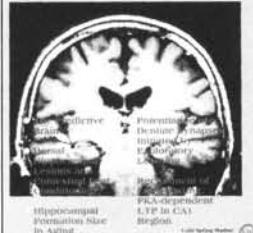
Institutional Price (R.O.W. airlift delivery) \$540

\*R.O.W. = Rest of world

\*\*Those who qualify must provide student I.D.

ISSN 0890-9369

## LEARNING MEMORY



*Learning & Memory* will publish experimental studies in humans and animals on cognition, behavior, development, neuropsychology, neurophysiology, biochemistry, cell biology and genetics. This new journal will contain peer-reviewed research papers, commissioned reviews and commentaries, theories and models, and short communications and letters.

**Volume 1, 1994, contains 4 issues (beginning June, 1994)**

Individual Price (U.S.) \$57

Individual Price (R.O.W. surface delivery) \$67

Individual Price (R.O.W. airlift delivery) \$87

ISSN 1072-0502

Institutional Price (U.S.) \$127

Institutional Price (R.O.W. surface delivery) \$137

Institutional Price (R.O.W. airlift delivery) \$157

## 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



## WARNING: Insufficient Medical Research Can Be Hazardous To Your Health

Too many Americans are suffering and dying needlessly because, as a nation, we don't invest enough in medical research.

That's why former Surgeon General C. Everett Koop is joining Research!America, an alliance for discoveries in health, in making a simple request:

Let Congress (202-224-3121) and The White House (202-456-1111) know if you agree that health research should be a number-one national priority.

Call 1-800-FON-CURE for a free pamphlet to learn more about how you can help.

**Research!America**  
AN ALLIANCE FOR DISCOVERIES IN HEALTH



## How'd you like to see one of these in your lab?

Not an elephant, but a big, colorful "Elephants at the Watering Hole" poster representing the powerful security and peace-of-mind you get with Boehringer Mannheim PCR products. You can, when you participate in our PCR Peace-of-Mind program, now until November 30, 1994. Call 1-800-428-5433\* to receive information on how to qualify for this poster, plus your choice of designer watches, subscriptions to *Nature* Magazine, or dollars off your next order. But Hurry! Come November 30th, these big fellas will be gone.

\*Sorry, this promotion is limited to U.S. customers only.

This product is sold under licensing arrangements with Roche Molecular Systems and The Perkin-Elmer Corporation. Purchase of this product is accompanied by a license to use it in the Polymerase Chain Reaction (PCR) process in conjunction with an Authorized Thermal Cycler.



*Biochemicals*

**BOEHRINGER MANNHEIM** Corporation  
9115 Hague Road  
P.O. Box 50414  
Indianapolis, IN 46250-0414  
USA

## Product news . . .

### PCR amplification and typing kit

Perkin-Elmer's new AMpliTYPe PM (poly-marker) PCR amplification and typing kit provides high discrimination power with minimal sample consumption for human identity testing. As an extension of the company's AMpliTYPe HLA DQ $\alpha$  PCR amplification and typing kit, the AMpliTYPe PM kit is validated for forensic casework and enables laboratories to analyze five additional genetic markers simultaneously. Results are available within hours, allowing rapid screening and providing meaningful answers to critical human identity testing questions.

**Contact:** The Perkin-Elmer Corporation, 761 Main Avenue, Norwalk, Connecticut 06859-0310; (203) 762-1000. Reader Service No. 430.

### PCR product sequencing without purification

Amplified gene fragments can be sequenced directly with the Sequenase PCR product DNA sequencing kit available from Amersham Life Science. By removing the need for expensive purification steps, the new kit will significantly reduce the time taken for sequencing PCR products. After amplification, two enzymes, Exonuclease I and Shrimp Alkaline Phosphatase, are added in series to remove single-stranded DNA/primers and nucleoside triphosphates (dNTPs), respectively, both of which generally interfere with sequencing. After each step, the enzymes are easily inactivated by heat treatment prior to the Sequenase reaction. Both human genomic DNA and cloned DNA fragments can be sequenced after amplification with this kit; the entire process takes less than 3 hr, most of which is thermal cycling time. Additionally, because only simple pipetting transfers are required, many samples can be treated simultaneously.

**Contact:** Amersham Life Science, Inc., 2636 S. Clearbrook Drive, Arlington Heights, Illinois 60005. Reader Service No. 431.

### New Windows-based oligo primer analysis software

National Biosciences, Inc. (NBI) announces version 5.0 of the OLIGO Primer Analysis Software for Windows. OLIGO is the original primer analysis

software, and this new version provides a number of powerful new functions to assist researchers in the selection of optimal oligonucleotides for PCR, sequencing, hybridizations and other applications. The new features include an oligonucleotide data base that permits porting of oligonucleotide sequence and data to and from the program. The database saves oligo data pertinent to synthesis and generates a convenient synthesis order form. The new PCR primer search function finds all cross-compatible primers in a sequence file and orders them by either upper primer position number or PCR product size. Within this feature is a 5'-GC clamp and automatic multiplex primer selections. On the basis of user feedback, NBI also has included an automatic relaxation of the parameters if the user-defined search does not find primers at the original settings. OLIGO 5.0 also features automatic degenerate primer selection from an amino acid sequence and permits back translation from any one of a comprehensive list of codon preference tables or a user-defined table. OLIGO's enhancements include several additional time-saving functions: hybridization time calculations, an automatic search for ligase chain reaction primers, batch searching for unique oligonucleotides in multiple files, and restriction enzyme searches.

**Contact:** National Biosciences, Inc. (NBI), 3650 Annapolis Lane, Suite 140, Plymouth, Minnesota 55447; (612) 550-2012; FAX (612) 550-9625. Reader Service No. 432.

### PurePrep Macro Plasmid Purification Kit

Pharmacia Biotech introduces the PurePrep Macro Plasmid Purification Kit. This kit provides the speed of spin-column chromatography while yielding plasmid DNA of equivalent purity to CsCl-purified DAN. This allows preparation of plasmid DNA from 10 to 100 ml bacterial cultures in about 45 min. Purified DNA is of sufficient yield and purity for restriction enzyme digestion, manual and automated sequencing, PCR, transformation, transfection, electroporation, and other nucleic acid manipulations.

**Contact:** Pharmacia Biotech, 800 Centennial Avenue, P.O. Box 1327, Piscataway, New Jersey 08855-1327; 1-(800)-526-3593. Reader Service No. 433.

Product news features newly available equipment, laboratory equipment, and software that may be of interest to the readers of this journal. Endorsement by *PCR Methods and Applications* 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.

## Filtertips from Brinkmann

Brinkmann Instruments, Inc. introduces new Eppendorf Filtertips, which contain a hydrophobic, polyethylene filter that acts as a barrier against sample aerosols. The filter is securely integrated within the tip to eliminate slippage or position shift. Filtertips are recommended for: PCR to reduce the incidence of carryover and false positives; handling of radioactive materials to keep the pipet nose cone and shaft clean from radionuclide emissions; pipetting of infectious biologicals to maximize containment and safety in handling of hazardous materials; and any application where contamination may be a concern. Filtertips are supplied in presterile racks and are available in 10-, 100-, 350-, and 1000- $\mu$ l capacities.

**Contact:** Brinkmann Instruments, Inc., P.O. Box 1019, Westbury, New York 11590-0207; (800) 645-3050; (516) 334-7500; FAX (516) 334-7506. Reader Service No. 434.

## Robbins Scientific's Red-Out



Red-Out is a new human red blood cell agglutination reagent that eliminates red-cell contamination, which frequently occurs during purification of lymphocytes on density gradient media. The reagent is easy to use, and the results are quantitative. Human blood is incubated at room temperature for 5 min with Red-Out, then centrifuged in Robbins Scientific IsoPrep isolation medium or other ficoll-isopaque type medium. Red cell aggregates that form settle easily to the bottom of the tube. The high specificity of Red-Out is based on a murine monoclonal antibody that binds to a

universally present antigen on erythrocyte membranes. Red-Out is effective in the removal of red cells, including immature nucleated erythrocytes, that interfere in a number of applications including HLA tissue-typing tests, microscopic analysis, and fluorescence-activated cell sorting. Red-Out is available in 25- and 100-ml sizes, which allow 250 and 1000 tests, respectively.

**Contact:** Robbins Scientific, 814 San Aleso Avenue, Sunnyvale, California 94086-1411; (800) 752-8585; (408) 734-8500; FAX (408) 734-0300. Reader Service No. 435.

## AmpliWax PCR Gems

Perkin-Elmer's new AmpliWax PCR Gems 50 provide increased sensitivity, specificity, and precision in PCR. AmpliWax PCR Gems 50 are specially formulated wax beads designed for use with 20- to 50- $\mu$ l PCR amplification reactions. They are designed for keeping reaction components separate prior to heating, which provides for synchronous reaction starts when the hot-start PCR technique is used. They also provide a replacement for mineral oil as a vapor barrier in PCR amplifications.

**Contact:** The Perkin-Elmer Corporation, 761 Main Avenue, Norwalk, Connecticut 06859-0310; (203) 762-1000. Reader Service No. 436.

# ORDER FORM

## For Fastest Service—

Call:

**1-800-843-4388**

—Continental U.S.  
and Canada

**516-349-1930**

—All other locations

FAX:

**516-349-1946**



**COLD SPRING HARBOR  
LABORATORY PRESS**  
Plainview, NY 11803-2500

The Sigma Chain Reaction  
DNA Polymerase Activity  
Determines PCR and Genetic Mapping  
Minimizing the Use and Sequence of Oligo  
DNA Oligonucleotide Sequencing Application



**VOLUME 4, 1994/95, BIMONTHLY**  
(Six Issues beginning August, 1994)

- Individual price (U.S.) - \$89
- Individual price (R.O.W. Surface Delivery) - \$105
- Individual price (R.O.W. Airlift Delivery) - \$137
- Student price (U.S.) - \$65\*
- Student price (R.O.W. Surface Delivery) - \$85\*
- Institutional price (U.S.) - \$276
- Institutional price (R.O.W. Surface Delivery) - \$292
- Institutional price (R.O.W. Airlift Delivery) - \$324
- Please send me a sample issue.

\*Those who qualify must provide student I.D.

Personal orders must be prepaid by personal check, credit card or money order.

Check or money order enclosed (U.S. Bank Checks Only)

Charge to:  MASTERCARD  VISA  AMERICAN EXPRESS  DISCOVER

ACCOUNT NO. \_\_\_\_\_ EXP. \_\_\_\_\_

SIGNATURE \_\_\_\_\_ TEL. \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/STATE/ZIP \_\_\_\_\_

COUNTRY \_\_\_\_\_

**TEL: Continental U.S. and Canada: 1-800-843-4388** **ISSN 1054-9803**

**All other locations: 516-349-1930 FAX: 516-349-1946**

All prices subject to change without notice.

**Orders for Japan:** Maruzen Company Ltd., 3 - 10, Nihonbashi 2-Chome, Chuo-ku, Tokyo, 103 Japan. **Orders for Taiwan:** Unimed Healthcare, Inc., 3F, No. 74, Song-te Road, Taiwan, R.O.C.

**Please check title(s) that most closely describe(s) your position:**

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

**Please check your employment category:**

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

**Please check your primary field of interest:**

- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other



**VOLUME 4, 1994/95, BIMONTHLY**  
(Six Issues beginning August, 1994)

- Individual price (U.S.) - \$89
- Individual price (R.O.W. Surface Delivery) - \$105
- Individual price (R.O.W. Airlift Delivery) - \$137
- Student price (U.S.) - \$65\*
- Student price (R.O.W. Surface Delivery) - \$85\*
- Institutional price (U.S.) - \$276
- Institutional price (R.O.W. Surface Delivery) - \$292
- Institutional price (R.O.W. Airlift Delivery) - \$324
- Please send me a sample issue.

\*Those who qualify must provide student I.D.

Personal orders must be prepaid by personal check, credit card or money order.

Check or money order enclosed (U.S. Bank Checks Only)

Charge to:  MASTERCARD  VISA  AMERICAN EXPRESS  DISCOVER

ACCOUNT NO. \_\_\_\_\_ EXP. \_\_\_\_\_

SIGNATURE \_\_\_\_\_ TEL. \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/STATE/ZIP \_\_\_\_\_

COUNTRY \_\_\_\_\_

**TEL: Continental U.S. and Canada: 1-800-843-4388** **ISSN 1054-9803**

**All other locations: 516-349-1930 FAX: 516-349-1946**

All prices subject to change without notice.

**Orders for Japan:** Maruzen Company Ltd., 3 - 10, Nihonbashi 2-Chome, Chuo-ku, Tokyo, 103 Japan. **Orders for Taiwan:** Unimed Healthcare, Inc., 3F, No. 74, Song-te Road, Taiwan, R.O.C.

**Please check title(s) that most closely describe(s) your position:**

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

**Please check your employment category:**

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

**Please check your primary field of interest:**

- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other



**VOLUME 4, 1994/95, BIMONTHLY**  
(Six Issues beginning August, 1994)

**Please pass this order form to your librarian  
so that your colleagues can see PCR METHODS  
AND APPLICATIONS in your library.**

- Institutional price (U.S.) - \$276
- Institutional price (R.O.W. Surface Delivery) - \$292
- Institutional price (R.O.W. Airlift Delivery) - \$324
- Please send me a sample issue.

PURCHASE ORDER NO. \_\_\_\_\_

NAME \_\_\_\_\_

ORGANIZATION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/STATE/ZIP \_\_\_\_\_

COUNTRY \_\_\_\_\_

**TEL: Continental U.S. and Canada: 1-800-843-4388** **ISSN 1054-9803**

**All other locations: 516-349-1930 FAX: 516-349-1946**

All prices subject to change without notice.

**Orders for Japan:** Maruzen Company Ltd., 3 - 10, Nihonbashi 2-Chome, Chuo-ku, Tokyo, 103 Japan. **Orders for Taiwan:** Unimed Healthcare, Inc., 3F, No. 74, Song-te Road, Taiwan, R.O.C.

**Please check title(s) that most closely describe(s) your position:**

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

**Please check your employment category:**

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

**Please check your primary field of interest:**

- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other

**RESEARCH  
METHODS  
REVIEWS  
COMMENT**

**BUSINESS REPLY MAIL**

FIRST CLASS MAIL PERMIT NO. 150 HICKSVILLE, NY

POSTAGE WILL BE PAID BY ADDRESSEE

COLD SPRING HARBOR LABORATORY PRESS  
10 SKYLINE DRIVE  
PLAINVIEW, NY 11803-2500

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**BUSINESS REPLY MAIL**

FIRST CLASS MAIL PERMIT NO. 150 HICKSVILLE, NY

POSTAGE WILL BE PAID BY ADDRESSEE

COLD SPRING HARBOR LABORATORY PRESS  
10 SKYLINE DRIVE  
PLAINVIEW, NY 11803-2500

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**For fastest service, call:**  
**1-800-843-4388**  
Continental U.S.  
and Canada  
**516-349-1930**  
All other locations  
**FAX: 516-349-1946**

**BUSINESS REPLY MAIL**

FIRST CLASS MAIL PERMIT NO. 150 HICKSVILLE, NY

POSTAGE WILL BE PAID BY ADDRESSEE

COLD SPRING HARBOR LABORATORY PRESS  
10 SKYLINE DRIVE  
PLAINVIEW, NY 11803-2500

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**COLD SPRING HARBOR  
LABORATORY PRESS**

# READER SERVICE CARD

NAME		
POSITION	TEL.	
ORGANIZATION		
ADDRESS		
CITY	STATE	ZIP CODE
POSTAL CODE	COUNTRY	

Please print clearly:

Are you a subscriber?

YES  NO

Is this a pass-along copy?

YES  NO

For further information

WRITE assigned key  
numbers in boxes below


Offer valid for 6 mos. from issue date.

For further information about advertisements and new products, write the number(s) corresponding to the number at the base of the item(s) of interest. Enter the issue date, your name and address, and return this card.

Issue 

--	--

 Month 

--	--

 1994  
date: 

--	--

--	--

 1994

Please check title(s) that most closely describe(s) your position:

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

Please check your employment category:

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

Please check your primary field of interest:

- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other

## PCR METHODS AND APPLICATIONS

# READER SERVICE CARD

NAME		
POSITION	TEL.	
ORGANIZATION		
ADDRESS		
CITY	STATE	ZIP CODE
POSTAL CODE	COUNTRY	

Please print clearly:

Are you a subscriber?

YES  NO

Is this a pass-along copy?

YES  NO

For further information

WRITE assigned key  
numbers in boxes below


Offer valid for 6 mos. from issue date.

For further information about advertisements and new products, write the number(s) corresponding to the number at the base of the item(s) of interest. Enter the issue date, your name and address, and return this card.

Issue 

--	--

 Month 

--	--

 1994  
date: 

--	--

--	--

 1994

Please check title(s) that most closely describe(s) your position:

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

Please check your employment category:

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

Please check your primary field of interest:

- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other

## PCR METHODS AND APPLICATIONS

# READER SERVICE CARD

NAME		
POSITION	TEL.	
ORGANIZATION		
ADDRESS		
CITY	STATE	ZIP CODE
POSTAL CODE	COUNTRY	

Please print clearly:

Are you a subscriber?

YES  NO

Is this a pass-along copy?

YES  NO

For further information

WRITE assigned key  
numbers in boxes below


Offer valid for 6 mos. from issue date.

For further information about advertisements and new products, write the number(s) corresponding to the number at the base of the item(s) of interest. Enter the issue date, your name and address, and return this card.

Issue 

--	--

 Month 

--	--

 1994  
date: 

--	--

--	--

 1994

Please check title(s) that most closely describe(s) your position:

- (1) Professor
- (2) Graduate student
- (3) Postdoctoral scientist
- (4) Lab director
- (5) Lab technician
- (6) Medical student
- (7) Undergraduate student
- (8) Librarian
- (9) Publisher

Please check your employment category:

- (1) University/college
- (2) Research institute/foundation
- (3) Hospital
- (4) Medical school
- (5) Industry
- (6) Government
- (7) Library/information center

Please check your primary field of interest:

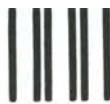
- (1) Biochemistry
- (2) Cell biology
- (3) Developmental biology
- (4) Epidemiology
- (5) Genetics
- (6) Immunology
- (7) Microbiology
- (8) Molecular biology
- (9) Neurobiology
- (10) Plant biology
- (11) Pharmacology
- (12) Virology
- (13) Oncology
- (14) Other

## PCR METHODS AND APPLICATIONS

COLD SPRING HARBOR



LABORATORY PRESS



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

## BUSINESS REPLY MAIL

FIRST CLASS PERMIT #5 COLD SPRING HARBOR, N.Y.

POSTAGE WILL BE PAID BY ADDRESSEE

Advertising Manager  
Library Building  
COLD SPRING HARBOR LABORATORY PRESS  
PO Box 100  
Cold Spring Harbor, NY 11724-2300



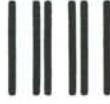
NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

## BUSINESS REPLY MAIL

FIRST CLASS PERMIT #5 COLD SPRING HARBOR, N.Y.

POSTAGE WILL BE PAID BY ADDRESSEE

Advertising Manager  
Library Building  
COLD SPRING HARBOR LABORATORY PRESS  
PO Box 100  
Cold Spring Harbor, NY 11724-2300



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

## BUSINESS REPLY MAIL

FIRST CLASS PERMIT #5 COLD SPRING HARBOR, N.Y.

POSTAGE WILL BE PAID BY ADDRESSEE

Advertising Manager  
Library Building  
COLD SPRING HARBOR LABORATORY PRESS  
PO Box 100  
Cold Spring Harbor, NY 11724-2300



**COLD SPRING HARBOR**



**LABORATORY PRESS**