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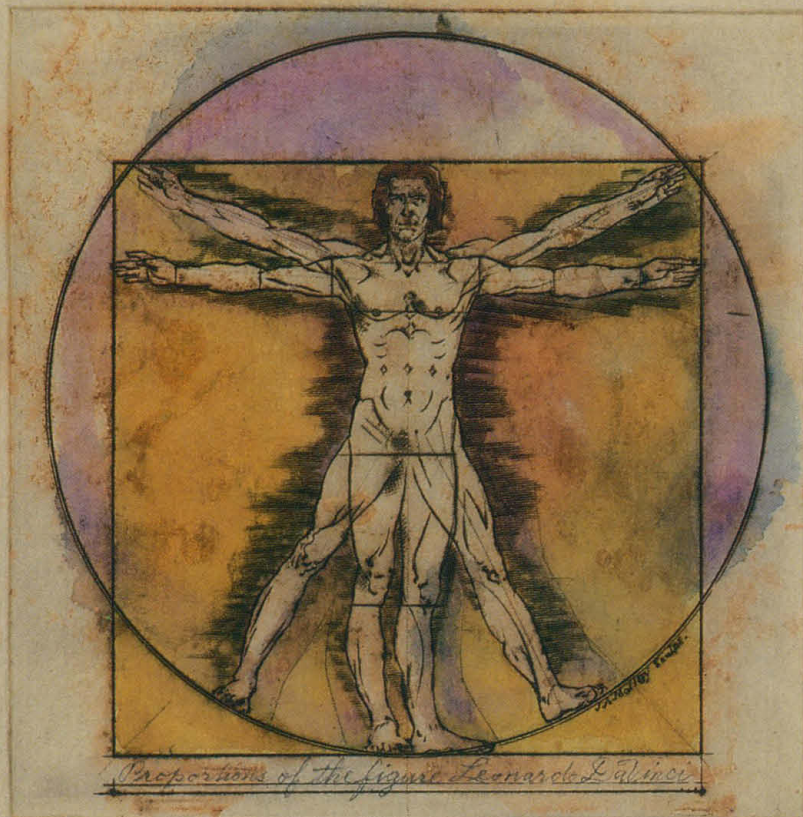
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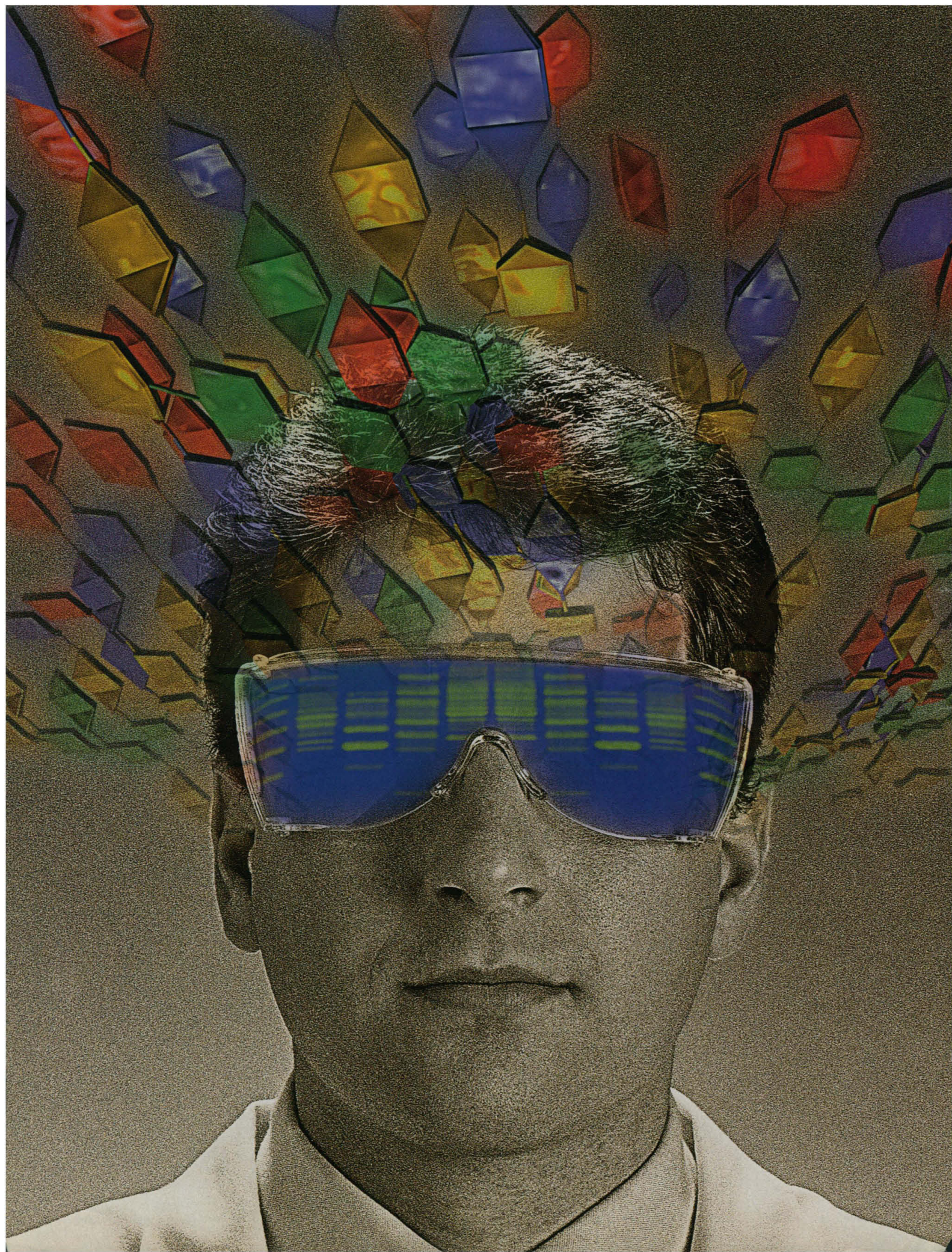
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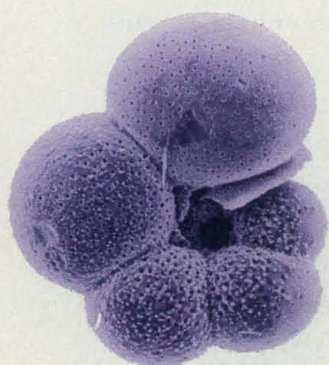
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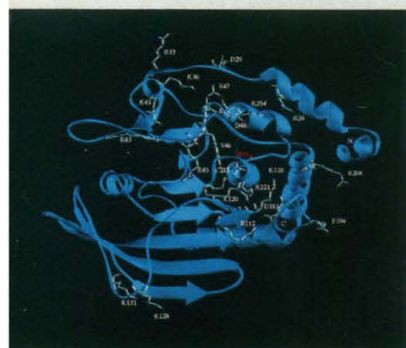


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1373 & 1397

Catalytic site cleft
of protein tyrosine
phosphatase 1B

NEWS & COMMENT

New AIDS Chief Takes Charge
Using Discretion, OAR Style **1364**

LIGO Director Out in Shakeup **1366**

Agriculture Research: A Bold New
Program at Berkeley Runs Into Trouble **1367**

Biosphere 2 Makes a New Bid for
Scientific Credibility
No Eden in Biosphere **1368**

RESEARCH NEWS

Testing an Ancient Impact's Punch **1371**
Searching for the Tracks of Impact in Mexican
Sand

Taking a First Look at a Tyrosine
Phosphatase **1373**

Slow DNA Repair Implicated in
Mutations Found in Tumors **1374**

AAAS Meeting: War of Words
Continues in Violence Research **1375**

Quantum Physics: Heisenberg's Heirs **1376**
Exploit Loopholes in His Law

POLICY FORUMS

Status and Prospects of Women in
Science in Europe **1389**
M. Osborn

Interventions to Increase the
Participation of Women in Physics **1392**
M. S. Dresselhaus, J. R. Franz, B. C. Clark

PERSPECTIVES

The Quantum Optical Repeater **1394**
Y. Yamamoto

Will Transgenic Crops Generate
New Viruses and New Diseases? **1395**
B. W. Falk and G. Bruening

RESEARCH ARTICLES

Crystal Structure of Human Protein
Tyrosine Phosphatase 1B **1397**
D. Barford, A. J. Flint, N. K. Tonks

The 2.9 Å Crystal Structure of
T. thermophilus Seryl-tRNA Synthetase
Complexed with tRNA^{Ser} **1404**
V. Biou, A. Yaremchuk, M. Tukalo, S. Cusack

DEPARTMENTS

THIS WEEK IN SCIENCE **1353**

EDITORIAL **1355**
Women in Science

LETTERS **1357**
Women in Biomedicine: Encouragement: S. R.
Long and V. Zakian • Shamans and Patent Law-
yers: P. L. Bereano

SCIENCESCOPE **1363**

RANDOM SAMPLES **1370**

Miraculous Astronomy • Neuroscientists Band to
Study Dyslexia • Hopping to Extinction • Keeping
Russian Science Afloat

BOOK REVIEWS **1455**

Wrinkles in Time and *Ripples in the Cosmos*, reviewed
by W. H. Press • *Biological Basis of Substance Abuse*,
E. M. Unterwald • Women in Science: Some
Books of the Year • Vignettes • Books Received

PRODUCTS & MATERIALS **1465**

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COVER

This year's "Women in Science" issue compares the position of female researchers in national cultures around the world—and finds many surprises. For example, women are proportionally better represented in science in Turkey than they are in the United States. The

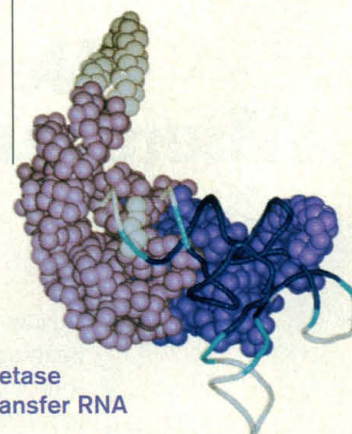
reasons for such startling disparities are discussed in a special news section beginning on page 1467. Policy Forums on women in science appear on pages 1389 and 1392 and a bibliographic update on page 1458. [Photo: NASA; Photoillustration: Tracey Keaton Drew]



WOMEN IN SCIENCE '94 COMPARISONS ACROSS CULTURES

1467

Overview: Surprises Across the Cultural Divide • Germany: The Backbreaking Work of Scientist-Homemakers • Fighting for Day Care at the Lab • Post-Unification Blues • Italy: Warm Climate for Women on the Mediterranean • Sweden: Leveling the Playing Field in Stockholm • Turkey: A Prominent Role on a Stage Set by History • The Philippines: Fighting the Patriarchy in Growing Numbers • India: Is Overcoming 'Diffidence' the Route to Success?



1404 & 1432

Seryl-transfer RNA synthetase
complexed with serine transfer RNA

REPORTS

- Chain Pullout and Mobility Effects in Friction and Lubrication** 1411
H. R. Brown
- Differential Adhesion of Cells to Enantiomorphous Crystal Surfaces** 1413
D. Hanein, B. Geiger, L. Addadi
- Direct Observation of Microscopic Inhomogeneities with Energy-Dispersive Diffraction of Synchrotron-Produced X-rays** 1416
E. F. Skelton, A. R. Drews, M. S. Osofsky, S. B. Qadri, J. Z. Hu, T. A. Vanderah, J. L. Peng, R. L. Greene
- Cytosolic pH Gradients Associated with Tip Growth** 1419
B. C. Gibbon and D. L. Kropf
- Cell Fate Determination by the Cell Wall in Early *Fucus* Development** 1421
F. Berger, A. Taylor, C. Brownlee
- Recombination Between Viral RNA and Transgenic Plant Transcripts** 1423
A. E. Greene and R. F. Allison
- High-Resolution Molecular Discrimination by RNA** 1425
R. D. Jenison, S. C. Gill, A. Pardi, B. Polisky
- Channel-Like Function of the Na,K Pump Probed at Microsecond Resolution in Giant Membrane Patches** 1429
D. W. Hilgemann
- Crystal Structures at 2.5 Angstrom Resolution of Seryl-tRNA Synthetase Complexed with Two Analogs of Seryl Adenylate** 1432
H. Belrhali, A. Yaremchuk, M. Tukalo, K. Larsen, C. Berthet-Colominas, R. Leberman, B. Beijer, B. Sproat, J. Als-Nielsen, G. Grubel, J.-F. Legrand, M. Lehmann, S. Cusack
- Slow Repair of Pyrimidine Dimers at p53 Mutation Hotspots in Skin Cancer** 1436
S. Tornaletti and G. P. Pfeifer
- DNA Repair Rates Mapped Along the Human PGK1 Gene at Nucleotide Resolution** 1438
S. Gao, R. Drouin, G. P. Holmquist
- Coding of Hemolysins Within the Ribosomal RNA Repeat on a Plasmid in *Entamoeba histolytica*** 1440
Å. Jansson, F. Gillin, U. Kagardt, P. Hagblom
- Regulation of Melanin Biosynthesis in the Human Epidermis by Tetrahydrobiopterin** 1444
K. U. Schallreuter, J. M. Wood, M. R. Pittelkow, M. Gütlich, K. R. Lemke, W. Rödl, N. N. Swanson, K. Hitzemann, I. Ziegler
- Dependence on p75 for Innervation of Some Sympathetic Targets** 1447
K.-F. Lee, K. Bachman, S. Landis, R. Jaenisch
- Autonomy and Nonautonomy in Cell Fate Specification of Muscle in the *Caenorhabditis elegans* Embryo: A Reciprocal Induction** 1449
R. Schnabel
- Functional Participation of the IL-2 Receptor γ Chain in IL-7 Receptor Complexes** 1453
M. Kondo, T. Takeshita, M. Higuchi, M. Nakamura, T. Sudo, S.-I. Nishikawa, K. Sugamura

WOMEN IN SCIENCE '94

Comparisons Across Cultures 1467

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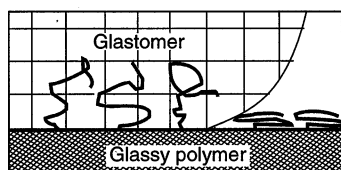
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Sliding by

Polymers are often used as lubricants, and polymer surfaces can be subject to wear and friction. The movement of the chains that make up polymers can produce unusual tribological effects. Brown (p. 1411) investigated the interfacial properties and dynamics between two polymer layers, a mobile



elastomer layer and an immobile or glassy polymer surface that was coated with a thin layer of end-attached molecules. These end-attached molecules are chains of the mobile layer material and act as a molecularly thin layer of lubricant. Considerably lower shear stress was observed when both sides of the interface had high segment mobility, but very thin layers of tethered chains could actually increase friction by penetrating into the elastomer.

On the face of it

How the arrangement of molecules on a surface influences cell adhesion can be explored by using single crystals as substrates. Hanein *et al.* (p. 1413) show that differential adhesion can occur even on crystal faces that are enantiomeric, that is, they are mirror-image isomers. Cultured kidney epithelial cells from *Xenopus* were allowed to adhere to (R,R) and (S,S) crystals of calcium tartrate. Short-term adhesion (10 minutes) occurred preferentially on the {001} faces of the (R,R) crystals. However, long-term adhesion (24 hours) occurred similarly for both the (R,R) and (S,S) crys-

tals on the {101} faces. The short-term response does not seem to depend on exogenous proteins and likely reflects direct interactions with the substrate.

Viewing variations

Structural inhomogeneities strongly influence the properties of high-temperature superconductors, but standard probes such as x-ray diffraction are for the most part sensitive to the surface region rather than the bulk. Skelton *et al.* (p. 1416) developed a diffraction probe that uses a tightly collimated beam of high-energy x-rays from a synchrotron source, which offers both high spatial resolution and penetration below the surface. Inhomogeneity occurs in superconductor samples over a scale of 10 micrometers. Such inhomogeneities may be responsible for some of the unusual experimental properties of these materials.

Cell walls, pH, and plant development

A developmental asymmetry appears early on for the algae *Fucus* and *Pelvetia*. The first cell division of these zygotes generates a rhizoid cell, which eventually produces the holdfast, and a thallus cell, which produces the fronds. Berger *et al.* (p. 1421)

show, by ablating specific cells of the embryo, that a portion of cell wall originally in contact with one cell type can, if brought into contact with the other cell type, cause a switch in fate. A certain type of differentiation is exemplified by the normal development of the rhizoid cell, which begins with elongation of the tip of the cell. Gibbon and Kropf (p. 1419) found that the cytoplasm at the tip is more acidic than that at the base of the cell and the magnitude of the difference correlates with the rate of tip growth.

Cost at the pump

For animal cells, the potassium concentration inside the cell is higher than it is outside, while the reverse is true for sodium. These electrochemical gradients are maintained at considerable metabolic cost by a membrane-embedded enzyme that pumps three sodium ions out of the cell and two potassium ions inward. Hilgemann (p. 1429) provides direct measurements of the rate and voltage-dependence of the dissociation of the three sodium ions at the external side of the pump. The first sodium ion to be released surmounts most of the voltage gradient across the membrane, but the dissociation of the second and third sodium ions is affected only weakly by

the electric field. The three sodium ions do not depart simultaneously, and the two laggard sites are occupied subsequently by potassium.

Waiting for repairs

Mutation rates at a given nucleotide along a gene are determined both by the frequencies of initial DNA damage and of DNA repair. Tornaletti and Pfeifer (p. 1436) and Gao *et al.* (p. 1438; see the news story by Service, p. 1374) have studied, at nucleotide resolution, the excision repair of ultraviolet light-induced cyclobutane pyrimidine dimers in the human *p53* and *PGK1* genes. The repair rates in both genes were highly variable and DNA sequence-dependent. In *p53*, the positions showing slow repair included seven of eight nucleotides that are mutation hotspots in skin cancer. The *PGK1* promoter contained two slowly repaired regions that coincided with transcription factor binding sites.

Neighborhood help

Determining the fate of early embryonic cells may be more complex than previously thought. When the EMS blastomere is removed from the *Caenorhabditis elegans* embryo, it produces body wall muscle, the fate it would follow if it was left in the embryo. Such experiments led to the belief that EMS is autonomously specified. Experiments by Schnabel (p. 1449) indicate that the determination of the fate of the EMS lineage within the embryo itself requires an inductive signal from neighboring cells to overcome an inhibitory signal from other neighboring cells. This inductive interaction requires the *glp-1* gene.

Taking off and putting on

Phosphatases, which have the opposite action of kinases, dephosphorylate proteins and play an important role in signal transduction processes. Barford *et al.* (p. 1397; see the news story by Marx, p. 1373) present the x-ray structure of human tyrosine phosphatase 1B. Amino-tRNA synthetases perform a daunting nucleic acid-protein recognition task—binding the one correct tRNA molecule for subsequent aminoacylation. Biou *et al.* (p. 1404) and Belrhali *et al.* (p. 1432) discuss the interactions involved in this process revealed by x-ray structures for seryl-tRNA synthetase complexed with seryl tRNA and with seryl adenylate analogs.

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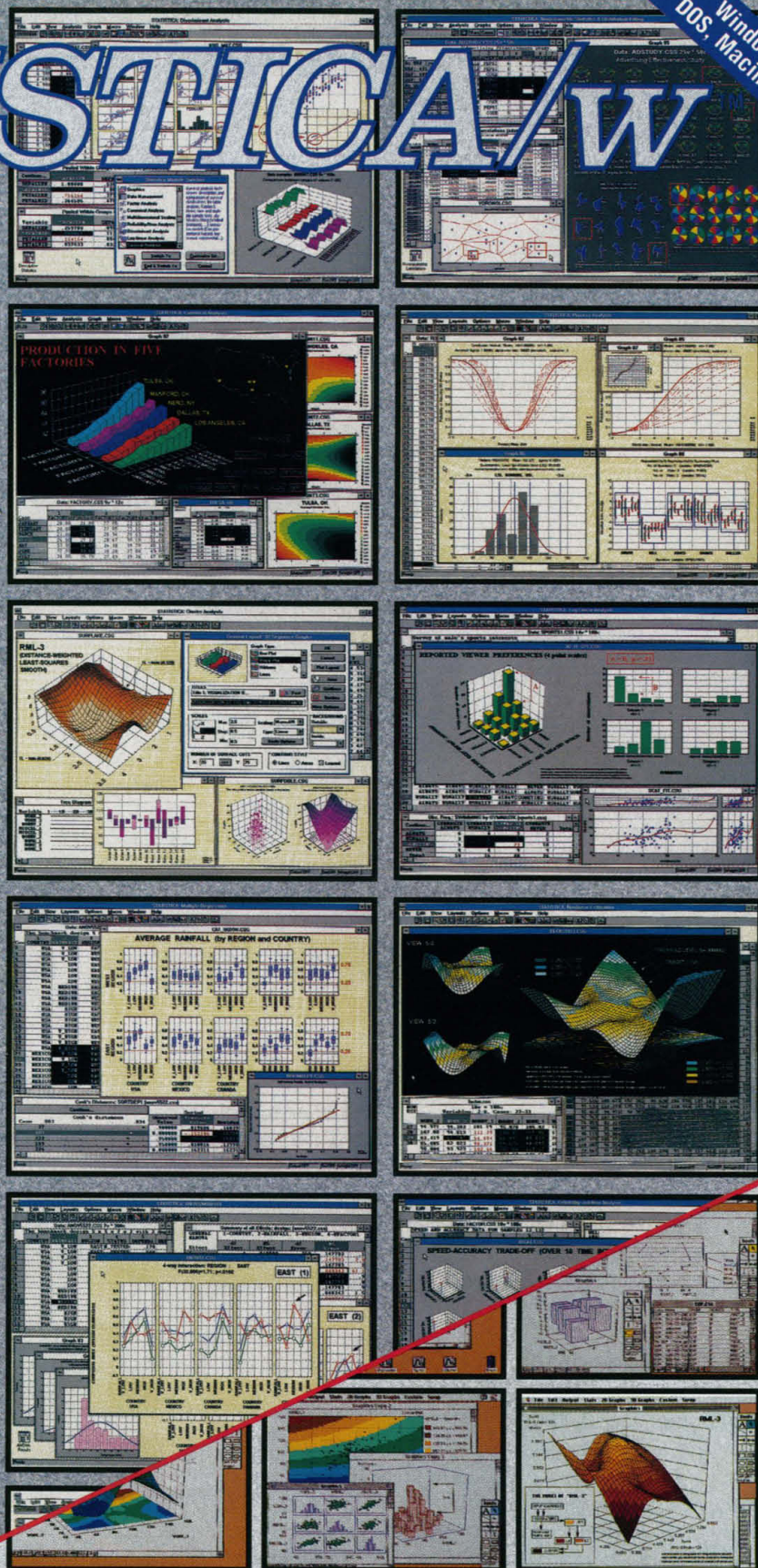


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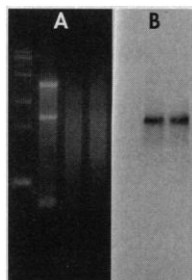
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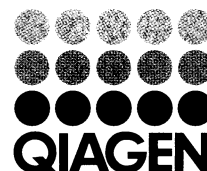
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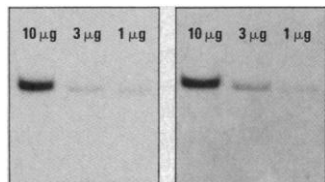
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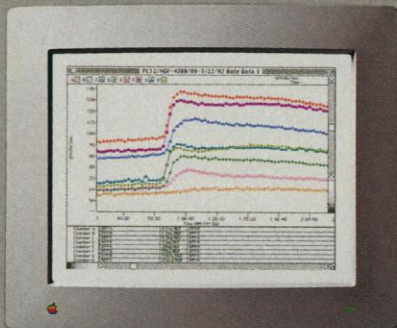
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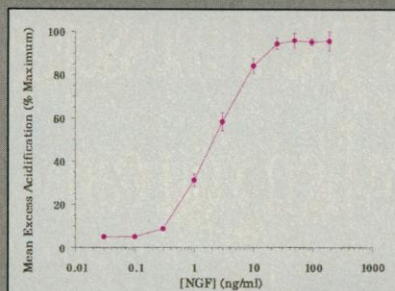
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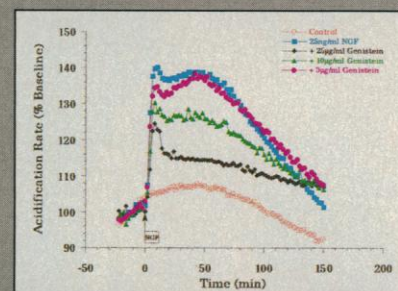
NGF



1 Real-time acidification rate data showing the response of PC12 cells to a 12 min. exposure to nerve growth factor (NGF:0.1-200ng/ml).

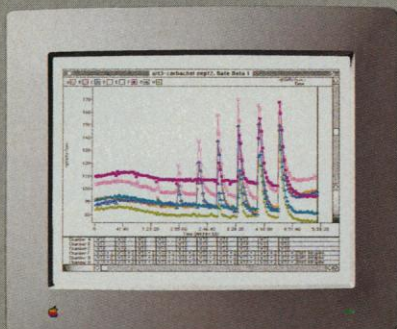


2 Dose response of PC12 cells to NGF. Each point represents data from 7 separate experiments. Calculated EC_{50} value for NGF was 1.9 ± 0.7 ng/ml ($\sim 152 \pm 50$ pM) ($\bar{x} \pm S.E.M.$).

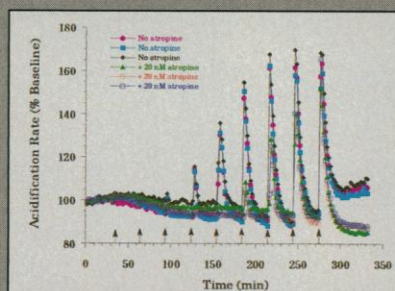


3 Dose dependent inhibition of NGF (25 ng/ml) response by tyrosine kinase inhibitor, genistein (3-25 μ g/ml).

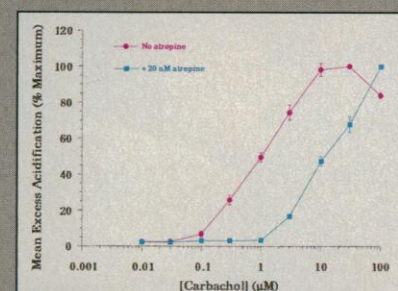
CARBACHOL



1 Real-time acidification rate data demonstrating stimulation of CHO cells transfected with muscarinic M_1 receptor. Increasing doses of carbachol (10nM-100 μ M) given in presence and absence of 20nM atropine.



2 Data from previous figure expressed as percentages of the basal acidification rates before initial addition of carbachol.



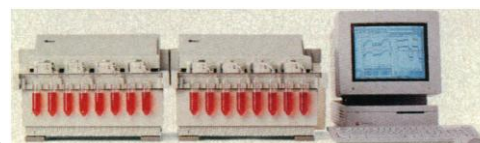
3 The EC_{50} values were calculated as 1.00 ± 0.08 μ M for carbachol alone and 11.50 ± 0.09 μ M for carbachol in the presence of 20nM atropine ($\bar{x} \pm S.E.M.$; $n=3$).

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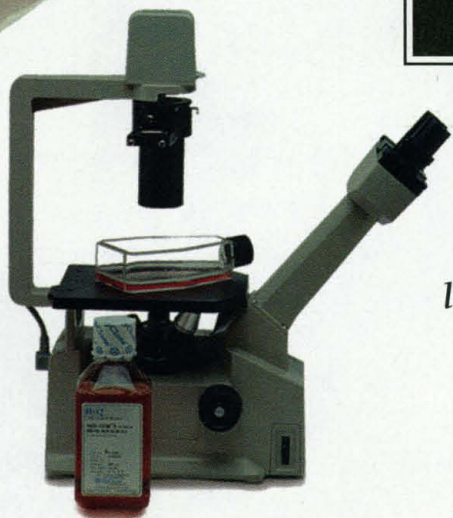


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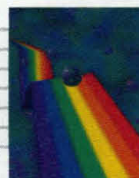
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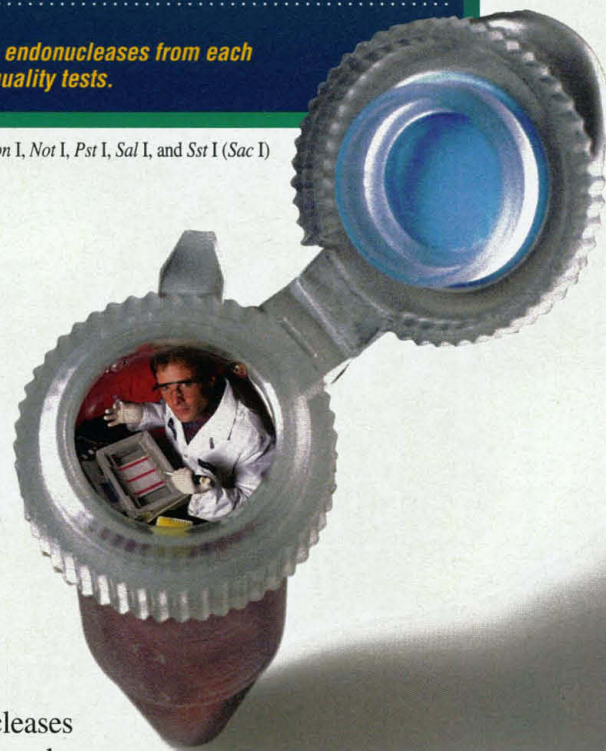
Assay Performed	GIBCO BRL	Company A	Company B	Company C
DNA Endonuclease Assay	All Pass	 	All Pass	
DNA Exonuclease Assay	All Pass	All Pass	 	
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Nicking Assay	All Pass		 	 
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[†]Enzymes tested in the manufacturers' recommended buffers: *Bam*H I, *Bgl* I, *Cla* I, *Eco*R I, *Hind* III, *Kpn* I, *Not* I, *Pst* I, *Sal* I, and *Sst* I (*Sac* I)

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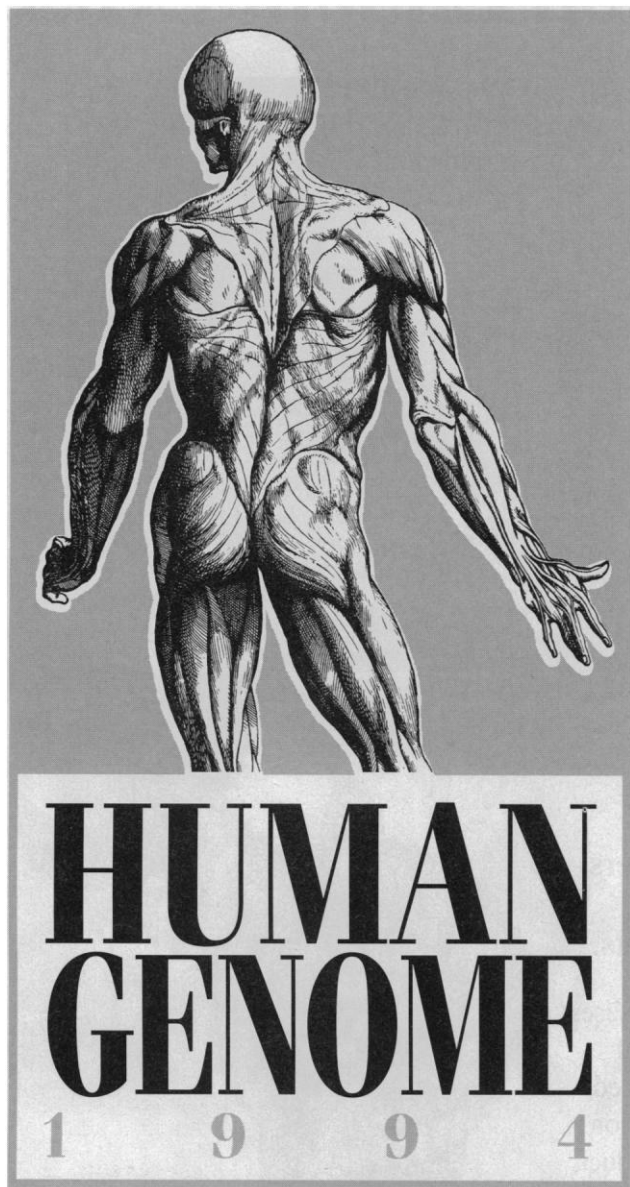
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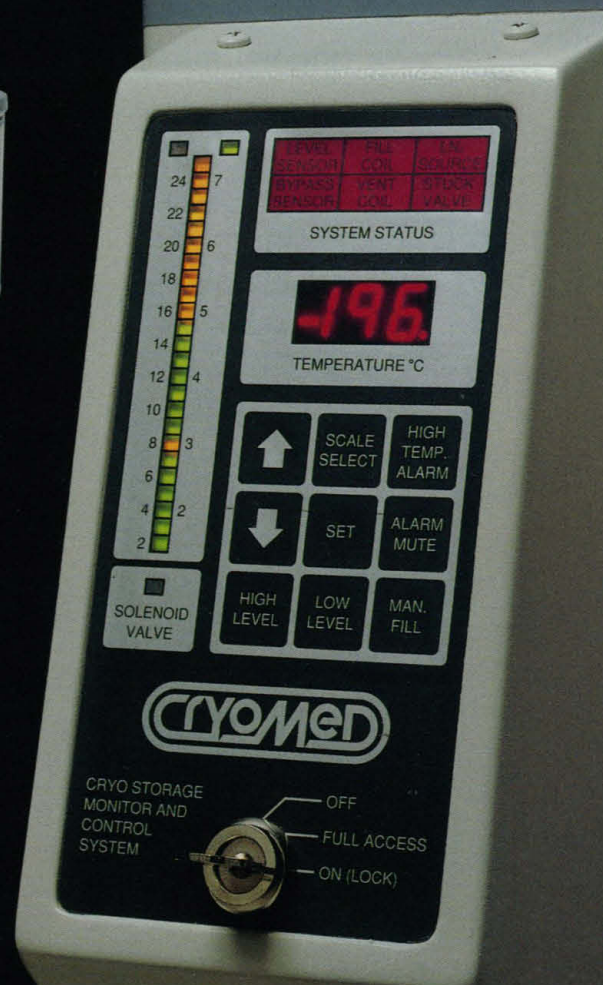


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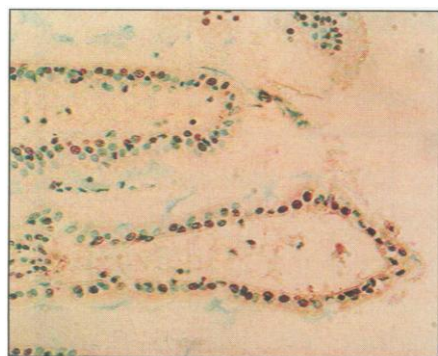
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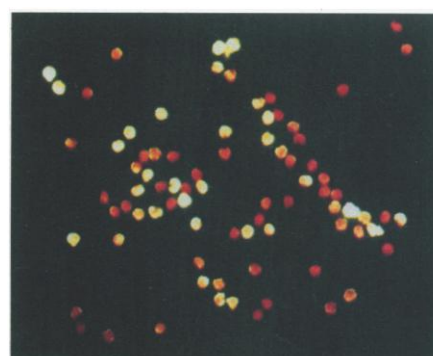
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¹JFR Kerr, AH Wyllie & AR Currie, (1972) *British Journal of Cancer*; 26:239-257. CS Potten, (1977) *Nature*; 269:518-521.

²JFR Kerr, J Searle, BV Harmon & CJ Bishop, In: CS Potten (ed), (1987) *Perspectives in mammalian cell death*.

Oxford U. Press, pp. 93-128. Z Zakeri, D Quaglino, T Latham & R Lockshin, (1993) *FASEB Journal*; 7:470-478; and manuscripts submitted.

³A L. W. James, F Traganos & Z Darzynkiewicz, (1993) manuscript submitted.



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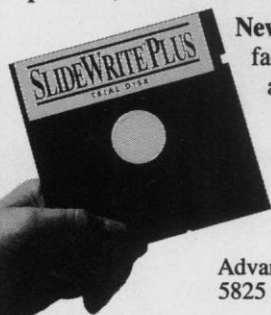


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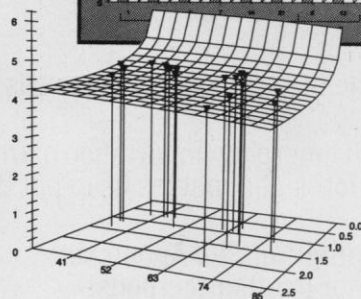
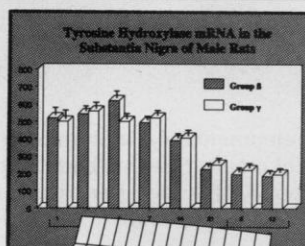


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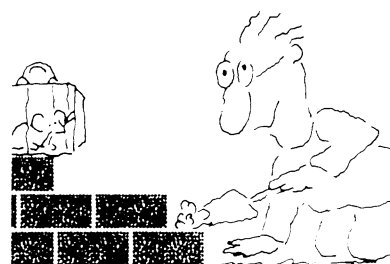
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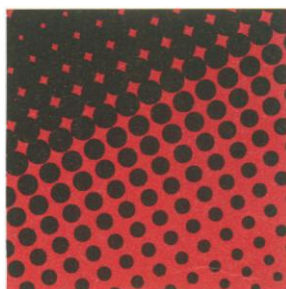
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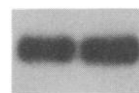
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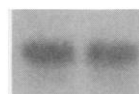
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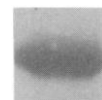
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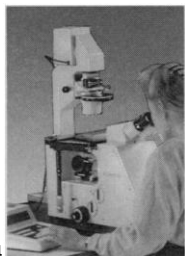
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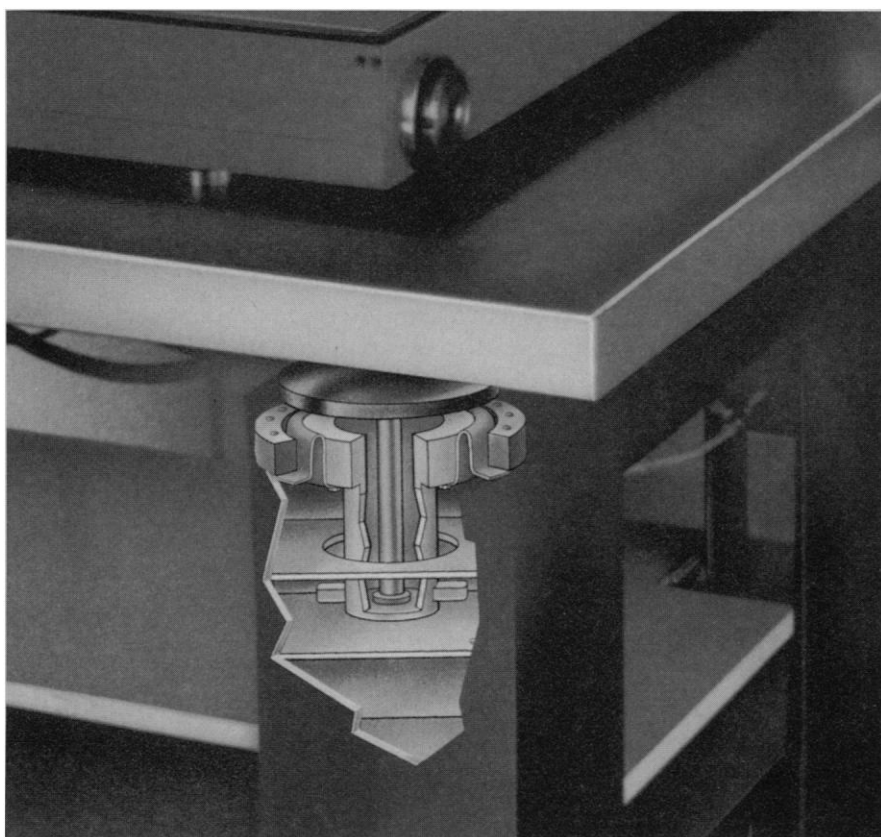
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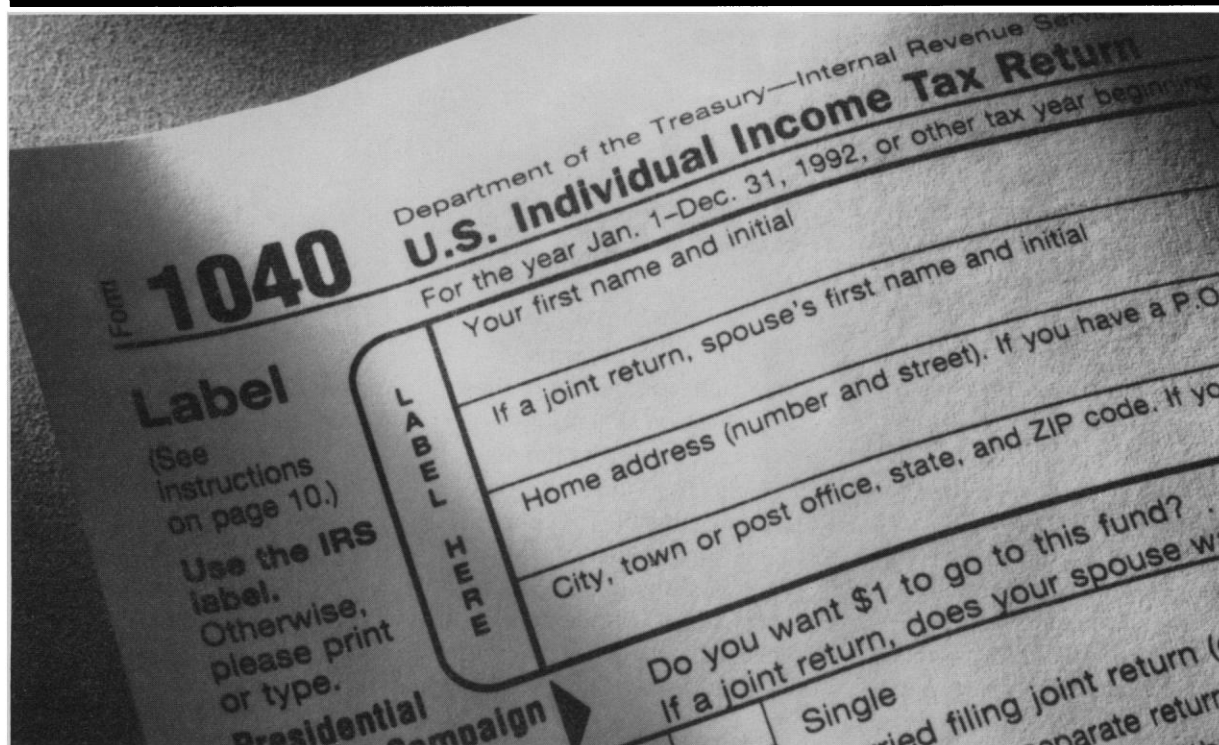
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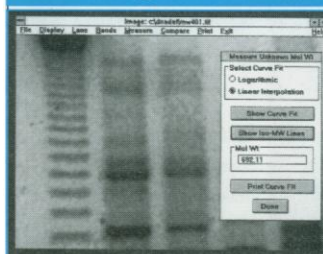
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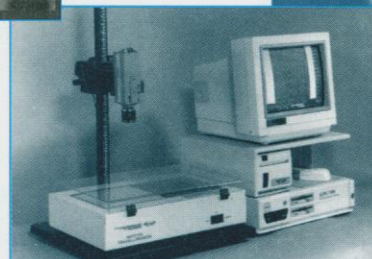
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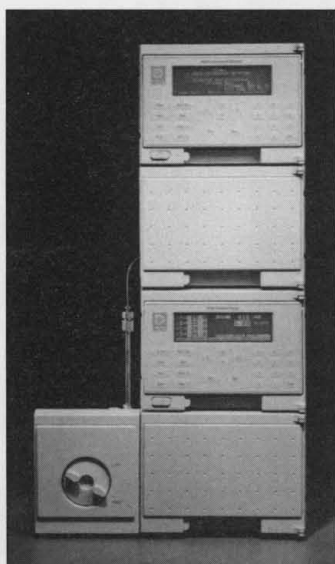
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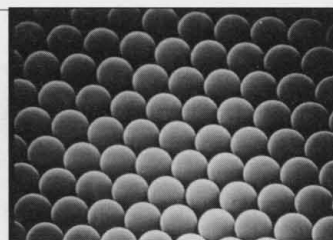
six adjuncts for simplifying determination of the best buffer/adjunct combination for a specific PCR template and primer set. The kit's two-step protocol is used to first determine the optimum buffers, based on pH and magnesium chloride and potassium chloride solutions, then to combine these selected buffers with specific adjuncts to increase yield or decrease nonspecific amplification products. **Stratagene. Circle 142.**

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Molecular Biology Software

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Literature

Model 270A-HT High Throughput Capillary Electrophoresis System is an eight-page brochure on an automated system that can be used to complement high-performance liquid chromatography or for implementing a quantitative method that facilitates and automates slab gel electrophoresis protocols. **Perkin-Elmer. Circle 148.**

Novocastra Laboratories Product Catalog 1994 features a broad range of monoclonal and polyclonal antibodies for use in immunohistochemistry and flow cytometry as well as nucleic acid probes for in situ hybridization. **Vector Laboratories. Circle 149.**

Cel-Line: Unique Hydrophobic Coatings is a catalog on a line of microscope slides with coatings that prevent cross-contamination and increase microliter capacity. **Cel-Line Associates. Circle 150.**

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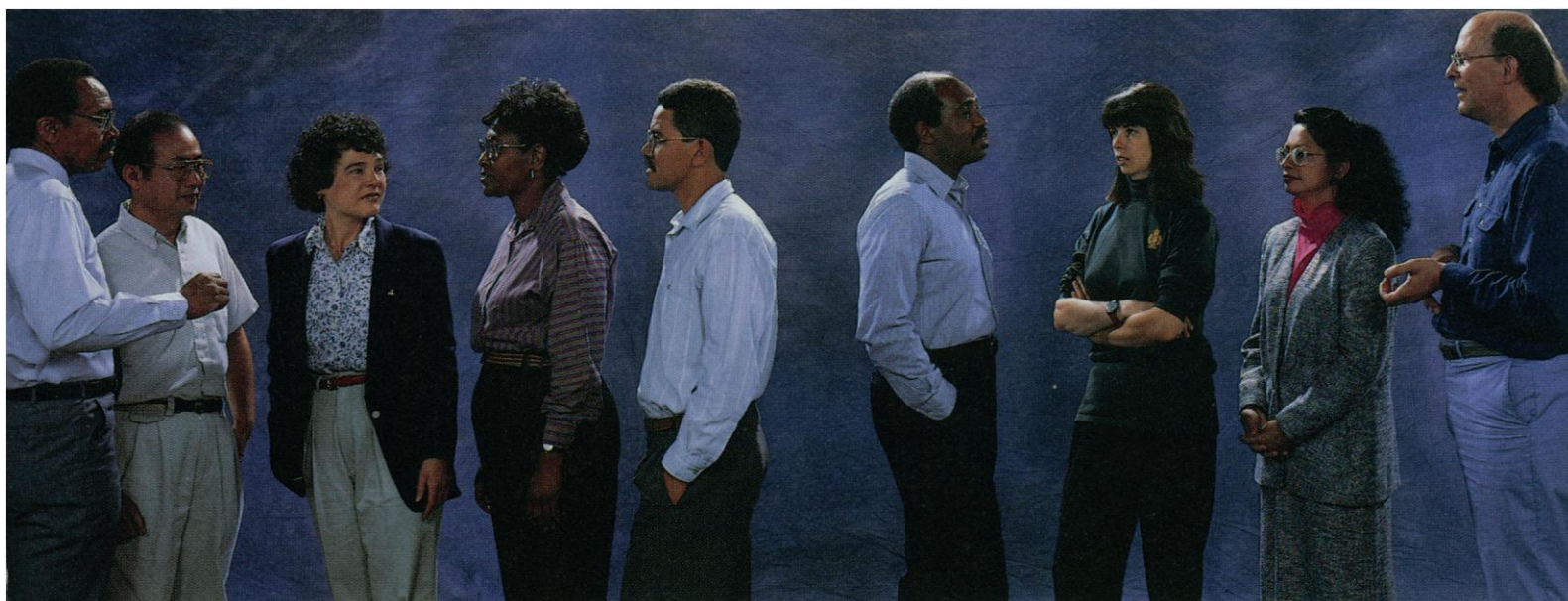
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Tenure-Track And Postdoctoral Opportunities.

Listed below are a few of the outstanding opportunities for conducting research that are now available at the National Institutes of Health.

Tenure-Track Positions Assistant Professor Equivalent

Molecular and Cell Biology of Hypertension Harry R. Keiser, MD

Tenure-track position is available for candidate to develop an independent research program in the area of hypertension. Research support will include up to two postdoctoral fellows and technicians for up to six years. MD degree, board eligibility in internal medicine, and a minimum of three to four years postdoctoral training and experience in molecular biology and biochemistry are required. Hypertension-Endocrine Branch (OE-43), NHLBI, Building 10, Room 8C103.

Molecular and Cellular Biology Brian Safer, MD, PhD

Two tenure-track positions are available to develop independent research programs that complement ongoing research on the integration and expression of transgenes in mammalian cells. One position would involve the development of novel viral or non-viral gene transfer systems for the targeted delivery or modification of genes while the second would examine the mechanisms by which transcription factor activities are regulated in both normal and genetically altered cells. Research support will include up to four postdoctoral fellows and technicians for up to six years. A minimum of three to four years postdoctoral experience is required. Molecular Hematology Branch (OE-43), NHLBI, Building 10, Room 7D18.

Postdoctoral Positions

Genetic Polymorphisms of Cytochrome P450 Joyce Goldstein, PhD

Genetic polymorphisms in human cytochrome P450 enzymes are being identified and their relevance to human metabolism and health examined. Current studies utilize molecular biology techniques such as site-directed mutagenesis, construction and screening of gene libraries, sequencing, and PCR analysis. Applicants should have less than five years postdoctoral training. Molecular biology experience desirable. Laboratory of Biochemical Risk Analysis (OE-43), NIEHS, P.O. Box 12233, Mail Drop B3-04, Research Triangle Park, NC 27709.

Molecular and Cell Biology Constance Tom Noguchi, PhD

The regulation of the developmental and tissue-specific expression of erythroid genes, including cell surface receptors, and the identification of elements important for differential expression and processing of gene products, are being studied. Experience in molecular biology and less than five years of postdoctoral experience are required. Laboratory of Chemical Biology (OE-43), NIDDK, Building 10, Room 9N37.

Neuroscience and Molecular Biology Maryann Ruda, PhD

The molecular and cellular responses to neuronal injury and persistent noxious stimuli are being investigated in the spinal cord and dorsal root ganglia. Using animal models, gene expression and transcriptional regulation are being investigated and novel genes identified using PCR and differential display hybridization. Applicants should be recent graduates with an interest in injury or pain pathways. Previous training in molecular biology is not essential. Neurobiology and Anesthesiology Branch (OE-43), NIDR, Building 49, Room 1A11.

Transcriptional Control Mechanisms Keiko Ozato, PhD

The regulation of embryonic development by nuclear hormone receptors (including RXR) and the regulation of immune responses by interferon regulatory factors are being studied to better understand the mechanisms used to control transcription. *In vivo* footprinting and *in vitro* transcription are currently the main means of analysis. Applicants must be US citizens or permanent residents with less than five years postdoctoral experience. Laboratory of Molecular Growth Regulation (OE-43), NICHD, Building 6, Room 2A01.

Additional Postdoctoral Fellowship Opportunities

For an on-line listing of additional postdoctoral openings you may access the NIH EDNET Bulletin Board's POSTDOC conference by Internet (tn3270.cu.nih.gov) or via modem (1,3014022221 or 1,8003582221). The settings for modem access are "7,Even,1". When connected to NIH, type in "vt100" at the connect message, "F5E" at initial, and "AJL1" at account.

The Postdoctoral Research Fellowship Opportunities catalog, which describes additional opportunities at the NIH, may be requested from the address below. An electronic version of the catalog may be accessed via the network-based (Internet) Gopher Information System. To access the NIH Gopher server, Gopher client software (available via anonymous ftp "boombox.micro.umn.edu") must be running on your computer and configured to point to "gopher.nih.gov" and port "70". Select *Grants and Research Information* to reveal the NIH Office of Education directory. Those interested in receiving information on other postdoctoral opportunities, clinical training opportunities, or accessing Gopher may contact the Office of Education, Building 10, Room 1C129. Phone: 301-496-2427.

To Apply

If you hold a graduate doctoral degree (e.g., PhD, MD/PhD) or a professional degree (e.g., MD, DO, DDS, or DVM) accompanied by previous laboratory research experience, and would like to be considered for one of these positions, please send a cover letter, *curriculum vitae*, bibliography, and statement of research interests to the address listed with each position. In addition, please arrange to have letters of recommendation sent from three scientists who can provide an evaluation of your qualifications.



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DR. JEAN BEEBE, RESEARCH SCIENTIST
My lab studies differentiation of tumor cells and seeks to develop novel anti-cancer agents. I was particularly attracted by Pfizer's target-based approach to drug discovery. I find that

Pfizer supports women not only in philosophy but in practice.

DR. DEBRA WILLIAMS, SR. ASSOCIATE DIRECTOR/ GROUP LEADER

I have a background in teaching, research and clinical medicine; and fortunately, I have had

many choices. As part of clinical research at Pfizer, I am responsible for drug trials for opportunistic infections in AIDS and for clinical studies on a major new antibiotic drug. My work enables me to continue a limited clinical practice as well, and I'm convinced that I made the right decision for me and for my family.



DR. ANABELLA VILLALOBOS, SR. RESEARCH SCIENTIST

I always planned to go into drug discovery, and Pfizer was on the top of my list. In my area, Alzheimer's disease, there is an immediate need for innovative new drugs, and I want to be a part of that drug discovery process. My fascination with science began in high school when a single teacher who truly loved chemistry inspired me.

DR. YUHPYNG CHEN, PRINCIPAL RESEARCH INVESTIGATOR

As a medicinal chemist, I am currently involved in the synthesis of compounds to treat Alzheimer's, anxiety and depression. Developing research proposals that ultimately become projects is exciting—and working with great biologists is doubly rewarding. When I came to Pfizer ten years ago, there were few women chemists. Today, the number is steadily increasing, and that's the way it should be.

DR. LINDA CHATMAN, SR. PATHOLOGIST

I always wanted to be a veterinarian, and as I became more specialized, I chose toxicological pathology. Here at Pfizer, I look for adverse effects of compounds and study the mechanism of drug action. I find that the quality of your work is what



DR. MELISSA TASSINARI, MANAGER

My teratology work is an essential part of new drug discovery. Our primary concern is to



ensure that drug candidates have no adverse effects on the reproductive system. At Pfizer, I've had many terrific opportunities; and setting up a lab to conduct a full range of reproductive studies, including neurobehavioral

research, is definitely one of them. I find the team approach here to be consistent with my way of operating. That's what I like about my group—we all work toward a common goal.

As a research-based, global health care company, Pfizer's mission is to create innovative products that improve the quality of life around the world. If you are interested in joining our dynamic scientific team, please send your resume to: Manager, Employee Resources, Pfizer Inc, Central Research Division, Groton, CT 06340. We are an equal opportunity employer.

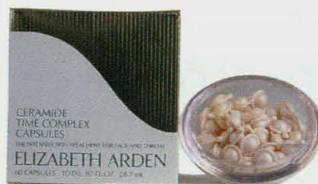


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Alice Hsuan
PhD Statistics - Cornell University
Vice President, Biostatistics and Data Operations
JANSSEN RESEARCH FOUNDATION

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Jade Chin
PhD Basic Health Sciences
SUNY Stony Brook
Group Leader, Hybridoma Technology
ORTHO DIAGNOSTIC SYSTEMS INC.

A group of distinguished women scientists discuss ...working at Johnson & Johnson

"On Advancement"

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Ceile Hedberg
DVM - Tuskegee Institute
PhD Anatomy and Physiology
University of Pennsylvania
Director of Laboratory Animal Medicine
THE R.W. JOHNSON
PHARMACEUTICAL RESEARCH
INSTITUTE

"On Having It All"

"J&J recognizes the need for flexibility in the 1990's. The company recognizes the importance of ensuring that women can contribute as fully as they can. The company makes room for the idea of 'I can have it all' and enables me to truly balance my work and my family."

Barbara Schwartz
PhD Chemical Engineering
Princeton University
Vice President, Research & Development
ETHICON

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At Amgen, scientific excellence in a progressive, collaborative research environment is a valued part of our corporate culture. As a global leader in biotechnology, our substantial investment in Research and Development provides outstanding resources for innovative, self-motivated scientists. Amgen's commitment to significantly expand efforts in developing novel, breakthrough therapeutics has created numerous career opportunities.

MOLECULAR BIOLOGY (INFLAMMATION RESEARCH GROUP): Experience in PCR, cDNA cloning, hybridization, library construction and BS/PhD is required. Knowledge of expression in mammalian cells or E.coli and subsequent gene product characterization is desired.

(Job code OA-SC-MZ-001)

CELL BIOLOGY (INFLAMMATION RESEARCH GROUP): Requires experience in cell culturing, hybridoma generation, characterization of monoclonal antibodies or adhesion and lymphocyte proliferation assays; and BS/PhD.

(Job code OA-SC-MZ-002)

BIOCHEMISTRY (INFLAMMATION RESEARCH GROUP): Requires BS/PhD, and experience in purification, characterization and identification in one or more of the following areas: protein chemistry, carbohydrate chemistry or lipid chemistry.

(Job code OA-SC-MZ-003)

CARBOHYDRATE CHEMISTRY LABORATORY (INFLAMMATION RESEARCH GROUP): Requires synthetic organic chemist experienced in carbohydrate synthesis or relevant analytical experience. Experience in molecular modeling, knowledge of interaction between biomolecules and BS/PhD required.

(Job code OA-SC-AV-005)

MOLECULAR BIOLOGY OF NEUROPEPTIDE RECEPTORS: Experience using molecular biology techniques to clone and study the biological role of new neuropeptide receptors. PhD and postdoc experience required.

(Job code OA-SC-FC-001)

COMPUTATIONAL BIOLOGY: PhD in Molecular Biology, general knowledge of diverse gene families, familiarity with relational databases and programming experience required. Focus on sequence analysis, with some design and assistance in implementation of computational tools.

(Job code OA-SC-SC-001)

SCIENTIFIC PROGRAMMER: To work on detection of structural motifs in protein sequences, applying existing software, and developing new applications. Requires BS/MS in Biological Science and at least 3 years' programming experience in C or Fortran.

(Job code OA-SC-RL-001)

PROCESS DEVELOPMENT SCIENTIST: Requires MS/PhD (or equivalent) in life-science or a related scientific discipline; or a ChemE with 5+ years' relevant experience.

(Job code OA-SC-LD-003)

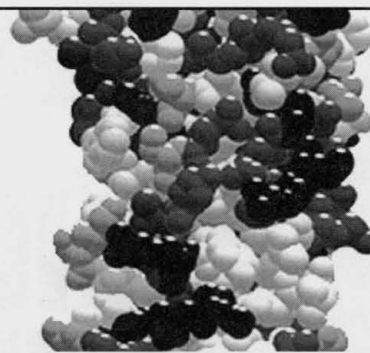
PROCESS DEVELOPMENT ENGINEER: Fermentation, cell culture, recovery and purification in process development. BS/MS in ChemE and 2 years' related experience required.

(Job code OA-SC-LD-004)

VALIDATION ASSOCIATE (VALIDATION DEPARTMENT): Implement/evaluate validation cycle for manufacturing control and information systems. AS in a related area and/or 2 years, pharmaceutical/process industry validation, and PLC experience required.

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Our commitment to science begins with finding and challenging top scientific talent, and continues with an R&D expenditure of more than 50% of our annual revenue. The results of these efforts speak for themselves. Our scientists publish over 220 papers per year on average, and have a peer citation record that compares favorably with the top scientific institutions in the world. And, we have one of the richest product pipelines in the industry which has led to the following key openings.

MRI/Bio-Imaging Scientist

An opening exists for a scientist to establish an imaging technology facility within the Research Division of Genentech Inc. This person will recommend, acquire and apply magnetic resonance and other imaging technology to support and collaborate with scientists in several areas of research including neuroscience, endocrinology, cardiovascular and cancer biology. In addition, original research to develop and publish new imaging techniques is expected.

Requirements include a PhD and/or MD and 3+ years of postdoctoral experience with MRI and other imaging technolo-

gies, preferably in an area of preclinical research. An excellent scientific background is required as evidenced by strong scientific training and an outstanding publication record. Job Code: WR-RT.

Scientist/ Senior Scientist Pharmacokinetics

Design, monitor and analyze data from pharmacokinetic studies and provide appropriate input to Regulatory Affairs, Clinical Research and Product Development departments. You'll be expected to communicate your findings in scientific meetings, seminars and publications.

A Ph.D. or MD with strong clinical pharmacokinetics experience is required. A minimum of 2 years' industry postdoctoral experience is ideal. Job Code: TH-SB.

Genentech offers an excellent salary and benefits package which includes child care facilities, free health club membership and fully paid medical/dental/vision coverage, as well as a sabbatical program. If you are interested in joining an organization where individuals are valued and rewarded for their contributions, forward your resume indicating Job Code, to: Genentech, Human Resources, 460 Point San Bruno Blvd., South San Francisco, CA 94080. We promote and actively support affirmative action and equal opportunity employment. Women and minorities are encouraged to apply.

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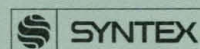
✦ For eight years running, Syntex Corporation has made *Working Mother's* list of the 100 Best Companies for Working Mothers. No company has been on the list longer. We're proud of that record—proud of what we've done for working mothers, and for all women working in the sciences.

As we take it upon ourselves to reengineer Syntex for the 1990's, accelerating our pipeline and filling it up with a variety of pioneering new products, we'll continue to remember that true progress goes beyond technology. Finally, it comes down to building a future, and the future comes down to children like Aimee.

We're currently seeking the following professionals to help us improve the state of medical science for the benefit of Aimee, and all the Aimees to come:

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^o*Working Mother*, October 1993

W Y E T H - A Y E R S T R E S E A R C H

Women's Health Research Institute

Wyeth-Ayerst is a global leader in women's health-care products and research, helping to improve the lives of women every day. We are now the number one provider worldwide of hormone replacement therapy and hormonal contraceptive products and at the forefront of international efforts to improve women's health through research and education.

Currently, we have the following several opportunities available for Research Scientists (Ph.D. and 3-5 years experience) and Senior Scientists (Ph.D. and 0 - 3 years experience). Strong emphasis in all areas will be on the discovery of molecules which may provide therapeutic strategies for the treatment of disorders affecting women's health. Relevant areas include mechanisms of hormone action (steroids, peptides, growth factors), vascular effects of steroids, steroid interactions with neuroendocrine systems, bone biology, and reproductive disorders such as endometriosis.

Molecular Biologists

Requires a strong background in molecular biology of peptides, receptors and/or growth factors as applied to neuroendocrine and implementation of relevant techniques (gene cloning, sequencing, vector construction, site-directed mutagenesis, transfections, cell line generation by targeted tumorigenesis, SI nucleus mapping, nuclear binding, and other molecular techniques).

Endocrinologists

Requires a strong background in cellular and molecular biology of endocrine systems, particularly those controlling neuroendocrine, reproductive, bone metabolism and vascular systems. Experience in the area of hormone action, with emphasis on effects of steroids, neurosteroids, peptides and growth factors and the development of in vivo and in vitro model systems, including relevant cell lines to test effects of endogenous ligands or potential new drugs is essential. Familiarity with molecular biology, cell biology, biochemistry and pharmacology/physiology is necessary.

Peptide Chemist

Requires a strong background in peptide chemistry, particularly in the area of brain and/or gonadal peptides and their receptors. Expertise in the isolation, purification and synthesis of endogenous peptides as well as in the design and synthesis of novel peptides and growth factors are important. Additional experience in the use of molecular modeling for structure-activity studies and drug design and delivery are of value.

Cell Biologist

Requires a strong background in studying the biology of cellular systems that participate in the regulation of reproductive, endocrine and metabolic functions. Demonstrated experience in the development or implementation of technical approaches to establish model systems that allow the evaluation of mechanism of action of drugs or endogenous compounds that may affect organ function in the disciplines of endocrinology and/or gynecology.

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From left: Daman Kowalski, H. Ann Stelmach, Fatima Basha, Belinda Hightower, Carol Cox

I've never been treated differently than my male colleagues. My husband is also a scientist and inventor at Abbott. So we like to think of this as our family business! I've been here 12 years—and I haven't lost any of my enthusiasm. I have always been supported by upper management and worked with outstanding colleagues. In my current project I am involved in some of the most exciting basic research going on anywhere in the world.

FATIMA BASHA, PhD
Senior Group Leader, Associate Research Fellow Volwiler Society*
Pharmaceutical Products Division

This is the most open, unbiased environment I have ever worked in. Abbott has made a commitment to diversity that is evident throughout the company. Of course, opportunities for personal growth and development are available to all scientists—and these opportunities exist in both the scientific and management areas.

H. ANN STELMACH, MBA, PHD
Department Manager, Solutions Technology
Hospital Products Division

From the beginning of my career at Abbott, I've been encouraged to take on as much responsibility as possible. I've had my choice of career paths—from basic and applied research to manufacturing support. And at every stage, I've found an environment that is both challenging and technically stimulating.

CAROL COX, PhD
Director, New Technology Development
Diagnostics Division

Being a woman has just never been an issue at Abbott. Take a look at the path I've followed—from Research Associate into management with more of a traditional business discipline. I truly believe that opportunities exist for continuous learning. You have the chance to broaden your interests, and take your career in virtually any direction you want.

DAMAN KOWALSKI, MS
Business Team Leader
Diagnostics Division

Marriage and parenthood have not presented obstacles to growth or career advancement at Abbott. This is not to say that women are able to rise through corporate America effortlessly. It takes a lot of desire. The key, once you have gained the skills to perform your job, is to go above and beyond what's expected—and take advantage of every opportunity that is presented.

BELINDA HIGHTOWER, RN
Clinical Project Manager
Pharmaceutical Products Division

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*The Volwiler Society was created by Abbott to recognize consistent and exceptional scientific achievement.

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Sandra R. Allerheiligen, Ph.D.
Bioavailability and
Pharmacokinetic Research

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prey on humanity. And all are com-
mitted to finding those solutions at a
cost that is affordable to you and to
society. That's our commitment to
you and to future generations.

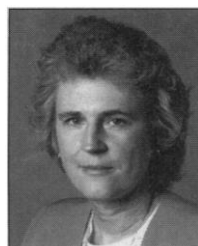
These women are among some of the
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their numerous scientific and techni-
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devoting their lives to saving and
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Michelle L. Cloud, M.D.
Clinical Investigation
and Regulatory Affairs,
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Ilene R. Cohen, Ph.D.
Biochemical Toxicology



Beverley Greenwood, Ph.D.
Central Nervous System and
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Jill A. Panetta, Ph.D.
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Katherine A. Richardson, Ph.D.
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