**FJ NEW PRODUCTS AND LITERATURE**

This section is published as a service to our readers and is not intended as an endorsement or approval of any product mentioned.

**cDNA and genomic library construction.** Promega now offers a selection of custom services, featuring cDNA and genomic library construction. From your poly(A+) RNA or genomic DNA, we will construct a quality library in your choice of Promega's vectors. Our vector arms, prepared from lambda gt10, lambda gt11, lambda gt11 Sfi-Not, LambdaGEM-2, LambdaGEM-4, LambdaGEM-11, and LambdaGEM-12 vectors, provide the lowest nonrecombinant backgrounds and highest cloning efficiencies possible. These vectors offer a variety of cloning strategies including directional cloning, subtraction library construction, and expression of cloned inserts as polypeptides fused with β-galactosidase. Each lambda library is packaged in vitro using Packagene® extract and individually optimized for the highest yield of recombinants. Unlike all two-strain commercial packaging extracts, Promega's extract is prepared from a single strain devoid of Eco K activity, eliminating the possibility of destroying inserts that contain this restriction site. Promega's scientists are available to confidentially discuss cloning strategies and choice of vectors for your application. For your convenience, Promega also offers RNA isolation from tissue. Promega, 2800 S. Fish Hatchery Rd., Madison, WI 53711-5305, USA. Telephone 608-274-4330 or 800-356-9526. Circle 86 on Reader Service Card.

**Fraction collector.** Bio-Rad's new Model 2110 Fraction Collector will accurately collect up to 80 fractions, up to a flow rate of 5 ml/min. It uses standard 13 x 100 mm test tubes or, with an optional adaptor, 1.5 ml micro test tubes. Operation with micro tubes is identical to operation with standard test columns, and small Econo-Column® chromatography columns may be mounted directly to the drop arm, avoiding the need for interconnecting tubing. A two-way stopcock is used to make the connection and to control eluant flow. A motor-driven carousel advances the tubes under a stationary drop-dispensing head. The Fraction Collector may be used with both open column and HPLC systems. A silicone rubber drop former insures uniform drop size, which results in accurate drop-count measurement. The drop former accommodates both 1/8 inch and 1/4 inch inlet tubing without additional fittings. Spills on top of the case and carousel as well as waste eluant within the carousel are led to a central waste-collection port. From this port, a drain tube, which may be directed into a waste-collection vessel, passes out through the rear of the case. Both carousel and case may be washed down with a squirt bottle and warm soapy water. This model allows maximum interfacing flexibility to most controllers, and can be controlled externally in a variety of ways from the standard Subminiature D 9-pin connector on the back of the instrument. Bio-Rad Laboratories, 1414 Harbour Way S., Richmond, CA 94804, USA. Telephone 415-232-7000. Circle 84 on Reader Service Card.

**Key biochemical mediator synthetically prepared.** RBI announces the availability of chemically synthesized D-myoo-Inositol-1,4,5-triphosphate (IP3). This reagent has demonstrated biological activity and is >99% pure. All currently commercially available IP3 is isolated from cellular membranes and is contaminated with the 2,4,5 isomer. Synthetically prepared, IP3 is free of contaminating isomers. IP3 is part of a biological signal transduction system that controls a variety of cellular functions including proliferation, metabolism, and secretion. IP3 is postulated to act as a second messenger by mediating the release of calcium into the cytoplasm. Research Biochemicals, 9 Erie Dr., Natick, MA 01760, USA. Telephone 508-651-0151. FAX 508-655-1359. Circle 80 on Reader Service Card.
Alternative for plasmid purification. Applied Biosystems introduces a new Plasmid Isolation Column System (PICS), a highly stable, non-porous, polymeric material offering rapid plasmid purifications with maximized recoveries. Traditional methods for plasmid purification have routinely used ultracentrifugation procedures or ion exchange chromatography; PICS now allows rapid and cost-effective purification without the use of centrifuges or high concentration salt systems. The purification of plasmid DNA can be accomplished in approximately 30 min by using PICS and the Applied Biosystems Model 152A Separation system. Sample loading of several milligrams of plasmid is possible with quantitative recovery. In addition, plasmid can be recovered in volatile buffers thus minimizing any post-purification manipulation and extractions. PICS is supplied in a proved, economical Applied Biosystems cartridge column format for use with our standard cartridge holders. Analytical and preparative scale cartridges are available in sizes that include 4.6 x 30 mm, 10 x 30 mm, and 10 x 100 mm. Applied Biosystems, 777 Lincoln Centre Dr., Foster City, CA 94404, USA. Telephone 415-570-6667. Circle 88 on Reader Service Card.

Inert titanium pump for LC. Spectra-Physics Autolab Division announces the SP8800Ti and SP8810Ti Pumps, the latest addition to a complete modular liquid chromatography system, and a vital component in life-sciences analyses where bio-compatibility and chemical inertness are required. The Gradient Pump SP8800Ti, and its isocratic counterpart, the SP8810Ti, are used for analysis of amino acid derivatives, peptides, and proteins, as it maintains a biologically inert media, combined with the proved mechanical design of Spectra-Physics' chromatography instrumentation. Titanium is the most cost-efficient solution to the rigorous analyses conditions of solvents with high acidity and alkalinity. Recommended for solvents with a pH of less than 2.2 or more than 9, it resists corrosion, yet behaves as would stainless steel in withstanding high pump pressures (an advantage over plastic-based pumps). Spectra-Physics, 3333 North First St., San Jose, CA 95134, USA. Telephone 1-800-424-7666. Circle 90 on Reader Service Card.


Buchi Plastiglas, a transparent plastic coating, protects the user from shattered or broken glass and reduces or prevents spillage of dangerous reagents in the event of broken glassware. Glass that is coated with Buchi Plastiglas is more impact resistant than conventional non-coated glassware. It is also machine washable, and will withstand temperatures up to 100°C. Brinkmann Instruments, Inc., Cantiague Rd., Westbury, NY 11590, USA. Telephone 800-645-3050 or 516-334-7500. Circle 83 on Reader Service Card.

Literature

Precast polyacrylamide gradient gels for electrophoresis, a product guide and price list from Geltech, Inc., 934 Salem Pkwy., Salem, OH 44460, USA.

Molecular biological and immunological products, a catalogue and applications guide from Promega, 2800 S. Fish Hatchery Rd., Madison, WI 53711-5305, USA.

Rodent surgery brochure from Taconic, Inc., 33 Hover Ave., Germantown, NY 12526, USA.

Brochure on benchtop and floor model laboratory ovens from Hotpack Corporation, 10940 Dutton Rd., Philadelphia, PA 19154, USA.

Brochure about the new Rapid Electrophoresis System from Helena Laboratories, 1530 Lindbergh Dr., Beaumont, TX 77704-0752, USA.

Centrifugation catalog from Scientific Marketing Services, Inc., P.O. Box 600, Minotola, NJ 08341, USA.

Microscale catalog from Kontes, Scientific Glassware/Instruments, P.O. Box 729, Vineland, NJ 08360, USA.

Vestpocket-size (3" x 5") solvent handbook, 70 pages of data on multipurpose analytical reagents suitable for HPLC, pesticide analysis by GC/EC and GC/MS, and spectrophotometry, from Fisher Scientific, 711 Forbes Ave., Pittsburgh, PA 15219, USA.

Newsletter on automated DNA sequence reading; the use of RNA probes to detect RNA that has been alkaline-blotted to Zeta-Probe membranes; a new nylon C/P Lift membrane for colony screening; and an electrophoretic field switcher for electrophoretic separation of large DNA molecules, from Bio-Rad, 1414 Harbour Way S., Richmond, CA 94804, USA.

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EJ EMPLOYMENT OPPORTUNITIES

POSITIONS AVAILABLE — Classified advertisement rates: $170.00 for first column inch, $150.00 for each additional inch or portion thereof. A column inch is eight lines, each containing 70 characters, including spaces. Display advertisement rates: $570.00 for ¼ page (3½ inches × 4½ inches); $850.00 for ½ page (vertical 3½ inches × 9½ inches or horizontal 7½ inches × 4½ inches); $1130.00 for full page (7½ inches × 9½ inches); copy received not camera-ready is subject to additional typesetting fee of 5% of rate. Advertisements will be published in next available issue unless otherwise specified. Deadline for receipt of copy is 5th day of month before publication. Payment or purchase order is required with insertion copy. Advertisements are noncommissionable to agents; no cash discounts are allowed. Blind advertisements are not accepted.

POSITIONS DESIRED — Candidates registered with FASEB Placement Service are allowed one advertisement of five lines, each containing 70 characters including spaces. The issue in which advertisement appears will be based on date of receipt of copy. Fee for publication in additional issues: $10.00 per issue.

Primary employers desiring identification and additional details concerning Positions Desired advertisers should write to address below, indicating hyphenated number appearing as last element of advertisement; a one-page application from advertiser(s) will be provided immediately. Advance telephonic determination of current availability of advertisers from earlier-than-current issues is recommended. Employers not currently registered with Placement Service will be charged a minimum fee of $30.00 for identification of up to 10 advertisers, plus $3.00 for each above 10, payable in advance to FASEB Placement Service.

Some registered candidates do not prepare Positions Desired advertisements; some advertisements are published at times not coinciding with employer recruitment activities. Primary employers not finding advertisements that appear to match current or projected needs are invited to request a search of all active candidate files. Telephone a description of the desired qualifications; results of search will be discussed telephonically with requesting official, and applications from candidates declared suitable will be forwarded. Employers not currently registered with Placement Service will be charged a minimum fee of $30.00 for up to 10 applications, plus $3.00 for each above 10.

In publishing these advertisements FASEB assumes no obligations as to qualifications of prospective employees or responsibility of employers, nor shall FASEB obtain further information concerning positions advertised or those seeking employment. Accuracy and completeness of all listings are the responsibility of the submitting party.

Various U.S. state and national laws against discrimination, including the Federal Civil Rights Act of 1964, prohibit discrimination in employment in the United States because of race, color, religion, national origin, age, sex, or any reason not based on a bona fide occupational qualification. The Federation of American Societies for Experimental Biology endorses these principles and reserves the right to edit all copy and to refuse advertisements not in consonance therewith.

Employment in countries other than the United States may be restricted by government visa and other policies. Moreover, it is suggested that the generally accepted employment practices, the cultural conditions, and the exact provisions of the specific positions being considered be investigated thoroughly. The U.S. Embassies in countries of interest to potential employees should be able to provide up-to-date data concerning internal conditions.

For a description of operation at annual meetings, please refer to the January or February issue or contact the Placement Service.

Address all correspondence to FASEB Placement Service, 9650 Rockville Pike, Bethesda, MD 20814. (301) 530-7020

RATE CHANGE, POSITIONS AVAILABLE

Effective January 1, 1989 (per issue)

Classified advertisement  
$ 25.00 per line (70 characters), $200.00 (8 line) minimum

Display advertisement  
$ 600.00 for ¼ page, 3½ inches × 4½ inches
$ 900.00 for ½ page, 3½ inches × 9½ inches (vertical) or 7½ inches × 4½ inches (horizontal)
$1200.00 for full page, 7½ inches × 9½ inches
(for display ads, add 5% if mechanical not submitted)

NEUROPATHOLOGY RESEARCH TRAINING FELLOWSHIPS. National Research Service Award positions are immediately available for M.D.'s and Ph.D.'s working toward academic careers who have research interests related to neuropathology. Fellowships are for 1 or 2 years. The program director is Michael N. Hart, M.D. Active research programs in a wide range of neuroscience- and neuropathology-related fields are available to fellows. For further information contact Steve A. Moore, M.D., Ph.D., The University of Iowa, Department of Pathology, Division of Neuropathology, Iowa City, IA 52242 (319) 335-8242.

ASSISTANT/ASSOCIATE PROFESSORS. One, possibly two, faculty positions are available at the Hormel Institute, a research division of the University of Minnesota. The Hormel Institute is an internationally recognized center for basic research on the physicochemical behavior, metabolism and biological functions of lipids and lipid-related proteins. We seek talented investigators who can establish independent, high quality research programs which will complement those of our current faculty. Doctorate and two years of research experience required, more is desirable. Please send CV, publication list, a brief description of research interests and the names of three references to Dr. Howard L. Brockman, Chairman of the Search Committee, The Hormel Institute, University of Minnesota, 801 16th Avenue NE, Austin, MN 55912 (507) 437-9620. Application deadline is November 18, 1988. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities.

POSTDOCTORAL RESEARCH ASSOCIATE, IMMUNOLOGY RESEARCH LABORATORY. Position available January 1, 1989 to study the pathogenesis of rheumatoid arthritis. The project involves generating T cell clones from tissues of diseased patients and analyzing in vitro reactivity in both proliferation and cytotoxicity assays to putative chondrocyte antigen targets as well as cartilage matrix components. Expertise in the relevant techniques is an absolute prerequisite. Salary and benefits up to $35,000 per year depending upon qualifications. Send CV and names of three references to Eugene M. Lance, M.D., Ph.D., Shriners Hospitals for Crippled Children, 1310 Punahou Street, Honolulu, HI 96826.
ONR
United States Navy
Office of Naval Research
GRADUATE FELLOWSHIP PROGRAM
1989

For study and research leading to doctoral degrees in specified engineering—science disciplines.

Introduction: ONR will award up to 50 three-year fellowships for study and research at U.S. institutions offering doctoral degrees in designated fields.

Eligibility: Participants must be U.S. citizens and receive a baccalaureate degree in 1989.

Objective: To increase the supply of U.S. citizens trained in disciplines critical to the U.S. Navy's mission.

Terms: Fellows selected in 1989 will receive $14,750 for the first twelve months of tenure. ONR will pay the institution full tuition and fees and provide $2,000 to the Fellow's department.

Duration: Up to thirty-six months if academic progress is satisfactory.

ONR Graduate Fellowships awarded in this eighth year of the program will be for study and research in ten major disciplines:

- Electrical Engineering
- Mathematics
- Applied Physics
- Naval Architecture and Ocean Engineering
- Oceanography
- Computer Science
- Materials Science
- Aerospace/Mechanical Engineering
- Biological/Biomedical Sciences
- Cognitive and Neural Sciences

GRE scores are required (general test only).

For application forms and information contact:
ONR Graduate Fellowship
American Society for Engineering Education
11 Dupont Circle, Suite 200
Washington, D.C. 20036

Only U.S. citizens are eligible.
Application deadline: January 27, 1989
Offers of appointment: April 15, 1989
ONR/ASEE are equal opportunity employers.
SCIENTISTS
AIDS PROGRAM
NATIONAL INSTITUTES OF HEALTH

The AIDS Program of the National Institutes of Allergy and Infectious Diseases is seeking senior level scientists in IMMUNOLOGY, VIROLOGY, BIOLOGY, BIOCHEMISTRY, MICROBIOLOGY and PHARMACOLOGY for its Treatment Research Branch, Developmental Therapeutics Branch, and Vaccine Research and Development Branch.

The Treatment Research Branch plans and directs a Federal research program to develop drugs and therapies for treating AIDS and its related conditions. The Branch supports a national network of 35 clinical trials units, which examine and evaluate potential therapeutic interventions in Phase I, II, or III clinical trials. Responsibilities of the Branch for which staff are being recruited include: administrative and technical management of the AIDS Clinical Trials Units; development of initiatives to meet emerging requirements of the national clinical trial effort; monitoring the virologic, immunologic and pharmacologic aspects of trials; development and management of an investigator-initiated research grant program to complement the clinical trial effort and a program of identification, review and tracking of agents to be considered for clinical evaluation.

The Developmental Therapeutics Branch supports basic and applied research leading to the development of new drugs for treating AIDS and its complications. The Branch's research includes studies on the preclinical stages of AIDS therapies, improved methods for drug delivery, and the structure and mechanisms of action of antiviral and immunomodulatory compounds. Responsibilities of the position include: assessing needs for research, developing research priorities, surveying sources of AIDS-related drug development, administering programs that augment the capabilities of the National Cooperative Drug Discovery Group for AIDS and other areas of basic research related to the development of potential therapeutics for AIDS and its complications.

The Vaccine Research and Development Branch plans and directs a Federal research program for the development and evaluation of vaccines for the prevention of AIDS and its opportunistic infections. Responsibilities of the Branch for which staff are being recruited include: development and management of a basic and applied research program addressing the agenda surrounding AIDS vaccine development; neutralization assay standardization and development; correlates and markers of immunity to HIV infection; the HIV Genetic Variation Program for AIDS Vaccine Development; the simian immunodeficiency model for AIDS vaccines, the National Cooperative Vaccine Development Groups for AIDS; the AIDS Cooperative Adjuvant Group; AIDS vaccine clinical trials; international collaboration on evaluating the efficacy of AIDS vaccines.

Candidates must have a doctoral level degree with postdoctoral experience in biomedical research either in academia or industry. Salary commensurate with training and experience. U.S. citizenship is required. Please send a curriculum vitae or Application for Federal Employment (SF-171) to:

AIDS Program
Attn: Leslie Friel
NIAID/Room 251P
6003 Executive Boulevard
Bethesda, MD 20892

NIH is an Equal Opportunity Employer

U.S. DEPARTMENT OF ENERGY
OFFICE OF HEALTH AND ENVIRONMENTAL RESEARCH

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Deadline January 17, 1989

Fellowship in Clinical Laboratory Genetics

The Histocompatibility and Immunogenetics Section of the Department of Immunopathology at the Cleveland Clinic Foundation, Cleveland, Ohio, has an opening for a Fellow in clinical laboratory genetics. The applicant must have a Ph.D. in genetics, biochemistry, microbiology, or related field and be skilled in recombinant DNA methods.

The successful applicant will perform DNA analyses for the diagnosis and investigation of human diseases and for the analysis of problems in forensic medicine. The position is suitable for an individual whose doctoral program was completed within the last four years. The appointment is for one year, beginning after June 30, 1988, with the possibility of renewal.

A liberal salary and excellent benefits package are provided. Interested applicants should contact Andrea A. Zachary, Ph.D., Histocompatibility and Immunogenetics Laboratory, Desk L12, The Cleveland Clinic Foundation, One Clinic Center, 9500 Euclid Avenue, Cleveland, Ohio 44195-9131. (216) 444-2805.

THE CLEVELAND CLINIC FOUNDATION

An Equal Opportunity Employer M/F/H/V
FACULTY POSITIONS IN BIOMEDICAL ENGINEERING. Vanderbilt University School of Engineering announces the availability of tenure-track faculty openings in Biomedical Engineering. Positions are planned at the assistant professor level but applications by more senior candidates with strong records of research will be considered. Applicants should have education to the doctoral level in biomedical engineering or a related field and experience in biomedical engineering research. Preference will be given to applicants with qualifications and interests in one of the following areas: biofluids; medical computing, including artificial intelligence and neural networks; some aspect of neurological/ bioelectrical science and engineering. Other interests related to biomedical instrumentation will also be considered. Vanderbilt has a well-established academic program in biomedical engineering which offers B.S. and Ph.D. degrees in the field and participates in the M.D./Ph.D. program of the School of Medicine. Vanderbilt is an affirmative action/equal opportunity employer. Minority and female candidates are urged to apply. Applicants should send a CV and the names of three references to Chair, Biomedical Engineering Search Committee, Vanderbilt University, Box 1724, Station B, Nashville, TN 37235.

FACULTY POSITIONS. The E.A. Doisy Department of Biochemistry and Molecular Biology at St. Louis University intends to make two faculty appointments at the junior or senior level to strengthen current expertise in the following areas: Protein Structure and Function, individuals with research experience and interest in the mechanisms of enzyme catalysis, protein-protein and/or protein-nucleic acid recognition, and allosteric effects are encouraged to apply for this position; Cellular Regulation, individuals with research experience and interest in membrane biochemistry and function, biosynthesis of membrane lipids and carbohydrates, organelle biogenesis and transport mechanisms are encouraged to apply for this position. The initial graduate level experience is expected to involve research at the interface of classical biochemistry and modern strategies in an innovative independent research program. Successful candidates will complement ongoing research in the areas of metabolism and regulation, molecular and developmental biology, genetics, cell biology and physical biochemistry and can participate in the multidisciplinary Cell and Molecular Biology program at St. Louis University School of Medicine. Excellent start-up funds are available. CV, description of research, plans and at least three letters of recommendation should be sent by February 1, 1989 to Search Committees, c/o Dr. William S. Sly, Chairman, Department of Biochemistry and Molecular Biology, St. Louis University School of Medicine, 1402 S Grand Boulevard, St. Louis, MO 63104. St. Louis University is an equal opportunity/affirmative action employer.

ASSISTANT PROFESSORSHIP, IMMUNOLOGY/VIROLOGY/ MICROBIOLOGY. Medical school microbiology department with active Ph.D. program seeks one Assistant Professor (tenure track) for appointment starting July, 1989 (date negotiable). Responsibilities include development of productive, independent research program plus teaching in medical and graduate courses. Research facilities and start-up support are excellent. All outstanding candidates are encouraged to apply, but preference may be given to individuals who study immunology or molecular aspects of pathogenic mechanisms of viruses or bacteria. Doctoral degree and postdoctoral research experience are required. Selection will be based on potential for excellence in research and teaching. Salary commensurate with training and experience. Submit CV and bibliography, description of research interests, major publications and names of three professional references to Randall K. Holmes, M.D., Ph.D., Professor and Chairman, Department of Microbiology, c/o Civilian Personnel Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799. Equal opportunity/affirmative action employer.

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATES. Applications are invited for grant positions in the following areas: electron microscopist trained in morpometry to conduct autoradiographic/ immunocytochemical/in situ hybridization studies to characterize abnormalities of peripheral nerve disorders, e.g., nerve regeneration and diabetic neuropathy; biochemist trained in lipid research to study the expression and regulation of phospholipid synthesizing enzymes in myelinating and regenerating nerve, and in squid giant axon at MBL; biochemist/molecular biologist trained in protein/nucleic acids to characterize the expression and synthesis of channel and pump proteins in experimental metabolic diseases. Available now. Salary range, $25,000-35,000 dependent upon experience. Contact Dr. R. M. Gould, Institute for Basic Research in Developmental Disabilities, 1050 Forest Hill Road, Staten Island, NY 10314 (718) 494-5248.

RESEARCH PATHOLOGIST. Senior tenure-track position at the rank of Professor for a board-certified pathologist with a track record of extramural funding to head the department's Division of Research Pathology and participate in the university's M.S./Ph.D. program. A molecular biologist is preferred. This position includes a joint appointment at our affiliated VA hospital. Replies to Philip S. Coogan, M.D., Chairman, Division of Pathology, P.O. Box 1040A, East Tennessee University, Johnson City, TN 37614. ETSU is an affirmative action/equal opportunity employer and employs only U.S. citizens and aliens authorized to work in the United States. Women and minorities are encouraged to apply.

PULMONARY RESEARCH TRAINEESHIPS. Brown University announces NIH-sponsored postdoctoral program for Ph.D.s and M.D.s who want careers as independent investigators in problems of lung function and dysfunction. Trainees will spend two to three years developing their own line of investigation under a Faculty Sponsor, will pursue core and basic science courses relevant to their research, and will have close interactions with an interdisciplinary faculty and co-trainees. Strengths in epidemiology, physiology, experimental pathology, cell biology and molecular biology. Applications from members of minority groups strongly encouraged. Inquire of Frederic Hoppin, Jr., M.D., Box G, Brown University, Providence, RI 02912 (401) 722-6600.

PHYSICAL CHEMIST. Hamilton College is seeking a physical chemist for a one-year replacement for the 1989–90 academic year. All areas of expertise will be considered, but preference will be given to an experimentalist. Applicants should have a strong interest in teaching and research at the undergraduate level and be committed to excellence in both areas. Experience at the undergraduate level is desirable. The College is an equal opportunity employer, and women and minority candidates are encouraged to apply.

FACULTY POSITION, MOLECULAR ENDOCRINE PHYSIOLOGIST. Qualified applicants are invited to apply for a tenure-track position in the Department of Physiology at the University of Texas Health Science Center at San Antonio. The position is for a molecular endocrinologist who is capable of teaching reproductive physiology to medical and graduate students. The successful candidate is expected to have a vigorous, independent research program and to interact with physiology faculty on molecular biology-related research problems. The department has excellent facilities for research and a 19-member faculty with varied research interests. The rank is open and depends on the qualifications and experience of the successful candidate. Interested applicants should send their CV and list of references by December 1, 1988 to Dike N. Kalu, Ph.D., Chair, Faculty Search Committee, Department of Physiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7756. The University of Texas Health Science Center is an affirmative action/equal opportunity employer.

POSTDOCTORAL POSITIONS. Available January 1989 to study the structure and function of sarcoplasmic reticulum Ca**+ release channel, dihydropyridine-sensitive Ca**+ channel or dystrophin using biochemical, biophysical, immunological and molecular biological techniques. Applicants should have a Ph.D. and a strong background in biochemistry, biophysics, cell biology or physiology. Submit letter of application, CV, reprints and two letters of recommendation to Dr. Kevin P. Campbell, University of Iowa, Department of Physiology and Biophysics, Iowa City, IA 52242. The University of Iowa is an equal opportunity/affirmative action employer.

POSTDOCTORAL POSITION available immediately to study the regulation of vitamin D metabolism by peptide hormones. Applicants should have a Ph.D. in biochemistry or related field and a strong background in protein purification and/or molecular biology. Experience in the areas of hormone biosynthesis and cell culture desirable. Send resume and the names of three references to Dr. Bernard Halloran, Veterans Administration Medical Center, m/c II, 4150 Clement Street, San Francisco, CA 94121.
POSTDOCTORAL RESEARCH ASSOCIATE. Position available October 1, 1988 to investigate the cell and molecular biology of nerve and neuromuscular regeneration. In vivo and culture models available to study the interaction of basal lamina molecules with serine proteases and inhibitors. M.D., M.D./Ph.D. or Ph.D. in cell or neurobiology with experience in nerve/muscle culture, protein purification and/or EM studies of synapse formation. Stipend: NIH NRSA equivalent for U.S. citizen or permanent resident; M.D. may qualify for entry position in VA Career Award track. Send resume with CV and arrange to have three letters of reference sent to Barry W. Festoff, M.D., Neurobiology Research Lab (151), University of Kansas, VA Medical Center, 4801 Linwood Boulevard, Kansas City, MO 64128. An EEO employer.

POSTDOCTORAL POSITION, NIH Training Grant for 1-3 years available immediately. Research involves characterization of the enzyme and transport components of the hepatic microsomal glucose-6-phosphatase system. Ph.D. in biochemistry or related field required; experience in membrane protein purification/reconstitution desirable. U.S. citizens or permanent residents send CV and three reference letters to Dr. W. J. Arion, Cornell University, Division of Nutritional Sciences, 227 Savage Hall, Ithaca, NY 14853. An affirmative action/equal opportunity employer.

ASSISTANT PROFESSOR. The Department of Microbiology at The Ohio State University has a tenure-track vacancy to be filled by August 1989 at the assistant professor level. Applicants must have a Ph.D., postdoctoral research experience and demonstrated research productivity in molecular or cellular immunology. Candidates with research interests in an infectious disease system are particularly encouraged to apply. Participation in the Department's instruction of undergraduate and graduate students is expected. Excellent laboratory space and departmental support are available to independent research programs. Candidates should submit a CV, a summary of research plans and names of three referees by December 15, 1988 to Dr. John N. Reeve, Chairperson, Department of Microbiology, 484 W 12th Avenue, Columbus, OH 43210. The Ohio State University is an affirmative action/equal opportunity employer and specifically invites and encourages minority and women applicants.

FACULTY POSITION IN NUTRITION. Requirements: Ph.D. degree with background in either Clinical Nutrition (Therapeutic Human Nutrition) or Institutional Management. Candidates must be eligible for, or have membership in, the Canadian Dietetic Association or the American Dietetic Association. The candidate should have postdoctoral training and teaching experience and be able to conduct independent research. Appointment at the assistant or associate professor level is expected. The Department seeks a person with independent undergraduate and graduate teaching and research responsibility in human nutrition, Dietetics and Food Science. In accordance with Canadian Immigration policy, consideration will be given in the first instance to Canadian citizens and permanent residents of Canada. Others will be considered and are encouraged to apply. Application, including the names of at least three references, should be sent to Dr. K. M. W. Keough, Professor and Head, Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X9, from whom further information can be obtained. Closing date for receipt of applications is April 30, 1989.

ASSISTANT PROFESSOR OF NUTRITION (search extended). Tenure track, academic year with special interest in exercise science and/or endocrine metabolism (50% teaching; 50% research). Teaching duties: each year, teach upper level course in either Normal or Clinical Nutrition and graduate level course in area of expertise. Research: develop program in nutrition with emphasis on exercise science, endocrine function, or lipid or energy metabolism that will attract external funding. Collaborate with other faculty in ongoing research in exercise physiology, and endocrine or lipid metabolism. Qualifications: doctorate in nutrition or other related discipline; postdoctoral experience preferred but not essential; teaching experience important. Salary commensurate with qualifications and experience. Department is located near ocean inlet, scenic semi-rural area. Department has 25 faculty, 20 graduate students and 300 undergraduate majors. Send letter of application (noncitizens must include current visa status), CV, all academic transcripts and three letters of recommendation by December 15, 1988 to Dr. Anthony Taggiaferro, Search Committee Chair, Human Nutrition Center, University of New Hampshire, Durham, NH 03824. Women and minorities encouraged to apply. UNH is an AA/EEO employer.

RESEARCH ASSOCIATES. Three positions available to carry out molecular and biochemical research in the area of bioactive lipid control of adhesion protein receptor expression as it relates to tumor metastasis. Studies involve cloning of integrin coding genes from solid tumor genome, regulation of protein kinase C activity and cytoskeletal alterations during cell-cell interactions. Candidates should have experience in some of the following relevant areas: protein isolation and characterization, screening of gene libraries, transformation, restriction mapping, DNA sequencing, electrophoresis, subcellular fractionation, metabolism of unsaturated fatty acids, HPLC, GC/MS, tissue culture and general cell biology techniques. Ph.D. in biochemistry, molecular biology or cell biology preferred. Minimum salary $22,000 per year with excellent benefits. Candidates should send a CV with copies of relevant publications and the names of three references to Dr. Kenneth V. Honn, Department of Radiation Oncology/Chemistry, 431 Chemistry, Wayne State University, Detroit, MI 48202. Wayne State University is an equal opportunity/affirmative action employer.

POSTDOCTORAL POSITION IN IMMUNOLOGY. Position for Ph.D. or M.D. available immediately to investigate retinoid and lymphokine modulation of in vitro and in vivo cell development in humans. Emphasis will be on definitive development/differentiation seen in humoral immunodeficiency. This postdoctoral scholar will work closely with the laboratories of Dr. Andrew Saxon (B cell differentiation defects) and Dr. Neil Sidell (retinoids and lymphoid development) in conducting these studies. Experience in one or more of the following general areas is desired: cellular immunology, lymphoid development, molecular biology. Please send CV and three letters of recommendation to Professor Andrew Saxon, Department of Medicine, Division of Clinical Immunology and Allergy, 52-173 Center for Health Sciences, UCLA School of Medicine, Los Angeles, CA 90024 (213) 206-8530.

RESEARCH ASSOCIATE/BIOCHEMIST OR CELL PHYSIOLOGIST, The University of Pennsylvania, School of Medicine. Unique opportunity to interact with a multidisciplinary group for the study of lipid peroxidation in a model of ischemia-reperfusion injury. The position requires a flexible individual who can work independently, but interacts well with others. Experience with lipid analysis, HPLC or isolated organ perfusion would be helpful but not essential. The position offers a competitive salary and fringe benefits with ample research funding for five years. Applicants should submit CV and names of three references to Dr. Aron B. Fisher, Director, Institute for Environmental Medicine, University of Pennsylvania, 1 John Morgan Building, 36th and Hamilton Walk, Philadelphia, PA 19104-6068. The University of Pennsylvania is an equal opportunity/affirmative action employer.

PRE DOCTORAL AND POSTDOCTORAL TRAINING, PULMONARY DISEASE. Positions are available at The Johns Hopkins Medical Institutions for multidisciplinary research training in lung diseases. Areas of interest include the immunology of physiology, cell biology, biochemistry and toxicology of the lung. For further information please contact J. T. Sylvester, M.D., Division of Pulmonary and Critical Care Medicine, 600 N Wolfe Street, Baltimore, MD 21205. Minority candidates are encouraged to apply.

POSITIONS DESIRED

Ph.D., 1982; Biochemistry, pharmacology, cell physiology; Calcium transport studies in platelets, cardiac calcium antagonist receptor, solubilization and purification of proteins, polycyclicamide gel and free flow electrophoreses, enzyme kinetics; Avail. fall 1988; Research scientist position industry; Salary negot. 2-2852

Ph.D., 1973; Genetics, protein chemistry, biochemical genetics, molecular biology; Experience in protein and DNA sequencing, enzyme assays and electrophoresis, RFLP haplotype analysis, DNA-protein mobility shift assays; Avail. April 1989; Staff position in academia/industry; Salary negot. 2-2871

B.Med., 1983; Physiology, biophysics; Advanced technician in microcirculation, exercise, cardiovascular, mediators; Avail. May 1989; Physiology laboratory technician preferred; Salary negot. 8-2932
Dr.P.H., R.D., 1982; Nutritional science, dietetics; Experience in nutritional biochemistry research, community and clinical nutrition, teaching nutrition, maternal and child nutrition; Date negot.; Position in academia or industry; Salary negot. 5-3084

Ph.D., 1986; Immunology, cell biology; Tissue culture, in vitro bioassays, animal techniques, macrophage activation, isolation of blood cell sub-populations, cancer biology, oxygen radicals, receptor studies, RNA-DNA hybridizations; Avail. April 1989; Staff position academia, industry; Salary negot. 6-3087

Ph.D., 1983; Biochemistry, cell biology, immunology, molecular biology; Purification and characterization of proteins/enzymes, lipoproteins, and mucins, metabolic studies of lipoproteins, clinical biochemistry, tissue culture, animal surgery; Avail. immediately; Staff position academia or industry; Salary negot. 2-3352

M.D., 1981; Ph.D., 1985; Pharmacology, molecular biology, protein chemistry, heavy metal toxicology; Characterization and purification of dopamine receptor, neurotransmitter release, recombinant DNA technique, protein kinase assay, HPLC; Avail. spring 1989; Molecular biology postdoc. position academia or non-profit; Salary negot. 2-3359

Ph.D., 1981; Biochemistry, enzymology, protein chemistry; Experience in protein/enzyme purification and characterization, gene cloning, Southern hybridization, DNA sequencing, excellent publication record; Scientist position in industry; Salary negot. 2-3368

M.D., 1984; Endocrinology/metabolism, 1989; Research in molecular biology; Clinical academia/clinical practice. E-304
Membership in the Federation of American Societies for Experimental Biology and in Its Constituent Societies

Membership in the Federation is limited to societies; there is no individual membership. Any society in the field of biological science may apply for membership, either corporate or affiliate, and may be admitted by a three-fourths majority vote of all members of the Federation Board. The societies listed below presently constitute the Federation.

Since requirements and procedures for election to membership in the member societies vary, the following information is provided:

**Corporate Members**

**The American Physiological Society.** Any resident of the Americas who conducts and has published meritorious original research in physiology shall be eligible for proposal for Regular membership. Residents of the Americas who are engaged in research in physiology or related fields and/or teaching physiology shall be eligible for proposal for Associate membership. Residents outside of the Americas who conduct and have published meritorious original research in physiology shall be eligible for proposal for Corresponding membership. Individuals must apply in writing on forms provided by the Society. Two Regular members must sponsor a candidate for membership. Emeritus members also can be sponsors of new members. A Corresponding or Honorary member of the Society may substitute for a Regular member in sponsoring a candidate for Corresponding membership. Council nominates candidates who stand for election by the vote of Regular members at business meetings of the Society. Other classes of membership include Honorary, Emeritus, Student, and Sustaining Associate. *Further information and nomination forms are printed in THE PHYSIOLOGIST and are available from the APS Membership Services Department, 9650 Rockville Pike, Bethesda, MD 20814.*

**American Society for Biochemistry and Molecular Biology.** Investigators residing in the Americas who have demonstrated the ability to conduct meritorious original research in biochemistry or molecular biology are eligible for Regular membership. Such individuals must be nominated by two Regular members of the Society and, if favorably recommended to the Council by the Membership Committee, will be elected at any regular meeting of the Society. Individuals not yet fulfilling the requirements for Regular membership may be nominated by two Regular members for Associate membership. Nominees for Associate membership become members immediately on nomination. Eminent biochemists residing in countries other than the Americas may be nominated for Honorary membership. Individuals not otherwise eligible for any type of membership, but who have made significant contributions through service to biochemistry or molecular biology are eligible for designation as a Distinguished Service Associate. *Nomination forms and specific nomination criteria may be obtained from Mr. Charles C. Hancock, Executive Officer, 9650 Rockville Pike, Bethesda, MD 20814.*

**American Society for Pharmacology and Experimental Therapeutics.** Any qualified investigator who has conducted and published a meritorious original investigation in pharmacology and is a legal resident of the United States, its dependencies, Canada, or Mexico shall be eligible for Regular membership in the Society. Nominees for membership shall be proposed by two members of the Society who are not members of the Council or of the Membership Committee at the time of the initial nomination. Other classes of membership include Affiliate and Student/Fellow, which are for pharmacologists who are either residents of a country other than the USA, Canada or Mexico, are not now active in research, or who are advanced students or are fewer than 5 years past their doctoral degree. *Nomination forms are printed in THE PHARMACOLOGIST and are available from Mrs. Kay A. Croker, Executive Officer, 9650 Rockville Pike, Bethesda, MD 20814.*

**American Association of Pathologists.** Any investigator who, through the use of experimental methods, has contributed meritorious work in pathology is eligible for membership. Candidates shall be nominated by two members and those nominations approved by the Council shall be presented to the Association members for election at the next annual business meeting. *Additional information and nomination forms may be obtained from Dr. Harold Waters, Executive Officer, 9650 Rockville Pike, Bethesda, MD 20814.*

**American Institute of Nutrition.** Any person who has conducted and published meritorious original investigations in some phase of nutrition and who is professionally active in the field of nutrition shall be eligible for Active membership. Persons rendering superior service to nutrition through teaching, administration, or technical service may also be deemed eligible. Nominees shall be sponsored by two members of the Institute. Nominations should be received by February 1, and those nominations approved by Council will be presented for election at the annual business meeting. Other classes of individual membership include Associate, Emeritus, and Student. Membership in the American Society for Clinical Nutrition, the Clinical Division of the AIN, is based on professional activities in the area of clinical nutrition. All nominees for ASCN membership must be members of AIN or be considered for election simultaneously. *AIN/ASCN nomination forms are available from the AIN Secretariat, 9650 Rockville Pike, Bethesda, MD 20814.*

**The American Association of Immunologists.** Investigators qualified by virtue of a doctorate degree or equivalent experience and training who have conducted and published meritorious original investigations in immunology or related disciplines are eligible for membership. Candidates must be nominated by two members of the Association. The recommendations of a membership committee are submitted for election by the membership at the annual spring meeting. *For application forms write to Dr. Joseph F. Saunders, Executive Officer, 9650 Rockville Pike, Bethesda, MD 20814.*

**Affiliate Member**

**The American Society for Cell Biology.** To be considered for Regular membership, an applicant must hold the Ph.D. or equivalent degree or have equivalent experience, and be sponsored by two Regular or Emeritus members. Other classes of membership are Emeritus and Student. *Further information and forms may be obtained from Ms. Dorothea C. Wilson, Executive Officer, 9650 Rockville Pike, Bethesda, MD 20814.*

Revised August 1988
How To Choose The Right Low Pressure LC System Even If It Isn’t Ours

To simplify choosing the right peristaltic pump, detector and fraction collector for your LC System, review these guidelines and send us for our free Low Pressure System Selection Worksheet:

1. **Identify your separation goals.**
   - Know the characteristics of your sample. What mass will you load on your column? What flow rate will you need to achieve optimal speed and resolution? At which wavelengths does your sample exhibit maximum absorbance? What size fractions will you collect? Are you interested in collecting peaks?

2. **Examine the components’ specs.**
   - After you’ve identified the key operating parameters, take a look at the pump, detector and fraction collector specifications to be sure they meet your needs. To illustrate, let’s look at specifications for components in the Gilson Low Pressure System.

   The most important criteria used to select a peristaltic pump are smooth, stable flow and usable flow rate range. The Gilson system uses the new Minipuls 3 Pump. Stepper-motor drive and proven pump head design ensure smooth flow from 1 ml to 50 ml/min. A high flow head allows flow rates from 50 ml to 220 ml/min. Interchangeable pump heads with 1-, 2-, 4-, or 8 channels are available.

   Wavelength specificity and ease-of-use are key considerations when choosing a detector. The Gilson 112 UV/Vis fixed-wavelength detector allows selection of wavelengths from 214 nm to 640 nm. A choice of five flow cells accommodates a wide range of flow rates and sample concentrations. A large digital readout and convenient autozero and event mark functions keep detector operation easy.

   Select a fraction collector according to your collection mode, fraction volume, and multiple column collection needs.

   Gilson’s FC 203 fraction collector allows drop, time, or peak collection modes with up to ten collection windows in each mode. The widest range of racks available—capable of handling as many as 128 fractions—makes the FC 203 suitable for almost any application.

3. **Check for compatibility of components with each other and with your future needs.**
   - At this point, you’ve identified components to meet basic needs, but also look at the components as a system. Were they designed to work together? Or will you need to buy complicated adapters and special plumbing? Working with a single supplier avoids the service and support problems often associated with a system assembled piece-by-piece.

   You should also assess your future needs. An LC system may work fine for your current application. But will you need to change detection wavelengths or collection volumes later? Is an upgrade to HPLC a possibility? If so, consider modular equipment that adapts to your changing needs easily and inexpensively.

4. **Look at each supplier’s record of reliability, service and support.**
   - After identifying suitable components, narrow your choice by looking at each supplier’s track record for reliable equipment and efficient service.

   To evaluate the Gilson Low Pressure System, consider our reputation for fraction collectors and detectors. Gilson has a proven track record that began more than 35 years ago. More than 1000 FC 203s—introduced just 16 months ago—continue to display dependable, trouble-free operation.

   The Minipuls 2, the reliable predecessor to our new Minipuls 3, has earned spaces on more than 24,000 lab benches worldwide, making it the best-selling peristaltic pump.

5. **Use our free Low Pressure LC System Selection Worksheet to gather and compare your options.**
   - For the final step in choosing your system, compare the information you’ve gathered. To help, we’ve put together a selection worksheet to simplify the process.

   This free worksheet lists major criteria to use in your comparisons. We’ve filled in information about the Gilson Low Pressure System and have left space for you to fill in specs from other suppliers.

   Why do we encourage this comparison? Because it’s the best way to buy a system matched to your needs. Plus, we’re confident that in most cases your low pressure system will be a Gilson Low Pressure System.

So, for your free Low Pressure System Selection Worksheet, simply circle the magazine’s reader service number or call us toll free at 800-445-7667. We’ll see that you get your worksheet fast.

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Gilson Medical Electronics, Inc., Box 27, 3000 W. Beltline Hwy., Middleton, WI 53562 USA, Tel: (608) 836-1551 Telex: 26-5478
Gilson Medical Electronics (France) S.A., 72 rue Gambetta, B.P. No. 45,95400, Villiers-le-Bel, France, Tel: (1) 39.90.54.41 Telex: 896682

Circle ___10___ for product literature