

NIH GUIDE

**For Grants
and
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The NIH Guide announces scientific
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be kept informed of opportunities,
requirements, and changes in extra-
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NOTICES

SYMPOSIUM - EMERGING ISSUES IN BIOMEDICAL RESEARCH SAFETY

P.T. 42; K.W. 0715175

National Institutes of Health

The Division of Safety, National Institutes of Health (NIH), is pleased to announce the Tenth NIH Research Safety Symposium. This one and one-half day program, to be held December 3-4, 1987, focuses on emerging issues in biomedical research safety. The rapid advances in biomedical research over the last ten years serve to challenge safety and health professionals to anticipate what technical or safety-related hurdles may need to be overcome to meet the needs of the research community in the future. This symposium will examine several mechanisms for resolving currently recognized laboratory safety problems associated with biomedical research, and will explore the effectiveness of the internal institutional review process to identify and resolve emergent safety problems before they constrain research. Speakers representing the scientist, safety professional, biomedical research administrator, architect and engineer, research program director and public policy analyst will examine:

- current trends in biomedical research and associated safety problems;
- the perception of risk and its impact on research related safety and health issues;
- conflicting design requirements for biomedical research facilities brought about by rapid advances in research or research techniques; and
- alternative internal institution review mechanisms to identify and resolve research safety issues.

Date: December 3 - 4, 1987

Place: NIH, Masur Auditorium

For more details, please contact:

Peggy Van Ness
Social and Scientific Systems, Inc.
7101 Wisconsin Avenue, Suite 610
Bethesda, Maryland 20814
Telephone: (301) 986-4870

"THE TOTAL PICTURE" - PROGRAM FUNDING AND GRANTS ADMINISTRATION AT THE NATIONAL INSTITUTES OF HEALTH (A REGIONAL CONFERENCE)

P.T. 42; K.W. 1014002

National Institutes of Health

A two-day conference covering topics related to both program funding and grants administration at the National Institutes of Health is planned for October 28-29 at the University of Oklahoma Health Sciences Center in Oklahoma City. The conference is targeted for an audience of researchers and research administrators at institutions in the southwest region which includes Oklahoma, Texas, Arkansas, Louisiana, New Mexico, Kansas, and Missouri. Investigators and staff from small and minority colleges, for-profit research organizations, hospitals, universities, and research institutes are invited. This two-day conference has a dual focus of interest to both researchers and grants administrators. Discussions of current issues that affect NIH funding and grants administration are included to give conference participants a comprehensive, up-to-date view of NIH-sponsored research.

The first day of the conference is devoted to discussions of current interest to the research programs of the various institutes that comprise the NIH. Preparation of an NIH proposal and the NIH review process are included as agenda topics. Dr. George J. Galasso, Associate Director for Extramural Affairs at the NIH, and program representatives from four of the NIH institutes are featured speakers. Time is available for conference participants to meet informally with the NIH representatives and discuss topics of special interest.

The program for the second day covers topics associated with pre-award and post-award administration of NIH grants. Policy and procedural issues affecting NIH grants administration form the basis for the program. General discussions on current issues and the changes they precipitate are followed by more specific discussions regarding special career development programs, indirect costs, and development of institute funding plans. A graphic presentation illustrating national and regional NIH application and award trends and review group scoring trends is included on the agenda. Mr. Geoffrey Grant, Grants Policy Officer in the Office of Extramural Research at NIH, and representatives from the Division of Research Grants and the grants administration branches of several of the institutes are featured speakers.

Conference information will be mailed out in early September with the deadline for conference registration set at October 9. Ms. Karen Petry at the University of Oklahoma's Norman campus is in charge of conference arrangements. For more information, contact her at (405) 325-4757.

REVISED POLICIES AND PROCEDURES CONCERNING REIMBURSEMENT OF INDIRECT COSTS

P.T. 34; K.W. 1014002

Public Health Service

The Public Health Service (PHS) soon will issue revised policies and procedures for the reimbursement of indirect costs. The new policies and procedures will be contained in a revised PHS Grants Administration Manual (GAM) Part 609, "Reimbursement of Indirect Costs," and will implement changes included in the June 12th revision of the HHS GAM Chapter 6-150. The revised PHS Part 609 will apply to all PHS grants and cooperative agreements (except block grants).

The most significant changes in the new PHS policy are:

- All grant applications reviewed by review panels will show both direct and indirect costs requested. (Grant application Form PHS 398, revised 9/86, contains this feature.) This will provide reviewers more information about the overall cost of proposed projects. However, review panels will have no authority to change indirect cost rates or restrict the application of those rates.
- Indirect costs will be reimbursed based on the most current rate(s) available at the time of award.
- The total amount awarded by PHS (direct plus indirect costs) shall constitute a ceiling on the amount payable to the grantee for a grant budget period.
- Additional indirect cost funding will be awarded only in the following circumstances and provided that funds are available:
 - o To correct an error made by the granting agency in computing the award. Included in this exception is the proviso that the granting agency shall revise the award to provide additional funds for indirect costs when a higher rate(s) than the rate(s) used in the grant award is negotiated and becomes effective (that is, the date of the Indirect Cost Rate Agreement) on or before one calendar month prior to the beginning date of the grant budget period.
 - o To restore funds previously recaptured by PHS as part of a grantee's unobligated balance.
 - o For new or delinquent grantees for whom valid rates are subsequently established.
 - o Upon expansion or extension of projects (limited to the indirect costs attributable to any direct costs awarded). Additional direct costs awarded for other reasons may be accompanied by associated indirect costs at the granting agency's option.
- Grantees will be allowed to rebudget between direct and indirect costs (in either direction) without prior PHS approval. However, the rebudgeting will be subject to other normal prior approval requirements (that is, change of program scope or objectives, purchase of equipment with an acquisition cost greater than \$25,000, etc.).

- All Financial Status Reports (FSRs) that reflect the use of a non-permanent rate(s) will need to be adjusted if a lower permanent rate(s) applicable to the grant is established. In these cases, the grantee shall submit a Summary Report of Expenditures Adjustment Sheet (SROEAS) displaying the downward adjustment to each grant resulting from the difference between the non-permanent and the permanent rate(s). (Revised FSRs are not necessary.)
- The time period for submission of the SROEAS has been reduced from 12 months to 6 months after the Indirect Cost Rate Agreement establishing the permanent rate(s) is executed and shall cover all grants affected by the Agreement.

The revised policies and procedures will apply to all applicable PHS grants awarded on or after October 1, 1987.

The National Institutes of Health (NIH) will provide the actual amount for indirect costs in the "Award Computation" portion of the Notice of Grant Award (Form PHS 1533, revised 9/86) under line 2, "Indirect Costs." This change reflects the fact that the NIH Division of Financial Management will no longer be responsible for making all NIH awards for indirect costs. Thus, any questions regarding the amount of indirect costs provided for the grant budget period, or its calculation, should be referred to the awarding component that issued the grant.

DISCONTINUANCE OF FINANCIAL FORM

P.T. 34; K.W. 1014002

National Institutes of Health

The National Institutes of Health (NIH) has discontinued using the Notice of Disposition of Grant Unexpended Balance, Form NIH 1686, revised 9/84. The purpose of the form was to allow the NIH Division of Financial Management to notify the grantee organization's business office and the NIH awarding component of the action taken concerning the disposition of grant funds remaining at the end of each competitive segment of a grant project period. Grantees are reminded that no balance may be expended unless it is reflected on a Notice of Grant Award, Form PHS 1533, revised 9/86.

In short, this change has been made because (1) the Grant Unexpended Balance form essentially duplicated information contained on the Financial Status Report, and (2) the grantee business office and the NIH awarding component are aware that either the grant has expired or there is follow-on support evidenced by an active competing continuation award.

Questions regarding the elimination of the Notice of Disposition of Grant Unexpended Balance form may be directed to:

Mr. Steven J. Berkowitz, Chief
Federal Assistance Accounting Branch
Division of Financial Management
National Institutes of Health
Building 31, Room B1B07
9000 Rockville Pike
Bethesda, Maryland 20892
Telephone: (301) 496-6101

INCLUSION OF MINORITIES IN STUDY POPULATIONS

P.T. 34, FF; K.W. 1014002, 0710030

National Institutes of Health
Alcohol, Drug Abuse, and Mental Health Administration

The Secretary's Task Force on Black and Minority Health issued its report in October 1985. In its review of existing data, the Task Force noted the under representation of minorities in research studies. This has resulted in significant gaps in knowledge about minority subpopulations. This finding prompted the Task Force to recommend the expansion of biomedical and behavioral research to assure appropriate emphasis on health problems that disproportionately affect U.S. racial/ethnic minority populations (i.e., American Indian or Alaskan Natives, Asian/Pacific Islanders, Blacks, Hispanics). Currently, these problems include: cancer, chemical dependency, heart disease and stroke, homicide and accidents, diabetes, infant mortality and acquired immunodeficiency syndrome (AIDS).

In those emphasis areas (noted above), there are clear scientific and public health reasons for specifically including members of minority groups in study populations. However, investigators should be aware that merely including an arbitrary number of minority group participants in a given study is insufficient to guarantee generalization of the results. In attempting to include minority groups in a particular study, attention must be paid to research design and sample size issues.

Also, the NIH and ADAMHA urge applicants for grants and offerors for contracts to give added attention (where feasible and appropriate) to the inclusion of minorities in the study populations for research into the etiology of diseases, research in behavioral and social sciences, clinical studies of treatment and treatment outcomes, research on the dynamics of health care and its impact on disease, and appropriate interventions for disease prevention and health promotion. If minorities are not included in a given study, a clear rationale for their exclusion should be provided.

For further clarification or discussion of this issue, contact:

John W. Diggs, Ph.D.
Director, Extramural Activities Program, NIAID
Vice-Chair, Subcommittee on Equal Opportunity
for Access in Extramural Programs
National Institutes of Health
Telephone: (301) 496-7291

Delores L. Parron, Ph.D.
Associate Director for Special Populations
Coordinator for Special Populations, ADAMHA
Alcohol, Drug Abuse, and Mental Health Administration
Telephone: (301) 443-2847

DATED ANNOUNCEMENTS (RFPs AND RFAs AVAILABLE)

MICROSTIMULATOR FOR FUNCTIONAL NEUROMUSCULAR STIMULATION

RFP AVAILABLE: NINCDS-87-11

P.T. 34; K.W. 0740050, 0607023, 0706040

National Institute of Neurological and Communicative
Disorders and Stroke

The National Institute of Neurological and Communicative Disorders and Stroke has a requirement for development and evaluation of an implantable, single channel, untethered microstimulator for functional neuromuscular stimulation (FNS).

Offerors should have experience in microtelemetry and design of electrical stimulators. Integrated circuit fabrication skills are desirable.

This is an announcement of an anticipated Request for Proposals. RFP-NIH-NINCDS-87-11 will be issued on or about October 2, 1987, with a closing date for receipt of proposals set for December 3, 1987.

To receive a copy of the RFP, please supply this office with two self-addressed mailing labels. All responsible sources may submit a proposal which will be considered by the agency. Requests for copies of the RFP will be honored if received within 20 calendar days after the scheduled issue date of the RFP. Requests received after this period will be filled on a first-come, first-served basis until the supply is exhausted. The RFP package will be available upon written request to:

Contracting Officer
Contracts Management Branch, NINCDS
National Institutes of Health
Federal Building, Room 901
Bethesda, Maryland 20892

INACTIVATION OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND OTHER
TRANSFUSION-TRANSMITTED VIRUSES IN BLOOD AND BLOOD
COMPONENTS

RFA AVAILABLE: 87-HL-19-B

P.T. 34; K.W. 0750010, 1002045, 0715120, 0715125

National Heart, Lung, and Blood Institute

Application Receipt Date: November 16, 1987

The Blood Resources Branch of the Division of Blood Diseases and Resources, National Heart, Lung, and Blood Institute (NHLBI) announces the availability of a Request for Applications (RFA) on the above subject. This announcement was published previously in the May 29, 1987 issue of the NIH Guide to Grants and Contracts (Vol. 16, No. 18). It is being reissued to emphasize further the urgent need to receive grant applications addressing the development of methods to inactivate viruses in blood and blood components. Copies of the RFA, 87-HL-19-B, may be obtained from staff of the NHLBI.

The program will encourage basic and applied research on the development and evaluation of procedures to remove or destroy the infectivity of HIV and/or other transfusion-transmitted viruses in blood and blood components while maintaining the therapeutic effectiveness of these preparations. The emergence of the AIDS epidemic has underscored the serious and urgent need to develop effective means of rendering blood and blood components safe for transfusion. Procedures that are developed should be simple, inexpensive and capable of being used in blood banks and blood centers.

Request for copies of the RFA should be addressed to:

Luiz H. Barbosa, D.V.M.
Blood Resources Branch, DBDR
Federal Building, Room 504
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-1537

AIDS-ASSOCIATED HEART DISEASE

RFA AVAILABLE: 87-HL-27-H

P.T. 34; K.W. 0715040, 0715120, 0755030

National Heart, Lung, and Blood Institute

Application Receipt Date: January 15, 1988

The Division of Heart and Vascular Diseases of the National Heart, Lung, and Blood Institute invites grant applications to be considered in a single competition for support of research on AIDS - associated heart disease.

BACKGROUND

Several recent reports suggest the possibility of AIDS - associated heart disease that is distinct from the local metastatic involvement of the heart in Kaposi's sarcoma and from decreased heart weight and marantic endocarditis. These reports include diagnoses of myocarditis, dilated cardiomyopathy, congestive heart failure and arrhythmias. Little is known about the etiology and pathogenesis of heart disease in AIDS patients and the relative roles of HIV, opportunistic infections and drug abuse.

OBJECTIVES AND SCOPE

The overall goal is to generate knowledge which will lead to improved diagnosis and treatment of heart disease in AIDS patients. To this end the objective is to elucidate the mechanisms underlying the pathogenesis of AIDS - associated heart disease. Relevant approaches include the disciplines of molecular biology, cell biology, pathology, virology, cardiology, immunology, and microbiology as they apply to the cardiovascular system. Other approaches include the study of evolving cardiac dysfunction in patients, pharmacologic studies of therapeutic regimens and the use of animal models.

MECHANISM OF SUPPORT

The support mechanism for this program will be the traditional, individual research grant. It is anticipated that approximately eight grants will be awarded under this program. All current policies and requirements that govern the research grant programs of the National Institutes of Health will apply to grants awarded under this RFA. Awards will be made to foreign institutions only for research of very unusual merit, need, and promise, and in accordance with Public Health Service policy governing such awards.

REVIEW PROCEDURES

All applications submitted in response to this RFA will be evaluated for scientific and technical merit by an initial review group, which will be convened for this purpose, by the Division of Extramural Affairs, NHLBI.

METHOD OF APPLYING

Potential applicants should write or phone the individual listed below for the full RFA document, which includes instructions for the submission of applications:

Constance Weinstein, Ph.D.
Division of Heart and Vascular Diseases
National Heart, Lung, and Blood Institute
Federal Building, Room 3C06
7550 Wisconsin Avenue
Bethesda, MD 20892
Telephone: (301) 496-1081

Applications must be submitted using Form 398 (Rev. 9/86). The RFA label contained in the application kit must be affixed to the bottom of the face page of the original copy of the application. Failure to use this label could result in delayed processing and review of your application.

NATIONAL COOPERATIVE DRUG DISCOVERY GROUPS FOR THE TREATMENT OF ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

RFA AVAILABLE: 87-AI-24

P.T. 34; K.W. 0715120, 0715125, 0740020, 0755025, 1003006, 0710100, 0710030

National Institute of Allergy and Infectious Diseases

Letter of Intent Receipt Date - December 1, 1987
Application Receipt Date - February 12, 1988

The National Institute of Allergy and Infectious Diseases (NIAID) announces availability of an RFA for funding of the National Cooperative Drug Discovery Groups for the Treatment of Acquired Immune Deficiency Syndrome (NCDDG/AIDS). It is the purpose of this RFA (available on request) to invite applications aimed at the discovery of more effective, more selective, and more diverse agents which can be used for the treatment of AIDS. Applications which include a research project or a core component from the private sector (e.g. pharmaceutical, chemical, or biotechnological companies) are encouraged. Research on the use of either the humoral or the cellular arm of the immune system, on the structure and biophysical properties of proteins, biochemistry of viral host interactions, drug targeting, biochemistry of viral, mycotic and parasitic interactions, animal models, drug metabolism, discovery of potentially efficacious natural products or synthetic chemicals may be judged responsive to this RFA. Applications must include at least one research project specifically on HIV and may submit projects designed for developing therapies for the treatment of the following opportunistic infections associated with AIDS: mycobacteria, cryptococcosis, pneumocystis, Epstein Barr virus and cytomegalovirus. However, applications for the development of nucleoside analogues for the treatment of members of the herpes virus family will not be accepted as responsive to this RFA.

Each NCDDG/AIDS will be assembled by the Principal Investigator to form a multidisciplinary consortium representing the various skills needed to successfully design, synthesize, and evaluate, at the preclinical level, treatment entities and strategies for the treatment of AIDS. Inasmuch as it is unlikely that all of the outstanding talents required to exploit fundamental leads from various scientific disciplines will be found in a single institution, each Group is envisioned as being multi-institutional as well. Thus each NCDDG/AIDS will be assembled by the Principal Investigator and will consist of a number of research projects representing the scientific disciplines required to attain the Group's goal and objectives. The various research projects, including that of the Principal Investigator, may be mobilized from academia, research institutions, or industry. It is expected that the rationale for design of potential treatments, the synthesis of specific agents, and the preclinical models for evaluation will originate within the Group and be based on leads from their own and others' fundamental research. Specifically excluded from the Group's activities are activities related to clinical evaluation of the drug.

Awards will be made as Cooperative Agreements. Assistance via Cooperative Agreement differs from the research grant in that the Government component (in this instance, NIAID) awarding the Cooperative Agreement anticipates substantial involvement during performance. The nature of NIAID staff participation is described in the RFA. However, the applying Group must define its objectives in accord with its own interests and perceptions of approaches to anti-AIDS treatment.

The proposed applicant institution will be responsible for the Group's application. Awards will be made to the applicant institution on behalf of the group as a whole and not to individual research projects with the Group. The applicant institution will provide a Central Operations Office for the Group. The applicant institution will be responsible for the performance of the entire Group and will be accountable for the funds awarded. The participation of the Government through the NIAID extramural staff is aimed at facilitating a concerted effort by the Group by making available to the Group biological materials for testing, appropriate existing data bases, and appropriate ancillary testing under existing contracts. The interaction of academic and nonprofit research institutions with commercial organizations and Government is expected to favor efficient invention of anti-AIDS treatment and will facilitate its subsequent development to clinical trial.

NIAID has set aside 3 to 5 million total costs for the initial year's funding. It is anticipated that 3-5 awards will be made under this program.

This RFA is available from:

Dr. John J. McGowan
Chief, Developmental Therapeutics Branch
AIDS Program
Westwood Building 3A-07
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892
Telephone: (301) 496-8197

Applications must be submitted using Form 398 (Rev. 9/86). The RFA label contained in the application kit must be affixed to the bottom of the face page of the original copy of the application. Failure to use this label could result in delayed processing and review of your application.

ONGOING PROGRAM ANNOUNCEMENTS

MOLECULAR AND DEVELOPMENTAL NEUROBIOLOGY

P.T. 34; K.W. 0705055, 1002008, 1002059, 0790000

National Institute of Child Health and Human Development
National Institute of Neurological and Communicative
Disorders and Stroke

The National Institute of Child Health and Human Development (NICHD) and The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) jointly sponsor this program announcement to invite research grant applications for studies on the molecular biology of the developing nervous system. The purpose of this program announcement is to place additional emphasis on research which focuses on the development of structure and function at the molecular level in the central nervous system.

BACKGROUND

Structural nervous system anomalies are commonly encountered in newborns and comprise over half of the human congenital abnormalities that are incompatible with life. They also can pose a life-long burden of morbidity if the affected newborns survive. The majority of studies to date have focused on morphological aspects of the development of the nervous system and increasing attention is needed on the complex series of interacting events that result in a normally functioning central nervous system. Studies are therefore needed on all aspects of nervous system maturation with increased emphasis on molecular approaches covering the embryonic, fetal and postnatal periods.

RESEARCH GOALS

Investigations are encouraged that examine the sequence of spatially and temporally overlapping developmental events from the earliest gestational stages until maturation of the fully functioning adult organ system. Interest involves early neurogenesis, histogenesis, disorders of normal development and behavioral studies. Establishment of cell lineages, neuronal migrations, axonal outgrowth and long range connectivity, formation of synaptic connections and patterns of cell death are all considered. Normal as well as adverse influences leading to developmental nervous system abnormalities are included. While investigations can be at the cellular level, increasing attention should be given to efforts that identify molecular components in nervous system development and that examine the developmental regulation and function of the respective genes. Use of mammalian animal models is preferred but investigations employing nonmammalian models or cell or organ culture systems for understanding of nervous system maturation and developmentally-caused nervous system abnormalities in the human are also appropriate. Nervous system developmental studies encouraged by this announcement are given below. Other relevant topics proposed by applicants are equally welcome.

INVESTIGATIONS NEED TO IDENTIFY MOLECULAR COMPONENTS IN THE ESTABLISHMENT OF CELL LINEAGES AND TO ANALYZE THEIR INVOLVEMENT IN THE COMMITMENT OF NEURAL PRECURSOR CELLS TO SPECIFIC CELL LINEAGES AND DIFFERENTIATION PATHWAYS OF THE NERVOUS SYSTEM IN THE EARLY EMBRYO. STUDIES MAY:

- o Examine control of proliferation of precommitted cells by growth factors and inhibitors (microenvironmental influences) and the expression of growth factors and their function in cellular commitment to specific cell lineages.
- o Analyze relationships between neuronal ancestries and final differentiated fates and determine the gestational times when commitment to specific cell lineages is made.
- o Develop cellular probes, such as injected DNA encoding a unique molecular marker, to investigate cell division and the commitment of cells to specific cell lineages, analyze the genes' role in the hierarchy of developmental decisions that cell lineages have to make and study genes and gene products, defined by homeotic mutations, involved in specification of neural cell fates.
- o Determine the molecular defects caused by mutant genes, and their spatial and temporal characteristics in producing nervous system development-regulating effects.

STUDIES ARE NEEDED BEYOND THE CURRENT KNOWLEDGE OF GLIAL CELL INVOLVEMENT IN NEURONAL MIGRATION TO IDENTIFY PARTICULARLY THE MOLECULAR COMPONENTS IN THIS PROCESS AND TO EXAMINE DEVELOPMENTAL REGULATION DURING THE MORPHOGENETIC MOVEMENTS OF NEURULATION AND OF THE NEURAL CREST. THEY MAY:

- o Evaluate cell surface adhesion molecules in premigratory sorting from their proliferative zone, and in interactions with glial cells during neuronal migrations.
- o Examine the regulatory controls for the stage- and tissue-specific expression of the neuronal cell surface adhesion antigens, i.e., by endogenous and exogenous regulatory factors and events.
- o Dissect the molecular architecture and functional sites of neuronal cell surface adhesion antigens with monoclonal antibodies and recombinant DNA techniques.

- o Characterize receptor molecules for neuronal cell surface adhesion antigens involved in the adhesive and migratory processes on both neuronal and glial cell surfaces.
- o Determine extracellular matrix constituents recognized by neuronal cell surface antigens during the adhesive and migratory processes.
- o Examine the relationship between proliferative and migratory behavior of neural crest-derived cells and the controlling molecular mechanisms.
- o Study distribution of extracellular matrix components in the developing organism and correlate with the known pathways of neural crest migration.
- o Study role and embryonal developmental regulation of the various matrix molecules in neural crest migration.

MOLECULAR MECHANISMS BY WHICH NEURONS FIND PROPER CONNECTIONS IN THE DEVELOPING EMBRYO AND MOLECULAR CONTRIBUTIONS THAT ARE ESSENTIAL FOR AXONAL GUIDANCE THROUGH THE EMBRYONIC ENVIRONMENT TO APPROPRIATE TARGET TISSUES NEED STUDY. THIS ALSO NECESSITATES INVESTIGATIONS OF GROWTH CONE EXTENSION AND OF GROWTH CONE SENSING OF THE ENVIRONMENT FOR TARGET-SPECIFIC ADHESION DECISIONS. STUDIES MAY:

- o Examine differential axonal adhesivity to extracellular matrix components, gradients of diffusible substances (e.g., nerve growth factor), embryonic electric fields, or already differentiated neurons as axonal guidance factors.
- o Determine guidance factors for pioneer axons and growth cones and examine cell surface antigens in axon bundling (fasciculation) during the axonal guidance process.
- o Investigate the developmental regulation of cell surface antigens, and relate antigen gene expression to ontogenetic regulation of extracellular matrix components.
- o Study growth cone receptors for extracellular matrix components (laminin, fibronectin) or diffusible substances that promote axonal outgrowth.
- o Study developmental expression of intracellular proteins, and regulation of genes associated with axonal outgrowth and growth cone extension towards target tissue and analyze expression of neuronal recognition molecules in terms of specificity of target selection.

STUDY OF THE DEVELOPMENTAL FORMATION OF SYNAPTIC CONNECTIONS HAS MAINLY EXAMINED CELLULAR CHARACTERISTICS AND HAS SUGGESTED MUTUAL INTERACTIVE INFLUENCES OF AXONS AND TARGET TISSUE IN THE ESTABLISHMENT, MAINTENANCE, AND REARRANGEMENT OF SYNAPTIC CONNECTIONS. CHARACTERIZATION OF THE MOLECULAR COMPONENTS IN THIS PROCESS IS REQUIRED. STUDIES MAY:

- o Examine the molecular components (cell surface molecules) contributing to synapse formation, maintenance, and rearrangement in the developing nervous system.
- o Examine postsynaptic synthesis of receptors and other proteins in response to axonal influence.
- o Study trophic effects of target derived synaptic factors on axons, (analyze factor's receptors on presynaptic cells).
- o Analyze the role of basal lamina components in the formation of interneuronal and neuron-target connections and examine the genes and developmental regulation of molecular components--cell surface antigens, extracellular matrix components, trophic factors, and receptors.
- o Analyze the regulation of neurotransmitter expression by influences in the embryonic environment and the plasticity of neurotransmitter synthesis during development.

MECHANISM OF SUPPORT

Support for this program is through the regular research project grant-in-aid. Each successful applicant will plan, direct, and carry out the individual research project.

APPLICATION AND REVIEW PROCEDURES

Applications should be prepared on Form PHS 398 (Revised 9/86) following instructions contained in the application kit. Application kits are available from most institutional business offices, or may be obtained from:

Office of Grants Inquiries
Division of Research Grants
National Institutes of Health
Westwood Building - Room 449
Bethesda, Maryland 20892

Applications must be responsive to the program announcement and the goals of NICHD and NINCDS. They will be judged on scientific merit and program relevance in accordance with NIH policy and procedures involving peer review. An initial review will be made by the appropriate study section of the Division of Research Grants. A second level of review will be made by the National Advisory Child Health and Human Development Council or by the National Advisory Neurological and Communicative Disorders and Stroke Council depending on Institute assignment of the application. Assignments will be based on Division of Research Grant referral guidelines.

Deadline dates for the receipt of applications are:
February 1 June 1 October 1

The phrase "PREPARED IN RESPONSE TO NICHD AND NINCDS PROGRAM ANNOUNCEMENT FOR RESEARCH ON MOLECULAR AND DEVELOPMENTAL NEUROBIOLOGY" should be typed on line 2 of the (face) page of the application. The original and six copies of the application should be mailed to:

Grant Application Receipt Office
Division of Research Grants
National Institutes of Health
Westwood Building - Room 240
Bethesda, Maryland 20892-4500**

Inquiries may be directed to:

Delbert Dayton, M.D., Chief Genetics & Teratology Branch Center for Research for Mothers and Children NICHD-NIH Landow Building-Room 7C08 Bethesda, Maryland 20892 Telephone (301) 496-5541	Joseph S. Drage, M.D., Chief Developmental Neurology Branch Division of Convulsive, Developmental, Neuromuscular Diseases, NINCDS-NIH Federal Building-Room 816 Bethesda, Maryland 20892 Telephone (301) 496-6701
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This program is described in the Catalog of Federal Domestic Assistance No. 13.854, Biological Basis Research in the Neurosciences and Communicative Sciences and No. 13.865, Research for Mothers and Children. Awards will be made under the authority of the Public Health Service Act, Section 301 (42 USC241) and administered under PHS grant policies and Federal Regulations 42 CFR Part 52 and 45 CFR Part 74. This program is not subject to review by a Health Systems Agency.

SUPPORT OF RESEARCH CENTER GRANTS

P.T. 04; K.W. 0710030, 0710100, 0785015, 0715210, 1002019

National Institute of General Medical Sciences

The National Institute of General Medical Sciences (NIGMS) accepts center grant applications only in the research areas listed below. This announcement is notification that the guidelines for center grant applications have been revised. Before preparing an application, applicants should obtain the complete instructions for preparing center grant applications from the appropriate individual named below.

The purpose of NIGMS research center grants is to promote the application of basic research findings to clinical problems and to allow scientific progress that would not take place through, or would only be made more slowly by, interrelated research projects that focus on a biomedical research problem within one of the specified fields.

Deadlines for receipt of center grant applications are February 1, June 1, and October 1.

NOTE: NIGMS IMPOSES A DOLLAR LIMIT ON APPLICATIONS FOR CENTER GRANTS. THE CURRENT LIMIT IS \$3,500,000 DIRECT COSTS OVER A 5-YEAR PERIOD. UNDER CERTAIN CIRCUMSTANCES, ADDITIONAL FUNDS MAY BE PROVIDED FOR MAJOR PIECES OF EQUIPMENT.

The areas in which NIGMS accepts research center grant applications, and the officials to contact for instructions and further information are:

Pharmacological Sciences:
Dr. Christine Carrico -- (301) 496-7707

Anesthesiology:
Dr. Paul Velletri -- (301) 496-7707

Trauma and Burn Research:
Dr. Lee Van Lenten -- (301) 496-7001

Genetics:
Dr. Judith Greenberg -- (301) 496-7175

For general information, applicants may contact
Dr. Elke Jordan -- (301) 496-7061

**THE MAILING ADDRESS GIVEN FOR SENDING APPLICATIONS TO THE DIVISION OF RESEARCH GRANTS IS THE CENTRAL MAILING ADDRESS FOR THE NATIONAL INSTITUTES OF HEALTH. APPLICANTS WHO USE EXPRESS MAIL OR A COURIER SERVICE ARE ADVISED TO FOLLOW THE CARRIER'S REQUIREMENTS FOR SHOWING A STREET ADDRESS. THE ADDRESS FOR THE WESTWOOD BUILDING IS:

5333 Westbard Avenue
Bethesda, Maryland 20816