

# NIH GUIDE

For Grants  
and  
Contracts

## NOTICE OF MAILING CHANGE

Check here if you wish to  
discontinue receiving this  
publication

Check here if your address has  
changed and you wish to con-  
tinue receiving this publication.  
Make corrections below and  
mail this page to:

NIH Guide  
Distribution Center  
National Institutes of Health  
Room B3BE07, Building 31  
Bethesda, Maryland 20892

U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES

OFFICIAL BUSINESS  
Penalty for Private Use, \$300

The NIH Guide announces scientific initiatives and provides policy and administrative information to individuals and organizations who need to be kept informed of opportunities, requirements, and changes in extramural programs administered by the National Institutes of Health.

Vol. 18, No. 8  
March 10, 1989

First Class Mail  
Postages & Fees Paid  
PHS/NIH/OD  
Permit No. G-291

NOTICES

NOTICE OF MEETING - PROGRAMS FOR SUPPORT OF MINORITIES IN  
BIOMEDICAL RESEARCH ..... 1  
National Institutes of Health  
Index: NATIONAL INSTITUTES OF HEALTH

DATED ANNOUNCEMENTS (RFPs AND RFAs)

STIMULATING ELECTRODES BASED ON THIN FILM TECHNOLOGY (RFP) ..... 1  
National Institute of Neurological Disorders and Stroke  
Index: NEUROLOGICAL DISORDERS, STROKE

IMPROVED METHODS FOR THE EARLY DIAGNOSIS OF HIV-INFECTION IN  
NEONATES, INFANTS, AND CHILDREN (RFA) ..... 2  
National Institute of Child Health and Human Development  
Index: CHILD HEALTH, HUMAN DEVELOPMENT

NATIONAL COOPERATIVE DRUG DISCOVERY GROUPS FOR SPECIFIC  
DISEASE-ORIENTED ANTICANCER TREATMENT (RFA 89-CA-01)

NATIONAL COOPERATIVE DRUG DISCOVERY GROUPS FOR GENERAL  
MECHANISM OF ACTION BASED ANTICANCER TREATMENT (RFA 89-CA-02)

NATIONAL COOPERATIVE ANTICANCER MODEL DEVELOPMENT GROUPS  
(RFA 89-CA-03) ..... 2  
National Cancer Institute  
Index: CANCER

MOLECULAR GENETICS OF HYPERTENSION IN HUMANS AND ANIMALS (RFA) ..... 4  
National Heart, Lung, and Blood Institute  
Index: HEART, LUNG, BLOOD

STUDIES FOR THE DEVELOPMENT AND IMPROVEMENT OF ANALYTICAL  
METHODOLOGY FOR ANIMAL DRUG RESIDUES IN TISSUES (RFA) ..... 5  
Food and Drug Administration  
Index: FOOD AND DRUG ADMINISTRATION

ONGOING PROGRAM ANNOUNCEMENTS

RESEARCH TRAINING RELATED TO ALZHEIMER'S DISEASE AND RELATED  
DISORDERS ..... 6  
National Center for Nursing Research  
Index: NURSING RESEARCH

HAIR CELL REGENERATION ..... 7  
National Institute on Deafness and Other Communication Disorders  
Index: DEAFNESS, COMMUNICATION DISORDERS

NOTICES

NOTICE OF MEETING - PROGRAMS FOR SUPPORT OF MINORITIES IN BIOMEDICAL RESEARCH

P.T. 42, FF; K.W. 0710030, 0720005

National Institutes of Health

Notice is hereby given that the National Institutes of Health (NIH) will hold the second and third of a series of five regional public meetings to be conducted under the auspices of the Office of the Director, NIH, on "Programs for Support of Minorities in Biomedical Research." The purpose of the meetings is two-fold:

1. to provide current information concerning the activities of the NIH by describing in broad terms existing programs offered by NIH; and
2. to solicit through public testimony the views of biomedical researchers, university faculty and administrators, students, representatives of professional societies, and other interested parties regarding the nature and scope of programs to attract and support minorities in biomedical research.

The second meeting will be held on Thursday, April 20, 1989, from 8:30 a.m. to 4:30 p.m. in Building 31, Conference Room #4 at the National Institutes of Health in Bethesda, Maryland. The third meeting will be held at the Morehouse School of Medicine in Atlanta, Georgia, on May 12. Subsequent meetings will be held in Phoenix, Arizona, on September 24 and Anchorage, Alaska, on October 9.

Following presentations by senior NIH staff, a panel comprised of NIH program administrators will spend the remainder of the day receiving testimony from public witnesses. Each witness will be limited to a maximum of ten minutes. Attendance and the number of presentations will be limited to the time and space available. Consequently, all individuals wishing to attend or to present a statement at this public meeting should notify, in writing:

William H. Pitlick, Ph.D.  
Executive Secretary  
National Institutes of Health  
Shannon Building, Room 250  
Bethesda, Maryland 20892

Those planning to make a presentation at Bethesda, Maryland, should file a one-page summary of their remarks with Dr. Pitlick by March 30, 1989; those wishing to make a presentation at Atlanta should file a one-page summary by April 14. A copy of the full text should be submitted for the record at the time of the meeting. Additional information may be obtained by calling:

Ms. Loretta Beuchert  
Research Training Office  
Office of Extramural Research  
National Institutes of Health  
Shannon Building, Room 250  
Bethesda, Maryland 20892  
Telephone: (301) 496-9743

DATED ANNOUNCEMENTS (RFPs AND RFAs)

STIMULATING ELECTRODES BASED ON THIN FILM TECHNOLOGY

RFP AVAILABLE: NIH-NINDS-89-18

P.T. 34; K.W. 0745047, 0705055, 0740050, 0706000

National Institute of Neurological Disorders and Stroke

The National Institute of Neurological Disorders and Stroke (NINDS) has a requirement to design and fabricate multielectrode stimulating probes capable of stimulating small populations of neurons within the central nervous system.

Offerors must have access to facilities for design and development of thin film microcircuitry and experience in neurophysiology, biomedical engineering implant materials and neural histopathology.

This is an announcement of an anticipated Request for Proposals. RFP-NIH-NINDS-89-18 will be issued on or about March 10, 1989, with a closing date of May 10, 1989, for receipt of proposals.

This requirement represents the recompetition of a current contract with the University of Michigan and the incumbent is expected to reapply. It is anticipated that one contract award will be made.

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. The RFP will be available upon request to:

Contracting Officer  
Contracts Management Branch  
National Institute of Neurological  
Disorders and Stroke, NIH  
Federal Building, Room 901  
7550 Wisconsin Avenue  
Bethesda, Maryland 20892

IMPROVED METHODS FOR THE EARLY DIAGNOSIS OF HIV-INFECTION IN  
NEONATES, INFANTS, AND CHILDREN

RFA: 89-HD-02

P.T. 34, AA; K.W. 0715008, 0745020, 0403020, 0770005

National Institute of Child Health and Human Development

Revised Application Receipt Date: March 22, 1989

The availability of this Request for Applications was announced in the NIH Guide for Grants and Contracts on December 16, 1988, Vol. 17, No. 42. This notice is to inform potential applicants that the application receipt date has been changed from March 8, 1989, to March 22, 1989.

NATIONAL COOPERATIVE DRUG DISCOVERY GROUPS FOR SPECIFIC  
DISEASE-ORIENTED ANTICANCER TREATMENT (89-CA-01)

NATIONAL COOPERATIVE DRUG DISCOVERY GROUPS FOR GENERAL  
MECHANISM OF ACTION BASED ANTICANCER TREATMENT (89-CA-02)

NATIONAL COOPERATIVE ANTICANCER MODEL DEVELOPMENT GROUPS (89-CA-03)

RFA AVAILABLE: 89-CA-01 89-CA-02 89-CA-03

P.T. 34; K.W. 0715035, 0755020, 0740023, 1003006, 0760020, 0710030

National Cancer Institute

Letter of Intent Receipt Date: April 28, 1989

Application Receipt Date: June 9, 1989

In FY 1983 and 1984, the National Cancer Institute (NCI) requested applications for National Cooperative Drug Discovery Groups (NCDDGs) whose goals were the discovery of improved cancer treatment on the basis of novel mechanisms of action. In 1986, the program requested applications focused on exploitation of specific and unique characteristics of lung and colon cancer. The NCDDG approach to modern anticancer treatment discovery was broadened further in August 1987, by RFAs inviting applications for the creation and evaluation of both general mechanism of action based and specific disease-oriented anticancer treatments as well as for the development of innovative preclinical models for determining antitumor selectivity. In September 1988, NCI invited applications for the establishment of "National Cooperative Natural Products Drug Discovery Groups" to stimulate the search for new effective anticancer treatments from natural sources.

**SUMMARY**

The NCI announces the availability of three complementary RFAs for the expansion of the NCDDG program for the discovery of new entities, strategies or models for the treatment and cure of cancer. Applications for the disease-oriented NCDDGs should specify a type of cancer and provide a rationale for its selection as a target (89-CA-01). The cancer type to be addressed is at the discretion of the applicant. Research topics may include,

but are not limited to, new approaches to drug delivery, enhancement of immune responses to unique antigens, or synthesis of new agents which inhibit a target enzyme, oncogene expression, or the action of hormones and growth factors on the proliferation of cancer cells.

Applications which propose to exploit differences between normal cells and cancer cells without implications for a specific cancer type are requested in the mechanism of action RFA (89-CA-02).

Model development may be oriented to a general mechanism likely to affect many types of cancer or be tailored to a particular disease, such as breast cancer (89-CA-03). Areas of research are broad and may include a variety of in vitro and in vivo models, such as biochemical, metastatic, immunological, radiomodulator, differentiation, etc. Applications which propose models limited to diagnosis and without a rationale for new cancer treatments are not invited.

These cooperative agreements are designed to assist leading investigators in diverse scientific disciplines to interact as a unit, regardless of their individual institutional affiliations or prior direct involvement in cancer related research. The purpose is to mobilize, with NCI support, the outstanding talents required for exploitation of leads from fundamental studies and their extrapolation to improved treatments. Each NCDDG is envisioned as being composed of a Principal Investigator and a number of Program Leaders who will conduct interdependent and synergistic preclinical laboratory programs to conceptualize, create and evaluate new therapies, or new preclinical models (e.g., RFA 89-CA-03), in accordance with the applicant's scientific goals. An NCDDG may be made up of scientists in academic, non-profit research, and commercial organizations. Although the RFA for Model Development allows a Group to consist of a single laboratory program, multidisciplinary and/or multi-institutional programs are encouraged.

Awards will be made as cooperative agreements. Assistance via cooperative agreement differs from the research grant in that the cooperative agreement funding mechanism anticipates substantial NCI staff participation during performance. However, the applying Group must define its objectives in accord with its own interests and perceptions of approaches to the discovery of new treatments or models. The role of NCI as a member of the Group is described in each RFA. Essentially, the extramural NCI staff concerned with the administration of grants and contracts will apply its experiences and appropriate resources to facilitate and stimulate the realization of Group objectives. The active participation of industry is encouraged because it will allow this segment of the scientific community to contribute its considerable intellectual and material resources.

The Principal Investigator's (PI's) 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 laboratory programs within the Group. The PI's institution will provide a Central Operations Office for the Group and will be responsible for the performance of the entire Group and be accountable for the funds awarded.

NCI plans to make multiple awards for project periods of up to five years and has set aside \$2,000,000 for the initial year's funding of each RFA. Special programmatic consideration may be given to applications on lung and colon cancer. These RFAs are being released as a package based on the realization that the search for better cancer treatments is a dynamic process dependent on the availability of new agents and strategies coupled with the development and use of more predictive models. An individual investigator may respond to more than one RFA provided there is no scientific or budgetary overlap or proprietary conflict in funded activities.

The RFA label obtained from the NCI staff person named below or from grant application Form PHS-398 (Revised 9/86) must be affixed to the bottom of the face page. Failure to use this label could result in delayed processing of your application such that it may not reach the review committee in time for review.

For further information and a copy of the RFAs for either the disease-oriented (89-CA-01) or mechanism of action based (89-CA-02) National Cooperative Drug Discovery Group Programs, contact:

George S. Johnson, Ph.D.  
Developmental Therapeutics Program  
Division of Cancer Treatment  
National Cancer Institute  
Executive Plaza North, Suite 832  
Bethesda, Maryland 20892  
Telephone: (301) 496-8783

For further information and a copy of the RFA for National Cooperative Anticancer Model Development Groups (89-CA-03), contact:

Mary K. Wolpert, Ph.D.  
Developmental Therapeutics Program  
Division of Cancer Treatment  
Executive Plaza North, Suite 832  
Bethesda, Maryland 20892  
Telephone: (301) 496-8783

MOLECULAR GENETICS OF HYPERTENSION IN HUMANS AND ANIMALS

RFA AVAILABLE: 89-HL-02-H

P.T. 34; K.W. 1002058, 0715115, 1002008, 0710030

National Heart, Lung, and Blood Institute

Application Receipt Date: December 7, 1989

The Hypertension and Kidney Diseases Branch of the Division of Heart and Vascular Diseases, National Heart, Lung and Blood Institute (NHLBI), announces the availability of a Request for Applications (RFA) on the above subject. Copies of the RFA are currently available from staff of the NHLBI.

This program will support multidisciplinary research studies that combine contemporary molecular biological methodologies with the genetics of human and animal pedigrees in order to identify the location of the genes which play a significant role in the pathogenesis of hypertension, to characterize these genes and the mechanisms governing their expression, and to determine the gene products and their modes of action. It is expected that the research applications will encompass a variety of approaches and require expertise from a wide range of disciplines, including genetics, molecular biology, clinical medicine, mathematics, and statistics.

A letter of intent is requested by September 11, 1989, and the deadline for receipt of applications is December 7, 1989. The earliest award date for successful applications will be in July 1990. Awards will be made to foreign institutions only for research of very unusual merit, need, and promise.

The Division of Heart and Vascular Diseases will sponsor an orientation meeting in an effort to alert potential applicants to the critical issues and important experimental strategies for an effective application. This meeting is tentatively planned for June 15, 1989, in Bethesda, Maryland. Although approximately \$1.7 million in total costs for this program is included in the financial plans for fiscal year 1990, award of grants pursuant to this RFA is contingent upon receipt of funds for this purpose. The specific amount to be funded, however, will depend upon the merit and scope of the applications received and the availability of funds.

Potential applicants should write or phone the individual listed below for the full RFA document and for information about the orientation meeting:

Stephen C. Mockrin, Ph.D.  
Deputy Chief  
Hypertension and Kidney Diseases Branch  
Division of Heart and Vascular Diseases  
National Heart, Lung and Blood Institute, NIH  
Federal Building, Room 4C10  
7550 Wisconsin Avenue  
Bethesda, Maryland 20892  
Telephone: (301) 496-1857



STUDIES FOR THE DEVELOPMENT AND IMPROVEMENT OF ANALYTICAL METHODOLOGY FOR ANIMAL DRUG RESIDUES IN TISSUES

RFA AVAILABLE: FDA-CVM-89-1

P.T. 34; K.W. 1003008, 0710040, 0710100

Center for Veterinary Medicine  
Food and Drug Administration

Application Receipt Date: May 19, 1989

The Food and Drug Administration (FDA), Center for Veterinary Medicine (CVM) is announcing the anticipated availability of approximately \$100,000 for fiscal year 1989 for cooperative agreements to support studies on the development of analytical methodologies for residues of animal drugs in tissues. Appropriated FY 1989 funds are currently available for these studies. It is anticipated that one award will be made in FY 1989 and additional awards, at the same level of funding, may be made from the subsequent year appropriation, if Federal fiscal year funds become available. The purpose of these agreements is to provide financial assistance to support research on new or emerging techniques of analytical chemistry that have not been applied to any great extent to the analysis of animal drug residues. Support for this program may be for a period of up to 3 years.

**BACKGROUND**

The Code of Federal Regulations (21 CFR 556.1 Subpart B) contains prescribed tolerances for residues of new animal drugs in red meat, poultry, and milk. In order to ensure that the established tolerances are not exceeded, FDA requires analytical methods that can be used to monitor and enforce compliance with the approved conditions of safe use of drugs in animals intended for human food.

Because the responsibility for providing analytical methods for specific approved drugs in meat and milk rests primarily with a drug's sponsor, FDA is interested in funding research on: (1) multiresidue procedures, i.e., methods of analysis that can be used to reliably quantitate and confirm the identity of classes of drug residues; (2) methods for residues of unapproved drugs that may be used illegally in food-producing animals; and (3) chemical-based methods of analysis that can be used to confirm analytical results obtained with presently available antimicrobial screening assays for several approved classes of antibiotics used in food-producing animals. Drug classes of primary interest include beta-lactams, aminoglycosides and related antibiotics, and nitrobenzamides and their reduced (amino) metabolites. A more complete list of drugs of interest is included in the RFA.

**MECHANISM**

Support for this program will be in the form of cooperative agreement awards. These awards will be subject to all policies and requirements that govern the research grant programs of the Public Health Service.

**REVIEW PROCEDURES**

Applications will undergo initial review by experts in the fields of analytical chemistry, drug chemistry, and bioanalysis. The experts will review and evaluate each application based on its scientific merit. The applications will be subject to a second level review to evaluate them based on their relevance to FDA's mission in the regulation of animal drugs.

Questions concerning the programmatic aspects of the program should be addressed to:

Dr. David B. Batson  
Center for Veterinary Medicine, HFV-500  
Food and Drug Administration  
5600 Fishers Lane  
Rockville, Maryland 20857  
Telephone: (301) 443-6510

Request for copies of the RFA and application kits are available from:

Barbara C. Moy  
State Contracts and Assistance Agreements Branch, HFA-520  
Park Building, Room 3-20  
Food and Drug Administration  
5600 Fishers Lane  
Rockville, Maryland 20857  
Telephone: (301) 443-6170

Applications must be submitted to the Food and Drug Administration using Form 398 (Rev. 9/86). The outside of the mailing package and line 2 of the application face page should be labeled "Response to RFA-FDA-CVM-89-1".

#### ONGOING PROGRAM ANNOUNCEMENTS

##### RESEARCH TRAINING RELATED TO ALZHEIMER'S DISEASE & RELATED DISORDERS

P.T. 44; K.W. 0715180, 0720005, 0785130

National Center for Nursing Research

Application Receipt Dates: Jan. 10, May 10, Sept. 10

The National Center for Nursing Research (NCNR) has an interest in research training in areas related to patient care. NCNR recognizes the importance of supporting potential nurse researchers in their efforts to develop scientific expertise in their chosen area of research.

One focus of patient care that is rapidly growing with the increased percentage of elderly persons in the population is that of Alzheimer's Disease and Related Disorders. Although some research has been done in both the prevention of this disease and strategies for care to both patients and their families, further research is needed. Nurse researchers who are well prepared in various aspects of the disease and methodological approaches for research related to Alzheimer's disease will be able to make a significant contribution to interdisciplinary research efforts as well as to basic nursing research.

The NCNR is interested in supporting pre- and post-doctoral fellowships for qualified nurses who are willing to undertake research training related to Alzheimer's disease and related disorders. Applicants for these fellowships are encouraged to seek training sponsors and sites that have established research programs with this focus. An example of these sites is the Alzheimer's Disease Research Centers currently funded by the National Institute on Aging in locations throughout the United States.

#### ELIGIBILITY

Applicants must meet the criteria for the National Research Service Award for Individual predoctoral and postdoctoral Nurse Fellowships. Further information on these criteria and currently funded Alzheimer's Disease Research programs can be obtained by contacting:

Division of Extramural Programs  
Extramural Programs  
National Center for Nursing Research  
National Institutes of Health  
Building 31, Room 5B13  
Bethesda, Maryland 20894  
Telephone: (301) 496-0526

This program is described in the Catalog of Federal Domestic Assistance No. 13.361, Nursing Research. Awards are made under the authority of the PHS Act, Sections 301, 483, 484, and 487 as amended by Public Law 99-158 and 97-219. Awards are administered under PHS grant policies and Federal regulations 42 CFR Part 52 and 45 CFR Part 74. This program is not subject to the intergovernmental review requirements of Executive Order 12372 or to review by a Health Systems Agency.



## HAIR CELL REGENERATION

P.T. 34; K.W. 0705070, 0775005, 0760015, 0715050

National Institute on Deafness and Other Communication Disorders

The National Institute on Deafness and Other Communication Disorders (NIDCD) encourages the submission of individual research grant applications related to the regeneration of hair cells in the auditory and vestibular epithelia of animals.

### BACKGROUND

The regenerative capacity of the hair cell epithelia in the mechanoreceptive lateral line organs of fish and amphibians has been known for decades. The hair cell epithelia of some of these vertebrates add new hair cells throughout life and replace those lost or damaged. The regenerative capacities of the lateral line organs after injury have been extensively studied in the tail stumps of amphibian larvae. Differential interference optics and fluorescent microscopy methods have revealed that regenerated neuromasts develop from cells in the surviving neuromasts of the tail stump. Studies have suggested that the progeny of supporting cells produce both hair cell and supporting cells. Differentiated hair cells have not been observed to divide or to migrate. Studies of embryonic development and postembryonic regeneration of the lateral line system have provided approaches and hypotheses for the study of regeneration of hair cells in the inner ear.

The sensory epithelia in the ears of some fish and amphibians continue to grow throughout postembryonic life and may have the capacity for regeneration of hair cells in response to injury. All the cellular elements of these inner ear epithelia continue to grow during postembryonic life. Hair cells increase in number, the supporting cells proliferate, and the nerve supply grows, primarily through hypertrophy. In certain anamniotes the location of postembryonic proliferation of hair cells has been identified by incorporation of DNA precursors; a set of ultrastructural characteristics has been developed to identify newly differentiating hair cells. The major proliferation site for the hair cells is the outer edge of the sensory epithelia in at least some ears. Labeled supporting cells have been found throughout the epithelium. As in the lateral line organs, the supporting cells may play a key role in the repair of damage to hair cell epithelia in the ear.

In contrast to the production of hair cells in fish and amphibians, the production of hair cells in birds and mammals was thought to cease well before the time of birth. It is now known that hair cell regeneration in birds can occur after either acoustic trauma or aminoglycoside ototoxicity. For example, recent studies have demonstrated that hair cells in the mature cochlea of young chickens and adult quail regenerate after acoustic trauma. Radioactive thymidine labeling was seen in both hair cells and supporting cells at the lesioned site. The precursors of the regenerated hair cells may be supporting cells or other unidentified latent stem cells.

### RESEARCH GOALS AND SCOPE

Understanding the mechanism of the development, death, and regeneration of hair cells adds to the knowledge of the underlying mechanisms of hearing, hearing loss, balance, and balance disorders. Further, the study of hair cell regeneration in nonmammalian species may provide rational approaches toward stimulation of hair cell regeneration in mammals. For example, if regeneration of hair cells does not spontaneously occur after trauma in mammals, it might still be possible to induce regeneration of hair cells with a mitogenic growth factor. It is hoped that some day controllable production of hair cells in humans can be achieved and utilized to restore hearing and balance function.

Areas of interest in the regeneration of hair cells include, but are not limited to, these:

- o Mechanism by which acoustic, ototoxic, or other kinds of trauma cause injury and death of hair cells and their elements, including the stereocilia.
- o Mechanisms of activation and deactivation of regeneration.
- o Source, migration, and differentiation of regenerated cells.
- o Ultrastructural and biochemical characteristics that identify newly differentiated hair cells.

- o Trophic and growth factors involved in regeneration.
- o Gene probes and antibody markers of otic epithelial cells, particularly those expressed early in differentiation.
- o Innervation of regenerated hair cells and restoration of physiological and behavioral function as a result of hair cell regeneration.
- o Changes in cochlear mechanics and hair cell physiology as a function of regeneration.
- o Regulation of synthesis and function of neurotransmitters in regenerated hair cells.
- o Cellular metabolism at various locations in the hair cell epithelia before and after trauma.
- o Role of the extracellular milieu, cell adhesion molecules, and intracellular and intercellular interactions in regeneration.
- o Interactions of regeneration with other systemic conditions such as age and gender.

Applicants should focus their research on studies related to the mechanisms of hair cell regeneration as opposed to purely descriptive studies. Advances in research related to the mechanisms of hair cell regeneration will require the concepts and methods of many disciplines such as biophysics, biochemistry, and cellular, molecular, and developmental biology.

Applicants are encouraged to use quantitative approaches and to develop and use modern and refined methods, instrumentation, and procedures that may lead to identification of the specific mechanisms of hair cell regeneration. For example, studies may include the development and use of isolated cells in vitro, the development of permanent cell lines, and various methods of cellular and molecular biology.

#### MECHANISM OF SUPPORT

Applications may be submitted for individual research project grants (R01) and the First Independent Research Support and Transition (FIRST) Awards (R29).

#### APPLICATION SUBMISSION AND REVIEW PROCEDURES

Use the standard PHS-398 (revised 9/86) research grant application form as instructed in the application kit. The kits are available from the business offices or the offices of sponsored research of most institutions or from the Division of Research Grants, National Institutes of Health. Type "HAIR CELL REGENERATION" in Item #2 of the application face page and place a checkmark in the "YES" box. Use the mailing label in the application kit to mail the original and six exact copies of the application to the Division of Research Grants.

Applications should be submitted in accordance with the receipt dates specified in the application kit. The applications will be reviewed by a Division of Research Grants study section and then by a National Advisory Council according to the schedule specified in the application kit. For more information, call or write:

Jack Pearl, Ph.D.  
 National Institute on Deafness  
 and Other Communication Disorders  
 National Institutes of Health  
 Federal Building, Room 1C-14  
 Bethesda, Maryland 20892  
 Telephone: (301) 496-5061

This program is described in the Catalog of Federal Domestic Assistance No. 13.853, Clinical Basis Research, NINCDS or 13.854, Biological Basis Research. Awards will be made under the authority of the Public Health Service Act, Title IV, Section 301 (Public Law 78-410, as amended; 42 USC 241) and administered under PHS grant policies and Federal Regulations 42 CFR Part 52 and 45 CFR Part 74. This program is not subject to Health Systems Agency Review.