

NIH GUIDE

**For Grants
and
Contracts**

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

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NOTICES

AFFIRMATIVE ACTION, EQUAL OPPORTUNITY AND CIVIL RIGHTS POLICY STATEMENT FOR CONTRACTORS AND GRANTEEES

P.T. 34; K.W. 1014006

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

The National Institutes of Health (NIH) is the principal biomedical research agency in the world. Its mission is to provide leadership and direction to biomedical research programs designed to improve the health of the American people. The NIH and the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) conduct and support research and research training on the causes, diagnosis, prevention, and cure of human diseases, and on the fundamental biological processes of human growth and development, and the biological effects of the environment; supports programs for the collection, dissemination, and exchange of information on medicine and health.

To accomplish this mission, the NIH funds over 500 contractors and over 1,300 grantee institutions to conduct biomedical research. The NIH/ADAMHA also employs consultants to advise on scientific and nonscientific programmatic endeavors. The NIH's/ADAMHA's effectiveness is dependent on the constructive use of human resources.

Interwoven into the NIH/ADAMHA mission is a commitment to apply the principles and concepts of affirmative action, equal opportunity, and civil rights. NIH/ADAMHA decisions regarding employment, advancement, career development, training, and the awarding of Federal funds are made and there should not be any discrimination based on race, color, religion, national origin, gender, age, handicap (both physical and mental), and Veterans and Veterans of the Vietnam Era. The environment in which our contractors and grantees carry out their daily functions must be free of discrimination.

It is to this end that a reaffirmation of our commitment to affirmative action, equal opportunity, and civil rights is necessary. NIH/ADAMHA managers, supervisors, contracting and grants staff, contractors and grantees are expected to ensure, with renewed vigor, that Equal Employment Opportunity (EEO) principles are fully integrated into all aspects of NIH/ADAMHA extramural and intramural programs and activities. This commitment should include, but not be limited to:

- o increasing opportunities for the employment, training, and advancement of racial and ethnic minorities, women, handicapped individuals and disabled veterans;
- o expanding grant and contract opportunities for minority institutions and contract opportunities for small, female-owned and disadvantaged businesses;
- o increasing the number of minority and women faculty members in the research programs;
- o increasing the participation of minorities, women, disabled persons, and Vietnam Era veterans on scientific review and public advisory committees; and
- o ensuring that facilities are accessible and that reasonable accommodations are provided for disabled persons.

The number of minority and women-owned companies who have contracts with NIH/ADAMHA has increased. The number of grants that are awarded to minority institutions has also increased. The NIH/ADAMHA intends to integrate fully these populations into our contracts and grants programs.

NIH/ADAMHA is committed to administrative and scientific excellence in our research programs. NIH/ADAMHA asks your cooperation with the Division of Contracts and Grants, Contract Compliance Office to carry out both the spirit, and intent of affirmative action, EEO, and civil rights laws.

All questions should be directed to:

Ms. Maureen B.E. Miles
Division of Contracts and Grants
Building 31, Room 1B-23
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-2973

DATED ANNOUNCEMENTS (RFPs AND RFAs)

CLINICAL EVALUATION OF FRUIT AND VEGETABLE BASED EXPERIMENTAL FOOD SUPPLEMENTS

MASTER AGREEMENT RFP AVAILABLE: NCI-CN-95198-69

P.T. 34; K.W. 0710095, 0202001, 0750025

National Cancer Institute

The National Cancer Institute (NCI), Prevention and Control Contracts Section, is issuing a Request for Proposal (RFP) for Master Agreements to provide Clinical Evaluation of Fruit and Vegetable Based Experimental Food Supplements in the following areas:

TASK I - Dietary Modulation of Human Drug Metabolism by Phytochemical Constituents in Fruits and Vegetables: Requires conduct of acute human metabolism studies on healthy people who are chronically consuming experimental diets fortified with fruit and vegetable phytochemicals; cold storage of blood, saliva, urine, etc., collected from study participants; and split-sample analyses of experimental foods.

TASK II - Dietary Modulation of Arachidonic Acid Metabolism by Phytochemical Constituents in Fruit and Vegetables. Requires conduct of human studies focused on measuring the modulatory influence of fruit and vegetable phytochemicals on circulating prostaglandin levels and arachidonic acid metabolites in biological fluids.

TASK III - Dietary Modulation of Endogenous Steroid Metabolism by Phytochemical Constituents in Fruits and Vegetables.

Offerors can submit proposals for either or all of the above tasks. Each task will be evaluated separately; however, and one pool of Master Agreement Holders will be awarded. All Master Agreement Holders will be able to compete for Master Agreement Orders issued during a five-year period of performance.

It is estimated that up to two (2) Master Agreement Orders will be awarded for each task area per year. The Master Agreement Announcement will be available on or about October 10, 1989. Responses will be due on approximately December 20, 1989.

Copies of RFP No. NCI-CN-95198-69 may be obtained by sending a written request to:

Mr. Vernon Rainey, Contracting Officer
National Institutes of Health
National Cancer Institute
Research Contracts Branch, PCCS
Executive Plaza South, Room 635
9000 Rockville Pike
Bethesda, Maryland 20892
Telephone: (301) 496-8603

METHODS DEVELOPMENT FOR PHYTOCHEMICAL COMPLIANCE MARKERS IN DESIGNER FOODS

MASTER AGREEMENT RFP AVAILABLE: NCI-CN-95199-69

P.T. 34; K.W. 0710095, 0202001, 0750025, 0755015, 0755018

National Cancer Institute

The National Cancer Institute (NCI), Prevention and Control Contracts Section, is issuing a Request for Proposal (RFP) for Master Agreements to provide Methods Development for Phytochemical Compliance Markers in Designer Food in the following task areas:

TASK I - Provide analysis of Phytochemical Compliance Markers in Experimental Foods including shelf-life stability studies, identifying sources for food material, validating analytical methodology and participating in split-sample analysis, etc.

TASK II - Provide analysis of Phytochemical Compliance Markers in Human Biological Fluids. This requires the accrual of 25 healthy individuals for the study and verification of compliance markers in experimental foods and for the determination of compliance markers in biological fluids of humans

consuming experimental foods. Assist the National Cancer Institute in filing of an IND with the FDA.

Offerors can submit proposals for either or both of the above tasks. Each task will be evaluated separately; however, one pool of Master Agreement Holders will be awarded. All Master Agreement Holders will be able to compete for Master Agreement Orders issued during the five-year period of performance.

It is estimated that up to five (5) Master Agreement Orders will be awarded for Task I, per year, and three (3) Master Agreement Orders for Task II, per year. The Master Agreement Announcement will be available on or about October 10, 1989. Responses will be due on approximately December 20, 1989.

Copies of RFP No. NCI-CN-95199-69 may be obtained by sending a written request to:

Mr. Vernon Rainey, Contracting Officer
National Institutes of Health
National Cancer Institute
Research Contracts Branch, PCCS
Executive Plaza South, Room 635
9000 Rockville Pike
Bethesda, Maryland 20892
Telephone: (301) 496-8603

SPECIAL STUDIES FACILITATING THE FLOW OF PRECLINICAL LEADS INTO CLINICAL PRACTICE

MASTER AGREEMENT RFP AVAILABLE: NCI-CN- 95201-69

P.T. 34; K.W. 0710095, 0710040, 0755010, 0765025, 0760025

National Cancer Institute

The National Cancer Institute (NCI), Prevention and Control Contracts Section, is issuing a Request for Proposal (RFP) for Master Agreements to provide Special Studies Facilitating the Flow of Preclinical Research Leads into Clinical Practice in the following task areas:

TASK I - Evaluation of Lipids and Lipoprotein in Fluids and Tissues of Laboratory Animals Consuming Fruit and Vegetable Products.

TASK II - Evaluation of Antiestrogenic Activity Hormone Receptor Function and Steroid Hormone Levels and Metabolism in Laboratory Animals Consuming Fruit and Vegetable Products.

TASK III - Modulation of Arochidonic Acid Metabolism by Fruit and Vegetable Products.

TASK IV - Evaluation of Modulatory Activity of Fruit and Vegetable Products on Key Regulatory Enzymes, Antioxidant Defenses, and Cyclic Nucleotide Levels in Laboratory Animals.

Offerors can submit proposals for either or all of the above tasks. Each task will be evaluated separately; however, and one pool of Master Agreement Holders will be awarded. All Master Agreement Holders will be able to compete for Master Agreement Orders issued during a five-year period of performance.

It is estimated that approximately two to four Master Agreement Orders will be awarded for each task area per year. The Master Agreement Announcement will be available on or about October 10, 1989. Responses will be due on approximately December 20, 1989.

Copies of RFP No. NCI-CN-95201-69 may be obtained by sending a written request to:

Mr. Vernon Rainey, Contracting Officer
National Institutes of Health
National Cancer Institute
Research Contracts Branch, PCCS
Executive Plaza South, Room 635
9000 Rockville Pike
Bethesda, Maryland 20892
Telephone: (301) 496-8603

IMMUNE RESPONSE TO XENOBIOTICS

RFP AVAILABLE: NIH-ES-89-31

P.T. 34; K.W. 1007009, 0710070, 0715110

National Institute of Environmental Health Sciences

The National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health (NIH), is soliciting proposals for a project involving immunotoxicity studies, including hypersensitivity, on various xenobiotics. These studies will further the understanding of the potential toxicological manifestations associated with the use of these compounds. The project is task oriented. In year 1, the contractor will be required to demonstrate proficiency in the uses of the immune testing panels using one known chemical. If approved by the Project Officer, the contractor will be required to initiate Task II which includes the following subtasks: I-A - Dose Range Finding studies on 4 xenobiotics; I-B - Immune Function Testing on 3 xenobiotics; I-C - Host Resistance Assays on 2 xenobiotics; and I-D - Mouse Skin Hypersensitivity studies on 3 xenobiotics. Those xenobiotics selected for testing under subtasks I-A through I-C will overlap, while those selected for testing in subtask I-D will probably be distinct. In years 2-5, the contractor will be required to continue Task II. Specifically, the following subtasks will be required each year: II-A - Dose Range Finding studies on 6 xenobiotics; II-B - Immune Function Testing on 4 of the xenobiotics examined under II-A; II-C - Host Resistance Assays on 2 of the xenobiotics examined in II-B; and II-D - Mouse Skin Hypersensitivity testing on 4 chemicals. In addition, in years 2-5, Task III will be undertaken and will involve development and implementation of new methodology. The Government estimates that this project will require approximately 2.2 professional person-years, 1.0 senior technical person-years, and 2.2 technical person-years per contract year. One contract is contemplated. The RFP will be released on or about October 4, 1989, with responses due by November 17, 1989. All responsible sources may submit a proposal which will be considered by the Agency.

Requests should reference RFP NIH-ES-89-31 and should be forwarded to:

National Institute of Environmental Health Sciences
Contracts and Procurement Management Branch, OM
ATTN: Mary B. Armstead, Contracting Officer
79 T.W. Alexander Drive, 4401 Building
P.O. Box 12874
Research Triangle Park, North Carolina 27709

POSTPRANDIAL LIPOPROTEINS AND ATHEROSCLEROSIS

RFA AVAILABLE: 89-HL-15-P

P.T. 34; K.W. 0715040, 0765025, 0765032, 0785055

National Heart, Lung, and Blood Institute

Application Receipt Date: January 16, 1990

The Social and Environmental Epidemiology Branch of the Division of Epidemiology and Clinical Applications, National Heart, Lung, and Blood Institute (NHLBI), announces the availability of a Request for Cooperative Agreement Applications (RFA) for investigators to participate, with assistance of NHLBI staff, in a multicenter study of the above subject.

Lipoproteins appearing in blood after a fatty meal may be particularly atherogenic, contributing to disease development even in persons without elevated fasting lipids. This program will support collaborative planning and conduct of a study to evaluate lipoprotein responses to an oral fat challenge among persons with evidence of atherosclerosis (cases) and comparable controls. Results are intended to apply to atherosclerosis typically found in general populations. Some study elements will be performed following a common protocol; others may differ at each study center.

This RFA may be of interest to investigators in several fields. Multidisciplinary research is sought, requiring cooperation of persons with biochemical and epidemiological expertise, and access to both an expert lipid laboratory and a screened or examined population from which representative cases and comparable controls are drawn. Lipid measurements that are needed are relatively complex. Expertise in evaluating persons for evidence of atherosclerotic disease is needed.

Inclusion of women and minority populations is encouraged; and if they are excluded, reasons for their exclusion must be provided in the application.

Minority institutions are encouraged to apply, and other institutions are encouraged to establish collaborative arrangements with minority institutions.

Interested parties may request a copy of the complete RFA from:

A. Richey Sharrett M.D., Dr.P.H.
Social and Environmental Epidemiology Branch
Division of Epidemiology and Clinical Applications
National Heart, Lung, and Blood Institute
Federal Building, Room 2C08
7550 Wisconsin Ave.
Bethesda, Maryland 20897

ONGOING PROGRAM ANNOUNCEMENTS

THE EFFECTS OF ORAL FACTORS ON TASTE AND SMELL

P.T. 34; K.W. 0715148, 1002034, 0745010, 0745020

National Institute of Dental Research

The Craniofacial Anomalies, Pain Control and Behavioral Research Branch of the National Institute of Dental Research (NIDR) encourages submission of grant applications to conduct research increasing understanding of relationships between the chemical senses and the oral environment. Of special interest are studies identifying the impact of oral conditions/diseases, oral behaviors, or dental procedures upon chemosensory function. Studies clarifying processes through which conditions in the oral environment influence taste and smell are of particular interest. Also encouraged are dentally-relevant studies developing improved approaches to prevention, detection, diagnosis, or treatment of impaired chemosensory functioning. Through this announcement, NIDR seeks to expand chemosensory research and to complement ongoing programs of major support for research on taste and smell provided by the Division of Communicative and Neurosensory Disorders in the National Institute of Deafness and Other Communication Disorders (NIDCD).

BACKGROUND

The chemical senses of taste and smell involve chemical transduction of molecules at olfactory and taste receptor sites. These receptor cells show a unique, and still poorly understood capability to replace themselves, regenerating frequently as long as they are innervated. Disorders of the chemical senses impair quality of life and health through affecting vital behaviors such as food intake and selection, or recognition of dangers (e.g., from spoiled food, gas leaks, etc.).

Though the exact prevalence of taste and smell disorders in the U.S. population is not known, experience from NIH-sponsored regional clinical centers studies suggests that well over 2 million U.S. adults suffer from these conditions. A recent survey involving 1.5 million participants indicated that 1.2 percent suffered total loss of olfactory function. Problems in chemosensation particularly afflict individuals over the age of 60--the most rapidly growing age group in the U.S. Olfactory abilities decline progressively from early adulthood and substantial decrements are common among older adults. More subtle decrements in taste function (often associated with illnesses or medical treatments rather than the aging process per se) also occur.

Chemosensory impairments are found in systemic diseases such as multiple sclerosis, diabetes, and Alzheimer's disease. They can also result from head injuries, colds or viral infections, cystic fibrosis, Sjogren's syndrome, allergies, certain drugs, and chemotherapy and radiation treatment for cancers. Taste disorders may also accompany oral diseases, such as periodontal diseases, xerostomia, or "burning mouth" syndrome. Olfactory disorders often result from obstruction of the nasal airway which occurs with nasal polyps or some craniofacial anomalies. The release of blood and infection byproducts into the oral cavity from infections or disease can produce dysgeusias ("bad tastes") often not recognized to reflect oral pathology. Conditions in the oral cavity, such as altered salivary flow and composition, have been found to influence taste function or produce dysgeusias.

Dentists are often the first health professionals consulted when patients experience problems related to taste or smell. Yet the available knowledge

base provides little information regarding the role of the oral environment in chemosensation and minimal guidance for dental professionals concerning effective prevention, detection, or treatment of chemosensory disorders.

RESEARCH GOALS

The NIDR seeks to expand understanding of mechanisms underlying relationships between oral diseases or conditions and chemosensation; increase understanding of relationships between various dental treatments and/or oral behaviors and chemosensory function or dysfunction; improve the detection, prevention, diagnosis, and treatment of chemosensory disorders in relation to the oral environment or to oral health.

Basic, clinical, or epidemiological studies can be supported. However, responses to this announcement must relate to the above aims and/or show clear ties to the oral environment, dental research approaches, oral health, or dental care.

Basic studies might, for example, characterize mechanisms through which aspects of the oral environment (e.g., salivary flow, oral pathology, craniofacial injuries or craniofacial anomalies) modify chemosensory function. Studies of age-related changes in oral tissues related to variations in taste and olfaction are encouraged, as are studies assessing changes in chemosensory function associated with dental procedures such as, use of dental prostheses or dental implants, orthognathic surgery, or with oral habits (e.g., use of smokeless or smoked tobacco). Population-based or clinic-based epidemiological studies may include, but are not limited to, studies determining the prevalence of chemosensory disorders and related oral disorders or studies of factors influencing individuals with chemosensory disturbances to seek treatment. It is anticipated that basic research may receive greater emphasis initially, in order to establish an appropriate context for structuring clinical research hypotheses and approaches. Clinical studies related to prevention, detection, diagnosis, or treatment of chemosensory disorders may also be initiated, as relationships between oral factors and oral sensory function become more clearly established.

MECHANISM OF SUPPORT

Support for this program will be provided through research or research training grants, including regular project grants (R01), small grants (R03), FIRST awards (R29), Small Business Innovation Research grants (R43/44), National Research Service Award Individual Fellowships (F32), National Research Service Award for senior fellows (F33), Career Development Awards (K04), Physician Scientist Awards (K11), and Individual Dental Scientist Awards (K15). Policies that govern research grant programs of the National Institutes of Health will prevail.

APPLICATION AND REVIEW PROCEDURES

Applications will be initially reviewed for scientific and technical merit in accordance with usual NIH peer review procedures for research grants by appropriate study section. Review criteria include the significance and originality of the research goals and approaches; feasibility of the research and adequacy of the experimental design; training, experience, research competence, and dedication of the investigator(s); adequacy of available facilities and study populations; provisions for the protection of human subjects and the humane care of animals; and appropriateness of the requested budget. Applicants are encouraged to include women and minorities in study designs, if such inclusion is feasible. For studies which exclude women or minorities, a clear rationale for exclusion should be provided.

Funding decisions will be based on Study Section and National Advisory Council recommendations regarding scientific merit and program relevance, and the availability of appropriated funds.

Questions concerning this announcement may be addressed to Dr. Patricia Bryant at the address given below. Applications for research grants should be submitted on form PHS-398, and the special instructions for small grants and FIRST awards should be followed when applicable. Application forms and special instructions are available in the business or grants office at most academic or research institutions, or from the Division of Research Grants, National Institutes of Health. Applications will be accepted in accordance with the customary receipt dates for new applications on an indefinite basis at the appropriate deadlines for the support mechanisms selected. For R03's, there are no set deadlines.

The phrase "THE EFFECTS OF ORAL FACTORS ON TASTE AND SMELL" should be typed on line 2 of the face page of the application. The original and six copies should be sent or delivered to:

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

Applicants interested in studying oral conditions/diseases or dental treatments as related to taste and smell are encouraged to contact Dr. Patricia Bryant at the address and phone number indicated:

Patricia S. Bryant, Ph.D.
Health Scientist Administrator
Craniofacial Anomalies, Pain Control
and Behavioral Research Branch
National Institute of Dental Research
Westwood Building, Room 506
Bethesda, Maryland 20892-4500
Telephone: (301) 496-7807

Applicants interested in other basic or clinical research issues related to taste and smell may contact Dr. Jack Pearl for additional information regarding NIDCD's research priorities.

Jack Pearl, Ph.D.
Health Scientist Administrator
Division of Communicative and Neurosensory Disorders
National Institute on Deafness and Other Communication Disorders
Federal Building, Room 1C-14
7550 Wisconsin Avenue
Bethesda, Maryland 20892
Telephone: (301) 496-5061

This program is described in the Catalog of Federal Assistance No. 13.122. Awards will be made under authorization of the Public Health Service Act, Title III. Section 301 (Public Law 78-410, as amended), the Small Business Innovation Development Act, Public Law 97-219 and the Health Research Extension Act of 1985, Section 453 and administered under PHS grants 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 Health Systems Agency review.

NASAL CHEMORECEPTION: REGENERATION AND TROPHIC INTERACTIONS

P.T. 34; K.W. 0760075, 1002034, 0710085, 1002008

National Institute on Deafness and Other Communication Disorders

PURPOSE

The National Institute on Deafness and Other Communication Disorders (NIDCD) encourages both new and established investigators to submit applications related to the mechanisms of the regeneration cycle of nasal chemosensory receptor neurons and the trophic interactions between these neurons and other cells. New opportunities for understanding the mechanisms of this plasticity and its development have been provided by advances in the concepts, approaches, and methods of contemporary neurobiology, for example, molecular neurobiology.

BACKGROUND

The vertebrate olfactory epithelium is unique. This neuroepithelium retains its juvenile capability to form functional olfactory receptor neurons from stem cells throughout adult life. The differentiating cells become fully mature bipolar neurons at the time of synaptic contact with the olfactory bulb. Turnover of the receptor neurons increases after their mass destruction.

Trophic interactions in the olfactory system begin in early life and continue through adulthood. The embryonic telencephalon does not achieve its normal size in the absence of the olfactory placode. Olfactory receptor neurons exhibit a powerful trophic influence on the formation and maintenance of the olfactory bulb. Transplants of olfactory receptor neurons remodel the morphology of non-olfactory regions of the mature forebrain. The expression

of neurotransmitters in the bulb is altered by chemical or surgical destruction of the olfactory receptor neurons and by neonatal closure of the nares. When adult forebrain tissue beneath the bulb is innervated by olfactory receptor neurons after bullectomy, the input induces the forebrain to begin producing tyrosine hydroxylase. Some of these interactions are reciprocal. For example, the morphology of the mature olfactory epithelium is altered markedly by bullectomy.

The olfactory placode is the source of four nasal chemosensory nerves: olfactory, septal, vomeronasal, and terminal nerves. Like olfactory receptor neurons, vomeronasal receptor neurons regenerate and could have a trophic influence on accessory olfactory bulb and other brain cells.

The development of the concepts, approaches, and methods of modern neurobiology has provided the opportunity to learn more about the mechanisms of regeneration and trophic interactions in nasal chemoreception. For example, the methods of molecular biology and molecular genetics are being used to identify and characterize developmentally regulated complementary DNAs of olfactory receptor neurons and brain. In vitro cultures of dissociated olfactory receptor neurons and organotypic preparations of olfactory tissue are being developed. High voltage electron microscopy and temporal videomicroscopy can be utilized to visualize the elements of the nasal chemosensory system. Several biochemical markers of olfactory receptor neurons have been identified; some of these markers are specific for olfactory receptor neurons, synaptogenic processes, or specific phases of the regeneration cycle. Patch clamping can be utilized to study openings and closings in single ion channels. Voltage sensitive dyes permit the study of simultaneous neural responses in populations of neurons in both the olfactory epithelium and the bulb. The robust ability of animals to detect and differentiate odorants has provided a valuable means to gauge olfactory function with behavioral tests during the regeneration cycle of olfactory receptor neurons.

RESEARCH GOALS AND SCOPE

Studies of the regeneration of nasal chemosensory neurons and the trophic interactions between these neurons and brain and other cells are important for understanding the normal development of nasal chemoreception, its plasticity, and the response of the chemosensory system to injury and age-related conditions. This knowledge is vital for developing therapeutic approaches for repairing damage to the system and may provide clues to what helps and hinders repair of damage in the less plastic parts of the nervous system.

Areas of interest in the regeneration and trophic interactions of nasal chemoreceptor neurons include, but are not limited to:

- o Tissue interactions in the formation of the olfactory placode.
- o Identification and characterization of chemical substances involved in the development of the olfactory placode.
- o Mechanisms in normal degeneration of the chemoreceptor neurons and in degeneration after various injuries.
- o Mechanisms of activation and deactivation of regeneration.
- o Migration of cells.
- o Differentiation of regenerating chemoreceptor neurons.
- o Quantitative relations between stem cells and progeny.
- o Ultrastructural and biochemical probes to characterize various cells in the nasal epithelium during development and regeneration.
- o Trophic and tropic factors in regeneration.
- o Innervation of target neurons by regenerated chemoreceptor neurons and restoration of physiological and behavioral function.
- o Synthesis of neurotransmitters in chemoreceptor neurons and their target cells.
- o Interactions of regeneration with conditions such as age, gender, and hormonal status.

MECHANISMS OF SUPPORT

Applications may be submitted for conventional support mechanisms of the National Institutes of Health (NIH): individual research project grant (R01), First Independent Research Support and Transition Award (R29), Program Project (P01), Research Career Development Award (K04), Clinical Investigator Development Award (K08), Individual National Research Service Award (F32), and Senior Fellowship National Research Service Award (F33). Potential applicants

for program project grants should contact NIDCD staff very early in the planning stages. The NIH policies that govern the programs will prevail. Funding is contingent upon receipt of proposals of high scientific merit, responsiveness to this announcement, relevance to the program, and availability of appropriated funds.

APPLICATION SUBMISSION AND REVIEW PROCEDURES

Use the standard application forms (PHS 398, rev. 10/88) as instructed in the application kits. These 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 "NASAL CHEMORECEPTION: REGENERATION AND TROPIC INTERACTIONS" in Item #2 of the application face page and check the "YES" box. Applications should be responsive to the program announcement and the Abstract of the Research Plan should contain a clear statement relating the proposed research to nasal chemoreception of interest to NIDCD. Use the mailing label in the kits to mail the applications to the Division of Research Grants.

Applications should be submitted according to the receipt dates identified in the application kits. The applications will be reviewed as specified in the schedules of the application kits. In the event of questions, investigators may 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. 13.85.4, Biological Basis Research, NINCDS. 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.

**THE MAILING ADDRESS GIVEN FOR SENDING APPLICATIONS TO THE DIVISION OF RESEARCH GRANTS OR CONTACTING PROGRAM STAFF IN THE WESTWOOD BUILDING 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