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VOL. 15, NO. 27 - NOVEMBER 28, 1986

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## NOTICES

### FIRST INDEPENDENT RESEARCH SUPPORT AND TRANSITION AWARD

P.T. 34; K.W. 1014002

Alcohol, Drug Abuse, and Mental Health Administration

Applicants for Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) First

Independent Research Support and Transition (FIRST) awards should submit 7 collated sets of appendix material with their application packages instead of 3 collated sets as stated in the September 1986 program announcement. State and local government agencies should continue to submit 3 collated sets of appendix material with their application packages.

### INCLUSION OF WOMEN IN STUDY POPULATIONS

P.T. 34, II; K.W. 0770000, 1014002

National Institutes of Health

The Public Health Service Task Force on Women's Health Issues published its report in the January 1985 issue of Public Health Reports. One of the Task Force's major recommendations was that biomedical and behavioral research be expanded to assure appropriate emphasis on conditions and diseases unique to, or more prevalent in, women of all age groups.

In keeping with one aspect of this recommendation, the NIH urges applicants for grants and offerors for contracts to consider the inclusion of women in the study populations for all clinical research efforts. Exceptions would be studies of diseases which exclusively affect males or where involvement of pregnant women may expose the fetus to undue risks. General differences should be noted and evaluated. If women are not to be included, a clear rationale should be provided for their exclusion.

In order to provide more precise information to the medical community, it is recommended that publications resulting from NIH-supported research in which the study population was limited to one sex for any reason other than that the disease or condition studied exclusively affects that sex, should state, in the abstract or summary, the gender of the population studied, e.g., "male patients," "male volunteers," "female patients," "female volunteers."

For further clarification or discussion of this issue, contact:

Luz A. Froehlich, M.D.  
Chairperson, Advisory Committee on Women's Health  
National Institutes of Health  
Telephone: (301) 496-7688

### DATED ANNOUNCEMENTS (RFPs AND RFAs AVAILABLE)

### PARTICIPANTS SOUGHT FOR INTERNATIONAL SCIENTIFIC EXCHANGE PROGRAM IN AIDS RESEARCH

P.T. 34, 26; K.W. 0715120, 0710030, 0785035

Fogarty International Center

According to the World Health Organization, 100 nations from all continents have reported AIDS cases in their countries. The doubling time of new cases reported in the United States is approximately 12 months. Unless the disease is controlled or eliminated, AIDS may become one of the most serious health threats not only to U.S. citizens but to the entire human population.

Research into this disease has been significant. The causative agent HTLV-III/LAV virus, has been identified; the virus has been shown to severely impair the immune system and the central nervous system; the associated risk factors and major modes of transmission are known; and the epidemiologic patterns and modes of transmission have been shown to vary between men and women and among countries. Until the disease can be prevented, cures are found, or an effective vaccine is developed,

AIDS will continue to be an increasingly global public health problem. Many groups in the United States and abroad are conducting research on AIDS and it is felt that collaboration between U.S. and foreign scientists is likely to result in significant new information about this disease process.

The Fogarty International Center proposes to establish a program to facilitate short- and long-term collaboration between scientists from the United States and other countries who are involved in AIDS research. The awards will be made to principal investigators in U.S. institutions who wish to invite to their laboratories foreign scientists at all career levels. Each award will include funds to support up to 60 months of fellowship activity, with periods for individual fellowships ranging from 3 to 24 months. The host institution will receive a small allowance to partially defray the fellow's research expenses in addition to support for the principal investigator's efforts and indirect costs. Each fellow will receive a stipend and funds to cover the expenses of round-trip travel and health insurance.

To be considered for participation, institutions must have ongoing clinical and multidisciplinary research programs in AIDS and must have planned or established research projects involving international collaboration. The proposed collaboration must have the potential for continuing after the foreign scientists return to their parent institution.

The purpose of this initial announcement is to identify institutions interested in the proposed program. Institutions that meet the criteria stated above and are interested in applying should submit the following information:

Name of Principal Investigator  
Institution (including department; mailing address  
and telephone number)  
List of clinical and scientific disciplines  
Countries with which you now have or are  
developing scientific collaborations

This information should be sent by December 19, 1986 to:

Bettie J. Graham, Ph.D.  
International Research and Awards Branch  
Building 38A, Room 615  
Fogarty International Center  
National Institutes of Health  
Bethesda, Maryland 20892  
Telephone: (301) 496-6688

#### ELECTRODES FOR FUNCTIONAL NEUROMUSCULAR STIMULATION (FNS)

RFP AVAILABLE: RFP-NIH-NINCDS-87-01

P.T. 34; K.W. 0740050, 0706040, 0715140

National Institute of Neurological and Communicative  
Disorders and Stroke

The National Institute of Neurological and Communicative Disorders and Stroke has a requirement for the development of electrodes for use in functional neuromuscular stimulation (FNS). This will require the design, fabrication and testing in vitro of electrodes, leads, and plugs for use in implanted FNS systems.

Offerors must have experience in materials testing and mechanical design and must demonstrate a collaborative arrangement with a group which is studying the use of implanted electrodes for functional neuromuscular stimulation of paralyzed human extremities.

This is an announcement of an anticipated Request for Proposal. RFP-NIH-NINCDS-87-01 will be issued on or about December 1, 1986, with a closing date for receipt of proposals tentatively set for March 2, 1987. To receive a copy of the RFP, please supply this office with two self-addressed mailing labels. The RFP package will be available upon written request to:

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

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. All responsible sources may submit a proposal which shall be considered by the agency.

DEVELOPMENT OF IMPROVED METHODOLOGIES TO ASSESS DIABETIC NEUROPATHY

RFP AVAILABLE: NIH-NINCDS-87-03

P.T. 34; K.W. 0715075, 0745020, 0735015

National Institute of Neurological and Communicative Disorders and Stroke

The National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) has a requirement and plans to issue a Request for Proposals (RFP) entitled, "Development of Improved Methodologies to Assess Diabetic Neuropathy." Proposals will be solicited for the development of new methodologies, clearly superior to existing ones, suitable to evaluate the severity of clinical or functional impairment resulting from diabetic neuropathy.

Currently available methodologies for assessing diabetic neuropathy may not detect the presence of neuropathy in its early stages. Furthermore, laboratory and clinical assessments of the severity of this neuropathy may not correlate well with the functional impairment in daily living experienced by the patient with diabetic neuropathy. Therefore, the purpose of the RFP is to sponsor the development of methodologies for assessing diabetic neuropathy which will provide improved sensitivity and better correlation with functional improvement than the currently available methodology.

Prospective offerors are advised that the RFP is not intended to provide support to develop a clinical evaluation of diabetic neuropathy which is similar to, or merely an extension, of the clinical assessment routinely used by neurologists in diagnosing and evaluating diabetic neuropathy. Furthermore, this RFP is not intended to support the evaluation of any type of commercial instrument already in general use for the assessment of neuropathies when applied to the specific evaluation of diabetic neuropathy.

For purposes of the research to be supported under this RFP, methodology shall be understood to involve any clinical assessment of diabetic neuropathy, whether by questionnaire or by examination, and/or any instrumentation designed to measure any physiological parameter of the peripheral or autonomic nervous systems related to diabetic neuropathy.

This is an announcement of an anticipated Request of Proposals (RFP). RFP NIH-NINCDS-87-03 will be issued on or about December 1, 1986, with a closing date for receipt of proposals tentatively set for February 27, 1987.

To receive a copy of the RFP, please supply this office with two self-addressed mailing labels. Requests must cite the RFP number referenced above and will be honored if received within 20 calendar days after the solicitation issue date. Since a limited number of copies will be printed, requests shall be filled on a first-come, first-served basis until the supply is exhausted. Requests for copies of the RFP should be sent to the following address:

Contracts Management Branch  
National Institute of Neurological and  
Communicative Disorders and Stroke  
Federal Building, Room 901  
7550 Wisconsin Avenue  
Bethesda, Maryland 20892  
Attn: RFP-NINCDS-87-03

DEVELOPMENT OF SMALL LABORATORY ANIMAL MODELS FOR HTLV-III/LAV INFECTIONS

RFP AVAILABLE: RFP-NIH-NIAID-AIDSP-87-21

P.T. 34; K.W. 0755020, 0715120

National Institutes of Health

The National Institutes of Health (NIH) has a requirement for the development of an in vivo, small animal system that will serve as a useful experimental model of natural HTLV-III/LAV infections in humans.

The Prevention Branch of the Acquired Immunodeficiency Syndrome Program of the National Institute of Allergy and Infectious Diseases (NIAID) is soliciting contract proposals from organizations having the facilities and demonstrated expertise to conduct studies on experimental viral infections in small laboratory animal models.

This NIAID-sponsored project will take approximately three years to complete. The work will require the availability of the proposed animals as well as the ability to detect viral replication.

This is an announcement for an anticipated Request for Proposal (RFP). RFP-NIH-NIAID-AIDSP-87-21 will be issued on or about December 8, 1986, with a closing date tentatively set for January 29, 1987. This will be a cost-reimbursement contract. Multiple awards are anticipated as a result of this announcement. Requests for the RFP should be directed in writing to:

Larry Butler  
Contract Specialist, Contract Management Branch  
NIAID, NIH  
Westwood Building, Room 707  
533 Westbard Avenue  
Bethesda, Maryland 20892

Please include two self-addressed mailing labels with your request. Telephone inquiries will not be honored. All responsible sources may submit a proposal which will be considered by the NIAID.

This advertisement does not commit the Government to award a contract.

#### NHLBI SHARED RESEARCH FACILITIES FOR MOLECULAR BIOLOGY

RFA AVAILABLE: 87-HL-14

P.T. 34, 36; K.W. 1002024, 1002008

National Heart, Lung, and Blood Institute

Application Receipt Date: March 6, 1987

The National Heart, Lung, and Blood Institute (NHLBI) announces a grant program to enhance the application of molecular biology to cardiovascular, pulmonary, and hematology research. This program will provide for renovation of facilities and/or upgrading, modernization, or acquisition of instrumentation to organizations with substantial, ongoing molecular biology research activities in cardiovascular, pulmonary, and hematologic diseases. The goal of this program is to expand and/or create physical resources for the application of modern, sophisticated technology to fundamental research problems in heart and blood vessel, lung, and blood diseases. Domestic organizations currently receiving significant peer-reviewed NIH support for molecular biology research in at least two of these three areas are eligible to apply.

The Institute's appropriation for Fiscal Year 1987 includes \$2.25 million to support this program. These grants, awarded on a competitive basis, will be limited to a maximum of \$500,000 total costs.

An organization applying for these grants must clearly show that the research facilities to be established will expand and improve the existing molecular biology research activities in at least two of the three program areas of the NHLBI--i.e., heart and blood vessel, lung, and blood research.

After competitive review, awards (limited to a maximum of \$500,000) will be issued on a matching basis--at least one-third to be provided from non-Federal sources.

An organization may submit only one application in response to this Request for Applications. An application may, however, request funds for more than one shared research facility.

#### TIMETABLE

Letter of Intent . . . . .	January 30, 1987
Receipt of Applications . . . . .	March 6, 1987
Initial Review . . . . .	June-July 1987
Advisory Council Review . . . . .	September 10-11, 1987
Award Date . . . . .	September 30, 1987

Inquiries concerning this program and requests for copies of the RFA should be addressed to:

Director, Division of Extramural Affairs  
National Heart, Lung, and Blood Institute  
National Institutes of Health  
Westwood Building, Room 7A17  
Bethesda, MD 20892  
Telephone: (301) 496-7416

**STRESS, SODIUM, AND BLOOD PRESSURE REGULATION**

RFA AVAILABLE: NIH-87-HL-08-P

P.T. 34; K.W. 0715115, 0715195, 0765030, 0715020

National Heart, Lung, and Blood Institute

Application Receipt Date: April 15, 1987

The Behavioral Medicine Branch of the Division of Epidemiology and Clinical Applications, National Heart, Lung, and Blood Institute (NHLBI) announces the availability of a Request for Application on the above subject.

This special grant program will support fundamental research on the role of interactions between sodium intake and behavioral and physiological factors contributing to the pathogenesis of hypertension.

Of interest are applications with a strong behavioral component conducted in animal models on humans and involving controlled environmental or laboratory challenges, or other emotional stimuli. Individual differences such as personality variables or family history of hypertension should also be considered, as appropriate.

Dietary, physiological and hormonal factors are relevant for study as well as other factors that may be significant in the pathogenesis of hypertension, such as cardiovascular reactivity, the renin-angiotensin-aldosterone system, or atrial natriuretic factor.

Due to the interdisciplinary nature of the research required to investigate relationships among behavior, sodium, and blood pressure regulation, combinations of expertise from behavioral and biomedical disciplines are encouraged.

**Timetable**

Letter of Intent	February 20, 1987
Application Receipt Date	April 15, 1987
Technical Review	July, 1987
Advisory Council Review	September 10-11, 1987
Award Date	September 30, 1987

Inquiries and requests for copies of the RFA should be made to:

Peter G. Kaufmann, Ph.D.  
Division of Epidemiology and Clinical Applications  
National Heart, Lung, and Blood Institute  
Federal Building, Room 216  
7550 Wisconsin Avenue  
Bethesda, Maryland 20892  
Telephone: (301) 496-9380

**ONGOING PROGRAM ANNOUNCEMENTS**

**RESEARCH ON BONE ACTIVE HORMONES AND CYTOKINES**

P.T. 34; K.W. 0785050, 1002004, 0765030, 0760025, 0760020, 0760060, 0705050

National Institute of Diabetes and Digestive and Kidney Diseases

National Institute of Arthritis and Musculoskeletal and Skin Diseases

**PURPOSE**

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) invite investigator-initiated research grant applications to: 1) develop better in vitro systems in which to study the effects of hormones, hormone analogs, cell-derived growth factors or cytokines, and other drugs or factors which regulate bone metabolism; 2) define the factors which regulate bone formation and remodeling; and 3) study synergism and antagonism among these factors.

## DISCIPLINES AND EXPERTISE

Interdisciplinary approaches may be needed for this study with expertise required in several of the following areas: endocrinology, cell biology, mineral metabolism, mechanism of hormone action, and peptide and/or steroid biochemistry.

## BACKGROUND

Hormones, including parathyroid hormone, the calciferols, calcitonin, steroids, and somatomedins, are major regulators of bone formation, remodeling, structure, and function. The role of these systemic hormones in maintenance of skeletal integrity and calcium and phosphate homeostasis is well established. Conditions of hormone excess or deficiency frequently are manifested through the skeletal system. Hormones and their analogs are often used as therapeutic agents in skeletal diseases. However, information on the mechanism by which these hormones act on bone is quite limited and much of our knowledge about their role in bone metabolism is descriptive.

Recently, a number of local growth factors, or cytokines, have been identified which may play a role in regulation of bone metabolism. These cell-derived factors are synthesized by leukocytes, fibroblasts, osteoblasts and other cell types. These factors include, but are not limited to, bone derived growth factors, cartilage derived growth factor, human skeletal growth factor, human platelet derived growth factor, human and transforming growth factors, epidermal growth factor, tumor necrosis factors, interleukins, interferon, and relaxin. Some of these factors are produced by normal cells and may regulate the normal processes of bone metabolism. Others are produced by human or animal tumors and may mediate the pathological bone resorption and hypercalcemia associated with cancer. The possible role of these local growth factors in mediating the effects of systemic hormones remains to be determined.

Many of the unresolved issues of clinical relevance concerning the effects of hormones or cytokines on the skeletal system can best be answered using in vitro systems in which confounding variables can be controlled. Recent advances in development of growth systems for bone cells, such as the use of fibronectin or collagen coating of growth surfaces, make possible studies of several months duration. However, much work remains to be done to develop in vitro systems suitable for investigating the effects of bone active hormones and of the newly described bone active cytokines.

## OBJECTIVES

This solicitation is intended to stimulate research that will result in the development of new or improved in vitro systems in which to study the effects of the hormones and cytokines which effect bone metabolism. It is also intended to stimulate investigation utilizing new or existing in vitro systems of the mechanism of action and interactions of hormones and cytokines known to regulate bone metabolism and to identify other potential bone active agents.

## SCOPE

Some examples of research topics which would be considered responsive to this solicitation include the following:

- o development of new or improved in vitro bone resorbing and bone forming systems such as fetal calvaria, rat long bones with enhanced release of radiolabeled calcium and decreased collagen synthesis, or other appropriate systems.
- o development of new or improved in vitro bone forming and bone resorbing cell lines from animal and human sources utilizing serum free media whenever possible. Purity and phenotypic stability of cells should be emphasized.
- o development of pure preparations of bone cells per se prepared from embryonic bone tumor lines.
- o testing in new or existing in vitro systems of the established bone active hormones and the newly described bone active cytokines to elucidate their mechanism of action. o determination in in vitro systems of whether a given hormone or analog results in catabolic or anabolic effects on bone and/or a determination of whether the effect produced depends on the type of bone being examined (i.e., embryonic or mature bone) or the hormone concentration.
- o investigate in an in vitro system of the long-term effects of hormones or cytokines in terms of parameters such as cystolic calcium accumulation, cell growth, and cell differentiation.

- o in vitro studies to define whether skeletal effects of hormones occur as a result of direct action of the hormone on bone or whether they are mediated through other factors.
- o identification of factors such as bone derived growth factor and human skeletal growth factor which are produced locally by bone cells and investigation of the role of systemic hormones and other factors in the regulation of their production.
- o in vitro studies to define whether skeletal effects of hormones occur as a result of direct action of the hormone on bone or whether they are mediated through other factors.
- o identification of factors such as bone derived growth factor and human skeletal growth factor which are produced locally by bone cells and regulation of their production.
- o studies in in vitro systems designed to identify and purify the factors that actually have direct action on bone.
- o studies of synergism and antagonism among bone active hormones and cytokines.

These areas of interest are not listed in any order or priority. They are only suggested examples of areas of research. Applicants are encouraged to propose other areas which are related to the objectives and scope described above.

#### MECHANISM OF SUPPORT

The mechanism of support for this program will be the grant-in-aid. The regulations (Code of Federal Regulations, Title 42, Part 52 and, as applicable to the state and local governments, Title 45, Part 74) and policies which govern the research grant programs of the National Institutes of Health will prevail. Although this solicitation is included in the sponsoring Institute's funding plans for Fiscal Year 1987, support is contingent upon receipt of funds for this purpose. Since a variety of approaches would represent valid responses to this solicitation, it is anticipated that there will be a range of costs among individual grants awarded. With respect to post-award administration, the current policies and requirements that govern the regular research grant programs of the NIH will prevail.

#### REVIEW PROCEDURES AND CRITERIA

##### Assignment of Applications

Upon receipt, applications will be reviewed by staff for their responsiveness to the objectives of this PA. If an application is considered unresponsive, the applicant will be contacted and given an opportunity to withdraw the application or to have it considered for the regular grant program of the NIH. If an application submitted in response to this PA is identical to a research grant application already submitted to the NIH for review, the applicant will be asked to withdraw the pending application before the new one is accepted. Simultaneous submission of identical applications will not be allowed.

Applications will be received by the NIH, Division of Research Grants (DRG), referred to an appropriate Initial Review Group (IRG) for scientific merit review, and assigned to individual Institutes for possible funding. Referral decision will be governed by normal programmatic considerations as specified in the Referral Guidelines of the NIH, DRG. Some applications may receive dual assignment.

##### Review Procedures

Applications in response to this solicitation will be reviewed on a nationwide basis and in accord with the usual National Institutes of Health peer review procedures. Applications will first be reviewed for scientific and technical merit by an Initial Review Group composed primarily of non-federal scientific consultants, and then by the National Advisory Council of the appropriate Institute(s). The review criteria customarily employed by the National Institutes of Health for regular research grant applications will prevail.

##### Review Criteria

The factors to be considered in the evaluation of scientific merit of each application will be similar to those used in the review of traditional research project grant applications, including the novelty, originality, and feasibility of the approach; the training, experience, and research competence of the investigator(s); the adequacy of the experimental design; the suitability of the facilities; and the appropriateness of the requested budget to the work proposed.

## METHOD OF APPLYING

### Format for Applications

Applications should be submitted on form PHS 398, which is available from an applicant institution's Office of Sponsored Research or from the NIH Division of Research Grants (DRG). Use the conventional format for research project grant

applications and ensure that the points identified in this PA in the section on "Review Procedures and Criteria" are fulfilled. To identify the application as a response to this PA, check "yes" on item two of page one of the application and enter the title "Research on Bone Active Hormones and Cytokines."

As in the case with regular research project grant applications, applicants are requested to furnish their own estimates of the time required to achieve the objectives of the proposed research project. However, except under very unusual circumstances, applications submitted in response to this solicitation should not request support for more than a three year period. At the end of the initial award period, renewal applications may be submitted for further competitive review through the regular research grant program of the NIH.

Applications will be accepted in accordance with the announced receipt dates for new applications (see receipt dates and review schedule in application kits).

### Application Procedure

The original and six copies of the application should be sent or delivered to:

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

### Inquiries

For further information, investigators are encouraged to contact the following individuals:

Robert A. Tolman, Ph.D.  
Endocrinology Research Program Director  
Division of Diabetes, Endocrinology and Metabolic Diseases  
National Institute of Diabetes, and Digestive and Kidney Diseases  
Westwood Building, Room 605  
Bethesda, Maryland 20892  
Telephone: (301) 496-7504

Stephen L. Gordon, Ph.D.  
Musculoskeletal Diseases Program Director  
National Institute of Arthritis, and Musculoskeletal  
and Skin Diseases  
Westwood Building, Room 407  
Bethesda, Maryland 20892  
Telephone: (301) 496-7326

This program is described in the Catalog of Federal Domestic Assistance No. 13.846, Arthritis, Bone and Skin Diseases Research and No. 13.847, Diabetes, Endocrinology, and Metabolism, No. 13.855. Awards will be made under the authority of the Public Health Service Act, Title III, 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 the intergovernmental review requirements of Executive Order 12372 or Health Systems Agency Review.

### SPECIAL RESEARCH GRANT ANNOUNCEMENT DA-87-09 - VULNERABILITY TO DRUG ABUSE

P.T. 34; K.W. 0404009, 0404000, 0755030, 0730010, 0715095

National Institute on Drug Abuse

Application Receipt Dates: February 1, June 1, October 1

### PURPOSE

The purpose of this announcement is to stimulate behavioral and clinical research in the area of vulnerability to drug abuse. It is expected that this research will:  
(1) improve our understanding of genetic and environmental factors that are involved in the etiology of the disorder; (2) identify groups that are at high risk for the

development of the disorder; (3) facilitate the development of programs that are effective in preventing the disorder in high-risk groups; and (4) improve efforts at treating the disorder by allowing etiological factors to be addressed during the treatment process.

## BACKGROUND

Vulnerability to alcoholism has been well established. The results of family, adoption, and twin studies suggest that both genetic and environmental factors are involved in its etiology. For example, family studies have shown that alcoholism tends to run in families, which may be explained by both genetic and environmental influences. The role of genetic factors in alcoholism has been strongly suggested by results of adoption studies (where male adoptees with at least one alcoholic biological parent are 3-4 times more likely to abuse alcohol than adoptees with non-alcohol-abusing biological parents) and twin studies (where monozygotic twins show higher concordance for alcohol abuse than dizygotic twins). The role of environmental influences is also evident from the results of these studies, particularly twin studies where not all monozygotic twins have been found to be concordant for alcoholism.

In contrast, little is known about environmental and genetic factors that contribute to the etiology of other types of drug abuse (i.e., heroin, cocaine, marijuana). Evidence suggests, however, that the pattern of inheritance for drug abuse may be similar to that for alcoholism. Drug abusers frequently abuse alcohol, and alcoholics often report problematic drug use. Also, alcoholism and drug abuse tend to run in the same families. In addition, there is a close association between alcohol/drug abuse and other forms of psychopathology. Family studies of alcohol abuse report increased rates of other psychiatric disorders (including drug abuse) in the family members of alcoholics.

It is recognized that simple cause-and-effect models are inadequate for explaining vulnerability to drug abuse. Rather, it appears that various combinations of biological and environmental factors can attenuate or exacerbate an individual's likelihood for becoming drug dependent. To identify the relevant variables it is also important to examine not only organismic variables, but also environmental factors that interact to determine an individual's vulnerability. Such factors may operate within either the immediate milieu (e.g., family, peer group), or more broadly (e.g., cultural norms).

Previously, etiological studies of drug abuse have focused almost exclusively on psychosocial factors that contribute to development of the disorder. While it is important to determine how such factors contribute to drug abuse, additional research focusing on environmental and genetic influences is needed. Knowledge gained from this research will allow more effective programs to be developed for the prevention and treatment of drug problems. For example, prevention strategies can be targeted specifically at high-risk groups (i.e., children/siblings of drug abusers). Such programs would be cost-effective because they would enable intervention efforts to be focused on individuals at greatest risk for drug abuse. By allowing treatment programs to address factors involved in the etiology of the disorder, knowledge gained may also improve the effectiveness of treatment efforts.

Special attention should be directed toward children who are at high risk for developing drug dependence but do not develop the disorder. Research is needed to determine the types of genetic, familial, behavioral, and environmental factors that contribute to this "invulnerability." Such findings may be employed by prevention programs to protect other high-risk adolescents from becoming drug dependent. Research that focuses on racial/ethnic minority groups and women is also encouraged.

## AREAS OF RESEARCH INTEREST

**Family Studies:** comparing drug use by relatives of drug abusers and non-abusers to determine the extent to which drug abuse of different types runs in families; intergenerational patterns of inheritance of drug use; familial and non-familial forms of drug abuse; possible assortative mating in familial transmission of drug abuse; drug use patterns of clinically unaffected members of high-risk families; heterogeneity of drug use in children of drug-abusing parents.

**Twin Studies:** comparing drug use by members of monozygotic and dizygotic pairs to estimate the extent to which genetic and environmental factors contribute to the etiology of drug abuse; concordance for type or route of drug use; concordance for drug preference, magnitude of drug response, or severity of drug-related problems (i.e., withdrawal symptoms); identification of biologic and behavioral factors that are related to discordance for drug abuse in monozygotic twins.

**Adoption or Half-Sibling Studies:** comparing drug use by individuals born to drug-abusing and non-drug-abusing parents and reared by similar or opposite parents to estimate the relative influence of genetic factors and rearing environment in the development of drug abuse; identification of environmental factors that may predispose or protect an individual from drug abuse; influence of sex of affected/unaffected rearing parent on development of drug abuse.

**High Risk Studies:** comparing individuals believed to be at increased risk for drug abuse (i.e., children of alcohol/drug abusers) to controls in order to identify specific genetic and environmental factors (including psychiatric) that predispose individuals to drug abuse; identification of physiological, biochemical, and/or behavioral markers that indicate predisposition to drug abuse; determination of whether high-risk status is dependent on state of the organism or altered response to drugs; clarify the extent to which drug-abuse vulnerability is related to alcohol abuse and other forms of psychopathology.

**Clinical Studies:** to determine the interrelationship between drug abuse and other forms of psychopathology (i.e., depression, anxiety, sociopathy); the role of other psychopathology as a predisposing factor to drug abuse; prenatal exposure to drugs on later drug response or predisposition to drug abuse; personality factors involved in the etiology to drug abuse.

**Behavioral Studies:** to identify environmental factors that contribute to increased vulnerability to drug abuse, including availability of drug, type of drug, route of administration, absence of competing behaviors, drug delivery schedule; also environmental factors that protect from the development of drug abuse in high-risk individuals.

Statutory authority for this grant announcement is Section 515 of the Public Health Act (42 USC 290cc). Applications submitted in response to this announcement are not subject to the intergovernmental review requirements of Executive Order 12372, as implemented through Department of Health and Human Services regulations at 45 CFR Part 100.

#### ELIGIBILITY

Applications for research grants may be made by public or private non-profit organizations, such as universities, colleges, hospitals or laboratories, units of State or local government, or authorized units of the Federal Government. Women and minority investigators, in particular, are encouraged to apply.

#### APPLICATION PROCESS

State and local government agencies should use forms PHS-5161. All other applicants should use the standard PHS-398 (revised 5/82) research grant application form. VULNERABILITY TO DRUG ABUSE, DA-87-09 should be typed in Item 2 on the face page of the application.

Projects may be submitted under this announcement that address issues in common with the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Mental Health. Joint funding of such projects is possible; however, preapplication consultation is strongly encouraged.

Researchers interested solely in alcohol studies of vulnerability should refer to the National Institute on Alcohol Abuse and Alcoholism Announcement No. 86-04 "Genetics Research in Alcoholism."

Application kits containing the necessary forms and instructions may be obtained from business offices or offices of sponsored research at most universities, colleges, medical schools, and other major research facilities. If such a source is not available, the following office may be contacted for the necessary application material:

Grants Management Branch  
National Institute on Drug Abuse  
5600 Fishers Lane, Room 10-25  
Rockville, Maryland 20857  
Telephone: (301) 443-6710

The signed original and six (6) permanent legible copies of the complete application should be sent to:

Division of Research Grants, NIH  
Westwood Bldg., Room 240  
5333 Westbard Avenue  
Bethesda, Maryland 20205

Further information and consultation on program requirements can be obtained from:

Roy W. Pickens, Ph.D.  
Director, Division of Clinical Research  
National Institute on Drug Abuse  
5600 Fishers Lane, Room 10A-38  
Rockville, MD 20857  
Telephone: (301) 443-6697

#### REVIEW PROCESS

Applications received under this announcement will be assigned to an initial review group for scientific merit review. Such groups consist primarily of non-Federal experts. Notification of review outcome will be sent to the applicant after the initial review. Applications will receive a secondary review for policy consideration by the National Advisory Council of the National Institute on Drug Abuse. Only applications recommended for approval by the National Advisory Council will be considered for funding.

#### APPLICATION RECEIPT AND REVIEW SCHEDULE

Receipt of Applications	Initial Review	Advisory Council Review	Earliest Award
February 1	May - June	Sept - Oct	December 1
June 1	Oct - Nov	Jan - Feb	April 1
October 1	Feb - March	May - June	July 1

Applications received by February 1, 1987, will be considered for funding in FY 1987.

#### REVIEW CRITERIA

Criteria for scientific/technical merit review of applications will include the following:

- o the relevance of the proposed research to improving understanding of vulnerability to drug abuse;
- o the significance and originality from a scientific or technical standpoint of the goals of the proposed research;
- o the qualifications and research experience of the principal investigator and other key research personnel;
- o the availability of adequate facilities, other resources, and collaborative arrangements necessary for the research;
- o the appropriateness of budget estimates for the proposed research activities; and
- o the adequacy of provisions for the protection of human subjects, if applicable.

#### AWARD CRITERIA

Applications recommended for approval by the National Advisory Council on Drug Abuse will be considered for funding on the basis of:

- o overall scientific and technical merit of the proposed research as determined by peer review;
- o program balance of NIDA;
- o relevance to national need as reflected by NIDA research priorities;
- o potential contribution to the areas identified in the announcement; and
- o the availability of funds.

#### TERMS AND CONDITIONS OF SUPPORT

Grant funds may be used for expenses clearly related and necessary to conduct research projects, including both direct costs which can be specifically identified with the project and allowable indirect costs of the Institution. Funds may not be used to establish, add a component to, or operate a treatment, rehabilitation, or prevention intervention service program. Support for research-related treatment,

rehabilitation or prevention services and programs may be requested only for costs required by the research. These costs must be justified in terms of research objectives, methods, and designs which promise to yield generalizable knowledge and/or make a significant contribution to theoretical concepts.

Grants must be administered in accordance with the PHS GRANTS POLICY STATEMENT (DHHS Publication No. (OASH) 82-50-000 GPO-017-020-0090-1 (rev.) December 1, 1982, available for \$5.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402). Title 42 of the Code of Federal Regulations, Part 52, "Grants for Research Projects" is applicable to these awards. While references to other applicable regulations may be found in the aforementioned reference, special attention is called to 42 CFR 2 - Confidentiality of Alcohol and Drug Abuse Patient Records.

Applications received under this special announcement will be considered for funding on the basis of overall scientific and technical merits of the proposal as determined by peer review. It is estimated that 4-5 projects will be funded under this announcement during FY 1987. Initiation of new projects after FY 1987 will depend on availability of funds. Applications received in response to this announcement will compete for approximately \$2.0 million in new grant money that has been made available for this purpose.

Support will be provided for a period of up to five years, renewable for subsequent periods, subject to continued availability of funds and progress achieved.

This program is described in the Catalogue of Federal Domestic Assistance No. 13.279.

#### ERRATUM

#### IMPROVED INSTRUMENTATION FOR THE DIAGNOSIS OF VENOUS THROMBOSIS

P.T. 34; K.W. 0706030, 0715040, 0735015

National Heart, Lung, and Blood Institute

The announcement of RFA availability entitled: IMPROVED INSTRUMENTATION FOR THE DIAGNOSIS OF VENOUS THROMBOSIS that appeared in the Guide, Vol. 15, No. 21 - October 10, 1986, page 4 incorrectly listed the RFA number as 87-HL-01. The correct number is 86-HL-34-B.