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For Grants and Contracts

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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.

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NOTICES OF AVAILABILITY (RFPs AND RFAs)

ONGOING PROGRAM ANNOUNCEMENTS

COMMUNITY-BASED RESEARCH ON THE PREVENTION OF ALCOHOL-RELATED PROBLEMS

RFA AVAILABLE: AA-91-01

P.T. 34; K.W. 0404003, 0745027, 0403004, 0404000

National Institute on Alcohol Abuse and Alcoholism
Office for Substance Abuse Prevention

Application Receipt Date: February 12, 1991

PURPOSE

The primary purpose of this Request for Applications (RFA) is to encourage long-term, controlled experimentation to test community-based intervention programs for the prevention of alcohol-related problems.

RESEARCH OBJECTIVES

The research envisioned will investigate prevention strategies applied to entire communities as the basic units of analysis. The prevention strategies should be targeted at entire sectors of the community (e.g., automobile drivers, pregnant women).

The chief interventions should be based on environmental factors such as:

- normative factors (e.g., standards of behavior, attitudes and beliefs regarding alcohol, mass media effects);
- legal elements (e.g., alcohol beverage control laws, laws regarding drunk driving, minimum purchase age laws, zoning);
- economic factors (e.g., pricing, factors that affect the cost of consumption).

The research may include interventions that are not considered environmental (e.g., educational programs) to determine whether they interact with environmental ones to enhance their own effectiveness or that of the environmental factors.

The targeted outcomes of the interventions should be changes in the behaviors that contribute to the existence of alcohol-related problems or changes in the incidence or prevalence of the problems themselves. Examples of the former include the consumption of alcoholic beverages by pregnant women, binge drinking, driving while intoxicated, and experimental drinking by young people. Examples of target problems are alcohol-related traffic crashes, violence, and birth defects; morbidity and mortality from alcohol-caused cirrhosis, some cancers, and alcohol dependency. The target groups must include youth and/or young adults, but need not be limited to these populations. Three distinct community-based research alternatives are described below:

1. Testing a prevention program implementing a combination of community-based interventions that are expected to have a substantial long-term effect. The focus here is on the total effect of the interventions. The application should provide a rationale for the selection of the interventions and an estimate of the magnitude of effects expected.

2. Determining whether an integrated set of community-based interventions will have a joint effect different from the sum of the effects of the separate interventions. It is important to know whether the interventions interfere with each other or act to enhance their separate effects.

3. Determining the effect of community involvement in the planning and delivery of interventions on the effectiveness of the interventions. Community involvement is regarded as an essential facilitator of program effects in community-based research. The strategy here is to treat community involvement as an experimental variable in a controlled experimental design.

Applications that do not address at least one of these objectives will be regarded as non-responsive and will be returned to the applicant.

METHODOLOGICAL ISSUES

Community-based intervention trials are field experiments testing particular intervention strategies and, as such, have to satisfy criteria relating to internal validity. Applicants are urged to employ randomized assignment of communities to interventions. Where randomization is not feasible, the research may employ quasi-experimental designs and time-series analyses as alternatives. Efforts should be made to select study communities that are similar on cogent characteristics.

The research plan must include formative, procedural, and evaluative components.

MECHANISM OF SUPPORT

Applicants may request up to 5 years of support (renewable for subsequent periods). It is estimated that $2,000,000 will be available for two to three research grant awards for the first year of funding, including direct and indirect costs. Awards will be made as soon as possible after the final review in September of 1991.

ELIGIBILITY

Applications may be submitted by public or private nonprofit organizations such as universities, colleges, research institutions and organizations, hospitals, units of state or local governments, and eligible agencies of the Federal Government. Women and minority investigators are encouraged to apply.

REVIEW PROCEDURES

The Division of Research Grants, NIH, serves as the central point for receipt of applications under this RFA. Applications received will be assigned to the Initial Review Group (IRG) in accordance with established Public Health Service Referral Guidelines. The IRG, primarily of non-Federal scientific and technical experts will review applications for scientific and technical merit. Notification of the review recommendations will be sent to the applicant after the initial review. Applications will receive a second-level review by the National Advisory Council on Alcohol Abuse and Alcoholism and the Advisory Committee on Substance Abuse Prevention, where reviews may be based on policy considerations as well as scientific considerations. Only applications recommended for approval by these bodies may be considered for funding.

Applications submitted in response to this announcement are not subject to the intergovernmental requirements of Executive Order 12372, as implemented through the Department of Health and Human Services regulations at 45 CFR Part 100, and are not subject to Health Systems Agency review.

INCLUSION OF MINORITIES IN STUDY POPULATIONS

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Office for Substance Abuse Prevention (OSAP) requires that applicants consider the inclusion of minorities in study populations. If minorities are not included in a given study, a clear rationale for their exclusion should be provided.

INCLUSION OF WOMEN IN STUDY POPULATIONS

NIAAA/OSAP requires that applicants consider the inclusion of women in the study populations. Gender differences should be noted and evaluated. If women are not included in a given study, a clear rationale for their exclusion should be provided.

APPLICATION PROCEDURES

Applicants should use the standard research grant application form PHS 398 (revised 10/88). Application kits containing the necessary forms and instruction may be obtained from business offices or offices of sponsored research at most universities, colleges, medical schools, and other major research facilities, or from the following office:

National Clearing House for Alcohol and Drug Information
Post Office Box 2345
Rockville, MD 20852
Telephone: (301) 468-2600

INQUIRIES

For a copy of the complete RFA and preapplication consultation, contact:

S. Frank Camilleri, Ph.D.
Prevention Research Branch
Division of Clinical and Prevention Research
National Institute on Alcohol Abuse and Alcoholism
5600 Fishers Lane, Room 13C-23
Rockville, MD 20857
Telephone: (301) 443-1677

DIGITAL IMAGING OF CHEST X-RAY

RFA AVAILABLE: CA-90-21

P.T. 34; K.W. 0715035, 0715165, 0706030

National Cancer Institute

Application Receipt Date: December 11, 1990

The Radiation Research Program (RRP), Division of Cancer Treatment (DCT), of the National Cancer Institute (NCI) announces the availability of a Request For Applications (RFA) on the above program. The objective of this RFA is to support meritorious research in the application of digital chest radiography in the detection and characterization of the solitary lesions often associated with lung cancer.

Radiographic examination of the chest is the most commonly performed study in diagnostic radiology. Despite the advent of new imaging techniques and the highly sophisticated technology, such as computed tomography (CT), ultrasonography (US) and magnetic resonance (MRI/MRS), chest x-ray remains the mainstay of thoracic imaging. Chest radiography has not appreciably benefited from the diagnostic imaging evolution of the last decade. Digitization of the chest radiograph is technically difficult.

It requires high spatial resolution to capture the fine details of the vessels, bronchi, and to detect small lesions. No universally acceptable digital chest system has been developed; but as systems improve, more sophisticated processing options will arise. More advanced algorithms will open digital chest radiography to quantitative analysis, particularly concerning application of dual energy techniques.

The complexity of chest radiography and lack of standardized chest technique make the digitization of chest x-ray a formidable task. This RFA is designed to advance all aspects of x-ray digitization and to stimulate research leading to the improvement of chest radiography that may potentially result in earlier cancer diagnosis and treatment.

The objective of this RFA is to support meritorious research in the application of digital chest radiography in the detection and characterization of the solitary lesions often associated with lung cancer. The ultimate goal of digital radiography is to enhance diagnostic imaging, improve image communication, archiving, reduce cost of patient care, and improve cancer detection.

Approximately $600,000 in total costs per year for three years will be committed specifically to fund applications which are submitted in response to this RFA. It is anticipated that approximately three or possibly four scientifically meritorious applications will be funded.

The label available with the 10/88 revision of application Form 398 must be affixed 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.

Request for copies of the complete RFA should be addressed to:

Dr. Matti Al-Aish, Program Director
Diagnostic Imaging Research Branch
Radiation Research Program
National Cancer Institute
National Institutes of Health
Executive Plaza North/Suite 800
Bethesda, MD 20892
Telephone: (301) 496-9531

MOLECULAR ASPECTS OF SKELETAL MUSCLE ASSEMBLY AND FUNCTION

PA: PA-90-34

P.T. 34; K.W. 0705050, 1002004, 0760070, 1002058, 1003018, 0715136

National Institute of Arthritis and Musculoskeletal and Skin Diseases

INTRODUCTION

The Muscle Biology Program of the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) supports research on skeletal muscle, its diseases and disorders. This includes studies on normal muscle structure, function, development, and homeostasis. NIAMS, through this Program Announcement, encourages submission of grant applications in the specific area of the dynamic molecular events that bring about and maintain the highly organized and regular structures of skeletal muscle.

BACKGROUND

Skeletal muscle is a major tissue of the human body, responsible for forty percent of total body weight in normal adults. Its primary function is generating and controlling body motion. Extensive observation and research, motivated by this major role, has enhanced our understanding of many aspects of muscle action. Major contractile, regulatory, and structural proteins have been isolated and characterized. The genetic sequences encoding many of these proteins are known and subject to current techniques of cloning and site-directed mutagenesis. Researchers are determining the mechanisms that control genetic expression. There are detailed studies on structure of regulatory, contractile, cytoskeletal, and membrane proteins. Electron micrographs and immunofluorescent light images reveal a regularly organized ultrastructure, the composition of which has not been completely determined. We can describe extensive changes in appearance and protein composition as muscle develops and differentiates. This knowledge provides the basis for studies on the molecular mechanisms which bring about and maintain the structure of the myofibril. Similarly, extensive knowledge of the molecular architecture of muscle structures, such as thick and thin filaments, provides the background for studies at the atomic level of the inter-molecular basis for both muscle force and myofibril stability.

There are major unknowns regarding the development and maintenance of myofibrils: proteins or structures that have not yet been isolated and characterized; the biologically significant mechanisms underlying the dynamics of protein assembly, organization and exchange; the mechanisms responsible for control of protein expression, which result in different compositions dependent on muscle activity; the ways extracellular matrix proteins, membrane proteins, and the cytoskeleton influence myofibrillar assembly, sites of attachments and alignment; forces that stabilize the structures of the myofibrils, so that contractile force can be generated and controlled; and how proteins in these structures are replaced without impairing the contractile or metabolic activity of the muscles.

RESEARCH GOALS AND SCOPE

The primary goal of this Program Announcement is to foster research that enhances knowledge about the molecules of skeletal muscle and understanding of the molecular interactions that occur in the assembly and maintenance of striated muscle. This includes studies on individual processes as well as studies that try to integrate multidisciplinary approaches.

The scope of possible research areas includes, but is not limited to, the following topics:

1) Studies of genetic determinants and regulatory mechanisms important to myofibril assembly. This includes studies on influences of stimulation and hormonal environment, and the role of the multiple nuclei within individual muscle cells;

2) Studies of the role of extracellular matrix, cytoskeletal, and membrane proteins in myofibrillar organization;

3) Characterization of proteins and other molecules involved in establishing and maintaining myofibril structure. This includes non-muscle proteins when they present relevant models. Studies on

mechanisms and dynamics of how these components interact to form multi-component complexes;

4) Studies of the structures visible within the myofibril, such as the thick and thin filaments, the I-Z-I complex, the myotendinous junction and other structures responsible for coordination of structure between filamentous bundles;

5) Characterization of the forces that stabilize structures and provide for regulation of myofibrillar function, including tension development;

6) Studies on mechanisms of homeostasis and repair, including myofibril remodelling and protein turnover and replacement within functional complexes; and

7) Studies of molecular changes in response to exercise and disease, with focus on molecular mechanisms of hypertrophy and atrophy, including the role of messengers and receptors on the cell surface.

Investigators are encouraged to use the full range of current disciplines and techniques, including biochemistry, biophysics, molecular genetics and recombinant techniques, and cell biology.

MECHANISM OF SUPPORT

Applicants may apply for research project grants (R01), program project awards (P01), FIRST awards and suitable fellowships or research career awards.

APPLICATION AND REVIEW PROCEDURES

Applications in response to this announcement will be reviewed in accordance with the usual Public Health Service peer review procedures. Review criteria include: significance and originality of the research goals and approaches; feasibility of the research and adequacy of the experimental design; training, research competence, and dedication of the investigator(s); adequacy of available facilities; and provision for the humane care of animals. Decisions will be based on initial review group and National Advisory Council recommendations.

Applications should be submitted on form PHS-398 (rev. 10/88) or the appropriate training/fellowship application form, available in the business or grants office at most academic or research institutions, or from the Division of Research Grants, National Institutes of Health, (301) 496-7441. Applications will be accepted in accordance with the submission dates for new applications on a continuing basis: February 1, June 1, October 1. Fellowship receipt dates are January 10, May 10, September 10.

Applicants are required to include, where feasible and appropriate, women as well as men and minorities in the study of populations for all clinical and research efforts and to anayze, where appropriate, differences between these populations. If women and minorities are not to be included, a clear rationale for their exclusion should be provided.

The phrase "RESPONSE TO NIAMS PROGRAM ANNOUNCEMENT: MOLECULAR ASPECTS OF SKELETAL MUSCLE ASSEMBLY AND FUNCTION, PA-90-34" should be typed on line 2 of the face page of the application. The original and six copies should be sent or delivered to:

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

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

Richard W. Lymn, Ph.D.
Muscle Biology Program Director
National Institute of Arthritis and
Musculoskeletal and Skin Diseases
Westwood Building, Room 403
Bethesda, MD 20892
Telephone: (301) 496-7495

This program is described in the Catalog of Federal Domestic Assistance No. 13.846, Arthritis and Musculoskeletal and Skin Diseases Research. Awards will

be made under the authority of the Public Health Service Act, 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.

**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, MD 20816

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