Department of Defense
US Army Medical Research and Materiel Command

Fiscal Year 2002
Neurofibromatosis and Tuberous Sclerosis Research Programs
Awards Lists

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Introduction

The US Army Medical Research and Materiel Command is pleased to present the award list of funded projects for the fiscal year 2002 (FY02) Neurofibromatosis Research Program. Award negotiations were completed by May 31, 2003. The awards listed in this document were selected by a competitive two-tiered review process. Funding decisions were based upon scientific excellence evaluated in the first tier of review, followed by programmatic relevance judged in the second tier. These projects represent a diverse portfolio of scientific research directed toward the program's overall goal of promoting studies toward the understanding, diagnosis, and treatment of neurofibromatosis, as well as the enhancement of the quality of life for persons with the disease.

Congressional direction for FY02 specified $21 million for neurofibromatosis research. Following the receipt of funds, a programmatic strategy was developed, proposals were solicited and evaluated, award recommendations were made, and contract negotiations were completed. The FY02 programmatic strategy called for Career Development, New Investigator, Idea, Investigator-Initiated Research (with or without Nested Postdoctoral Traineeships), Therapeutic Development, and Clinical Trial Awards. The Career Development Award was offered for the first time in FY02, and is designed to encourage established scientists or research clinicians currently working in areas other than neurofibromatosis to shift their focus to neurofibromatosis research. The intent of the New Investigator Award is to prepare new, independent investigators for careers in neurofibromatosis and to attract established investigators that are new to the neurofibromatosis field. The Idea Award is intended to encourage innovative approaches to neurofibromatosis research. Idea Awards and New Investigator Awards do not require preliminary or pilot data. The intent of the Investigator-Initiated Research Award is to sponsor basic research leading to clinical trials relevant to neurofibromatosis or drugs that can be introduced into clinical trials. Nested Postdoctoral Traineeships, offered as an optional component of the Investigator-Initiated Research Award, are intended to enable doctoral degree graduates to either extend ongoing research related to neurofibromatosis or broaden the scope of their research to include work relevant to neurofibromatosis. The intent of the Therapeutic Development Award is to develop and evaluate preclinical model systems for neurofibromatosis type 1 (NF1) and NF2. The Clinical Trial Award is intended to sponsor clinical pharmacologic or gene therapy studies that look at toxicities (Phase 1) or investigate the efficacy (Phase 2) of any novel therapeutic approach for NF1 or NF2. A total of 17 studies was funded in FY02.

As the funded scientists embark on these projects, the Department of Defense and the US Army gratefully acknowledge the participation of their scientific advisors, people living with neurofibromatosis, and the neurofibromatosis advocacy community. The expertise, vision, and diversity of perspectives of all individuals who contributed to this program were vital to developing a sound investment strategy on behalf of all persons living with neurofibromatosis. It is with great anticipation and excitement that we await the outcomes of this research.

Career Development Award

Log Number	Last Name	First Name	Institution	Title	Award Amount
NF020087	Chishti	Athar	St. Elizabeth's Medical Center	Biochemical Characterization of Native Schwannomin/Merlin	$216,000

Idea Awards

Log Number	Last Name	First Name	Institution	Title	Award Amount
NF020037	Ip	Wallace	University of Cincinnati	Merlin, Lipid Rafts, and Growth Regulation	$690,750
NF020046	McCormick	Frank	University of California, San Francisco	Identification of Functions of Neurofibromin Distinct from the RasGAP Domain	$670,831
NF020054	Mattingly	Raymond	Wayne State University	Therapeutic Approaches to the N-Ras Pathway in Type I Neurofibromatosis	$637,586
NF020061	Mundlos	Stefan	Max-Planck-Institute for Molecular Genetics	Neurofibromatosis as a Bone Dysplasia? Analyzing the Role of Neurofibromin in Maintenance and Development of the Skeleton	$405,172

Investigator-Initiated Research Awards

Log Number	Last Name	First Name	Institution	Title	Award Amount
NF020005	Gutmann	David	Washington University	Modeling NF1-Associated Astrocytomas in Vitro and in Vivo	$1,448,199
NF020008	Van de Rijn	Matt	Stanford University	Genomic and Expression Profiling of Benign and Malignant Nerve Sheath Tumors in Neurofibromatosis Patients	$1,472,013
NF020015	MacCollin	Mia	Massachusetts General Hospital	Molecular Identification of the Schwannomatosis Locus	$1,288,434
NF020026	Clapp	David	Indiana University, Indianapolis	The Role of Schwann Cell-Mast Cell Interactions in Neurofibroma Formation	$3,038,845
NF020035	Bernards	Andre	Massachusetts General Hospital	Studies of Neurofibromatosis-1 Modifier Genes	$1,416,876
NF020040	Stephens	Karen	University of Washington	Clinical and Molecular Consequences of NF1 Microdeletion	$1,511,266
NF020042	Fernandez-Valle	Cristina	University of Central Florida	Role of Schwannomin and Paxillin in Cell Growth Control	$926,698
NF020064	Muir	David	University of Florida	Angiogenesis and Therapeutic Approaches to NF1 Tumors	$1,548,903

New Investigator Awards

Log Number	Last Name	First Name	Institution	Title	Award Amount
NF020013	Ye	Keqiang	Emory University	Neurofibromatosis 2 Tumor Suppressor, Merlin, Inhibits PIKE/PI 3-Kinase Signaling	$554,200
NF020029	Hingtgen	Cynthia	Indiana University, Indianapolis	Growth Factor Actions on NF1 Haploinsufficient Sensory Neurons	$658,651
NF020033	Cichowski	Karen	Brigham and Women's Hospital	Investigating the Regulation and Function of the NF1 Tumor Suppressor	$778,020
NF020045	Thomas	Sheila	Beth Israel Deaconess Medical Center, Boston	Role of Paxillin in Merlin Function	$765,000

Therapeutic Development Award

Log Number	Last Name	First Name	Institution	Title	Award Amount
NF020086	Friesen	Westley	PTC Therapeutics, Inc.	Nonsense Suppression as a Novel Therapy for Neurofibromatosis Type 1	$614,740

Fiscal Year 2002 Neurofibromatosis Research Program
Peer Reviewers

Peer Reviewers	Degree	Institution/Affiliation
Au, Kit-Sing	Ph.D.	University of Texas at Houston
Barald, Katharine	Ph.D.	University of Michigan
Bidichandani, Sanjay	M.D., Ph.D.	Oklahoma University
Braun, Steven	Ph.D.	Neurofibromatosis, Inc.
Buono, Susan	M.A.	National Neurofibromatosis Foundation, Inc. (Illinois Chapter)
Chernoff, Jonathan	M.D., Ph.D.	Fox Chase Cancer Center
Chugani, Diane	Ph.D.	Wayne State University
Cichowski, Karen	Ph.D.	Brigham and Women's Hospital
Clapp, David	M.D.	Indiana University
Crino, Peter	M.D., Ph.D.	University of Pennsylvania
Drew, Marie		Neurofibromatosis, Inc.
Fehon, Richard	Ph.D.	Duke University
Fernandez-Valle, Cristina	Ph.D.	University of Central Florida
Fisch, Gene	Ph.D.	Yale University
Gobel, Stephen	D.D.S.	Executive Secretary
Greenwood, Robert	M.D.	University of North Carolina
Haber, Roberta	Ph.D.	Executive Secretary
Kwiatkowski, David	M.D., Ph.D.	Brigham and Women's Hospital
Largaespada, David	Ph.D.	University of Minnesota Twin Cities
MacCollin, Mia	M.D.	Massachusetts General Hospital
Mahacek, Rhonda		Neurofibromatosis, Inc.
Mastbaum, Celia		Tuberous Sclerosis Alliance
McClatchey, Andrea	Ph.D.	Harvard Medical School, Massachusetts General Hospital Cancer Center
Rao, Mahendra	Ph.D.	National Institute of Aging, National Institutes of Health

Peer Reviewers	Degree	Institution/Affiliation
Ratner, Nancy	Ph.D.	University of Cincinnati
Robison, Leslie	Ph.D.	University of Minnesota
Saccomanno, Colette	Ph.D.	The National Neurofibromatosis Foundation, Inc.
Scoles, Daniel	Ph.D.	University of California-Los Angeles
Shannon, Kevin	M.D.	University of California
Sherman, Lawrence	Ph.D.	Oregon Health Sciences University
Stephan, Dietrich	Ph.D.	Children's National Medical Center
Viskochil, David	M.D., Ph.D.	University of Utah
Welling, Duane Bradley	M.D.	Ohio State University
Zhong, Yi	Ph.D.	Cold Spring Harbor Laboratory
Zubairi, Yameen	Ph.D.	Executive Secretary

Fiscal Year 2002 Neurofibromatosis Research Program
Integration Panel (IP) Members

IP Members	Degree	Institution/Affiliation
Bellermann, Peter (Chair)	M.P.A.	The National Neurofibromatosis Foundation, Inc.
Adamson, Peter	M.D.	Children's Hospital of Philadelphia
Copeland, Neal	Ph.D.	National Cancer Institute, Frederick Cancer Research and Development Center
Duffy, Brenda	M.S.	Neurofibromatosis, Inc.
Fisher, Nancy	M.D., M.P.H.	University of Washington, Seattle
Gibbs, Jackson	Ph.D.	Merck Research Laboratories
Korf, Bruce	M.D., Ph.D.	Harvard-Partners Center for Genetics and Genomics
Mulvihill, John	M.D.	University of Oklahoma Health Sciences Center
Rubenstein, Allan (Chair-Emeritus)	M.D.	Mount Sinai School of Medicine
Small, Judy (Chair-Elect)	Ph.D.	The National Neurofibromatosis Foundation, Inc.
Vézina, Louis-Gilbert	M.D.	Children's National Medical Center

Fiscal Year 2002 Neurofibromatosis Research Program
Ad Hoc Programmatic Reviewers

Ad Hoc Reviewers	Degree	Institution/Affiliation
DeClue, Jeffrey	Ph.D.	National Cancer Institute
Finkelstein, Robert	Ph.D.	National Institute of Neurological Diseases and Stroke
Legius, Eric	M.D., Ph.D.	Catholic University of Leuven, Belgium
Johnson, William	M.D.	Robert Wood Johnson Medical School

Glossary of Terms

Career Development Award (CDA): The goal of this award is to encourage established scientists or research clinicians who are currently working in areas other than neurofibromatosis to shift their focus to neurofibromatosis research. Such awards will provide investigators who are new to neurofibromatosis research the opportunity to acquire the training, data, and experience to compete for traditional awards. Clinically oriented physicians who wish to undertake clinical research in neurofibromatosis are encouraged to submit CDA proposals. For the purpose of this program, a CDA is intended for an individual who has his or her own established independent program of research with limited or no experience in the neurofibromatosis field (as indicated by publications and research funding) and holds a position equivalent to, or higher than associate professor.

Clinical Trial Award: The intent of this award mechanism is to sponsor clinical pharmacologic or gene therapy studies that look at toxicities (Phase 1) or investigate the efficacy (Phase 2) of any novel therapeutic approach for neurofibromatosis type 1 (NF1) or NF2. Applicants must include preliminary data to support the feasibility of their hypotheses and approaches, along with a detailed plan to conduct a Phase 1 or 2 clinical trial during the course of the award. Ultimately, the goal of this award mechanism is to sponsor novel research that will substantially improve today's approach to the treatment of neurofibromatosis.

Idea Award: The intent of this award mechanism is to encourage innovative ideas and technology in neurofibromatosis research. These proposals may represent a new paradigm in the study of neurofibromatosis, challenge existing paradigms, or look at an existing problem from a new perspective. The proposed studies may be untested, but present a high probability of revealing new avenues of investigation. Although this research is inherently risky in nature, the research plan must demonstrate solid scientific judgment and rationale. Preliminary or pilot data is not required for this award mechanism.

Investigator-Initiated Research Award: The intent of this award mechanism is to sponsor basic research leading to clinical trials relevant to neurofibromatosis or drugs that can be introduced into clinical trials. These awards are intended to fund independent investigators across a broad spectrum of disciplines. This award mechanism also supports the establishment of synergistic, goal-focused, and non-exclusionary consortia. Preliminary data relevant to neurofibromatosis research is required for these awards. Nested Postdoctoral Traineeships are being offered as an optional part of the Investigator-Initiated Research Award. The intent of the Nested Postdoctoral Traineeship is to enable doctoral degree graduates to either extend ongoing research related to neurofibromatosis or broaden the scope of their research to include work relevant to neurofibromatosis under the guidance of a designated mentor who is participating in the proposal.

***New Investigator Award*:** The intent of this award mechanism is to promote and reward innovative ideas and technology from investigators in the early phases of their careers as well as those investigators new to neurofibromatosis research who have little or no preliminary neurofibromatosis data. This research may represent a new paradigm, challenge existing paradigms, or look at an existing problem from a new perspective. A new investigator is defined as an independent investigator below the level of associate professor with access to appropriate research facilities. Preliminary or pilot data is not required for this award mechanism.

Therapeutic Development Award: The intent of this award mechanism is to sponsor the development and evaluation of preclinical model systems for NF1 and NF2. The overall goal of this award mechanism is to allow neurofibromatosis investigators to develop the skills and generate the preclinical data necessary to conduct clinical trials after completion of the research. The proposed studies are expected to be empirical in nature and product-driven rather than hypothesis-driven. It is anticipated that the agents and model systems generated from these awards will lead to the development of a broad platform on which to test future therapies. The submission of preliminary data relevant to the phase(s) of the preclinical drug development process covered by the research is required for this award mechanism.

Introduction

The US Army Medical Research and Materiel Command is pleased to present the award list of funded projects for the fiscal year 2002 (FY02) Tuberous Sclerosis Complex Research Program (TSCRP). Award negotiations were completed by September 30, 2003. The awards listed in this document were selected by a competitive two-tiered review process. Funding decisions were based on scientific excellence evaluated in the first tier of review, followed by programmatic relevance judged in the second tier. These projects represent scientific research directed toward the program's overall goal of promoting studies toward a better understanding of the role and function of proteins produced by the tuberous sclerosis complex 1 (TSC1) and TSC2 tumor suppressor genes.

Congressional direction for FY02 specified $1 million for research into the role and function of TSC1 and TSC2. Following the receipt of funds, a programmatic strategy was developed, proposals were solicited and evaluated, award recommendations were made, and contract negotiations were completed. The FY02 programmatic strategy called for a single award mechanism, the Idea Development Award. This award encourages innovative research aimed at understanding the role and function of proteins produced by the TSC1 and TSC2 tumor suppressor genes. Of the 13 proposals received, two proposals were funded. One additional proposal was recommended for funding with FY03 TSCRP dollars.

As the funded scientists embark on these projects, the Department of Defense and the US Army gratefully acknowledge the participation of their scientific advisors, people living with neurofibromatosis, and the neurofibromatosis advocacy community. The expertise, vision, and diversity of perspectives of all individuals who contributed to this program were vital to developing a sound investment strategy on behalf of all persons living with tuberous sclerosis. It is with great anticipation and excitement that we await the outcomes of this research.

Idea Development Award

Log Number	Last Name	First Name	Institution	Title	Award Amount
TS020006	Gutmann	David	Washington University	Mouse Models of TSC-Related Epilepsy	$424,682
TS020015	Ito	Naoto	Massachusetts General Hospital	Functions of TSC Genes in the Nervous System in Drosophila Melanogaster	$420,569
TS020021	Henske	Elizabeth	Fox Chase Cancer Center	TSC1 and TSC2 Gene Homologs in Schizosaccharomyces Pombe	$398,751

Fiscal Year 2002 Tuberous Sclerosis Research Program
Peer Reviewers

Peer Reviewers	Degree	Institution/Affiliation
Au, Kit-Sing	Ph.D.	University of Texas at Houston
Bidichandani, Sanjay	M.D., Ph.D.	Oklahoma University
Buono, Susan	M.A.	National Neurofibromatosis Foundation, Inc. (Illinois Chapter)
Chugani, Diane	Ph.D.	Wayne State University
Crino, Peter	M.D., Ph.D.	University of Pennsylvania
Fehon, Richard	Ph.D.	Duke University
Fernandez-Valle, Cristina	Ph.D.	University of Central Florida
Gobel, Stephen	D.D.S.	Executive Secretary
Kwiatkowski, David	M.D., Ph.D.	Brigham and Women's Hospital
Largaespada, David	Ph.D.	University of Minnesota Twin Cities
Mahacek, Rhonda		Neurofibromatosis, Inc.
Mastbaum, Celia		Tuberous Sclerosis Alliance
McClatchey, Andrea	Ph.D.	Harvard Medical School, Massachusetts General Hospital Cancer Center
Sherman, Lawrence	Ph.D.	Oregon Health Sciences University
Viskochil, David	M.D., Ph.D.	University of Utah

Fiscal Year 2002 Tuberous Sclerosis Research Program
Ad Hoc Programmatic Reviewers

Ad Hoc Reviewers	Degree	Institution/Affiliation
DeClue, Jeffrey	Ph.D.	National Cancer Institute
Finkelstein, Robert	Ph.D.	National Institute of Neurological Diseases and Stroke
Gibbs, Jackson	Ph.D.	Merck Research Laboratories
Johnson, William	M.D.	Robert Wood Johnson Medical School
Korf, Bruce	M.D., Ph.D.	Harvard-Partners Center for Genetics and Genomics
Legius, Eric	M.D., Ph.D.	Catholic University of Leuven, Belgium
Mulvihill, John	M.D.	University of Oklahoma Health Sciences Center
Rubenstein, Allan	M.D.	Mount Sinai School of Medicine
Whittemore, Vicky	Ph.D.	Tuberous Sclerosis Alliance

Glossary of Terms

Idea Development Award: The intent of Idea Development Awards is to encourage innovative research aimed at understanding the role and function of proteins produced by the TSC1 and TSC2 tumor suppressor genes. To be eligible for an Idea Development Award, the applicant must be an independent investigator at the level of Assistant Professor (or equivalent) or above. All Idea Development Award proposals must include preliminary data relevant to tuberous sclerosis research and the proposed project.