



Research Projects

1992 - 2006

Are Neural Stem Cells A Source of Brain Tumors?

Arturo Alvarez-Buylla, Ph.D.
University of California-San Francisco
San Francisco, California

Glioblastoma Multiforme: A Model for Cellular Radioresistance

Myles B. Astor, Ph.D.
New York Medical College
Valhalla, New York

The Gorlin Syndrome Gene in Cerebellar Medulloblastoma

Allen E. Bale, M.D.
Yale University School of Medicine
New Haven, Connecticut

The Hedgehog Pathway in Medulloblastoma

Allen E. Bale, M.D.
Yale University School of Medicine
New Haven, Connecticut

Molecular Analysis of the SynCAM Family of Tumor Suppressors in the Brain

Thomas Biederer, Ph.D.
Yale University
New Haven, Connecticut

Identification and Cloning of Genes Correlating with Human Astrocytic Tumor Progression Using PCR Based Differential Display of mRNA

Peter McL. Black, M.D., Ph.D.
Brigham and Women's Hospital
Boston, Massachusetts

GM3 As A Novel Apoptosis-Inducing Agent for Human Gliomas

Peter McL. Black, M.D., Ph.D.
Brigham and Women's Hospital
Boston, Massachusetts

Targeting, Imaging and Therapy of Gliomas Via Expression of Recombinant Biotinylated Receptors

Xandra O. Breakefield, Ph.D.
Massachusetts General Hospital
Boston, Massachusetts

Vascular Delivery of an Amplifying Vector for Brain Tumor Therapy

Xandra O. Breakefield, Ph.D.
Massachusetts General Hospital
Boston, Massachusetts

Defining the Role of Foxo Transcription Factors and Sirt1 Deacetylase in Suppressing Glioblastomas

Anne Brunet, Ph.D.
Stanford University
Stanford, California

Genetically Engineered Anti-Glioma CTL's in a Murine Model of EGFRvIII Expressing Tumors

Bob S. Carter, M.D., Ph.D.
Massachusetts General Hospital
Boston, Massachusetts

Novel Hedgehog Pathway Antagonists as Potential Medulloblastoma Therapeutics

James K. Chen, M.D.
Stanford University
Stanford, California

Molecular Mechanisms of Tumor Angiogenesis

Shi-Yuan Cheng, Ph.D.
University of Pittsburgh
Pittsburgh, Pennsylvania

Suppression of Established Glioma by Modulating Tumor Angiogenesis

Shi-Yuan Cheng, Ph.D.
University of Pittsburgh
Pittsburgh, Pennsylvania

Molecular Epidemiology of Brain Neoplasm

David C. Christiani, M.D., M.P.H.
Harvard School of Public Health
Boston, Massachusetts

STAT3 as Therapeutic Target for Glioblastoma

Brent H. Cochran, Ph.D.
Tufts University School of Medicine
Boston, Massachusetts

Single Cell Molecular Patho-Physiology of Medulloblastoma

Peter B. Crino, M.D., Ph.D.

University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania

Wingless Signaling in Medulloblastomas: A Murine Tumor Model

Charles G. Eberhart, M.D., Ph.D.

Johns Hopkins University
Baltimore, Maryland

Defining the Role of p53 in the Suppression of Glioblastoma

Gerard I. Evan, Ph.D.

University of California, San Francisco
San Francisco, California

Molecular Mechanisms of Cytotoxicity Following Drug-Induced DNA Damage in Glioma Cell Lines

Howard A. Fine, M.D.

Dana-Farber Cancer Institute
Boston, Massachusetts

Somatic Cell Gene Transfer to Model Medulloblastoma in Mice

Daniel W. Fults, M.D.

University of Utah
Salt Lake City, Utah

The Regulation of VEGF Expression in Brain Tumors

Henry M. Furneaux, Ph.D.

Memorial Sloan-Kettering Cancer Center
New York, New York

Genetically Engineered Cells Designed to Deliver Drugs by Apoptosis

James M. Gallo, Ph.D.

Fox Chase Cancer Center
Philadelphia, Pennsylvania

Identification of Genes Regulating Glial Cell Behavior in the Developing Visual System of Drosophila

Ulrike Gaul, Ph.D.

Rockefeller University
New York, New York

The Role of NOTCH Cell Signaling and INK4A/ARF Deletion in the Transformation of Radial Glia to Ependymoma Cancer Stem Cells

Richard J. Gilbertson, M.D., Ph.D.

St. Jude Children's Research Hospital
Memphis, Tennessee

Identification and Characterization of Novel Substrates of Neuronal Receptor Tyrosine Kinases

David D. Ginty, Ph.D.

The Johns Hopkins University School of Medicine
Baltimore, Maryland

Cell-to-Cell Signaling and Control of Growth and Differentiation in Brain

Achim Gossler, Ph.D.

The Jackson Laboratory
Bar Harbor, Maine

Molecular Targeting of Malignant Glioma at the Level of Translation Control

Matthias Gromeier, M.D.

Duke University Medical Center
Durham, North Carolina

Genetic Approaches to New Therapeutic Targets in Brain Cancer

Gregory J. Hannon, Ph.D.

Cold Spring Harbor Laboratory
Cold Spring Harbor, New York

Structural Mechanisms of Receptor Signaling in Brain Tumor Angiogenesis

Xiaolin He, Ph.D.

Northwestern University
Chicago, Illinois

Active Specific Immunotherapy of Glioma

Dorothee Herlyn, DVM

The Wistar Institute
Philadelphia, Pennsylvania

Dendritic Cell and Dexosome Interaction with Glioblastoma Multiforme

Evan M. Hersh, M.D.

University of Arizona
Tucson, Arizona

Anti-Angiogenic Gene Therapy for Brain Tumors

Lynn Hlatky, Ph.D.

Dana-Farber Cancer Institute
Boston, Massachusetts

Critical role of NF- κ B Activation in Necrosis Formation in Human Glioblastoma

Suyun Huang, M.D., Ph.D.

The University of Texas-M.D. Anderson Cancer Center
Houston, Texas

Role of Thrombospondin -1 Methylation in Glioblastoma Multiforme

Jean-Pierre Issa, M.D.

The Johns Hopkins Oncology Center
Baltimore, Maryland

Targeting Stromal and Tumor Compartments in Glioblastomas

Rakesh K. Jain, Ph.D.

Massachusetts General Hospital
Boston, Massachusetts

Enhancing Survival and Function of Glioma-Specific T-cells in the Tumor Microenvironment

Michael C. Jensen, M.D.

City of Hope National Medical Center
Duarte, California

Allelic Variation in Carcinogen Metabolism and Brain Tumor Risk

Karl T. Kelsey, M.D., M.O.H.

Harvard School of Public Health
Boston, Massachusetts

JUN- and MEF2-Mediated Apoptosis in Medulloblastoma

John Y.H. Kim, M.D., Ph.D.

Baylor College of Medicine
Houston, Texas

Effects of the Suppressive CNS Micro-Environment on Tumor Growth in the Brain

Paul M. Knopf, Ph.D.

Brown University
Providence, Rhode Island

Defining MicroRNA Signaling in Malignant Gliomas

Anna M. Krichevsky, Ph.D.

Brigham and Women's Hospital
Boston, Massachusetts

Regulation of Brain Tumor Angiogenesis by G-Protein Coupled Receptors

Calvin Kuo, M.D., Ph.D.

Stanford University
Stanford, California

Anti-HGF Monoclonal Antibody Therapy for Malignant Glioma

John Laterra, M.D., Ph.D.

Kennedy Krieger Research Institute
Baltimore, Maryland

Role of a Novel Member of the Ets Transcription Factor/Oncogene Family, ESE-1, in Human Brain Tumors

Towia Libermann, Ph.D.

Beth Israel Deaconess Medical Center
Boston, Massachusetts

The Role of PTEN Tumor Suppressor in Regulating Neural Stem Cells and Tumorigenesis

Xin Liu, M.D., Ph.D.

University of California, Los Angeles
Los Angeles, California

Analysis of the Mismatch Repair Pathway in Chemoresistant Human Glioblastomas

David N. Louis, M.D.

Massachusetts General Hospital
Boston, Massachusetts

Identification of the Chromosome 19q Glioma Tumor Suppressor Gene

David N. Louis, M.D.

Massachusetts General Hospital
Boston, Massachusetts

Molecular Predictors of Chemotherapeutic Response and Survival in Oligodendroglial Tumors

David N. Louis, M.D.

Massachusetts General Hospital
Boston, Massachusetts

A New Target for Immunotherapy of Glioma

Boris R. Mineev, M.D.

University of California, San Diego
San Diego, California

Identification and Immunologic Targeting of HCMV Antigens Expressed in Malignant Gliomas

Duane A. Mitchell, M.D., Ph.D.

Duke University Medical Center
Durham, North Carolina

Genetically Engineered Anti-Angiogenic Anti-Tumor Cytotoxic Lymphocytes: A Novel Immunotherapeutic Strategy for Malignant Glioma

Richard C. Mulligan, Ph.D.
Children's Hospital
Boston, Massachusetts

Glutamate Receptor Antagonists and Malignant Gliomas

Maiken Nedergaard, M.D., Ph.D.
New York Medical College
Valhalla, New York

Molecular Genetics of Human Brain Tumors

Elizabeth W. Newcomb, Ph.D.
New York University Medical Center
New York, New York

Structural and Biophysical Investigation of Plexin and the Semaphorin System, as Receptor-Ligand Complex Indicated in the Progression of Brain Tumors

Dimitar Nikolov, Ph.D.
Memorial Sloan Kettering Institute
New York, New York

Enhancement of Radiosurgical Effects on Brain Tumors Using Neural Stem Cell-Based Gene Expression

Ajay Niranjana M.B.B.S., M.S., M.Ch.
University of Pittsburgh
Pittsburgh, Pennsylvania

Modulation of Phosphoinositide-3-OH Kinase (P13-K) Activation and Glioma Phenotype by Signaling Regulatory Proteins

Donald M. O'Rourke, M.D.
University of Pennsylvania
Philadelphia, Pennsylvania

A Tumor Suppressor Mouse Model of Glioblastoma

Luis F. Parada, Ph.D.
The University of Texas Southwestern Medical Center
Dallas, Texas

Immunotherapy of Malignant Gliomas Using Cytokine-Producing Gamma-1 34.5 Deleted HSV

Jacqueline N. Parker, Ph.D.
University of Alabama at Birmingham
Birmingham, Alabama

The Role of the Fibrinolytic System in Development of Metastasis to the Brain

George Perides, Ph.D.
Beth Israel Deaconess Medical Center
Boston, Massachusetts

Dendritic Cell-GBM Fusion Cell Vaccines

Gregory Plautz, M.D.
Cleveland Clinic Foundation
Cleveland, Ohio

Tumor Antigens Recognized by T Cells in Malignant Glioma

Chris D. Platsoucas, Ph.D.
Temple University School of Medicine
Philadelphia, Pennsylvania

Expression and Function of Neurotrophins in Medulloblastoma

Scott L. Pomeroy, M.D., Ph.D.
Children's Hospital
Boston, Massachusetts

Rheb GTPase as a chemotherapeutic Target of Farnesyl Transferase Inhibitors in Brain Cancer

Lawrence A. Quilliam, Ph.D.
Indiana University School of Medicine
Indianapolis, Indiana

Dendritic Cells, Oncolytic HSV Vectors and Brain Tumor Immunotherapy

Samuel D. Rabkin, Ph.D.
Massachusetts General Hospital
Charlestown, Massachusetts

DCC Tumor Suppressor Gene -Expression and Function in Gliomas

Michael A. Reale, M.D., Ph.D.
Yale University
New Haven, Connecticut

Novel Approaches to Angiogenesis Inhibition in Experimental Glioma

Myrna R. Rosenfeld, M.D., Ph.D.
Sloan-Kettering Institute for Cancer Research
New York, New York

Mitogenic Effect of Sonic Hedgehog in the CNS of Transgenic Mice

David H. Rowitch, M.D., Ph.D.
Children's Hospital
Boston, Massachusetts

Antiangiogenetic Immunotherapy of Malignant Brain Tumors

John H. Sampson, M.D., Ph.D.
Duke University
Durham, North Carolina

Reconstitution of Anti-Tumor Immunity in Lymphopenic Hosts with Malignant Gliomas

John H. Sampson, M.D., Ph.D.
Duke University Medical Center
Durham, North Carolina

Lysosome-Directed Drug Delivery for Binary Therapy of Brain Tumors

Takeshi Sano, Ph.D.
Boston University
Boston, Massachusetts

Recruitment of Stem/Progenitor Cells to Brain Tumor Vasculature

David T. Scadden, M.D.
Massachusetts General Hospital
Boston, Massachusetts

t(11;22) in Recurrent Malignant Glioma Provides a Novel Therapeutic Target

Adrienne C. Scheck, Ph.D.
Barrow Neurological Institute
Phoenix, Arizona

Functions of Transforming Growth Factor Alpha and Epidermal Growth Factor Receptor and the Development of Glioblastoma

Emmett V. Schmidt, M.D., Ph.D.
Massachusetts General Hospital
Boston, Massachusetts

Identification of a Gene on Chromosome 22 Involved in the Genesis of Embryonal Brain Tumors

Deborah E. Schofield, M.D.
Brigham and Women's Hospital
Boston, Massachusetts

Glioma Rejection by Natural Killer Cells and IL-10 Producing CD4+T Cells

Benjamin Matthew Segal, M.D.
University of Rochester School of Medicine
Rochester, New York

The Role of Met Tyrosine Kinase in the Regulation of Apoptosis in Malignant Gliomas

Hui-Kui G. Shu, M.D., Ph.D.
University of Pennsylvania
Philadelphia, Pennsylvania

Applications of Lipid-Coated Microbubble Ultrasonic Contrast to the Therapy of Brain Tumors

Richard H. Simon, M.D.
University of Connecticut Health Center
Farmington, Connecticut

Neural Stem Cells as a Novel Platform for Gene Therapy Against Brain Tumors

Evan Y. Snyder, M.D., Ph.D.
Children's Hospital/ Harvard Medical School
Boston, Massachusetts

Identification of Novel Molecules that Function in the PTEN/PI 3-Kinase Regulated Signaling Pathway in Human Glioblastoma Cells

Hong Sun, Ph.D.
Yale University
New Haven, Connecticut

Modeling Progression from Low Grade Astrocytoma to GBM in Genetically Engineered Mice

Terry A. Van Dyke, Ph.D.
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Design of an Endostatin Delivery Vector for the Treatment of Brain Tumors

Erwin G. Van Meir, Ph.D.
Emory University-Winship Cancer Institute
Atlanta, Georgia

Mechanisms Related to the Bystander Cytocidal Effect and the Role of the Bystander Effect in the Treatment of Meningeal Neoplasms

Frank D. Vrionis, M.D., Ph.D.
New England Medical Center
Boston, Massachusetts

Analysis of Acrylonitrile and Ethylene Oxide Mutagenesis and Neurooncogenesis Via Mutational Spectra and DNA Transfections

Vernon E. Walker, D.V.M., Ph.D.
New York State Department of Health
Albany, New York

Mice, Chickens, and Hedgehogs: A New Transgenic System to Study Medulloblastoma Oncogenes

Robert J. Wechsler-Reya, Ph.D.
Duke University
Durham, North Carolina

The Role of Protein Kinase C in Astrocytomas

I. Bernard Weinstein, M.D.
Columbia-Presbyterian Cancer Center
New York, New York

Kinase Inhibitor Therapy Using a Switchable Allele of EGFR

William A. Weiss, M.D., Ph.D.
University of California, San Francisco
San Francisco, California

P13- and MEK Kinase Blockade in Glioma

William A. Weiss, M.D., Ph.D.
University of California, San Francisco
San Francisco, California

Mechanism of TRAIL Insensitivity in Brain Tumors

Milton H. Werner, Ph.D.
Rockefeller University
New York, New York

Monoclonal Antibodies Reactive with the Angiostatin Receptor to Replace Angiostatin as an Anti-Tumor Agent

Carol Wikstrand, Ph.D.
Duke University
Durham, North Carolina

Nonpathogenic Polio Recombinants as Therapy for Brain Tumors

Eckard Wimmer, Ph.D.
SUNY at Stony Brook
Stony Brook, New York

Identification of Genes Involved in Gliomagenesis of INK4a Null Mice

Ming-Jian You, M.D., Ph.D.
Dana-Farber Cancer Institute
Boston, Massachusetts

Role of the PTEN Tumor Suppressor in the Progression of Glioma

Ming-Jian You, M.D., Ph.D.
Dana-Farber Cancer Institute
Boston, Massachusetts

Identification of Molecular and Cellular Targets of Malignant Astrocytoma in a Mouse Model

Yuan Zhu, Ph.D.
University of Michigan
Ann Arbor, Michigan

Special Programs

LGG Initiative

Identification of Key Genetic and Growth Control Pathway Changes in JPA that Represent Potential Molecular Targets for Therapeutic Intervention

A joint investigation of
David Gutmann, MD, PhD
Washington University School of Medicine
Tobey MacDonald, MD, PhD
Children's National Medical Center

Brain Tumor Funders' Collaborative (BTFC)

Tumor Stem Cell-Based Drug Discovery for Adult and Pediatric Glioma

Sponsoring Institution: Kennedy Krieger Institute
Johns Hopkins University
Project Manager: John Latterra, MD, PhD

Molecularly Guided Clinical Trials for Glioma

Sponsoring Institution:
David Geffen School of Medicine
University of California - Los Angeles
Project Manager: Paul Mischel, MD

Identifying and Overcoming Resistance Mechanisms in Glioblastomas: A Joint EORTC-RTOG Effort

Sponsoring Institution: American College of Radiology, Radiation Therapy Oncology Group
Project Manager: Minesh Mehta, MD