Maryland Technology Development Corporation and Toucan Capital Corporation Hosts

Innovations in Drug Discovery, Delivery and Diagnostics for Neurodegenerative and Psychiatric Diseases

Featuring National Institutes of Health technologies from:

NINDS, NIDA, NIA, NIDCR, NIMH

8:00 am – 9:00 am	**Registration and Continental Breakfast**
9:00 am – 9:15 am	**Opening Remarks** Dr. Phillip Singerman, Executive Director Maryland Technology Development Corp. (TEDCO) Mark Rohrbaugh, Director, NIH Office of Technology Transfer Richard Nakamura, Deputy Director, National Institute of Mental Health (NIMH)
9:15 am – 9:25 am	**Case Study** Dr. Bruce Weintraub, COO and Chief Scientific Officer,Trophogen
9:25 am – 10:15 am	**Session I Presentations** **Growth factor production using an immortalized human brain cell** Dr. Eugene Major, National Institute of Neurological Disorders and Stroke (NINDS), Chief of the Laboratory of Molecular Medicine and Neuroscience • A method for treating a variety of neurological disorders and brain tumors using immortalized astrocytes. • Cells may be given DNA which produce active peptides • Cells have be successfully implanted in the central nervous system in animal models **Biomarker for diagnosis of MS** Dr. Roland Martin, NINDS, Cellular Immunology Section, Neuroimmunology Branch **Novel Dopaminergic Agents for Neuropsychiatric Disorders and Drug Abuse** Dr. Amy Newman, National Institute for Drug Abuse (NIDA) ,Medications Discovery Research Branch • The dopamine D3 receptor has been implicated in drug abuse, schizophrenia and Parkinson's disease • A family of potent selective D3 receptor antagonists with higher bioavailablility **A genetics-based approach to understanding and treating neurodegenerative disease** Dr. John Hardy, National Institute on Aging (NIA), Lab of Neurogenetics **Development of lentiviral vectors for gene discovery and gene therapy** Dr. Zhennan Lai, NINDS, Developmental and Metabolic Neurology Branch • Lentiviral vectors overcome immune response problem in the host • Vectors can express two separate gene products in a single cell • Biologically functional gene products are delivered to both infected and neighboring non-infected cells **Use of RNAi to treat chemotherapy-resistant malignant gliomas** Dr. John Park, NINDS, Surgical and Molecular Neuro-oncology Unit • Delivery of stathmin RNAi oligonucleotides alone or with standard chemotherapies • Potential treatments for brain and lung tumors and for leukemias **Methods of identifying and treating tumors that express erythropoietin**

	receptor protein Dr. Zhengping Zhuang, NINDS, Clinical Neurosurgery Branch • Von Hippel-Lindau disease associated tumors of the CNS, pancreas, kidney and other organs co-express erythropoietin (Epo) and erythropoietin receptor proteins (EpoR) • EpoR may be useful as a diagnostic and therapeutic target **Convection Enhanced Delivery (CED) in Neurological Drug Delivery** Dr. John Heiss, NINDS, Clinical Neurosurgery Department, Surgical Neurology Branch • Unique marker for tracking and verification of drug delivery to the CNS • Use of convection delivery techniques for drug delivery to the CNS is guesswork without use of a proven surrogate marker.
10:15 am – 10:30 am	**TEDCO Funding Presentation** Dr. Steve Fritz, Director of Technology Transfer, Maryland Technology Development Corporation (TEDCO)
10:30 am – 10:45 am	**Break: Networking and Poster Sessions**
10:45 am – 11:35 am	**Session II Presentations** **AAV vectors: Platform for efficient drug delivery to the CNS** Dr. Jay Chiorini, National Institute of Dental and Craniofacial Research (NIDCR), Gene Therapy and Therapeutics Branch • AAV vectors provide continuous source of therapeutic proteins to tissue • Specific vectors provide for gene transfer into brain tissue **HIV Dependent Viral Vector** Dr. Jon Marsh, NIMH, Laboratory of Molecular Biology • HIV, is a retrovirus that infects brain cells as well as immune cells • All studies of HIV replication, require the measurement of HIV infectivity • A novel genetic construct **Inhibiting neuronal apoptosis with protein based delivery of Bcl-xL** Dr. Richard Youle, NINDS, Biochemistry Section, Surgical Neurology Branch • A Bcl-XL delivery system that prevents neuron cell death in animal • Therapeutic benefit for stroke and spinal cord injuries **Advances in Expression Profiling** Dr. Robert B. Innis, NIMH, Molecular Imaging Branch • Use of positron emission tomography (PET) in therapeutic drug development • Radio labeled probes of receptors can be used with therapeutic candidates to provide information on drug dosing, dosing intervals, and

	efficacy **Modulators of Nuclear Hormone Receptor Activity: Novel Compounds, Diverse Applications for Infectious Diseases, Including Anthrax (B. anthracis)** Dr. Esther M. Sternberg, NIMH, Neuroendocrine Immunology and Behavior • Nuclear hormones protect against inflammatory diseases such as septic shock • Anthrax factor at a low level blocks the receptor for nuclear hormones • Drugs designed to prevent this could have be important for anthrax and for other inflammatory disease.
11:35 am – 11:50 am	**Toucan Presentation** Linda Powers, Toucan Capital Corporation Managing Director
11:50 am – 12:20 pm	**Lunch**
12:20 pm – 1:00 pm	**Panel Discussion and Q&A Technology Collaboration with NIH** Topics and Panelists **Licensing**: Steven Ferguson, Office of Technology Transfer **Clinical Trials** : Linda Brady, NIMH **CRADAs**: Kathleen Carroll, NCI
1:00 pm – 1:30 pm	**Networking and Poster Sessions**

Return to Overview

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Showcase Outreach Partners

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