LBRN Work-in-Progress

INBRE Seminar series

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Tuesday September 10, 2013

10:00 - 11:30AM

Targeting Beta Amyloid Clearance as Therapeutic Approach for Alzheimer's Related Disorders

DR. AMAL KADDOUMI

Department of Basic Pharmaceutical Sciences

UNIVERSITY OF LOUISIANA MONROE

10:00 AM

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A Role for CDK9 in HSV-1 Associated Ocular Neovascularization

HARRIS MCFERRIN

Department of Biology

XAVIER UNIVERSITY

10:45 AM

Please check your local Access Grid Room or http://lbrn.lsu.edu for additional information

Targeting Beta Amyloid Clearance as Therapeutic Approach for Alzheimer's Related Disorders

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Amal Kaddoumi, PhD Department of Basic Pharmaceutical Sciences
UNIVERSITY OF LOUISIANA MONROE

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Mentor:

Jeffrey Keller, PhD

Pennington Biomedical Research Center and School of Human Ecology

Louisiana State University

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The long-term goal of this work is to advance our understanding in the mechanism(s) of beta amyloid (Aβ) elimination across the blood-brain barrier (BBB) so that advances in diagnostics, and new interventions to prevent or delay the onset of Aβ pathology associated with Alzheimer's related disorders can be developed. To achieve this goal we are investigating the hypothesis "enhanced clearance of Aβ by cerebrovascular endothelial cells will be beneficial to BBB homeostasis and prevent the development of cerebral amyloid angiopathy (CAA) and Alzheimer's disease (AD)." This hypothesis is being examined by testing 2 specific aims: a) characterize the mechanism of Aβ clearance across the BBB in terms of Aβ levels and Aβ plaque formation in the brains of wild type and AD mice models; and b) mechanistically investigate the association between alteration in Aβ clearance and Aβ neuronal toxicity using mammalian cell culture model. New data from both specific aims will be presented, demonstrating the significance of functional BBB to the regulation of Aβ levels in the brain.

A Role for CDK9 in HSV-1 Associated Ocular Neovascularization

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Harris McFerrin PhD, Department of Biology, Xavier University

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Mentor:

James M Hill, PhD

Department of Ophthalmology

LSU Health Sciences Center in New Orleans

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The formation of new blood vessels is limited in healthy adults to sites of vessel repair and to the female reproductive tract but is essential for the growth and metastasis of solid tumors as well as for the progression of herpesvirus-related disease conditions such as Kaposi sarcoma and herpes simplex virus-1 (HSV-1) corneal neovascularization. We have begun testing novel inhibitors of cyclin-dependent kinases and are performing experiments to determine whether inhibition of cyclin-dependent kinase 9 reduces corneal neovascularization due to HSV-1 infection in vivo and endothelial cell migration, invasion and tubule formation due to angiogenic factors in vitro.