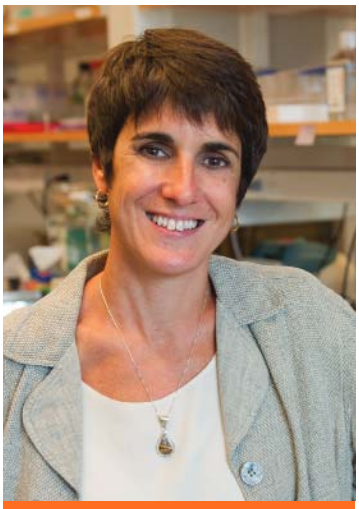

health care

neuroscience

pharmacology

toxicology

treatment of strokes

SANDRA HEWETT

The Beverly Petterson Bishop Professor of Neuroscience
Department of Biology, Syracuse University

362 Life Sciences Complex
Phone: 315-443-9657
E-mail: shewett@syr.edu
Website: http://biology.syr.edu/faculty/hewett_sandra/hewett_sandra.htm

Dr. Hewett is an internationally renowned expert in the neurobiology and neurochemistry of stroke. She works to identify the molecular and biochemical mechanisms that underlie cell death in the central nervous system. She directs a research group that studies the interplay between excitotoxicity and inflammation, and how this interplay affects the progression of the neuronal injury that follows stroke. Dr. Hewett's laboratory applies in vitro and in vivo models of injury to identify the mediator molecules contributing to inflammation in the central nervous system following injury. Her work has an application in development of treatments for cerebral ischemic damage that could lead to the development of novel stroke therapies. Dr. Hewett leads the new interdisciplinary neuroscience initiative at The College of Arts and Science that is a collaboration of professionals from Syracuse University and SUNY Upstate Medical University.

Education:

1992 Ph.D. Pharmacology and Toxicology, Michigan State University

1987 B.Sc. Biology, Providence College

Recent Research Projects:

Excitotoxicity and Inflammation. National Institute of Neurological Disorders and Stroke/National Institute of Health. PI: Hewett, S.J.

This long-term study has been continuously funded by NIH for more than 15 years and focuses on determining the mechanisms by which cerebral stroke damage occurs. It has substantially advanced the current knowledge about how injury progresses following brain damage.

Constructing a Conditional Slc7a11 (xCT) Null Mouse. National Institute of Neurological Disorders and Stroke/National Institute of Health. PI: Hewett, S.J.

The overall goal of this project is to develop a conditional gene-targeted transgenic mouse line that will be used to genetically dissect the function of a cystine/glutamate antiporter (system xc-) in an animal model of cerebral ischemia. However, any investigator can use this mouse to determine the biological and pathobiological role of system xc- in a cell-type and tissue-specific manner. Indeed, based on the posited contribution of system xc- to various maladies, this mouse should represent an important advance for immunologists, experimental ophthalmologists and cancer biologists, as well as, neuroscientists.

Recent Scholarship:

Jackman, N.A., S.E. Melchior, J.A. Hewett, and S.J. Hewett, **"Non-cell autonomous influence of astrocyte system xc- on hypoglycemic neuronal cell death,"** *ASN Neuro*, vol. 4, art:e00074.doi:10.1042/AN20110030, Jan. 2012.

Uliasz T.F., M.E. Hamby, N.A. Jackman, J.A. Hewett, and S.J. Hewett, **"Generation of primary astrocyte cultures devoid of contaminating microglia,"** *Methods in Molecular Biology,* vol. 814, pp. 61-79, 2012.

SUADVANCE

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