Meet Our Editorial Board Member

Karim Alkadhi, PhD

Professor of Pharmacology and Neuroscience

RESEARCH INTERESTS

Stress in all forms has dire consequences for the overall health of individuals. Dr. Alkadhi's lab focuses on studying the coincidence of chronic psychosocial stress and disorders that affect brain function such as Alzheimer's disease, hypothyroidism and sleep deprivation. We recently have developed a preclinical rat model of Alzheimer's disease to test the role of chronic stress in revealing prototype of the disease. We use an integrated approach where we associate behavioral findings with electrophysiological recordings of correlates of learning and memory from brains of anesthetized animals and with levels and activities of learning and memory-related signaling molecules. We are also evaluating potential neuroprotective drugs (*e.g.* nicotine) and measures (*e.g.* regular exercise) that can counter the effects of these disorders.

K. Alkadhi

Dr. Alkadhi's lab also studies synaptic plasticity in the peripheral nervous system and has pioneered the discovery of the neurotransmitter required for expression of long-term potentiation (LTP) and long-term depression (LTD) in sympathetic ganglia. We also established that psychosocial stress-induced hypertension is associated with expression of ganglionic LTP. A presently ongoing project is to establish possible connection between epileptic seizure-induced LTP in sympathetic ganglia and sudden unexpected death in epilepsy (SUDEP).

PUBLICATIONS

Over 130 research articles, reviews and book chapters

DR. ALKADHI'S RESEARCH IN POPULAR MEDIA

- [1] Mossop, B: Neurostress: How Stress May Fuel Neurodegenerative Diseases: A life of tension may hasten the onset of Alzheimer's. Scientific American Online. 2011.
- [2] Mossop, B: Strain on the Brain A stressful life may fuel Alzheimer's and Parkinson's disease. Scientific American Mind, July/August issue: 60-63 2011.
- [3] Robertson, M: Smoking out an under-active thyroid. BioMedNet November 2003.
- [4] Merkl, L. An apple a day keeps the doctor away...but so may a cigarette. EurekAlert, 2003.
- [5] McCoy, D. Nicotine metabolites may improve memory, protect against disease. EurekAlert, 2003.
- [6] Schadewald, B. Cloud of smoke can now clear the mind. Houston Business journal, December, 3003.
- [7] Unknown. UH researchers find neurological benefits in nicotine. Houston Business journal, December, 3003.