Jennifer L. Macdonald-Obermann

Current Position: Senior Research Technician in the laboratory of Dr. Linda Pike, Department of Biochemistry and Molecular Biophysics, at Washington University School of Medicine in St. Louis, Missouri

Education: B.S. in Biology (1993) from Loyola University Chicago

Non-scientific Interests: Biking and raising my three children

I began my career in academic research at the Medical University of South Carolina in 1998. My work in the Gene Technology Core Facility at the Gazes Cardiac Research Institute introduced me to the array of signaling proteins and transduction pathways involved in cardiac hypertrophy and raised my interest in signal transduction. I joined the laboratory of Dr. Linda Pike in 2001. The initial focus of my work was on raft localization of the EGFR. I characterized a mutation in the intracellular juxtamembrane domain that led to palymitoylation of the receptor. This would be predicted to inhibit the ability of this domain to move away from the membrane. Interestingly, this mutant exhibited only low affinity EGF binding, underscoring the importance of the juxtamembrane region for ligand binding. Further work on the high and low affinity binding characteristics of the EGF receptor led to the development of a new model for the analysis of binding data that involves positive linkage and negative cooperativity in an aggregating system. In this paper, the new analytical approach was used to further characterize the importance of the juxtamembrane region to the regulation of EGF binding.

Read Jennifer Macdonald-Obermann's article entitled: The Intracellular Juxtamembrane Domain of the Epidermal Growth Factor (EGF) Receptor Is Responsible for the Allosteric Regulation of EGF Binding

http://www.jbc.org/cgi/content/full/284/20/13570