Research Overview

Research in the Brinton laboratory focuses on understanding the mechanisms that lead to Alzheimer’s in the aging brain and translating that mechanistic understanding into therapeutics to prevent, delay and treat the disease. Our investigative strategies span discovery to translation to clinical science. To achieve our goals, we have investigated neurosteroid action in the brain which is affected during aging and neurodegenerative disease. Outcomes of this research indicate that estrogen promotes the bioenergetic system of the brain to sustain neurological function whereas progesterone and its metabolite, allopregnanolone, promote the regenerative system of the brain to increase neurogenesis and cognitive function. These programs of discovery research led to translational analyses that provided the foundation for two NIA sponsored clinical trials: Estrogen Receptor-Beta PhytoSERMs for Management of Menopause and Age-Associated Memory Decline and Allopregnanolone as Regenerative Therapeutic for Mild Cognitive Impairment and early Alzheimer’s Disease [http://pharmweb.usc.edu/brinton-lab].

References