



Name: Lei Wang

Email: lwang77@wisc.edu

Major Professor: Paul Bertics

Degree Objective: Ph.D. Endocrinology and Reproductive Physiology

Background: MB BS, Anhui College of Traditional Chinese Medicine

Current Research Project:

I am interested and currently study a mutation of the epidermal growth factor receptor (EGFR) that results in a tandem kinase domain duplication (TKD-EGFR). This mutant EGFR^{TKD} has been described in Glioblastoma multiforme biopsies and cell lines. The previous study shows TKD confers tumorigenicity, however, little is known related to the molecular roles of receptor deregulation.

TKD is a 190 kDa protein contains 1553 amino acids. It's different from usual EGF-Receptor mutant because it possesses a second functional tyrosine kinase domain. The second kinase domain causes this EGF-Receptor constitutively auto phosphorylated, and it also confers a high degree of oncogenicity to the receptor. Previous study finished by student in Bertics lab shows that each kinase domain of TKD-EGFR contributes different role for this basal autophosphorylation, Kinase activity deficient knockouts of the N-terminal or C-terminal kinase domains generated TKD-EGFRs that shows mutant-like vs WT-like EGFR. Study also shows TKD-EGFR does not form homo- or hetero dimerization as WT-EGFR and other ErbB family members upon ligand stimulation, it may be because its kinase domain duplication as well, but how it is constitutively activated and internalized as well as its downstream signaling pathway, which are not clear. Current hypothesis include TKD-EGFR form self dimerization between its duplicated kinase domains. My current goal is to study the role of two kinase domains in TKD localization and dimerization as well as its downstream signaling.

Honors:

Grants Received:

Publications:

National Presentations:

Other Presentations:

ERP Service: