

## **Pankaja Kadaba, Ph.D.**

Research Professor  
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### **Research Interests**

Dr. Kadaba's main research interests are in the rational design of CNS drugs for the treatment of neurological disorders (e.g., epilepsy, stroke, Parkinson's disease) and their mechanism of action. Her research projects are on a collaborative scale with pharmacology and neurology departments and provide the graduate student with a broad multidisciplinary training in organic and physical chemistry and in vivo and in vitro pharmacological techniques. For example, drug design involves synthesis and structure-activity relationship studies to determine the physical parameters such as lipid solubility (p), electronic characteristics (s) and steric effects that contribute to pharmacological activity. Studies on the mechanism of action generally include preformulation chemical stability studies, synthesis of radiolabeled drug, its tissue distribution, metabolism, and most importantly, its receptor pharmacology which would indicate which receptor the drug binds to and which neurotransmitter it affects. Several novel antiepileptic drugs developed in her labs work by attenuating the release of the excitatory neurotransmitter amino acid L-glutamate, an excess of which in the brain leads to seizures. Knowing the mechanism, more efficient drugs to better counteract L-glutamate can be designed by structural modifications.



### **Research Publications/Presentations**

M.A.F. Hamelijnc, P.J. Stevenson, P.K. Kadaba and L.A. Damani, "Triazolines XXI. Preformulation Degradation Kinetics and Chemical Stability of ADD17014, A Novel Triazoline Anticonvulsant," *J. Pharm. Sci.*, 81: 392-396 (1992).

P.K. Kadaba, "Milacemide and Memory:", (Correspondence), *Neurology*, 42, 1434 (1992).

T.R. Deshmukh and P.K. Kadaba, "Triazolines 28. Identification of the Triazoline Pharmacophore and the Evolution of the Aminoalkylpyridines, a New Class of Potent Orally Active Anticonvulsant Agents," *Med. Chem. Res.*, 3: 223-232 (1993).

P.K. Kadaba, "Triazolines 29. 1,5-Diaryl-D2-1,2,3-triazolines as Aphicides. Mechanism of Action via Aziridine Formation", *Pestic. Sci.*, 42, 299-304 (1994).

P.K. Kadaba and M.M. Morgan, "Triazolines 31. Anticonvulsant Properties of Three Triazoline- and Aziridinedicarboximide Derivatives," *Biomed. And Pharmacother.*, in press, (1995).