

Khalid Iqbal, Ph.D.

Khalid Iqbal, Ph.D., is Professor and Chairman of Neurochemistry at the New York State Institute for Basic Research in Developmental Disabilities, Staten Island, New York. Dr. Iqbal was the first to describe in 1974 the bulk isolation and protein composition of neurofibrillary tangles/paired helical filaments (PHF) from Alzheimer disease (AD) brains. In 1986 he, along with Dr. Inge Grundke-Iqbal, discovered the presence of all six molecular isoforms of tau protein in PHF and showed that tau in PHF is abnormally hyperphosphorylated. The same year, Dr. Iqbal was the first to show that the abnormally hyperphosphorylated tau in the AD brain cytosol inhibited the in vitro microtubule assembly. This seminal finding subsequently led to studies on the molecular mechanism of neurofibrillary degeneration by his laboratory. He discovered both a several-fold increase in brain levels of tau and ubiquitin in AD brain and was the first to demonstrate increased level of CSF ubiquitin in AD. In 1993, his laboratory discovered a specific decrease in the activities of protein phosphatases (PP) -2 and PP-1 in AD brain. He showed that memantine could reverse the inhibition of the PP-2A activity in a tissue culture model. Lately, he has demonstrated that AD can be classified into at least five subgroups based on the CSF levels of $A\beta_{1-42}$, tau and ubiquitin.

Dr. Iqbal is the founding chairman of the biennial International Conference on Alzheimer Disease and Related Disorders. The 10th Conference of this series was held in Madrid in 2006 and was attended by over 5,000 Alzheimer disease researchers.