Riqiang Yan

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Professor Yan is an expert in neurodegenerative diseases, specializing in identifying the biological culprits behind Alzheimer?s disease.

Biography

Professor Yan researches potential treatments for Alzheimer's that get to the core of the physiological processes responsible for the disease which is the sixth highest cause of death in the United States. The neurodegenerative disorder which results in memory loss, is caused by a buildup of a peptide called beta amyloid. The peptide forms a plaque in the brain by inhibiting brain cells? functions and ability to communicate with each other. BACE1, discovered by Yan 20 years ago, is an enzyme that plays a crucial role in enabling the formation of beta amyloid. BACE1 cleaves the amyloid precursor protein; this creates a protein fragment that remains to anchor onto the cellular membrane of neurons ? brain cells. That fragment is then cleaved a second time by another enzyme and gives rise to beta amyloid. It is widely recognized that inhibition of BACE1 may treat Alzheimer?s disease. Yan is seeking to find a way to properly inhibit BACE1 and thus block the formation of beta amyloid by interfering with the first step in its formation. The Yan lab is also interested to explore the pathological developments associated with the neuritic dystrophy and identified proteins such as tubular endoplasmic reticulum proteins in the formation of dystrophic neurites in surrounding amyloid plaques. The presence of dystrophic neurites is highly relevant to cognitive impairments in AD patients. The ultimate pathological feature in AD is the neuronal loss. Yan and his team are exploring approaches to reverse neuronal loss in AD patients. Recently, Yan and his colleagues have now identified a small fragment in the C-terminal CX3CL1 may potentially help AD patients to prevent or reverse the neuronal loss.

Areas of Expertise

Alzheimer's Disease, Medicine, Neuroscience

Affiliations

American Journal of Neurodegenerative Disease, American Journal of Translational Research, International Journal of Clinical and Experimental Pathology, Member of Scientific Review Committee, BrightFocus Foundation, Member of Global Leadership Group, Cure Alzheimer?s Foundation, Elected member of the Connecticut Academy of Science and Technology, Faculty Member, Faculty of 1000 Medicine

Education

University of Kentucky
Ph.D.

Shanghai Medical University Pharmacy School
B.Pharm

Accomplishments

MetLife Award for Medical Research
Recipient of the most prestigious award for Alzheimer?s research.
