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KIBRA PEPTIDES FOR TREATMENT OF COGNITIVE IMPAIRMENT IN AGING AND NEURODEGENERATIVE DISEASE

TECHNOLOGY DESCRIPTION

One of the hallmarks of neurodegenerative disease is that the synapses, which are involved in the transmission of information between neurons, deteriorate during disease progression. Dr. Tara Tracy's laboratory at the Buck Institute has identified a protein located at synapses in the brain that is altered during this progression. The protein is called KIBRA, named because it is found in the kidney and the brain. Having demonstrated that restoring KIBRA function in a mouse model of Alzheimer's disease restored memory in aged mice, Buck investigators created synthetic KIBRA peptides that can be used as a therapeutic for treatment memory and cognitive decline.

These novel peptides have been tested in a mouse model of tauopathy (which occurs in Alzheimer's disease as well as other neurodegenerative diseases). Our KIBRA peptides have been able to restore memory and protect synapse function and plasticity in this mouse model, demonstrating that synaptic recovery is possible despite the presence of the toxic tau proteins.

APPLICATIONS

Novel peptide therapeutics for treatment of patients with

- tau-associated memory deficit disorder in Alzheimer's and other neurodegenerative diseases and
- aging-associated cognitive decline in the presence or absence of neurodegenerative disease

These findings can also serve as a foundation for a new therapeutics company seeking to bring forth a paradigm shift for patients with neurodegenerative diseases and the aging population.

PUBLICATIONS

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PATENT STATUS

PCT application pending

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