BACE1 Inhibitors Reduce β-Amyloid Production, Provide Potential Treatment for Alzheimer’s Disease

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing inhibitors of the enzyme BACE1 that may be useful in the treatment of Alzheimer’s disease.

OVERVIEW

Alzheimer’s disease is the most common form of dementia, affecting an estimated 27 million people worldwide. This disease has a large economic impact with estimated direct and indirect costs of $148 billion annually in the United States.

Plaques composed of aggregated β-amyloid peptide, which accumulate in the brains of patients with Alzheimer’s disease, play a key role in the pathogenesis of the disease. β-amyloid is formed when the enzyme BACE1 cleaves the β-amyloid precursor protein. Because BACE1 is the rate-limiting step in β-amyloid formation, it is considered a potential therapeutic target. A UW–Madison researcher previously showed that BACE1 is transiently acetylated by the acetyltransferases ATase1 and ATase2, a modification important to its role in β-amyloid production.

THE INVENTION

The UW–Madison researcher now has identified two compounds that can downregulate BACE1 levels and the rate of β-amyloid production and thus may be potential therapeutics for Alzheimer’s disease. These compounds inhibit the activity of ATase1 and ATase2.

APPLICATIONS

• Prevention or treatment of Alzheimer’s disease

KEY BENEFITS

• Successfully tested in cellular systems and an animal model of Alzheimer’s disease
• May delay the onset or progression of symptoms of Alzheimer’s disease
ADDITIONAL INFORMATION

Publications

Tech Fields
Pharmaceuticals & Vitamin D - Neurological & mental health

CONTACT INFORMATION

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847.