Grace Lena

**Year in Course:** 3 (Senior)

**Topic:** Microbiology and Alzheimer’s disease

**Title:** Underlying Potential Mechanism of Anti-Alzheimer’s Disease Using Maysin Derivative Isoorientin 2-O-a-L-rhamnoside using in Vitro Assay System

**Mentor:** Dr. Hung-Duck Kim, New York Medical College

Alzheimer’s disease is a neurodegenerative disease caused partially by the build-up of amyloid beta into plaques. Amyloid beta is a peptide in the brain that can falsely multiply into fibrils and eventually into plaques on brain cells resulting in cell death. The purpose of this experiment is to attempt to prevent amyloid plaque build-up using Maysin compounds. Maysin is an ethyl acetate extract of *Centipedegrass* that has shown positive effects of reversing problems associated with Alzheimer's disease. The Tg mice will be tested on during this experiment for these effects by using Maysin and other compounds within the mice to detect changes to the brains of the mice. These changes will provide evidence as to whether Maysin and its derivatives truly show reversing effects on amyloid plaques or an immune response within the Tg mice compared to the control mice. This research aims to achieve significant data that could suggest a use for Maysin as a therapeutic treatment or alternative preventative measure for the leading causes of Alzheimer’s disease.