

## **Abstract**

Alzheimer's disease is a brain ailment that gradually impairs thinking and memory abilities as well as the capacity to do even the most basic tasks. The majority of Alzheimer's patients have their initial symptoms later in life. Experts estimate that more than 6 million Americans, the majority of whom are 65 or older, may have dementia brought on by Alzheimer's disease. Amyloid beta-peptide ( $A\beta$ ) production and deposition are frequently considered to be important contributors to (AD) pathogenesis. Kaempferol (KMP) is a flavonoid that is present in a variety of plants, such as watercress (which will serve as that plant of interest for this study) and has been depicted as a revolutionary attribute in overall human health ranging from anti-cancerous to anti-inflammatory properties. According to previous HPLC studies, watercress juice contained glucose and rutin derivatives of kaempferol. CD and fluorescence spectroscopic studies were conducted to understand and visualize the effects KMP and its derivatives on the  $A\beta$  peptide's aggregation behavior. We conducted a time (45 days) dependent study to explore the effect of kaempferol and its Glucoside and Rutinoside on the aggregation behavior of  $A\beta$  peptide at 37°C.