

## Molecular Interaction of Acetylcholinesterase with Flavonoids Involved in Neurodegenerative Diseases

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**Abstract :** Alzheimer's disease (AD) is a neurodegenerative disease that leads to a progressive and permanent deterioration of nerve cells. This disease is progressively accompanied by an intellectual deterioration leading to psychological manifestations and behavioral disorders that lead to a loss of autonomy. It is the most frequent of degenerative dementia. Alzheimer's disease (AD), which affects a growing number of people, has become a major public health problem in a few years. In the context of the study of the mechanisms governing the evolution of AD disease, we have found that natural flavonoids are good acetylcholinesterase inhibitors that reduce the rate of  $\beta$ A secretion in neurons. This work is to study the inhibition of acetylcholinesterase (AChE) which is an enzyme involved in Alzheimer's disease, by methods of molecular modeling. These results will probably help in the development of an effective therapeutic tool in the fight against the development of Alzheimer's disease. Our goal of the research is to study the inhibition of acetylcholinesterase (AChE) by molecular modeling methods.

**Keywords :** Alzheimer's disease, acetylcholinesterase, flavonoids, molecular modeling

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