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An Overview of Structure Based Activity Outcomes of Pyran Derivatives Against Alzheimer's Disease

Authors : Faisal Almalki

Abstract : Pyran is a heterocyclic group containing oxygen that possesses a variety of pharmacological effects. Pyran is also one of the most prevalent structural subunits in natural products, such as xanthones, coumarins, flavonoids, benzopyrans, etc. Additionally demonstrating the neuroprotective properties of pyrans is the fact that this heterocycle has recently attracted the attention of scientists worldwide. Alzheimer's Disease (AD) treatment and diagnosis are two of the most critical research objectives worldwide. Increased amounts of extracellular senile plaques, intracellular neurofibrillary tangles, and a progressive shutdown of cholinergic basal forebrain neuron transmission are often related with cognitive impairment. This review highlights the various pyran scaffolds of natural and synthetic origin that are effective in the treatment of AD. For better understanding synthetic compounds are categorized as different types of pyran derivatives like chromene, flavone, xanthone, xanthene, etc. The discussion encompasses both the structure-activity correlations of these compounds as well as their activity against AD. Because of the intriguing actions that were uncovered by these pyran-based scaffolds, there is no question that they are at the forefront of the search for potential medication candidates that could treat Alzheimer's disease.

Keywords : alzheimer's disease, pyran, coumarin, xanthone
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