Abstract

This bachelor thesis focuses on the importance of nicotinic acetylcholine receptors (nAChRs) in the pathogenesis of depression and their potential use in the treatment of this disorder. Depression is one of the most common psychiatric illnesses, and current treatments often do not provide optimal results. This work has focused on the role of nAChRs, which are a key component of the cholinergic system in the brain, affecting mood and cognitive function. After compiling resources on the subject, it is clear that manipulating these receptors can have antidepressant and anxiolytic effects. Blocking or activating nAChRs, particularly the α7 and β2* subtypes, can lead to significant changes in synaptic plasticity and emotional behavior. Further research is needed to better understand the molecular mechanisms of these receptors and their specific roles in different parts of the brain. This paper summarizes current findings from preclinical and clinical studies and highlights the potential of nAChRs as targets for novel therapeutic approaches in the treatment of depression.

Keywords: Depression; nicotinic acetylcholine receptors; synaptic plasticity; prefrontal cortex