

Abstract

Muscarinic receptors type 4 are one of the five subtypes of muscarinic receptors, that are members of cholinergic receptors family, together with nicotinic receptors. An acetylcholine binding on the receptor triggers the receptor activation and the signal transmission into the cell by G-proteins located on plasmatic membrane, in the case of muscarinic receptors type 4 by $G_{i/o}$ proteins. The M_4 receptors are, just like other subtypes on muscarinic receptors, located in central and peripheral nervous system. In the central nervous system, they are mostly located in striatum and hippocampus. The M_4 receptors have a whole range of regulative functions, the most significant one is most likely the regulation of a locomotion in striatum by the dopaminergic system. The muscarinic receptors type 4 are involved in many behavioural and cognitive processes and are therefore studied as potential drug target for the treatment of mental disorders.

Key words: muscarinic receptors, M_4 muscarinic receptors, GPCRs, cholinergic system, central nervous system