

Abstract

The main objective of this bachelor thesis is to systematically collect and sort information about opioid receptors and their signaling system in the myocardium. Heart activity is controlled mainly by adrenergic signaling, and this work therefore contains also some data concerning the characteristic and significance of other relevant receptors. For better understanding, general basic information about opioid system, especially about the receptors and their signaling, is also provided. Relatively little is known about opioid receptors in the myocardium even though these receptors may have an important role especially in various pathophysiological conditions. There can be several reasons for this. The possibility of further characterization of opioid receptors in the myocardium is rather difficult due to the relatively small number of these receptors in heart tissue. The situation is somewhat complicated also by some differences in the modulation of cardiac function among different species. The complete molecular mechanism by which opioid receptors act on the myocardium has not yet been fully uncovered. Especially in the case of humans this knowledge can be crucial, because these receptors and their ligands could be used for medical purposes.