

ABSTRACT

The topic of the opioid receptors was analyzed in this work, particularly the μ -type. The whole research was divided into two parts - the theoretical summary and the experimental part. The main goal of the theoretical part was to summarize the known facts about μ -type of opioid receptors from the morphological and pharmacological point of view. The stress was also laid on the interactions between μ receptor and the other types. The main goal of the experimental part was to determine the total number of the opioid receptors of all three types in the rat cortex, thus assess the total number of binding sites in this tissue. This assignment was performed by the binding experiments with radiolabeled ligands. The specific bound of the nonselective antagonist [^3H]diprenorphine was observed. This experiment was carried out in the sample of brain tissue from the cortex of an adult rat. The maximum binding capacity of this tissue was determined to be 236 fmol in a milligram of proteins and the equilibrium dissociation constant was 149 pmol dm $^{-3}$. All of the performed experiments were carried out in the saturation layout and were analyzed by the nonlinear fit of the data.