

Filáková, I.: Biological activity of plant metabolites XIV. Alkaloids of *Papaver somniferum* L. and their activity to acetylcholinesterase. Diploma thesis, Charles University in Prague, Faculty of Pharmacy in Hradec Králové, Department of Pharmaceutical Botany and Ecology, Hradec Králové 2010, 63 p.

Within the screening of plants containing alkaloids potentially inhibiting human erythrocytic AChE and human butyrylcholinesterase was studied poppy (*Papaver somniferum* L.)

It was used 30 kg of poppy straw, basic extract was prepared by extraction of 95% alcohol. From this primary extract were prepared extracts with individual types of alkaloids by sequent procedue.

In this diploma thesis only one extract was processed (extract type A-ether, pH 9 – 10). Alkaloids from this extract were separated into bases, where its chlorides are soluble and insoluble in chloroform. From each of above mentioned fractions phenolic and non-phenolic alkaloids has been obtained.

In this work were separated alkaloids from extact AC<sub>1</sub> (chlorides soluble in chloroform, non-phenolic. From this mixture was isolated thebaine by the using of column chromatogramy on alumina and preparative TLC on silica. This compound has been preliminary identified according to data of MS, melting point, optical rotary and by comparison with standard substance.

It has been found following results of biologiccal test on human AChE and BuChE: IC<sub>50</sub> 186,5 and 941,1.

Keywords: *Papaver somniferum*, thebaine, alkaloids, acetylcholinesterase, buryrylcholinesterase