

# **Alkaloids of *Papaver rhoeas* L. (Papaveraceae) and their biological activity related to Alzheimer's disease III.**

## **ABSTRACT**

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The aim of this diploma thesis was to fractionate the combined extract (CHCl<sub>3</sub> + EtOAc + I) from *Papaver rhoeas* L. using flash chromatography and subsequently, to isolate alkaloids from the chosen fractions by preparative TLC. The chemical structures of the isolated compounds were determined by spectrometric and spectroscopic methods (MS, NMR and optical rotation). Alkaloids were identified as (+)-rheadin, (+)-rheagenin and (+)-isorheagenin. After structure elucidation, the alkaloids were tested *in vitro* for inhibitory activity towards enzymes that are playing part in the pathogenesis of the Alzheimer's disease (acetylcholinesterase, butyrylcholinesterase and prolyl oligopeptidase). Based on the results, the studied alkaloids seem to be inactive towards chosen enzymes (values IC<sub>50</sub> > 100 μM).

Key words: *Papaver rhoeas*, Papaveraceae, Alzheimer's disease, acetylcholinesterase, butyrylcholinesterase, prolyl oligopeptidase

