

ABSTRACT

Bouz L.: Biological activity of secondary plants metabolites V. Alkaloids of *Vinca minor* L. Diploma thesis, Charles University, Faculty of Pharmacy in Hradec Králové, Department of Pharmaceutical Botany and Ecology, Hradec Králové 2016.

Summary extract obtained from dried aerial parts of *Vinca minor* L. was separated by column chromatography with petrol, chloroform and ethanol to 531 fractions. By further separation of fractions, following preparative thin layer chromatography and crystallization 2 alkaloidal compounds marked LB-2 and LB-3 were isolated. These compounds were identified by GC/MS, ¹H- and ¹³C-NMR spectroscopy and by use of physical-chemical methods. The structure of compounds were elucidated as indole alkaloids (+)-vincaminoreine (LB-2) and (+)-vincamine (LB-3). Both substances were tested for their inhibition activity against human cholinesterases. (+)-Vincamine didn't exhibited in comparison with standard drugs (galanthamine IC₅₀ AChE: 1,710 ± 0,065 μM, IC₅₀ BChE: 42,30 ± 1,30 μM; huperzine A IC₅₀ AChE: 0,033 ± 0,001 μM) any inhibition activity. On the other hand (+)-vincaminoreine exhibited fairly strong selective inhibition of BChE (IC₅₀ = 8,71 ± 0,49 μM) with no inhibition of AChE.

Key words: *Vinca minor* L., indole alkaloids, vincamine, vincaminoreine, Alzheimer disease, acetylcholinesterase, butyrylcholinesterase