

ABSTRAKT

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Botany and Ecology

Candidate: Daniela Hulcová

Consultant: Prof. RNDr. Lubomír Opletal, CSc.

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Alkaloids of *Fumaria officinalis* L. and their effect on acetylcholinesterase and butyrylcholinesterase

The summary ethanolic and diethylether extract were prepared from the herbs of a plant *Fumaria officinalis* L. We have obtained 201 fractions from this extract by column chromatography on the neutral Al₂O₃ (aluminium oxide). Joined fraction 68-76 were processed by thin layer chromatography, and 3 substances were obtained in pure state: DH-1, DH-2, DH-3. These 3 compounds were identified as protopine, (+)-fumariline and *N*-methylcorydaldine by the comparison with the literature and results of MS and NMR. These alkaloids were tested for the inhibitory activity against human erythrocytic acetylcholinesterase and plasmatic butyrylcholinesterase by Ellman`s method. The isolated alkaloids did not show any significant inhibitory activity (IC₅₀, μM) compared with the standard galanthamine (IC₅₀, μM; AChE 1,710 ± 0,065, BuChE 42,30 ± 1,30): protopin: AChE: 345,42 ± 31,12, BuChE: 239,66 ± 20,89, (+)-fumarilin: AChE: 2939,2 ± 309,41, BuChE: 330,62 ± 34,12 a *N*-methylkorydaldin AChE: 680,06 ± 130,49, BuChE: 1382,3 ± 332,26).

Key words: *Fumaria officinalis*, protopin, *N*-methylkorildaldin, (+)-fumarilin, acetylcholinesterase, butyrylcholinesterase