

ABSTRACT

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Title of Thesis: The alkaloids of the genus *Narcissus* (*Amaryllidaceae*) and its biological activity

The content of this thesis was to prepare alkaloidal extracts from 6 selected species of genus *Narcissus*. Summary extracts were evaluated by GC/MS analysis for identification of each alkaloid and measuring of their inhibitory activity to human cholinesterases (HuAChE and HuBuChE) was included. The results obtained were subsequently identifying the most suitable species for more detailed analysis

From tested plants the most active extract was from species *Narcissus canaliculatus*, $IC_{50} = 7,28 \pm 0,66 \mu\text{g/ml}$ respectively. The best inhibitory effect on both the esterase had extract from the plant *Narcissus* cv. Ice Follies, which reached values of $IC_{50} = 7.28 \pm 0.66 \mu\text{g/ml}$ for HuAChE and $IC_{50} = 14,95 \pm 2,01 \mu\text{g/ml}$ for HuBuChE, which is the best result of the downturn HuBuChE from tested plants. Significant activity against HuBuChE was also reflected in the extract from the cultivar *Narcissus bulbocodium* var. *conspicus*, which has been measured by $IC_{50} = 22,37 \pm 3,14 \mu\text{g/ml}$.

Keywords: *Amaryllidaceae*, alkaloids, *Narcissus* sp., *bulbocodium* *conspicus*, Sealing, Fortissimo, Ice Follies, Delnashaugh, GC/MS, acetylcholinesterase, butyrylcholinesterase.