

ABSTRACT

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Key words: Apocynaceae, *Vinca minor*, alkaloids, isolation, biological activity, screening

Alzheimer's disease is a progressive neurodegenerative disease. The number of affected patients is constantly increasing. This disease cannot be treated casually, therefore discovering and testing new substances that could potentially be used in a treatment is very important.

The *Vinca minor* L. fraction after column chromatography was separated by flash chromatography. Isolation of the individual alkaloids was performed by preparative TLC. Based on NMR and MS analyses and comparison with literature, alkaloids were identified as vincarubine and (-)-vinoxine.

Modified Ellman's method was used to test cholinesterase inhibitory activity of isolated alkaloids. Acetylcholinesterase (AChE) and butyrylcholinesterase (BuChE) are enzymes, that play a very important role in the pathophysiology of Alzheimer's disease. (-)-Vinoxine showed relatively high activity against BuChE ($IC_{50} = 24,61 \pm 1,71 \mu M$), inhibitory activity against AChE was insignificant ($IC_{50} > 1000 \mu M$). Vincarubin did not show important activity against cholinesterase ($IC_{50} \text{ AChE} = 384,8 \pm 73,15 \mu M$; $IC_{50} \text{ BuChE} > 1000 \mu M$).