

# Abstract

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Title of Thesis Biological activity of macromycetes – D

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In this thesis, altogether 15 fungal species from the families Bolbitaceae, Cortinariaceae a Tricholomataceae were tested for their biological activities. The extracts of all species were assessed for the alkaloid content with the use of thin-layer chromatography (TLC). Significant content of alkaloid substances was not detected in any of the tested mushroom species.

All fungal extracts were also tested for their cholinesterases inhibition activity using Ellman's spectrophotometric method with 5,5'-dithiobis-2-nitrobenzoic acid. The highest inhibition activity against erythrocyte AChE was indicated in the case of *Mycena galericulata* extract, and against serum BuChE in the case of *Gymnopilus sapineus*. Nevertheless, in comparison with values of standard inhibitors (galanthamine and huperzine A), the inhibition activity of both extracts was negligible.

Finally, Folin-Ciocalteu's method was applied to set an amount of phenolic compounds in tested extract samples. From the results, the highest amount of phenolic compounds was detected in *Inocybe fraudans* fungus extract. Furthermore, antioxidant activity was assessed by ABTS (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid)) test with the use of sequential injection analysis (SIA). It enabled to observe the highest activity in the case of *Inocybe fraudans*.