

POSTER PRESENTATIONS

CYTOTOXIC ACTIVITIES OF THE SECONDARY METABOLITES OF ENDOPHYTIC FUNGUS *Coriolopsis* sp. ISOLATED FROM *Aconitum* *seravschanicum*

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Endophytic fungi associated with medicinal plants are increasingly recognized as promising sources of chemically diverse natural products with antimicrobial, cytotoxic, and other pharmacological activities. Medicinal plants of Central Asia represent a particularly valuable but insufficiently explored reservoir of endophytic microorganisms with potential for natural-product discovery. *Aconitum seravschanicum* is a medicinal plant native to Central Asia; however, its associated fungal endophytes remain poorly investigated from both chemical and pharmacological perspectives. The present study aimed to evaluate the antimicrobial and cytotoxic potential of an ethyl acetate extract obtained from the endophytic fungus *Coriolopsis* sp. isolated from *A. seravschanicum*.

The fungal isolate S74 was identified as *Coriolopsis* sp. (family Polyporaceae) based on whole-genome phylogenetic analysis. The strain was cultivated in potato dextrose broth for 21 days, followed by extraction of the culture with ethyl acetate. Cytotoxic activity was investigated against human cancer cell lines HeLa, HBL-100, HEp-2, CCRF-CEM, and SH-SY5Y, as well as the normal human fibroblast line BJ-5ta.

At a concentration of 100 µg/mL, the S74 extract demonstrated relatively low cytotoxic effects against the tested cancer cell lines, with inhibition values of $36.8 \pm 0.9\%$ for HeLa, $28.0 \pm 0.7\%$ for SH-SY5Y, $18.0 \pm 0.7\%$ for CCRF-CEM, $10.8 \pm 0.6\%$ for HBL-100, and $0.7 \pm 0.0\%$ for HEp-2. Importantly, only $12.0 \pm 0.9\%$ inhibition was observed against the normal BJ-5ta fibroblast cells, indicating limited cytotoxicity toward normal cells under the tested conditions. Compared with the reference drugs, the extract showed weaker activity at this concentration, as cisplatin inhibited HeLa, HBL-100, and HEp-2 cells by 72.7%, 59.7%, and 46.5%, respectively, while cytarabine inhibited CCRF-CEM cells by 70.2%.

The obtained findings demonstrate that the endophytic *Coriolopsis* sp. S74 produces an extract with measurable biological activity and relatively low cytotoxicity toward both cancer and normal cell lines. These results support further investigation of this endophytic fungus as a potential source of bioactive natural products. Chromatographic fractionation and chemical characterization of the S74 extract are currently in progress to identify the compounds responsible for the observed biological activities.

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