

## POSTER PRESENTATIONS

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### ANTIMICROBIAL ACTIVITY OF THE ENDOPHYTIC FUNGUS *Coriolopsis* *sp.* FROM *Aconitum seravschanicum*

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Endophytic fungi associated with medicinal plants represent a valuable and renewable source of chemically diverse natural products with potential antimicrobial and pharmaceutical applications. Medicinal plants of Central Asia remain an insufficiently explored reservoir of endophytic microorganisms and their biologically active secondary metabolites. *Aconitum seravschanicum* is a medicinal species of the Central Asian flora, while its associated endophytic fungi remain poorly investigated for their biological and chemical potential. The present study aimed to evaluate the antimicrobial activity 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) using whole-genome phylogenetic analysis. The strain was cultivated in potato dextrose broth for 21 days, and the resulting culture was extracted with ethyl acetate. The antimicrobial activity of the extract at a concentration of 20 mg/mL was evaluated by the agar disk-diffusion method against four bacterial species, *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, and *Pseudomonas aeruginosa*, as well as the yeast *Candida albicans*. Ampicillin/sulbactam, gentamicin, and fluconazole were used as reference antimicrobial agents. All experiments were performed in triplicate, and the results were expressed as mean  $\pm$  standard error.

The ethyl acetate extract demonstrated antibacterial activity against all four tested bacterial strains, whereas no inhibitory effect was observed against *C. albicans*. The strongest antibacterial activity was detected against *P. aeruginosa*, with an inhibition zone of  $15.0 \pm 0.36$  mm. The extract also showed pronounced activity against *B. subtilis* ( $14.0 \pm 0.20$  mm) and *S. aureus* ( $14.0 \pm 0.14$  mm), while only weak inhibition was observed against *E. coli* ( $7.0 \pm 0.22$  mm). Compared with the reference antimicrobial agents, the inhibition zone produced by the fungal extract against *P. aeruginosa* corresponded to 60.0% of that observed for gentamicin, while its activity against *S. aureus* corresponded to 63.6% of the ampicillin/sulbactam inhibition zone.

These findings demonstrate that the endophytic fungus *Coriolopsis* sp. isolated from *A. seravschanicum* produces extracellular metabolites with broad-spectrum antibacterial potential. The particularly pronounced activity against *P. aeruginosa*, *B. subtilis*, and *S. aureus* indicates that isolate S74 represents a promising candidate for further natural-product investigation. Mechanisms of antimicrobial action, chromatographic fractionation and chemical characterization of the active extract are currently in progress to identify the metabolites responsible for the observed antibacterial activity.

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