

ORIGINAL RESEARCH ARTICLES

IN VITRO ANTIMICROBIAL ACTIVITIES OF VARIOUS SOLVENT EXTRACTS DERIVED FROM *VIOLA ODORATA*

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ABSTRACT

The primary objective of this study was to assess the antimicrobial activities of various polar and non-polar solvent extracts derived from the leaves of *Viola odorata*. The disc diffusion method was employed to test the antimicrobial susceptibility against a diverse range of pathogenic microorganisms, including *Escherichia coli*, *Erwinia carotovora*, *Klebsiella pneumoniae*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Salmonella typhi*, *Staphylococcus aureus* and the fungus *Candida albicans*. The results indicated that isobutanol and ethyl acetate fractions exhibited significantly higher antimicrobial activity compared to petroleum ether, crude, chloroform and aqueous fractions. Among the tested bacteria, *E. carotovora* was the most susceptible bacterium to all the extracts of *V. odorata*, whereas *S. typhi* demonstrated the highest resistance. The isobutanol extract inhibited the proliferation of *E. carotovora* by 62 % at a concentration of 2 mg disc⁻¹, while the ethyl acetate extract achieved 53% inhibition under the same conditions. Additionally, our findings revealed that the overall antimicrobial activity of *V. odorata* leaves was consistently effective against both Gram-positive and Gram-negative bacterial strains.