

RESEARCH PAPER

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Ultrasound assisted extraction technique: Study of the biological properties of *Allium stracheyi* Baker

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SUMMARY :

An optimized Ultrasound Assisted extraction method for the extraction of *Allium stracheyi* Baker extract has been developed using polar (methanol) and non-polar (n-hexane) solvent at different concentrations (100%, 75%, 50% and 25%). The Bonferroni post hoc test revealed the presence of highest Total Phenolic Concentration (TPC), Total Flavonoid concentration (TFC) and DPPH per cent radical scavenging when using 25 per cent methanol at 50°C for 60 minutes. The temperature had significant effect on antioxidant activity ($p < 0.05$) and non-significant effect on both TPC and TFC ($p > 0.05$) whereas time showed significant effect for all ($p < 0.05$). The antioxidant activity had positive correlation with the TPC and TFC content. The antibacterial data illustrated inhibition zones (mm) against *E. coli* for both hexane (100%) and methanol (100%) solvents. No inhibition zones were found against *B. subtilis* at the same solvent concentration. Temperature and time had no significant effect on % inhibition against the bacteria. No antibacterial activity was found against both the bacterial strains at 75 per cent, 50 per cent, 25 per cent hexane and methanol solvents. Hexane extracts showed larger inhibition zones than methanolic extracts.

KEY WORDS : Ultrasound assisted extraction, *Allium stracheyi* Baker, TPC, TFC, Antibacterial activity

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