

**Estimation of the efficiency of some plant extracts of
Lepidium aucheri Boiss and *Teucrium polium* in the
Samawa desert on the growth of some pathogens**

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Abstract

The current study aims to examine or evaluate the biological activity of the plant extracts of *Lepidium aucheri* Boiss and *Teucrium polium* in the Samawa desert and the aerial parts of both plants were extracted by a Soxhlet extractor, using four types of solvents are characterized by different polarity: distilled water, Ethanol, hexane, and petroleum ether.

The antimicrobial activities of the crude extracts are tested against four species of pathogenic bacteria consisting of two gram positive bacteria: *Staphylococcus aureus* and *Listeria monocytogenes* , and two gram negative bacteria: *Escherichia coli* and *Pseudomonas aeruginosa* ,based on disc-diffusion assay and determine the Minimum Inhibitory Concentration (MIC). Ten concentrations of each extract were formed:50,25,12.5,6.25,3.125,1.562,0.78,0.39,0.195,and 0.97mg/ml, two types of antibiotics are used as positive control: Amikacin and Ciprofloxacin. The results of the inhibitory activity of the extracts varied according to the type of extract itself and the different bacteria tested. Generally, *T. polium* extracts show strong inhibition against all bacteria, and the strongest against gram-positive, especially hexane extract and petroleum ether, and the mean diameters of the total inhibition zone were for aqueous, ethanolic, hexane and petroleum ether extracts (3.71,4.54, 4.08,3.57)mm, (5.40,6.57, 3.43, 5.68)mm, (20.83, 20.06, 11.96, 16.48)mm and (17.94, 17.02, 6.4,16.03)mm against *Staph. aureus*, *L. monocytogenes*, *P. aeruginosa* , and *E. coli* respectively . The minimum inhibitory concentration was (0.097) mg/ml for all extracts in most cases except alcoholic extract and petroleum ether were (0.195) and (12.5) mg/ml against *P. aeruginosa*.

While *L. aucheri boiss* extracts showed moderate inhibition against all bacterial species , the best was the ethanolic extract, where the mean diameters of the total inhibition zone was for aqueous, ethanolic, hexane and petroleum ether extracts(3.05, 3.69, 0,2.44)mm,(5.23,7.43, 4.80, 3.05),(4.56,4.78, 3.49, 4.48),and (3.78, 3.57,3.12, 4.3)mm against *Staph. aureus*, *L. monocytogenes*, *P. aeruginosa* , and *E. coli* respectively . As for the minimum inhibitory concentration, it was in most of the results (0.097) mg/ml ,except for some results the value of MIC ranged between (3.125, 0.781,and 0.195) mg/ml.