

A189 Evaluation of the essential oils of *Thymus vulgaris*, *Zataria multiflora*, *Carum copticum*, and an extract of *Ziziphora clinopodioides* for antibacterial activity

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A bioautographic method was used to investigate the antibacterial effects of the essential oils of *Thymus vulgaris*, *Zataria multiflora*, *Carum copticum* and an extract of *Ziziphora clinopodioides*. Antibacterial activity of the essential oils and the extract were determined against *Bacillus subtilis* ATCC 6633 and *Escherichia coli* ATCC 8739. A mixture of molten nutrient agar (45 °C) containing para-iodo nitrotriazolium (INT) solution (5 mg/ml) was inoculated with a bacterial suspension to give a count of 5×10^6 cfu/ml and poured over a developed TLC plate (1). The plates were then incubated in sterile petri dishes at 37°C for 24 hours. Antibacterial activity of samples was evaluated as showing clear zones against a rose-red colored background (2).

The essential oils of all plants, *Thymus vulgaris*, *Zataria multiflora*, *Carum copticum*, showed antibacterial activity against *B. subtilis* ATCC 6633 and *E. coli* ATCC 8739 at an Rf 0.4 which represented the Rf value for thymol and carvacrol in petroleum ether-chloroform (1:1) as solvent system. No antibacterial activity was observed for the extract of *Z. clinopodioides*.

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A190 Ostruthin: An antimycobacterial compound from the roots of *Peucedanum ostruthium*

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The search for new antimycobacterial substances has become an important field of medical investigations. Many plants and plant extracts have been investigated in this context, but only in a few cases have active compounds been isolated (1,2). We have therefore tested a number of different herbal drugs from traditional medicine for their antimycobacterial effects in a microtitre plate assay using *Mycobacterium fortuitum*. The dichloromethane extract of the roots of *Peucedanum ostruthium* Koch (Apiaceae) showed significant inhibitory activity (minimum inhibitory concentration (MIC) = 32 µg/ml). Conducting a bioassay guided fractionation strategy, ostruthin (6-geranyl-7-hydroxycoumarin) was identified as the active component (MIC = 2 µg/ml). Its activity was comparable to that of standard antitubercular drugs such as isoniazid (MIC = 0.5 µg/ml), and ethambutol (MIC = 4 µg/ml). Imperatorin, a furanocoumarin, was also isolated from the active fraction, but showed no inhibitory effects. Our results indicate that herbal drugs deserve further attention as a source for new antimycobacterial drugs.

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