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PP76. Biological activity evaluation of Carvi aetheroleum and its major components

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Caraway, *Carum carvi* L. (Apiaceae), is a biennial or annual herb common in Europe, West Asia, and Africa [1]. *C. carvi* essential oil – Carvi aetheroleum is commonly used for flavor, fragrances, and pharmaceutical preparations. In traditional medicine, the essential oil is used as an antispasmodic, for the spastic gastrointestinal tract, diuretic, antimicrobial, and antioxidant, among other uses [2].

In the present study, Pharmacopoeia grade essential oil from commercial sources was evaluated for its antibacterial properties and *in vivo* toxicity. The chemical composition of *C. carvi* essential oil, analyzed by GC/FID and GC/MS, simultaneously, revealed carvone (61.1%) and limonene (37%) as the major constituents. The potential *in vitro* antimicrobial activities of the essential oil and the major components carvone, (+)-limonene and (-)-limonene were evaluated using the broth microdilution assay [3]. *Escherichia coli* NRRL B-3008, *Bacillus cereus* NRRL B3711, *Salmonella typhimurium* ATCC 13311 and *Streptococcus sanguinis* ATCC 10556 were used as the test microorganisms. Based on the determined values of Minimum Inhibitory Concentrations (MIC) for the essential oil and the major constituents, the activities were relatively low (>1000 mg/mL). Lethal concentrations (acute toxicity) were determined by the *in vivo Caenorhabditis elegans* test [4] and the value of LC_{50} <25 mg/mL was obtained.

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