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# PP82. Chemical composition and antimicrobial activity of *Foeniculum vulgare* Mill. essential oil

*Esra Yıldırım*[1]*, Kaan Yılancıoğlu[2], Betül Eren Keskin[3], Hüseyin Servi[4]

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*Foeniculum vulgare* Mill. (fennel) is a member of the Apiaceae plant family and is used as an antiinflammatory, analgesic, carminative, diuretic, and antispasmodic agent. Nowadays, there is a growing interest in the antioxidant potential and antimicrobial activities of fennel fruit extracts and essential oil [1]. There are many reports on the essential-oil composition of *F. vulgare*. Previously, the composition and significant antimicrobial activity of the essential oil of *F. vulgare* from Pakistan was reported with *trans*-anethole (70.1%) as the main compound [2]. An essential oil of the fruits of *F. vulgare*, containing *trans*-anethole (68.5%) and estragole (10.4%), showed antibacterial activity against *Staphylococcus albus*, *Bacillus subtilis*, *Salmonella typhimurium*, *Shigella dysenteriae*, and *Escherichia coli* [3]. In the current study, the essential oil of the aerial parts of *F. vulgare* was obtained by hydrodistillation (3 h). The essential-oil composition was analyzed by means of gas chromatography-mass spectrometry (GC-MS). The main components of the essential oil from the aerial parts were estragole (33.6%), limonene (24.7%), and α-pinene (19.1%). Additionally, the antimicrobial activity of the essential oil was investigated against Gram-negative (*Escherichia coli* DH5α) and Gram-positive (*Staphylococcus aureus*) bacteria. The essential oil showed a growth inhibitory activity against *E. coli* DH5α (69.3%), tested at 80 mg/mL. However, no activity of the oil was detected in the case of Gram-positive bacteria.

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[1]Istanbul Sabahattin Zaim University, Helal Food and R&D Center; [2]Üsküdar University, Faculty of Engineering and Natural Sciences, Chemical and Biological Engineering; [3]Üsküdar University, Faculty of Engineering and Natural Sciences, Department of Molecular Biology and Genetics, Istanbul, Turkey; [4]Altinbas University, School of Pharmacy, Istanbul, Turkey.
**Corresponding author*: e.yildirim@izu.edu.tr