



Saidbeg Satorov

Medical Social Institute of Tajikistan, Tajikistan

Total polyphenol content, antioxidant potential, antibacterial and antifungal properties of *Ferula L.* Species growing in Tajikistan

The total polyphenol content, antioxidant potential, and antibacterial and antifungal properties of gum and ethanol extracts from the roots and seeds of three *Ferula L.* species—*F. violacea*, *F. kuhistanica*, and *F. gigantea*—were systematically investigated. Elevated polyphenol concentrations were observed in the gum and ethanol extracts derived from the roots and seeds of *F. violacea* and *F. kuhistanica*. Furthermore, it was determined that seed pomace and the 70% ethanol extract from the roots of *F. violacea* exhibit high antioxidant potential.

A screening of the antibacterial and antifungal activities of these *Ferula* species revealed that the gum and seed extracts from the endemic species *F. violacea* exhibited the highest antibacterial activity, particularly against the test strain *S. aureus*. These extracts showed a moderate antibacterial effect against *P. aeruginosa* and *K. pneumoniae*, a minimal fungistatic effect against *C. albicans*, and no bactericidal or bacteriostatic activity against the reference strain of *E. coli*.

Key word: *Ferula L.* species, *F. violacea*, *F. kuhistanica*, *F. gigantea*, Antioxidant Activity, Polyphenol Content, Antibacterial Effect, Fungistatic Effect

Biography

Saidbeg Satorov is working as a Professor at Medical-Social Institute of Tajikistan, Tajikistan. The main fields of his researches are to study characteristics of pathogens microorganisms circulating in Tajikistan and their spectrum of antibiotic resistance. He pays special attention to the antiviral, antibacterial and antifungal activity of endemic plants growing on the territory of our country. He has published more than 100 scientific articles in international journals dedicated to typhoid fever, anthrax, staphylococcal and streptococcal infections, helicobacteriosis. His articles are widely cited by researchers from various countries. Besides that, his hobby is to play chess and travel to different countries and get to know their culture.

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