

## Biological activities and chemical constituents of *Ferula anatolica* Boiss.

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### Kongressbeitrag

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Genus *Ferula* has about 185 species and widely distributed through out Central Asia, China, Afghanistan, India, Syria, Palestine, Israel, North Africa, North America, South-West and Central Europe. Currently, 23 species and 4 subspecies of *Ferula* are known from Turkey and 12 of them are endemic. Chemical composition of 70 *Ferula* species were investigated by phytochemical studies so far; glucuronic acid, galactose, arabinose, rhamnose, sulphur containing compounds, coumarins, sesquiterpenes, sesquiterpene coumarins, sesquiterpene lactones and daucane esters (Miski, 1985, Ahmed, 1999) were isolated. In this study, *Ferula anatolica* Boiss. which is endemic species growing in Turkey, have been investigated for its chemical constituents and cytotoxic and antioxidant activity. The air dried and powdered underground parts of plant extracted with soxhlet apparatus with petroleum ether, dichloromethane and methanol. The petroleum ether extract of *F. anatolica* was used for isolation studies. By means of a serial chromatographic studies performed on the extract five sesquiterpene derivatives compounds were isolated. The structures of compounds were elucidated using spectroscopic methods (<sup>1</sup>H-NMR, <sup>13</sup>C-NMR, IR, Mass spectr.) In study of Antioxidant activity, methanol and dichloromethane extracts, DPPH and ABTS radicals scavenging, reducing Fe(III) to Fe(II) and inhibiting of lipid peroxidation were determined to have antioxidant activity. In MTT and LDH tests that we have done a comparative cytotoxicity studies, the MTT test, cytotoxic activity was observed, LDH test, only the dichloromethane extract showed very low activity.

### References:

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[2] Miski, M. Mabry, T.J., Daucane Esters From *Ferula communis* subsp. *communis*, *Phytochemistry*, 24, 1735 – 41, (1985).