

عنوان مقاله:

Alfa-Glucosidase inhibitory and antioxidant activity of hexane extract of flowers, leave and stems of *Haplophyllum acutifolium* DC. and *Ferula haussknechtii* Wolff ex Rech

محل انتشار:

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خلاصه مقاله:

Background: α -Glucosidase Inhibition can significantly prevent glucose uptake after meal, and helps in controlling of some adverse effects in diabetics. So determination of α -Glucosidase inhibitory effect and antioxidant activity of the *Haplophyllum acutifolium* and *Ferula haussknechtii* aerial organs was the aim of this study. Methods: Inhibitory effect of hexane extracts from different organs was investigated in several concentrations at 405 nm wavelength using a microplate reader. Antioxidant activity of hexane extracts of various organs was also measured using DPPH and iron reduction tests. Results: The highest inhibitory activity of *F. haussknechtii* was observed at the 0.1 g/ml concentration of flower extract (100% inhibition and $IC_{50} = 0.1 \mu\text{g} / \text{ml}$) and the most inhibitory activity of *H. acutifolium*, was related to the 1 g/ml concentration of flower extract (100% inhibition and $IC_{50} = 10 \mu\text{g} / \text{ml}$) and leaf extract (100% inhibition and $IC_{50} = 60 \mu\text{g} / \text{ml}$). Extract of *H. acutifolium* flower and leaves showed Non-competitive inhibition pattern and *F. haussknechtii* flower showed mixed (Competitive -Non-Competitive) inhibitory pattern at 0.001 g/ml and exhibit uncompetitive inhibitory pattern at the 0.1 g/ml. The results of antioxidant potential showed EC_{50} for *F. haussknechtii* flower and *H. acutifolium* leaves equalled 2.37 and 0.96 mg/ml, respectively. Conclusions: The hexane extract of the *F. haussknechtii* flower, and *H. acutifolium* flower and leaf organ have a significant inhibitory effect on the activity of α -Glucosidase, DPPH free radical scavenging activities and reducing power. So they are good resources for extraction of medicinal compounds to control blood level of glucose after meal, in diabetic patients.

کلمات کلیدی:

Alpha-glucosidase, *Ferula haussknechtii*, *Haplophyllum acutifolium*, diabetes, Enzymatic inhibition

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