



ANTIOXIDANT ACTIVITY OF ASARUM EUROPAEUM L PLANT EXTRACT

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Abstract. Study of antioxidant activity of local plant *Asarum europaeum* L. by phytochemical tests.

Key words. *Asarum europaeum* L, in vitro, Antioxidant activity.

The antioxidant activity of the *Asarum europaeum* L. plant was assessed through phytochemical tests using the method of inhibition of the autoxidation reaction of adrenaline in vitro.

Antioxidant activity of adrenaline is determined by the inhibition of the autoxidation reaction in vitro and prevents the formation of the free form of oxygen. The method is based on the inhibition of the autoxidation reaction of adrenaline, the extract was expressed in percentages (%) due to the formation and autoxidation of adrenalin in the in vitro conditions over time [1-3; pp. 1281-1289].

For this, 2.0 ml of 0.2 M sodium carbonate ($\text{Na}_2\text{CO}_3\text{-NaHCO}_3$) pH=10.65 buffer, 56 μl of a 0.18% solution of adrenaline (epinephrine) hydrochloride were taken, 30 μl of antioxidant extract was added and mixed quickly for 30 seconds. It was examined in a Cary 60 UV-Vis Agilet Technologies spectrophotometer in a 10 mm cuvette at a wavelength of 347 nm for 10 minutes. 1 mg of extract concentration in 1 ml was used as a standard. As a control sample, 0.2 M 2.0 ml buffer, 0.18% 56 μl (5.46 mM) adrenaline was used [4-5; pp. 119-121].

Antioxidant activity was expressed in percentages according to the inhibition of autoxidation of adrenaline (AOA) and was calculated by the following formula.

$$\text{AOA}\% = \frac{D_1 - D_2 \times 100}{D_1}$$

optical density of adrenaline hydrochloride solution added to D1-buffer;

Optical density of the investigated extract and adrenaline hydrochloride added to D2-buffer.

Table 1. Results of antioxidant activity of *Asarum europaeum* L. plant extracts

Asarum europaeum L. extract	D ₁	D ₂	AOA%
Alcoholic extract	0.934	0.620	33.6%
Aqueous extract	0.934	0.822	11.9%



As can be seen from Table 1, the antioxidant activity of the alcoholic extract of *Asarum europaeum* L. was found to be higher than that of the aqueous extract.

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