

عنوان مقاله:

Inhibitory activity on tyrosinase and antioxidant activity of methanol extract of various aerial parts of Astragalus siliquosus Bioss. and Verbascum phoeniceum L

محل انتشار:

مجله بین المللی تحقیقات پیشرفته زیست شناختی و زیست پزشکی، دوره 8، شماره 3 (سال: 1399)

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خلاصه مقاله:

Background: Melanogenesis begins with the oxidation of L-tyrosine to L-Dopa by tyrosinase. Inhibition of tyrosinase could be effective in treatment of complications such as skin lesions, eczema and melasma. Inhibition of tyrosinase could be effective in treatment of those complications. The aim of this study was to determine inhibitory activity on tyrosinase and antioxidant activity of Astragalus siliquosus Bioss. and Verbascum phoeniceum L. Methods: Methanol extracts of organs of the plants were prepared by maceration. Inhibitory effects of the extracts were evaluated in 96 wells at 492 nm wavelength. The antioxidant activity of the extracts was evaluated using DPPH free radical scavenging index and iron reduction test. Results: For A.siliquosus, maximum inhibitory activity was of its flower extract (97% inhibition and $IC_{50}=1.58$ mg/ml) and of its stem extract (100 % and $IC_{50}=2.1$ mg/ml). For V.phoeniceum, the highest inhibitory activity was of its leaf extract (87% inhibition and $IC_{50}=3.2$ mg/ml). Flower extract of A.siliquosus showed mixed Uncompetitive-Non-competitive pattern of inhibitory activity, while the extract of the V.phoeniceum leaf showed mixed Competitive-Non-competitive inhibitory pattern. All aerial parts of the A.siliquosus had 100% antioxidant activity with EC_{50} s of 0.089, 1.78, 1.25 mg/ml for its flower, leaf and stem respectively. Leaves of the V.phoeniceum had a 100% antioxidant activity, with EC_{50} of 0.013 mg/ml. Conclusions: Methanol extracts of flower and leaf organs of A.siliquosus, and leaf organ of V.phoeniceum, had a reasonable inhibitory effect on tyrosinase activity. Feature studies could be focused on those organs to separate potential agents with pharmaceutical and .cosmetic applications

کلمات کلیدی:

A.siliquosus, Inhibitor, methanol extract, Tyrosinase, V.phoeniceum

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