

가죽나무(*Ailanthus altissima*)의 항산화성과 tyrosinase 저해효과

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**Antioxidant Activity and Tyrosinase Inhibition of Extracts from the *Ailanthus altissima***

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**Objectives**

*Ailanthus altissima*, commonly known as the 'tree of heaven' is used in traditional medicine in many parts of Asia including China used to treat cold, to settle an upset stomach, to combat a fever, to treat gastric diseases, anti-tumor, anti-vial and as an insecticide. Considering there are little informations about medicinal properties of *A. altissima*, we investigated antioxidant and tyrosinase inhibitory activity of various parts extracts from *A. altissima* in this present study.

**Materials and Methods**

The *A. altissima* root bought at the Daegu oriental medical market. The leaves and stems were collected near Namhaegun Kyongnam on July 2006.

The dried roots, stems and leaves of *A. altissima* were extracted with distilled water in a reflux extractor for 3 hour at 80°C and repeat three times. The extracts were filtering and concentration. This extracts were freeze dry and made a powder, it used the experiment sample. This sample was analyzed electron donating ability, superoxide dismutase(SOD)-like activity, xanthine oxidase inhibition, nitrite scavenging ability, and tyrosinase inhibition.

**Results**

At the result of the measurement of electron donating ability, roots were the highest 77.33% at 0.5 mg/ml, and leaves and stems were 70.77%, 34% at 2.0 mg/ml. From the result of measurement of SOD activity, leaves and roots were 38.55%, 4.26% showed the highest SOD activity in 2.0 mg/ml and stems not activated. As the result of the inhibition activity of xanthine oxidase, roots, stems, and leaves showed the highest values over 96% at 3.0 mg/ml. The result of the nitrite scavenging ability was appeared pH 1.2 > pH 3.0 > pH 6.0. The stems and roots were 91.28%, 52.38%, pH 1.2 at 3.0 mg/ml, respectively, the leaves were 96.08% at 2.0 mg/ml. Inhibition of tyrosinase activity was 18.06%(leaves), 8.03%(roots), 6.51%(stems) at 3.0 mg/ml.

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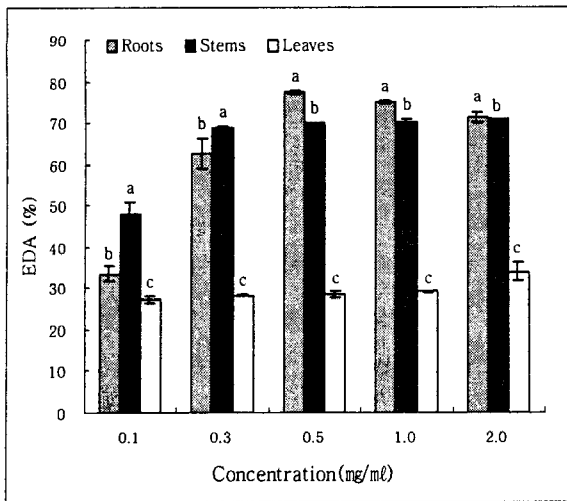


Fig. 1. Electron donating ability of *A. altissima* extracts.

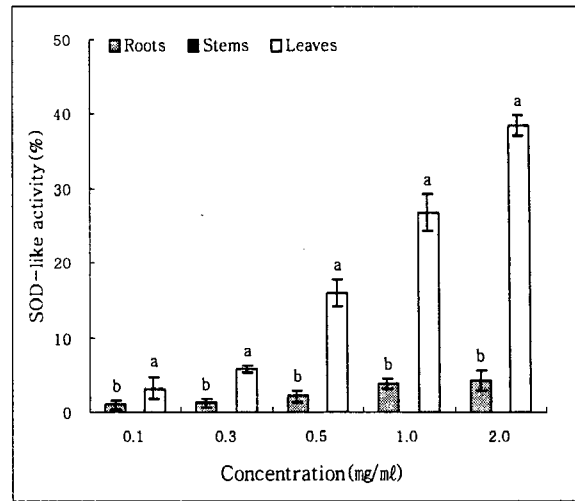


Fig. 2. SOD-like activity of *A. altissima* extracts.

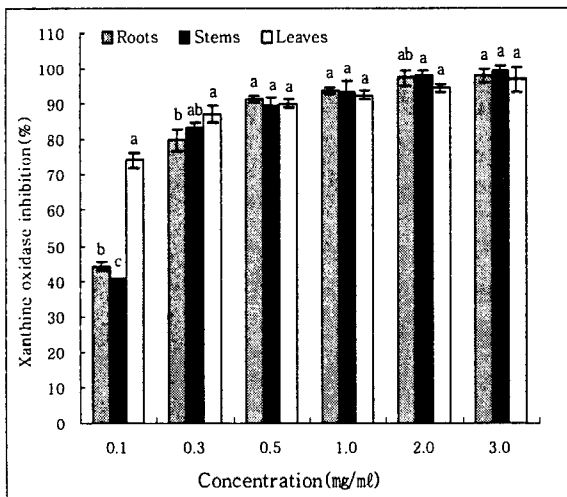


Fig. 3. Xanthine oxidase inhibition of *A. altissima* extracts.

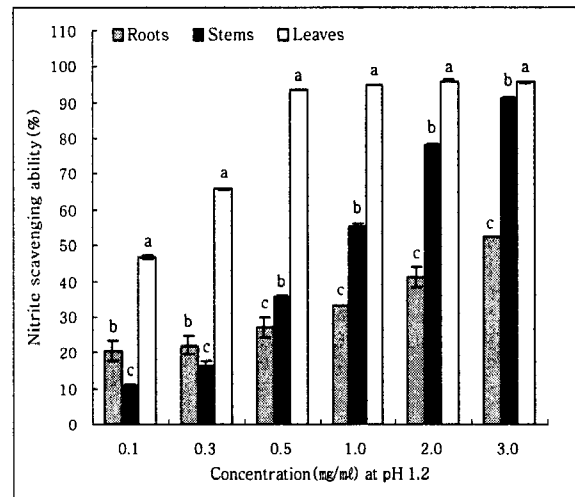


Fig. 4. Nitrite scavenging ability of *A. altissima* extracts at pH 1.2.

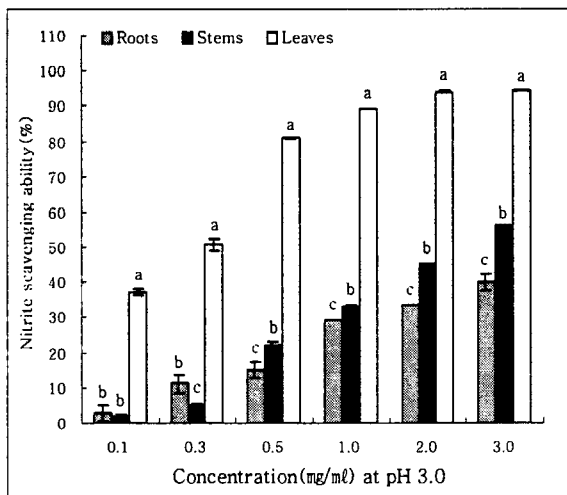


Fig. 5. Nitrite scavenging ability of *A. altissima* extracts at pH 3.0.

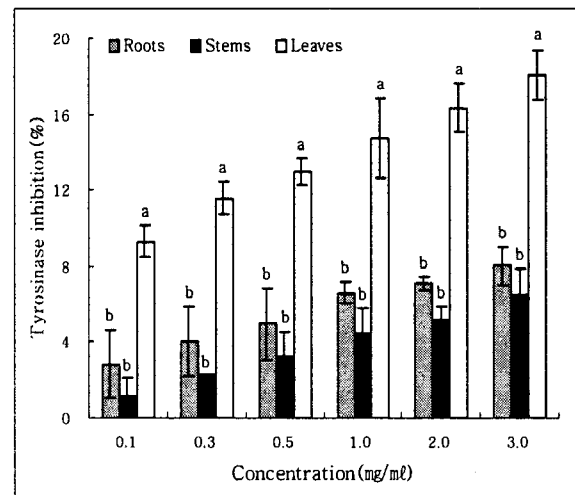


Fig. 6. Tyrosinase inhibitory activity of *A. altissima* extracts.