

비자나무(*Torreya nucifera*)의 부위별 생리활성에 관한 연구

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A Physiological Activities According to Parts of the *Torreya nucifera*

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Objectives

Torreya nucifera is evergreen of Taxaceae. *T. nucifera* has long been utilized. It has also been utilized as a medicinal plant, and the fruit, leaves, and roots have been traditionally employed in China as a treatment for hemorrhoids, insecticide, trichosis and stomach. In the present study, we analyzed the physiological activity of a water extracts from seeds, leaves, stems of this plant.

Materials and Methods

◦ Materials

T. nucifera seeds ("Vi Za") used oriental medical market in July, The leaves and stems were collected in August 2006, at the Kyongnam NamHea.

◦ Extraction and measurement

T. nucifera was extracted three times in a reflux extractor for 3 hours, each 1,600 ml of distilled water. The solution was filtered and concentrated using a rotary vacuum evaporator and freeze-dried. And it used electron donating ability (EDA), superoxide dismutase (SOD)-like activity, nitrite-scavenging ability (NSA), xanthine oxidase inhibition and tyrosinase inhibition.

Results

According to the result of the measurement of EDA, in the 100 $\mu\text{g/ml}$ of the liquid extract of the *T. nucifera* seeds, EDA showed the highest value of 98.72%. The extract decreased with an increment of extract concentration. At the result of the measurement of SOD-like activity, in the 2,000 $\mu\text{g/ml}$, the leaves were the highest value of 14.38%. At the result of the measurement of NSA, in the pH 1.2, 3,000 $\mu\text{g/ml}$, the leaves were 96.65% that was higher than both 95.69% in seeds and 85.64% in stems. At pH 3.0 was also the highest 92.27% in seeds. Xanthine oxidase inhibition were stems 94.55%, seeds 88.89% and leaves 87.76%. Tyrosinase inhibition showed the value of seeds(29.63%) but stems and leaves has not activated.

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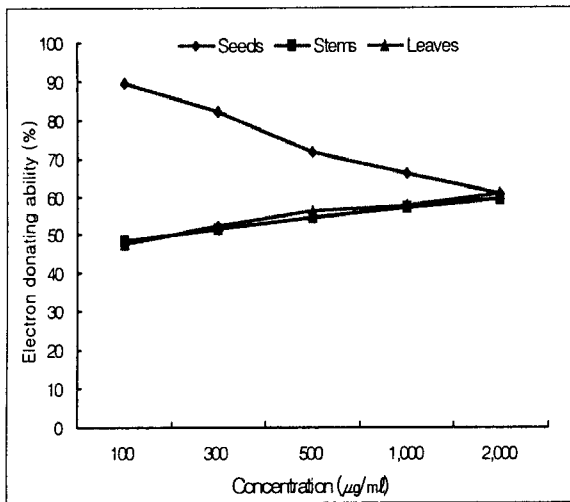


Fig. 1. Electron donating ability of the extracts from *T. nucifera*.

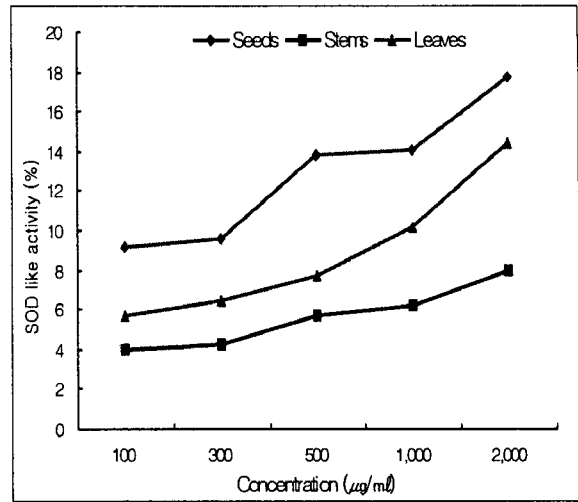


Fig. 2. Superoxide dismutase-like activity of the extracts from *T. nucifera*.

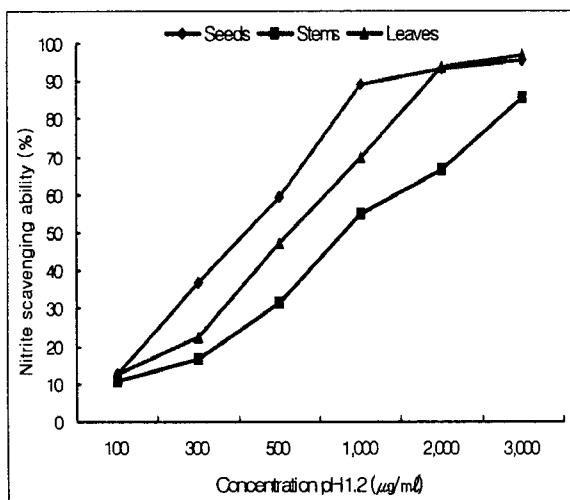


Fig. 3. Nitrite scavenging ability of the extracts from *T. nucifera* at pH 1.2

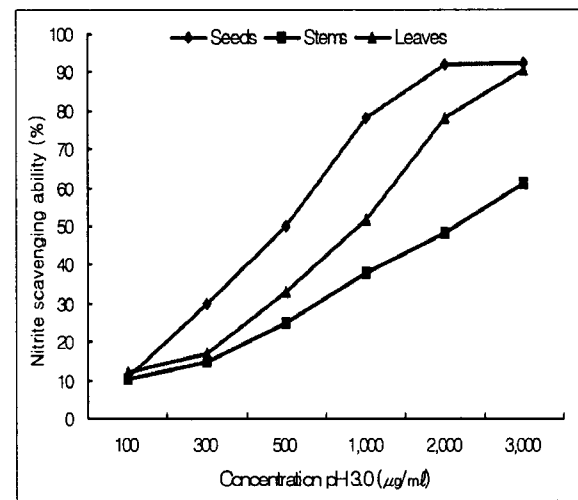


Fig. 4. Nitrite scavenging ability of the extracts from *T. nucifera* at pH 3.0.

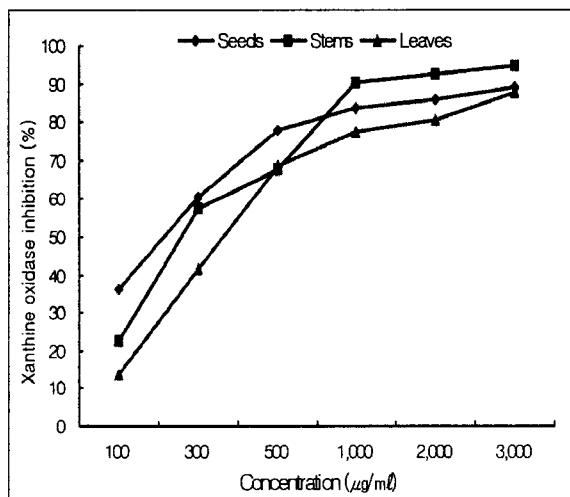


Fig. 5. Xanthine oxidase inhibition of the extracts from *T. nucifera*.

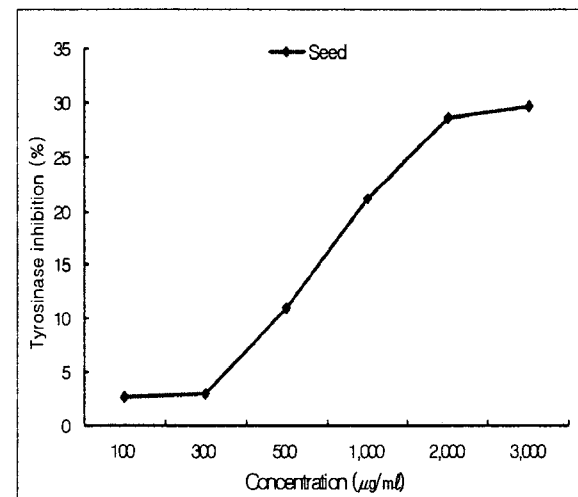


Fig. 6. Tyrosinase inhibition of the seeds extract from *T. nucifera*.