

증숙조건에 따른 인삼 물추출물 함유성분의 생리활성의 변화
¹(주)정문 한방생명자원연구소, ²대구한의대학교 한방생약자원학과
전호성¹, 서수정², 주은영^{2*}

**Change of Physiological Activities of Water Extract from Ginseng
According to Steaming conditions**

¹Research Institute for Biomedical Resources, JungMun Co.
²Department of herbal biotechnology, Daegu Haany University
Ho-Sung Jeon¹, Soo-Jung Seo², Eun-Young Joo^{2*}

Objectives

Korean ginseng (*Panax ginseng* C.A. Meyer) is a plant that belongs to Araliaceae. Korean ginseng has been used for thousands of years to noble galenical, and that is superior to all others being grown in the world in the aspects of its shape and virtue. Pharmacologic effect of the ginseng were an anti cancer, an aging prevention, blood pressure maintenance, immune effects, the anti stress, diabetes and a nerve cell promotion effect. Ginseng is classified into the white ginseng, red ginseng and black ginseng. In the present study, we analyzed the physiological activities of the water extracts from ginseng dependent on the difference of steaming conditions.

Materials and Methods

○ Preparation of material extract

The *P. ginseng* was purchased at the Chungnam Geumsan. From the 1st to the 3rd steam processing of ginseng, the condition was 95°C for 150 min, and the condition of 4th to 9th steam processing were 85°C for 150 min. All of steam treated ginseng were dried at 60°C.

The unsteamed ginseng and steam treated ginseng were extracted three times in a reflux condenser with 1 L of distilled water at 80°C for 3 hour. The solutions were mixed, filtered, concentrated using a rotary vacuum evaporator, and then freeze-dried.

○ Experimental methods

- The contents of total polyphenols of water extract from *P.ginseng* were measured by Folin-Denis (AOAC, 2005) method.

- Electron donating ability (EDA) was evaluated using the Blois (1958) method.

- Superoxide dismutase (SOD)-like activity was determined using the Marklund and Marklund (1975) method.

- Xanthine oxidase inhibition was conducted according to the method of Stirpe and Corte (1969).

Corresponding author : Eun-Young Joo E-mail : jey@dhu.ac.kr Tel : 053-819-1437

Results

In the result of the measurement of extraction yields, 5th steamed ginseng was the highest as 49.06% and those of 1st and 9th one were 42.71% and 33.94%, respectively. The contents of polyphenol compound of 9th steamed ginseng was highest as 50.72% and followed by 7th steamed one of 49.29%. The electron donating ability of the 5th and 7th steamed ginseng were 94.46% and 93.19% at 2.0 mg/mL. In the result of measurements of SOD like activity, 1st and 3rd steamed ginseng showed a high activity of 12.57% and 10.83% in 2.0 mg/mL, respectively. In the result of the xanthine oxidase, 9th and 7th showed the high values of over 98% and 94% at 2.0 mg/mL.

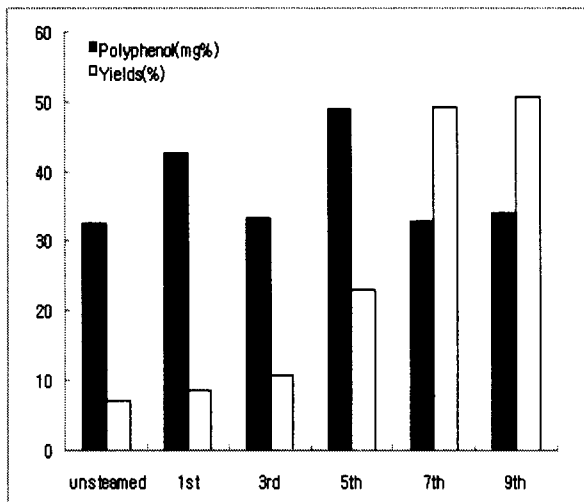


Fig. 1. Extraction yields and the contents of total polyphenols of *P. ginseng* water extracts.

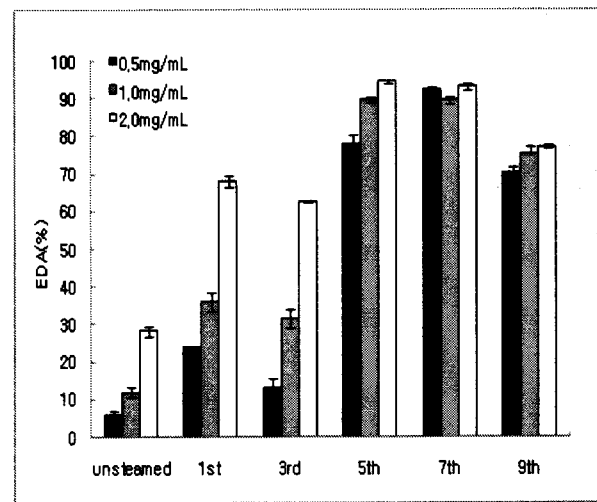


Fig. 2. Electron donating ability of *P. ginseng* water extracts.

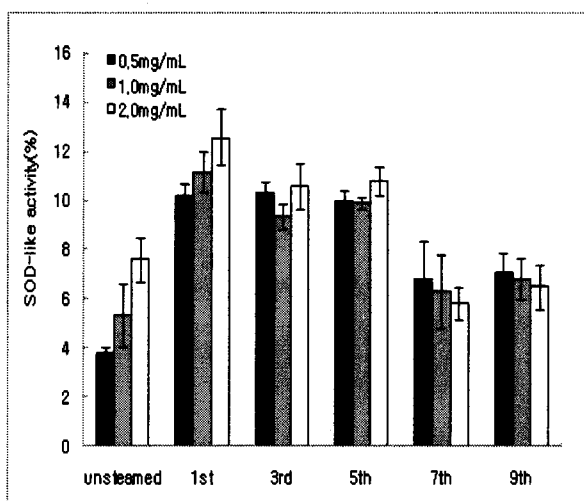


Fig. 3. SOD-like activity of *P. ginseng* water extracts.

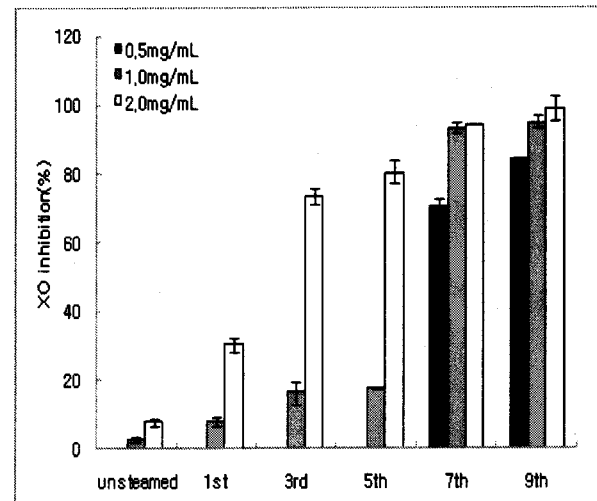


Fig. 4. Xanthine oxidase inhibition of *P. ginseng* water extracts.