P-95

Effects of Heat treatment on Antioxidant activity of the Medicinal plants

Department of Food Science and Technology, Chungbuk National University
Gwi Yeong Jang, Hyun Young Kim, Sang Hoon Lee, Cho Rong Hwang, Seung Hee Oh, Eun Mi Song, Su Jeong Jeong, You Ri Kang, Jin Sook Park, Heon Sang Jeong,

Objectives

To investigate the effects of heat treatment on antioxidant activity of several medicinal plants.

Materials and Methods

Materials

Cyperus rotundus, *Eucommia ulmoides*, *Bupleurum falcatum*, *Achyranthes japonica* Nakai and *Akebia quinata* purchased from a medicinal herb store(Cheongju, Korea).

Methods

Medicinal plants heated at 130℃ for 2hrs, and then extracted by sonicator with distilled water. Control which was before heating extracted by sonicator and reflux extraction with distilled water. Total polyphenol contents, flavonoid contents, ABTS and DPPH radical scavenging activity, reducing power, and OH radical scavenging activities measured.

Results

The total polyphenol contents of reflux and heated sample extract were higher than raw material extract, and heated sample extract was higher than reflux extract except for *Eucommia ulmoides* and *Cyperus rotundus*(Fig. 1). Reflux and heated sample extracts showed higher total flavonoid content than that of raw material extract except for *Cyperus rotundus,* and heated sample extract was lower than reflux extract except for *Achyranthes japonica* and *Akebia quinata*(Fig. 2). The results of ABTS and DPPH radical scavenging activities indicated that reflux and heated sample extract were higher than that of raw material extract(Fig. 3, 4). The results of reducing power indicated that heated sample extract of *Achyranthes japonica* compared with others was significantly increased by heat treatment(Fig. 5). The results of OH radical scavenging indicated that heated sample extract of *Achyranthes japonica* and *Akebia quinata* were increased by reflux extraction and heat treatment, but the others were slight increased or reduced(Fig. 6).

주저자 연락처(Corresponding author): 정헌상 E-mail: hsjeong@cbnu.ac.kr Tel: 043-261-2570

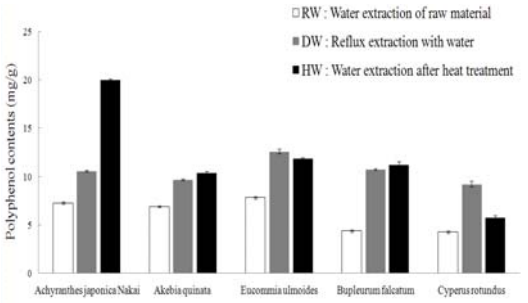

Fig. 1. Total polyphenol contents of medicinal plants with heating and extraction conditions.

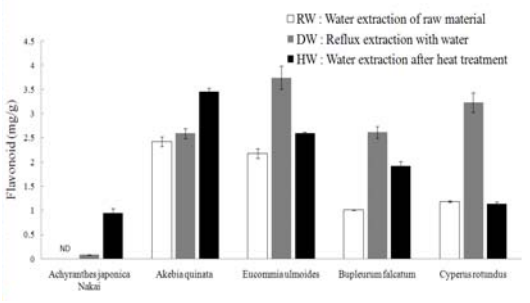

Fig. 2. Total flavonoid contents of medicinal plants with heating and extraction conditions.

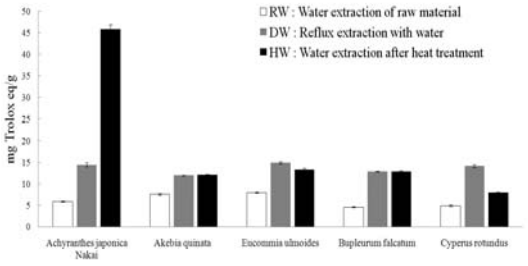

Fig. 3. ABTS radical scavinging activity of medicinal plants with heating and extraction conditions.

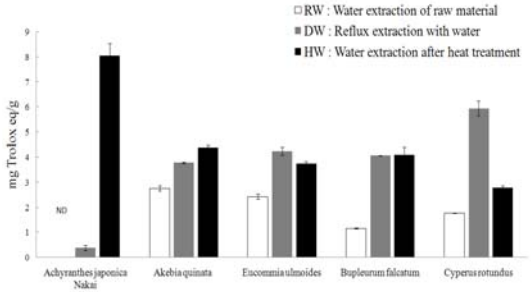

Fig. 4. DPPH radical scavinging activity of medicinal plants with heating and extraction conditions.

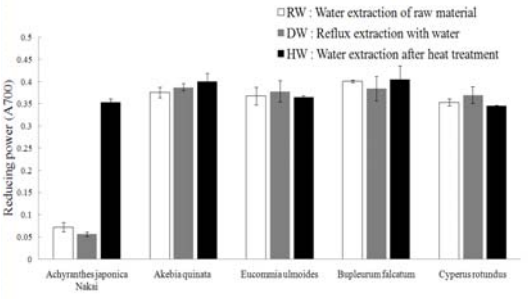

Fig. 5. Reducing power of medicinal plants with heating and extraction conditions.

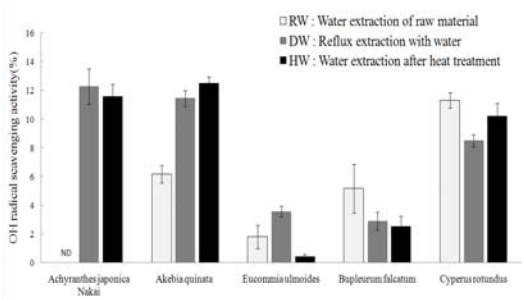

Fig. 6. OH radical scavinging activity of medicinal plants with heating and extraction conditions.