

P82

Antithrombosis and antioxidant activity of seed of Buckwheat, *Fagopyrum esculentum* Moench

Hee-Young Ryu, Yun-Sook Kwon, Eun-Joo Kum, Young Sook Kim,
Hong-Ju Kim, Chong-Suk Kwon and Ho-Yong Sohn*

Dept. of Food and Nutrition, Andong National Univ., Andong 760-749, Korea

Buckwheat is a grain that has been eaten for hundreds of years in worldwide and used as a flour for bread and noodles. Recently it was reported that buckwheat has different bioactive substances, such as protease inhibitors, rutin, and ferulic acids etc. In this study, antithrombosis and antioxidant activity of buckwheat was evaluated. Methanol extraction, which was most effective among the used extraction solvents, showed strong antithrombosis activity with extension of thrombin time to 147% at concentration of 0.625 mg/ml. Sequential organic solvent fractionations of methanol extract with hexane, ethylacetate, and butanol showed that the extensions of thrombin time of ethylacetate and butanol fraction were 223% and 454% at concentration of 0.625 mg/ml, respectively. The antithrombin agents in buckwheat were heat-labile by treatment at 100°C for 10 min, whereas 50~98% of activity was remained by treatment at 80°C for 10 min. In a while, strong antioxidant activities (DPPH scavenging activity of 97% at 0.1 mg/ml) were observed in ethylacetate and butanol fraction. The antioxidant compounds were differed from rutin, or ferulic acid, and showed a heat-stability by treatment at 100°C for 10 min. These results suggest that buckwheat is a prominent source to develop antithrombosis agent.