INHIBITORY EFFECT OF LIPOXYGENASE AND DPPH RADICAL SCAVENING ACTIVITY OF *PERILLA FRUTESCENS* VAR. *ACUTA*

In Sook Kye
Department of Food & Nutrition/Kyungnam College of Information & Technology
KOREA

Man Kyu Huh
Department of Molecular Biology/Dong-eui University
KOREA

ABSTRACT

A reactive oxygen species has been implicated in a range of human pathological diseases such as atherosclerosis and certain cancers. This study is to evaluate *Perilla frutescens* var. *acuta* extracts as sources of natural antioxidants and to examine whether they have significant 1- diphenyl 2-picrylhyorazyl (DPPH) activity and Lipoxygenase (LOX) inhibitory activity or not. The plants of *P. frutescens* var. *acuta* were divided into two parts: leaves and stems. An ethanol method for evaluation of the free radical-scavenging activity of foods by using DPPH is examined. DPPH scavenging activity of leaf extracts of *P. frutescens* var. *acuta* was evaluated at 4.0 mg/ml was 64.1% and that of stem was 51.8% at same concentration. LOX inhibitions of leaf and stem extracts at 4.0 mg/ml were evaluated 44.8% and 28.1%, respectively. The stem of *P. frutescens* var. *acuta* showed maximum inhibition of DPPH activity (IC_{50} = 35.7 ug/ml). The leaf showed maximum inhibition of LOX activity (IC_{50} = 45.6 ug/ml). The degree of inhibition of DPPH by *P. frutescens* var. *acuta* were different among leaf and stem at different concentrations, there was show a statistically significant difference (p >0.05). Strong inhibition of DPPH for *P. frutescens* var. *acuta* makes this pharmacopeial plant material an interesting topic for further biological and phytochemical examination.

Keywords: *Perilla frutescens* var. *acuta*, 1, 1- diphenyl 2-picrylhyorazyl (DPPH), lipoxygenase.