INHIBITORY EFFECT OF LIPOXYGENASE AND DPPH RADICAL SCAVENING ACTIVITY OF *FRAXINUS RHYNCHOPHYLLA*

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ABSTRACT

The purpose of the present study is to evaluate plant extracts as sources of natural antioxidants and to examine whether *Fraxinus rhynchophylla* having significant 1- diphenyl 2-picrylhyorazyl (DPPH) activity and Lipoxygenase (LOX) inhibitory activity. The plants of *F. rhynchophylla* were divided into three parts: leaves, outer bark, and endodermis. The antioxidant activity of the *F. rhynchophylla* extracts was measured on the basis of the scavenging activity of the stable 1, 1- diphenyl 2-picrylhyorazyl (DPPH) free radical. DPPH scavenging activity of outer bark extracts of *F. rhynchophylla* was evaluated at 4.0 mg/ml was 75.6% and that of leaves was 70.8% at same concentration. The outer cortex of *F. rhynchophylla* showed maximum inhibition of DPPH activity (IC_{50} = 70.5 ug/ml). The highest LOX inhibition was recorded in the outer cortex extract among three vegetative parts. The outer bark of *F. rhynchophylla* showed maximum inhibition of LOX activity (IC_{50} = 62.6 ug/ml). Although the degree of inhibition of lipoxygenase by *F. rhynchophylla* were different among leaves, outer cortex, and endodermis at different concentrations, there were not show a statistically significant difference (p <0.05). Strong inhibition of LOX enzymes by extract from *F. rhynchophylla* makes this pharmacopeial plant material an interesting topic for further biological and phytochemical examination.

Keywords: 1- diphenyl 2-picrylhyorazyl (DPPH), *Fraxinus rhynchophylla*, lipoxygenase.