INHIBITORY EFFECT OF LIPOXYGENASE AND DPPH RADICAL SCAVENGING ACTIVITY OF \textit{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 \textit{Fraxinus rhynchophylla} having significant 1- diphenyl 2-picrylhydrazyl (DPPH) activity and Lipoxygenase (LOX) inhibitory activity. The plants of \textit{F. rhynchophylla} were divided into three parts: leaves, outer bark, and endodermis. The scavenging activity of the stable 1, 1- diphenyl 2-picrylhydrazyl (DPPH) free radical. DPPH scavenging activity of outer bark extracts of \textit{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 \textit{F. rhynchophylla} showed maximum inhibition of DPPH activity (IC\textsubscript{50} = 70.5 ug/ml). The highest LOX inhibition was recorded in the outer cortex extract among three vegetative parts. The outer bark of \textit{F. rhynchophylla} showed maximum inhibition of LOX activity (IC\textsubscript{50} = 62.6 ug/ml). Although the degree of inhibition of lipoxygenase by \textit{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 \textit{F. rhynchophylla} makes this pharmacopeial plant material an interesting topic for further biological and phytochemical examination.

Keywords: 1- diphenyl 2-picrylhydrazyl (DPPH), \textit{Fraxinus rhynchophylla}, lipoxygenase.