

# Natural Scavengers of Reactive Oxygen Species in *Rumex crispus* as natural colorant

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## Abstract

The aims of this study were to examine the efficacy of phytochemicals of *Rumex crispus* as anti-oxidant and anti-browning agent. The bioactive properties of *Rumex crispus* as natural colorants were studied by total phenolic contents, DPPH radical scavenging, ABTS radical scavenging, lipid peroxidation, cell viability, singlet oxygen quenching and photoprotection effect. Among all of the results (IC<sub>50</sub>: the concentration of various extracts required to exert 50% reducing effect), the higher activity of the extract was found in the ethyl acetate and butanol extracts. Anti-browning activity was evaluated by monitoring the change  $L^*$ ,  $a^*$ ,  $b^*$  values and total color differences ( $\Delta E$ ). It was found that ethyl acetate and butanol extracts effectively inhibited browning in apple juice at a concentration below 0.3 mg/ml. *Rumex crispus* extracts used natural colorants could be of good resources as anti-oxidant and anti-browning agents. The results suggest that our study may contribute to the development of natural and functional materials with potential application to reduce oxidative damage

## 참고문헌

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