

## The Protective Effect of Onion Extraction on the Lipid Peroxidation of Phospholipid Bilayers

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Quercetin is a typical flavonol-type flavonoid and a powerful antioxidant, which is regularly consumed by humans. Onions, the major sources of quercetin, contain glycoside. We studied to compare onion extracts with other antioxidants (quercetin, ascorbic acid and BHT), when incorporated into liposomes, onion has been shown to protect against lipid damage by 2,2'-azobis(2-amidinopropane) dihydrochloride (AAPH). We used FOX assay and thiobarbituric acid-reactive substances (TBARS), well-established lipid oxidation marker. When studied for a protective effect against lipid peroxides, onion extracts and other antioxidants were observed to be protective at all concentrations. Adding higher concentration of onion extracts of 100, 150, 200 and 300  $\mu$ l provided 77.04, 70.58, 57.32 and 40.59% protection against AAPH-induced hydroperoxide, respectively. Onion extracts reduced MDA formation by 46.71, 39.15, 27.45 and 13.35% at concentrations of 100, 150, 200 and 300  $\mu$ l onion extracts, respectively. Onion extracts appear effective as an antioxidant in biochemical membranes.