

Antioxidant activities and partial characterization of the extract from *stachys sieboldii* MIQ.

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Abstract

Roots and stalks of *Stachys sieboldii* MIQ. were extracted with methanol for three hours at room temperature. This procedure was repeated for three times and the concentration of total polyphenols and flavonoids were measured. Polyphenols were found 3.02% for roots and 1.97% for stalks and flavonoids, 1.97% for roots and 0.75% for stalks. The extract of methanol were fractioned by hexane, chloroform, ethylacetate, butanol, and water. Their antioxidant activities were measured by DPPH method, ferric thiocyanate method, and nitrite scavenging ability. It was found that the fraction of ethylacetate gave higher value than that of other solvents. This value was almost equal or above than that of α -tocopherol, butylated hydroxyanisole(BHA), and butylated hydroxy toluene(BHT) at the same concentration. UV/VIS spectral data of the extract by ethylacetate that was isolated on a silica gel column indicated adsorption maxima in the range of 280 ~ 330 nm. The ES-R5 extract of roots that has λ_{\max} (nm) of band I, 325nm, band II, 289nm and the ES-S1 extract of stalks that has λ_{\max} (nm) 284nm showed the strongest activity by DPPH method. The lower Rf value of TLC from the ES-R5 appeared more polar compound and higher Rf value of TLC from the ES-S1 appeared less polar compound. The ES-R5 fraction showed similar pattern to flavones and the ES-S1 fraction showed similar pattern to flavanone by the analysis of UV-VIS spectral data.

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