PC-24

Antioxidant Properties of the Ethanol Extract of Peanut (*Arachis hypogaea* L.) Skin

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[Introduction]

Peanut (*Arachis hypogaea* L.) is an important crop world-wide because of its high efficiency in lipid and protein production. There is no doubt that the kernels is the most important product of peanut. In comparison with the kernels, the peanut skin is almost completely neglected in nutraceutical terms, although it has potentially health promoting phenolics and dietary fiber and there is considerable potential for its exploitation.

[Materials and Methods]

Hand-peeled peanut skin (PS) of the five peanut cultivars (Daan, Sinpalkwang, K-ol, Sewon, Heuksaeng) were extracted with 80% ethanol. Antioxidant activities were assessed by DPPH and ABTS radical scavenging activity assay. Total phenolic contents and total flavonoid contents were estimated with Folin-Ciocalteu and aluminum chloride methods, respectively. Tyrosinase inhibitory activity was monitored by dopachrome formation at 457nm with a spectrophotometer.

[Results and Discussions]

The 80% ethanol extracts of all five peanut skin showed potent antioxidant activities against DPPH and ABTS radical. Among different peanut cultivars, the highest DPPH and ABTS radical scavenging activity was observed for Daan (176 and 161 mgTE/g) and Sinpalkwang (166 and 161 mgTE/g). Total phenolic and flavonoid contents ranged form 59 to 198 mgGAE/g and 30 to 118 mgGAE/g, respectively. The Sinpalkwang peanut skin ethanol extract exhibited IC_{50} values of 4.0 μ g/mL in DPPH. These values were slightly more than those obtained for trolox used as standard. PS extract inhibited tyrosinase enzymatic activity in a dose-dependent manner with IC_{50} value of 30 μ g/mL.

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