Isolation and Identification of Antioxidative Substances from Chungkookjang

장미영, 조정용, 조정일[1], 박근형*
전남대학교 식품공학과*, [1]조선이공대학 식품공업과
전화 (062) 530-2143, FAX (062) 530-2149

(Abstract)
The methanol extracts of chungkookjang produced by starter showed DPPH radical-scavenging activity. The methanol extracts were solvent fractionated to obtain ethyl acetate-soluble neutral and acidic fractions. Ethyl acetate-soluble fraction also showed DPPH radical-scavenging activity. EtOAc-soluble neutral fraction was purified and isolated through silica gel adsorption column chromatography, Sephadex LH-20 column chromatography and HPLC. The isolated substances were identified as genistein and daidzein by MS and NMR analyses. In addition, ethyl acetate-soluble acidic fraction was carried out silica gel adsorption column chromatography, and then confirmed 4-hydroxybenzoic acid, 3-methoxy-4-hydroxybenzoic acid, and 3,4-dihydroxybenzoic acid by GC-MS.

(References)
1. Esaki, H., Onozaki, H., Kawakishi, S., and Osawa, T., New Antioxidant Isolated from Temph(1996), *J. Agric. Food Chem.*, 44, 696-700
2. Esaki, H., Onozaki, H., Kawakishi, S., and Osawa, T., Antioxidant Activity and Isolation from Soybean fermented with *Aspergillus* spp.(1997), *J. Agric. Food Chem.*, 45. 2020-2024
3. Wang, H.J., Murphy, P.A., Isoflavone Content in Commercial Soybean Food(1994), *J. Agric. Food Chem.*, 42, 1666-1673
4. Park, B.K, Studies on Antioxidants of Microbial Origin(1983), *Kor. J. Appl. Microbiol. Bioeng*, 11(3), 201-204