Isolation and Characterization of an Antioxidative Peptide from Enzymatic Hydrolysates of Alaska Pollack Frame Protein

Zhong Ji Qian, 제재영, 정원교, 김세권
Department of Chemistry, Pukyong National University, Busan, 608-737, Korea
Tel : (051) 620-6375, FAX : (051) 628-8147

ABSTRACT

To utilize Alaska pollack frame protein (APP), which are normally discarded from fish processing plants, APP was hydrolyzed with various enzyme such as Alcalase, Neutrase, papain, α-chymotrypsin, pepsin, pronase E and trypsin. The antioxidative activity of the hydrolysates was investigated and compared with that of α-tocopherol. Hydrolysate treated with pepsin showed the highest antioxidative activity. The hydrolysate treated with pepsin was fractionated into five kinds of different molecular distributions using five different ultrafiltration (UF) membranes ranged from molecular weight cut-offs (MWCO) of 30, 10, 5, 3, and 1 kDa. Furthermore, the active fraction was isolated using consecutive chromatographic methods including ion-exchange chromatography on SP-Sephadex C-25 column, gel filtration on Sephadex G-75 column, and high performance liquid chromatography on C18 ODS column. Finally, *N*-terminal amino acid sequence of the purified peptide was determined.