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Characterization of anti-hypertensive peptides from commercial enzymatic hydrolysates of flounder fish muscle

Ju-Young Ko¹ and Ji-Hyeok Lee² ¹ Jeju National University, Republic of Korea ²Gachon University Gil Medical Center, Republic of Korea

Gastric enzymatic hydrolysates from flounder fish and its derived peptides have been evidenced on their strong Gantioxidant and anti-hypertension activities, etc. However, composition and functional effect of peptides in various enzymatic hydrolysates are differed by enzyme types, hydrolyzed times and temperatures, etc. Therefore, we determined on potential anti-hypertensive effect of hydrolysates produced from flounder fish using commercial enzymes such as Protamex, Flavourzyme and Kojizyme which are common food grade proteases and characterized on its derived peptides. In this study, Protamex-mediated hydrolysate showed the strongest effect on anti-hypertension than those of other commercial enzymes such as Flavourzyme and Kojizyme. Protamex-mediated hydrolysate was fractionated into three ranges of molecular weight (below 5 kDa, 5-10 kDa and above 10 kDa). The below 5 kDa fraction exhibited the strongest anti-hypertensive effect. In its derived three peptides, Leucine-Histidine-Phenylalanine (LHF) and Tryptophan-Proline-Tryptophan (WPW) with stability in the gastro and intestinal digestion showed good anti-hypertension effects. Therefore, we suggest that Protamex-mediated hydrolysate will be a good anti-hypertensive agent due to existence of stabilized functional peptides including LHF and WPW.

Biography

Ju-Young Ko has completed her PhD from Jeju National University and Postdoctoral studies from Jeju National University School of Marine Life Science. She has published more than 25 papers in reputed journals.

herolegend@hanmail.net

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