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Purification and Characterization of a Trypsin Inhibitor from the Egg of Skipjack Tuna, *Katsuwonus pelamis*

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A trypsin inhibitor was purified from the egg of skipjack tuna, *Katsuwonus pelamis*, by ammonium sulfate precipitation, gel filtration on Sephadex G-100, ion-exchange chromatography on DEAE-Sephacel, rechromatography on Sephadex G-100 and reversed-phase HPLC on C₁₈ column. The molecular mass of the purified trypsin inhibitor was approximately 78 kDa as estimated by gel filtration, and 39 kDa by SDS-PAGE, under non-denaturing and denaturing conditions, respectively. The purified trypsin inhibitor was stable in the pH range from 4.0 to 10.0, and at temperature below 40°C. The purified inhibitor was rich in Gly, Glu, Ser, Asp and Lys, but poor in Cys, Tyr, Phe, Ile and His. In addition, the activity of the purified trypsin inhibitor was increased in the presence of metal ions such as K⁺, Na⁺, Mg²⁺ and Ca²⁺.

Key words: Trypsin inhibitor, purification, characterization, *Katsuwonus pelamis*, egg