



Amino acids profile changes of silver carp (*Hypophthalmichthys molitrix*) skin hydrolysate during hydrolyzing by Alcalase

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Abstract

Silver carp (*Hypophthalmichthys molitrix*) skin (SCS) is available as by-product in minced products manufacturing plants. Amino acids (AAs) profile changes of SCS hydrolysates, influenced by the time of hydrolysis by Alcalase, was studied. Different centrifuge cycles were used to clarify hydrolysates. Hydrolysis by Alcalase showed different effects on the AAs profile of SCS hydrolysates. As the hydrolysis time prolonged, the amount of total hydrophobic AAs decreased and total amount of hydrophilic AAs increased. Decreases in some AAs during 2 to 4 h and then from 4 to 6 h were significant ($p < 0.05$). With the progression of hydrolysis (> 2 h) the solution turned somewhat opaque and colored milky particles were observed. Increasing precipitation, possibly due to plastein formation, can change AAs profile and functional properties of hydrolysates. The results can be used to design enzymatic processes for the production of bioactive peptides with different functional properties and applications from fisheries by-products.

Keywords: Silver carp skin, Hydrolysis time, Alcalase, Amino acids profile.