

THE HYDROLYSIS CAPABILITY OF PROTEIN EXTRACTED FROM TRA FISH BY-PRODUCT USING ENZYME NEUTRASE

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Summary

To improve the capacity of using by-products from Tra fish fillet industry, study on the hydrolysis of protein extracted from Tra fish by-products using commercial neutrase was done. The results showed that when using optimal condition of pH and temperature for reaction of neutrase, V_{max} and K_m of enzyme reacted on the protein from Tra fish by-products was consequently 0.190 μmol tyrosine/minute and 0.254 g protein/10 ml. The result from the hydrolysis showed that with the ratio of enzyme and substrate as 0.5 mg E : 0.694 g protein. Beside, when prolonged the time for hydrolysis from 30 to 240 minutes, the degree of hydrolysis increased correspondingly and achieved 6.359% as $\text{Tyr}_{\text{tp}}/\text{Tyr}_t$ as well as 3.244% following OPA method. So, the time for hydrolysis using neutrase was chosen at 240 minutes. Moreover, the hydrolyzed protein results which showed on SDS-PAGE proved that most of the protein hydrolyzate from Tra fish by-products were hydrolyzed well and formed in high molecular weight peptides intensity but low intensity in amino acid mixtures. The results indicated that neutralization can be used well for the hydrolysis of protein from fish by-product to form a mixture of amino acid as well as low molecular weight peptides. And, the product can be used for animal feed as protein source.

Keywords: *Degree of hydrolysis, hydrolyzate, neutrase, tra fish, Tra fish by - products*