

**ANTIOXIDANT ACTIVITIES OF PROTEIN HYDROLYSATE  
FROM THE SKIN OF STRIPED CATFISH (*Pangasius hypophthalmus*)  
FILLET PROCESSING WASTE**

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**ABSTRACT**

The aim of this study was to evaluate antioxidant activities of striped catfish skin protein hydrolysate prepared with Alcalase. The striped catfish skin from fillet processing was extracted in an autoclave at 121 °C for 30 min to obtain an extracted protein. Then it was further hydrolysed with Alcalase with the enzyme to substrate ratio of 20 units/gram protein at 50 °C, pH 8 for 7 h to obtain protein hydrolysate. The results showed that DH increased with the increase of hydrolysis time and reached the highest DH of 91.9% after 7 h hydrolysis. The protein hydrolysate showed the highest DPPH and ABTS radical scavenging activities of 31.5% and 99.4% when the DH of 34.4% and 86.3%, respectively. In the linoleic acid model system, the protein hydrolysate effectively inhibited lipid peroxidation and the activity was higher than that of 200 ppm  $\alpha$ -tocopherol and 1000 ppm ascorbic acid. The in vitro effect of gastrointestinal protease on antioxidant activities was also investigated. The results suggested that gastrointestinal proteases have little effect on DPPH and ABTS radical scavenging activities of the protein hydrolysate.

**Keywords:** *Alcalase, Antioxidant activity, Hydrolysate.*

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