

# EXTRACTION AND CHARACTERIZATION OF COLLAGEN FROM TRA CATFISH (*Pangasius hypophthalmus*) SKIN

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## ABSTRACT

The tra catfish processing industry generates large amounts of by products. Collagen is widely used for biomedical and pharmaceutical applications. To make more effective use of the rest material resource, acid-soluble collagen was extracted and characterized from the skin of tra catfish. The optimal conditions for collagen extraction were determined using response surface methodology-central composite design. The optimal extraction conditions were an acid acetic concentration of 0.46M and a time of 57.6 hours. The extracted collagen showed the denaturation temperature of 33°C and maximum absorbance at 228nm. The extracted collagen contains both non-essential and essential amino acids, predominantly glycine, proline and alanine. The collagen hydrolysate prepared with pepsin exhibited antioxidant activity, and the enzyme to substrate ratio and hydrolysis time significantly affected antioxidant potential.

**Keywords:** *Antioxidant, collagen, fish by-product, optimization, tra catfish*

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