

## Isolation and Characterization of Collagen from Chicken Feet

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**Abstract :** Collagen was isolated from chicken feet by using papain and pepsin enzymes in acetic acid solution at 4°C for 24h with a yield of 18.16% and 22.94% by dry weight, respectively. Chemical composition and characteristics of chicken feet collagen such as amino acid composition, SDS-PAGE patterns, FTIR spectra and thermal properties were evaluated. The chicken feet collagen is rich in the amino acids glycine, glutamic acid, proline and hydroxyproline. Electrophoresis pattern demonstrated two distinct  $\alpha$ -chains ( $\alpha 1$  and  $\alpha 2$ ) and  $\beta$  chain, indicating that type I collagen is a major component of chicken feet collagen. The thermal stability of collagen isolated by papain and pepsin revealed stable denaturation temperatures of 48.40 and 53.35°C, respectively. The FTIR spectra of both collagens were similar with amide regions in A, B, I, II, and III. The study demonstrated that chicken feet collagen using papain isolation method is possible as commercial alternative ingredient.

**Keywords :** chicken feet, collagen, papain, pepsin

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