

INTISARI

Bakasang merupakan produk fermentasi ikan tradisional khas Maluku dan Maluku Utara yang dibuat dari ikan cakalang (*Katsuwonus pelamis*) dengan penambahan garam. Penelitian ini bertujuan menganalisis karakteristik fisikokimia, profil asam amino bebas, profil senyawa volatil, aktivitas antioksidan, dan aktivitas antimikroba bakasang ikan cakalang dari tiga cara pengolahan tradisional berbeda, yaitu TTE, BND, dan HL. Analisis meliputi uji fisikokimia, HPLC, SPME-GC-MS, uji DPPH, dan uji difusi cakram terhadap *Escherichia coli* dan *Staphylococcus aureus*. Hasil penelitian menunjukkan bahwa nilai pH ketiga sampel berkisar 5,06–5,12 dan berbeda nyata antar sampel. HL memiliki kadar protein tertinggi sebesar 23,96%, sedangkan TTE memiliki kadar abu tertinggi sebesar 19,84%. Tekstur bakasang menunjukkan gradasi dari cair pada TTE, semi-cair pada BND, hingga semi-padat pada HL. Profil asam amino bebas menunjukkan BND memiliki total asam amino bebas tertinggi, terutama asam amino yang berperan dalam pembentukan rasa umami. Analisis SPME-GC-MS menunjukkan TTE dicirikan oleh senyawa hasil reaksi Maillard, BND oleh senyawa oksidasi lipid, sedangkan HL oleh senyawa seskuiterpen dari rempah. Aktivitas antioksidan seluruh sampel tergolong lemah, dengan aktivitas relatif tertinggi pada HL (IC₅₀ = 512,56 µg/mL). Aktivitas antimikroba hanya terlihat pada BND terhadap *S. aureus* dengan zona hambat 6,79 ± 1,03 mm, sedangkan seluruh sampel tidak menghambat *E. coli*. Variasi bahan baku, garam, bahan tambahan, perlakuan awal, dan durasi fermentasi memengaruhi karakter kimia serta bioaktivitas bakasang. Ketiga varian bakasang memiliki karakteristik berbeda dan berpotensi dikembangkan sebagai produk fermentasi ikan tradisional bernilai fungsional.

Kata kunci: *bakasang, Katsuwonus pelamis, fermentasi ikan, antioksidan, antimikroba, DPPH, pangan fungsional*

ABSTRACT

Bakasang is a traditional fermented fish product from Maluku and North Maluku, made from skipjack tuna (*Katsuwonus pelamis*) with added salt. This study aimed to analyze the physicochemical characteristics, free amino acid profile, volatile compound profile, antioxidant activity, and antimicrobial activity of skipjack tuna bakasang processed using three different traditional processing methods: TTE, BND, and HL. The analysis included physicochemical tests, HPLC, SPME-GC-MS, DPPH test, and disc diffusion test against *Escherichia coli* and *Staphylococcus aureus*. The results showed that the pH values of the three samples ranged from 5.06–5.12 and differed significantly between samples. HL had the highest protein content at 23.96%, while TTE had the highest ash content at 19.84%. The texture of bakasang showed a gradation from liquid in TTE, semi-liquid in BND, to semi-solid in HL. The free amino acid profile showed that BND had the highest total free amino acids, particularly those responsible for the umami flavor. SPME-GC-MS analysis showed that TTE was characterized by compounds from the Maillard reaction, BND by lipid oxidation compounds, and HL by sesquiterpene compounds from spices. The antioxidant activity of all samples was relatively weak, with the highest relative activity being found in HL (IC₅₀ = 512.56 µg/mL). Antimicrobial activity was only observed in BND against *S. aureus* with an inhibition zone of 6.79 ± 1.03 mm, while all samples did not inhibit *E. coli*. Variations in raw materials, salt, additives, pretreatment, and fermentation duration affected the chemical characteristics and bioactivity of bakasang. The three bakasang variants have distinct characteristics and have the potential to be developed as traditional fermented fish products with functional value.

Keywords: *bakasang, Katsuwonus pelamis, fish fermentation, antioxidant, antimicrobial, DPPH, geographic variation, functional food*