

POTENSI HIDROLISAT PROTEIN DAGING ITIK MOJOSARI DAN ITIK MAGELANG SEBAGAI AGEN PENGHAMBAT ANGIOTENSIN CONVERTING ENZYME

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INTISARI

Itik Mojosari dan itik Magelang merupakan sumber plasma nutfah hewan Indonesia sebagai salah satu penghasil daging dan telur. Penelitian ini bertujuan untuk mengetahui hidrolisat protein daging itik Mojosari dan itik Magelang sebagai penghambat *angiotensin converting enzyme* (ACE). Daging itik Mojosari dan itik Magelang yang digunakan yaitu bagian paha. Penelitian terdiri dari preparasi protein daging, hidrolisis protein daging dengan enzim protease dari *Bacillus cereus* strain TD5B, konfirmasi hasil hidrolisis protein daging dengan SDS-PAGE, dan pengujian aktivitas penghambat ACE hidrolisat protein daging. Hasil yang diamati meliputi konsentrasi protein terlarut, berat molekul protein, dan nilai IC (IC₅₀). Analisis data yang digunakan pada hasil nilai konsentrasi protein terlarut yaitu statistik T-Test, sedangkan hasil SDS-PAGE dan hasil aktivitas penghambat ACE menggunakan analisis data secara deskriptif. Hasil uji konsentrasi protein terlarut daging itik Mojosari dan itik Magelang meningkat akibat proses hidrolisis yaitu untuk itik Mojosari dari 0,826±0,108 menjadi 1,050±0,197 mg/mL dan untuk itik Magelang dari 0,642±0,038 menjadi 1,171±0,534 mg/mL. Hasil uji SDS-PAGE menunjukkan adanya penurunan berat molekul akibat proses hidrolisis, yaitu dari kisaran 159,20 sampai 35,48 kDa menjadi kisaran 71,94 sampai 10,30 kDa. Hidrolisat protein daging itik Mojosari dan itik Magelang mempunyai aktivitas penghambat ACE (IC₅₀) masing-masing adalah 54 µg/mL dan 84 µg/mL. Hidrolisat protein daging itik Mojosari dan itik Magelang mempunyai potensi sebagai penghambat ACE.

(Kata kunci: Itik Mojosari, Itik Magelang, Protein daging itik, Enzim protease mikrobial, Penghambat ACE)

POTENCY PROTEIN HYDROLYSATE OF MOJOSARI AND MAGELANG DUCKS MEAT AS AGENT ANGIOTENSIN CONVERTING ENZYME INHIBITOR

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ABSTRACT

Mojosari and Magelang ducks are source of meat and egg of endogenous Indonesian Native Duck. This study was aimed to determine the potential of hydrolysate protein of Mojosari and Magelang duck as an inhibitor of angiotensin converting enzyme (ACE). The samples used were Mojosari and Magelang duck thigh meats. The experiment consisted of meat protein preparation, the hydrolysis of meat protein with protease enzyme from *Bacillus cereus* strain TD5B, confirmation of meat protein hydrolysis result SDS-PAGE, and test of ACE inhibitor activity of meat protein hydrolysate. The observed results included protein concentration, protein molecular weight, and IC value (IC₅₀). The protein concentration was analysed by T-Test, while result of SDS-PAGE and ACE inhibiting activity were analysed descriptively. The results showed that soluble protein concentration of Mojosari and Magelang ducks increased due to the hydrolysis process is Mojosari duck from 0.826±0.108 to 1.050±0.197 mg/mL and for Magelang duck from 0.642±0.038 to 1.171±0.534 mg/mL. The result of SDS-PAGE test showed that there was a decrease of molecular weight due to the hydrolysis process, from the range of 159.20 to 35.48 kDa to the range of 71.94 to 10.30 kDa. Hydrolysate of Mojosari and Magelang ducks meat had ACE inhibiting activity, with IC₅₀ value of 54 and 84 µg/mL, respectively. Hydrolysate of Mojosari and Magelang ducks meat have potential as ACE inhibitors.

(Key Words: Mojosari duck, Magelang duck, Duck meat protein, Microbial protease enzyme, ACE inhibitor)