

INTISARI

AKTIVITAS ANTIBAKTERI DAN ANTIOKSIDAN HIDROLISAT PROTEIN JEROAN HATI LELE

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Penelitian ini bertujuan untuk mengetahui ekstrak protein terlarut, aktivitas antibakteri dan antioksidan dari hidrolisat protein hati lele secara enzimatis. Limbah hati lele dipreparasi dengan dihomogenkan dengan buffer fosfat dengan perbandingan 1:6. Kemudian disentrifugasi 10.000 ppm, 4°C selama 15 menit. Cairan dan pelet dipisahkan, untuk kemudian dilakukan pretisipasi amonium sulfat 20, 40, 60, dan 80%. Masing pretisipat didialisis selama 8 jam secara bertahap sebelum dihidrolisis secara enzimatis. Pretisipat dan dialisat diuji kandungan protein terlarut dan hidrolisat protein diuji anti-bakteri dengan difusi dan uji anti-oksidan dengan DPPH. Kandungan total protein terlarut presipitat dan fraksi dialisat 20, 40, 60 dan 80% yaitu 25.647,96 mg/ml, 6.448,98 mg/ml, 7.387 mg/ml, 4.852,04 mg/ml dan 9.540,42 mg/ml, 2.791,11 mg/ml, 4347,63 mg/ml 3342,46 mg/ml. Hasil uji hidrolisat dengan papain untuk *E. coli* sebesar 1,9 mm, 3,31 mm, 4,05 mm, dan 2,93 mm. *B. cereus* sebesar 1,21 mm, 1,48 mm, 2,34 mm, 4,28 mm, dan 4,04 mm. Hasil Uji hidrolisat dengan pepsin untuk *E.coli* sebesar 1,9 mm, 1,9 mm, 2 mm, dan 2,1 mm. *B. cereus* sebesar 1,3 mm; 0,9 mm; 1,5 mm; 1,3 mm; dan 0,1 mm. Hasil uji Antioksidan HPPa dan HPPe tidak ditemukan adanya aktivitas antioksidan. Aktivitas antibakteri hidrolisat hati lele tergolong rendah dan tidak ada aktivitas antioksidan.

Kata kunci : antibakteri, antioksidan, dialisat, hidrolisat, total protein,

ABSTRACT

ANTIBACTERIAL AND ANTIOXIDANT ACTIVITIES FROM PROTEIN HYDROLYSIS OF CATFISH LIVER

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This observation intends to find out the dissolved protein extract, antibacterial and antioxidant activities from the protein hydrolysis of dumbo catfish liver enzymatically. The catfish liver waste is prepared by homogenization with phosphate buffer in the 1:6 ratio. Then, it is centrifuged for 10.000 rpm 4⁰C for 15 minutes. The liquid and pelet is separated. After that, preticipations of ammonium sulphate of 20, 40, 60, and 80% are done. Each of the preticipants is dialysized for 8 hours in stages before it is hydrolyzized enzymatically. Preticipants and dialysant are tested by the dissolved protein content, while the protein hydrolysis is tested by antibacterial with diffusion and antioxidant testing with DPPH. Total contents of precipitant and dialysant dissolved protein in 20%, 40%, 60%, and 80% fractions are 25.647,96 mg/ml, 6.448,98 mg/ml, 7.387 mg/ml, 4.852,04 mg/ml dan 9.540,42 mg/ml, 2.791,11 mg/ml, 4347,63 mg/ml 3342,46 mg/ml. The experiment result of hidrolisate with papain for *E. coli* is 1,9 mm, 3,31 mm, 4,05 mm, and 2,93 mm. Meanwhile, *B. cereus* is 1,21 mm, 1,48 mm, 2,34 mm, 4,28 mm, dan 4,04 mm. The experiment result of hidrolisate with pepsin for *E. coli* is 1,9 mm, 1,9 mm, 2 mm, dan 2,1 mm. Meanwhile, *B. cereus* is 1,3 mm; 0,9 mm; 1,5 mm; 1,3 mm; dan 0,1 mm. The experiment result of HPPa and HPPE antioxidant did not presence. Therefore, the antibacterial activities of catfish liver hidrolisate are categorized as low and no activities of the antioxidant .

Key words : antibacterial, antioxidant, dialysis, hidrolisate, protein total,