

ABSTRAK

PENGARUH LAMA WAKTU HIDROLISIS MENGGUNAKAN PAPAIN TERHADAP AKTIVITAS ANTIOKSIDAN HIDROLISAT PROTEIN INSANG LELE (*Clarias* sp.)

Penelitian ini bertujuan untuk mengetahui pengaruh lama waktu hidrolisis secara enzimatis menggunakan enzim papain PAYA terhadap karakteristik hidrolisat protein insang lele (HPIAL) serta aktivitas antioksidannya. Insang lele dihaluskan kemudian dihidrolisis selama 24, 48, 72 dan 96 jam dengan 0 jam sebagai kontrol pada suhu 55°C dan pH 7. Sampel HPIAL diuji karakteristiknya meliputi kadar protein terlarut dan derajat hidrolisis, serta uji aktivitas antioksidan menggunakan metode DPPH (1,1-difenil-2-pikrilhidrazil) dan metode ABTS (2,2-azinobis-3-Ethylbenzothiazoline-6-Sulfonic Acid). Hasil penelitian menunjukkan bahwa konsentrasi protein terlarut dan derajat hidrolisis mengalami peningkatan pada lama waktu 24 jam hingga 48 jam, kemudian mengalami penurunan pada lama waktu 72 jam dan 96 jam. Berdasarkan uji aktivitas antioksidan, waktu hidrolisis 48 jam menghasilkan aktivitas antioksidan terbaik pada metode DPPH dan ABTS yaitu masing-masing senilai 81,25% dan 4,29 μ MTE. Hasil ini menunjukkan bahwa insang lele berpotensi untuk digunakan sebagai antioksidan alami dalam bentuk hidrolisat protein.

Kata Kunci: aktivitas antioksidan, hidrolisis enzimatis, enzim papain, PAYA, hidrolisat protein, lele

ABSTRACT

***THE EFFECT OF HYDROLYSIS TIME USING PAPAIN ON ANTIOXIDANT
ACTIVITY OF PROTEIN HYDROLYSATE GILL CATFISH (*Clarias* sp.)***

This study aims to determine the effect of enzymatic hydrolysis time using the PAYA papain enzyme on the hydrolysate characteristics of gill catfish protein (HPIAL) and antioxidant activity. The gills catfish were mashed and then hydrolyzed for 24, 48, 72 and 96 hours with 0 hours as a control at 55°C and pH 7. The characteristics of the HPIAL sample were tested which included a test for dissolved protein content and the degree of hydrolysis, as well as an antioxidant activity test using the DPPH method (1,1-diphenyl-2-picrylhydrazyl) and the ABTS method (2,2-azinobis-3 Ethylbenzothiazoline-6-Sulfonic Acid). The results showed that the concentration of dissolved protein and the degree of hydrolysis increased at 24 hours to 48 hours, then decreased at 72 hours and 96 hours. Based on the antioxidant activity test, the hydrolysis time of 48 hours produced the best antioxidant activity in the DPPH and ABTS methods, namely 81.25% and 4.29 μ MTE respectively. Based on this study, the by-products of catfish gills have the potential to be used as a source of natural antioxidants

Keyword: antioxidant activity, enzymatic hydrolysis, papain enzyme, PAYA, protein hydrolysate, catfish