

ABSTRAK

Kerang lorjuk merupakan salah satu komoditas hasil perikanan yang terdapat di pulau Madura, khususnya Pamekasan. Masyarakat banyak memanfaatkan kerang lorjuk sebagai olahan makanan dan juga sebagai oleh-oleh khas yang banyak diminati oleh masyarakat sekitar. Masih terbatasnya penelitian mengenai karakteristik protein dan aktivitas antioksidan serta antiinflamasi kerang lorjuk menjadi landasan pentingnya riset ini dilakukan. Tujuan penelitian ini adalah mengetahui karakteristik peptida daging kerang lorjuk (*Solen sp*) serta aktivitas yang dihidrolisis antioksidan dan antiinflamasi dari peptida daging kerang lorjuk (*Solen sp*). Metode yang digunakan dalam penelitian ini meliputi analisis kualitas air, isolasi protein, analisis sds-page, analisis antioksidan, analisis antiinflamasi, dan analisis proksimat. Hasil analisis kualitas air didapatkan rata-rata DO 37,13 ppm, pH 7,83, suhu 35,3°C dan salinitas 28 ppt. Hasil proksimat sampel basah kerang lorjuk yaitu didapatkan kadar air 78%, kadar abu 0,004%, kadar lemak 0,84%, kadar protein 0,168%, kadar serat 0,05%, dan kadar karbohidrat 21%. Hasil dari isolasi protein daging kerang lorjuk (*Solen sp*) didapatkan sebanyak 25 ml ekstrak kasar. Hasil analisis sds-page didapatkan bobot molekul peptida protein dari daging kerang lorjuk konsentrasi protein 3,75 mg/mL yaitu 111,381 kDa, 72,579 kDa, 59,999 kDa, dan 6,721 kDa. Kerang lorjuk dengan nilai konsentrasi protein 7,5 mg/mL yaitu 116,809 kDa, 96,563 kDa, 57,211 kDa, dan 7,393 kDa. Kerang lorjuk dengan nilai konsentrasi protein 15 mg/mL yaitu 116,809 kDa, 96,563 kDa, 69,206 kDa, dan 8,131 kDa. Hasil aktivitas antioksidan pada sampel hidrolisat protein daging kerang lorjuk didapatkan nilai IC₅₀ sebesar 1613 µg/mL dan nilai IC₅₀ pada sampel kerang lorjuk tanpa hidrolisis yaitu 1663,8 ug/mL. Nilai IC₅₀ pada vitamin C adalah 5,1 µg/mL. Hasil dari uji aktivitas antiinflamasi didapatkan nilai persentase inhibisi albumin tertinggi pada kerang lorjuk dengan konsentrasi 3,75 mg/mL sebesar 61.84%.

Kata kunci: Kerang lorjuk, peptida, antioksidan, antiinflamasi

ABSTRACT

Lorjuk shellfish is one of the fishery products found on the island of Madura, especially Pamekasan. Many people use lorjuk shells as processed food and also as special souvenirs that are in great demand by the surrounding community. The limited research on protein characteristics and antioxidant and anti-inflammatory activities of lorjuk shells is the basis for the importance of this research. The purpose of this study was to determine the characteristics of the peptides of lorjuk shellfish (*Solen* sp) and the hydrolyzed antioxidant and anti-inflammatory activities of peptides of lorjuk shellfish (*Solen* sp). The methods used in this study included water quality analysis, protein isolation, sds-page analysis, antioxidant analysis, anti-inflammatory analysis, and proximate analysis. The results of the water quality analysis obtained an average DO of 37.13 ppm, pH 7.83, temperature 35.3°C and salinity 28 ppt. The proximate results of the wet sample of lorjuk mussels obtained a moisture content of 78%, ash content of 0.004%, fat content of 0.84%, protein content of 0.168%, fiber content of 0.05%, and carbohydrate content of 21%. The results of protein isolation of lorjuk clam meat (*Solen* sp) obtained 25 ml of crude extract. The results of sds-page analysis obtained the molecular weight of protein peptides from lorjuk mussel meat with a protein concentration of 3.75 mg/mL, namely 111.381 kDa, 72.579 kDa, 59.999 kDa and 6.721 kDa. Lorjuk mussels with a protein concentration value of 7.5 mg/mL, namely 116.809 kDa, 96.563 kDa, 57.211 kDa and 7.393 kDa. Lorjuk mussels with protein concentration values of 15 mg/mL were 116.809 kDa, 96.563 kDa, 69.206 kDa and 8.131 kDa. The results of the antioxidant activity in the protein hydrolyzate sample of lorjuk mussel meat obtained an IC₅₀ value of 1613 µg/mL and the IC₅₀ value in the lorjuk shellfish sample without hydrolysis was 1663.8 ug/mL. The IC₅₀ value of vitamin C is 5.1 µg/mL. The results of the anti-inflammatory activity test showed the highest percentage of albumin inhibition in lorjuk mussels with a concentration of 3.75 mg/mL of 61.84%.

Keywords: *solen* sp, peptide, antioxidant, anti-inflammatory