

## INTISARI

### **ISOLASI DAN UJI ANTIOKSIDAN TERHADAP FRAKSI POLAR EKSTRAK SPONS *CALTHROPELLA* SP. DARI PANTAI KRAKAL, GUNUNG KIDUL**

Oleh

Aldian Giovanni  
10/302209/PA/13407

Isolasi dan identifikasi senyawa antioksidan pada spons *Calthropella* sp. telah dilakukan. Penelitian ini bertujuan untuk mengisolasi, menguji aktivitas antioksidan, dan mengidentifikasi struktur senyawa antioksidan dari fraksi polar spons *Calthropella* sp. dari perairan pantai Krakal, Gunung Kidul.

Isolasi dilakukan dengan maserasi menggunakan campuran metanol : diklorometana (2 : 1). Ekstrak metanol kemudian dipartisi menggunakan butanol. Ekstrak metanol dipisahkan, kemudian difraksinasi menggunakan kolom fase terbalik *solid phase extraction* (SPE) dengan eluen akuabides, metanol 10%; 20%; 30%; 40%; 50%; dan 60% berturut-turut. Ekstrak kasar dan fraksi-fraksi diuji aktivitas antioksidannya menggunakan metode 2,2-Difenil-1-pikrilhidrazil (DPPH). Fraksi dengan aktivitas antioksidan tertinggi diidentifikasi dengan instrumen *Liquid Chromatography-Mass Spectroscopy* (LC-MS).

Ekstrak kasar *Calthropella* sp., fraksi metanol 10%, dan fraksi metanol 20% memiliki aktivitas antioksidan kuat terhadap senyawa radikal DPPH dengan nilai aktivitas 68,786 ppm, 77,118 ppm, dan 55,472 ppm. Fraksi metanol 10% dari ekstrak kasar *Calthropella* sp. diperkirakan mengandung senyawa Curcuphenol, Caerulsteroid, dan Puupehenon. Sementara itu, fraksi metanol 20% diperkirakan mengandung senyawa *Halioxepine* dan Puupehenon.

Kata Kunci: *Calthropella* sp., *Solid Phase Extraction*, Antioksidan, metode DPPH

## ABSTRACT

### ISOLATION AND ANTIOXIDANT ASSAY OF POLAR FRACTION OF MARINE SPONGE *CALTHROPELLA* SP. EXTRACT FROM KRAKAL BEACH, GUNUNG KIDUL

By

Aldian Giovanni

10/302209/PA/13407

Isolation and identification of antioxidant compounds of marine sponge *Calthropella* sp. have been carried out. The aims of this research are to isolate, to test the antioxidant activity, and to identify the antioxidant compounds of polar fractions of *Calthropella* sp. from Krakal Beach, Gunung Kidul.

Isolation was performed by maceration using a mixture of methanol : dichloromethane (2 : 1 v/v). Methanol extract was then partitioned into butanol. Methanol extract was separated with a reversed-phase column, Solid Phase Extraction (SPE) using aquabides, methanol 10%, 20%, 30%, 40%, 50%, and 60% as eluents. Crude extract and its fractions were tested for their antioxidant activities using 2,2-Diphenyl-1-picrylhydrazyl (DPPH) assay. Fractions with high antioxidant activities were identified by Liquid Chromatography-Mass Spectroscopy (LC-MS).

*Calthropella* sp. crude extract, methanol 10% fraction, and methanol 20% fraction showed a strong antioxidant activity againsts DPPH radical, with  $IC_{50}$  values of 68.786 ppm, 77.118 ppm, and 55.472 ppm respectively. LC-MS analysis indicated that methanol 10% fraction contained curcuphenol, caerulsteroid, and puupehenone, while methanol 20% fraction contained halioxepine and puupehenone.

**Key words:** *Calthropella* sp., Solid Phase Extraction, Antioxidant, DPPH assay