

ABSTRAK

KARAKTERISASI SENYAWA METABOLIT SEKUNDER DARI FUNGI YANG BERASOSIASI DENGAN BIOTA LAUT MENGGUNAKAN *LIQUID CHROMATOGRAPHY-MASS SPECTROSCOPY (LC-MS)*

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Peningkatan kasus resistensi bakteri pada antibiotik menyebabkan permasalahan yang serius di dunia kesehatan. Penelitian ini bertujuan untuk mendapatkan senyawa metabolit sekunder dari fungi yang berasosiasi dengan spons menggunakan *Liquid Chromatography-Mass Spectroscopy (LC-MS)*. Pada penelitian ini, 5 isolat fungi diperoleh dari deposit di UPT Laboratorium Terpadu dan Sentra Inovasi Teknologi, Universitas Lampung. Isolat tersebut diremajakan dengan TSB dan Malt Ekstrak dan teramati fungi telah homogen berwarna putih. Pengamatan morfologi fungi dilakukan dengan menggunakan perbesaran 400x. Kultivasi fungi menggunakan media beras dengan metode *Solid State Fermentation (SSF)* selama 7 hari dalam keadaan statik. Hasil kultivasi diekstraksi menggunakan EtOAc. Hasil ekstrak masing-masing isolat diuji Kromatografi Lapis Tipis dan teramati 2 isolat fungi (18A06RF dan 18B16RF) mengandung senyawa alkaloid. Berdasarkan hasil uji bioautografi didapatkan ekstrak aktif 18A06RF yang memiliki aktivitas sebagai antibakteri *P. aeruginosa*. Berdasarkan hasil analisis menggunakan LCMS teramati fraksi 18A06RF memiliki puncak dominan pada waktu retensi 16.52 dengan rumus formula molekul $C_{48}H_{88}N_{13}O_{11}$.

Kata Kunci: Fungi, Antibakteri, Metabolit Sekunder, Uji Bioautografi, Alkaloid, *Solid State Fermentation (SSF)*

ABSTRACT

CHARACTERIZATION OF SECONDARY METABOLITE COMPOUNDS FROM FUNGI ASSOCIATED WITH MARINE BIOTA USING LIQUID CHROMATOGRAPHY-MASS SPECTROSCOPY (LC-MS)

By

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The increase in cases of bacterial resistance to antibiotics cause serious problems in the world of health and humans. The aim of this study was to obtain secondary metabolites from fungi associated with sponges using Liquid Chromatography-Mass Spectroscopy (LC-MS). In this study, 5 fungal isolates were obtained from deposits at the UPT Integrated Laboratory and Technology Innovation Center, University of Lampung. The isolate was rejuvenated with TSB and Malt Extract and it was observed that the fungus had a white homogeneous color. Fungal morphology observations were carried out using a magnification of 400x. Cultivation of fungi was using rice as a medium with the Solid State Fermentation (SSF) method for 7 days in a static state. Cultivation results were extracted using EtOAc. The extract of each isolate was tested by Thin Layer Chromatography and it was observed that 2 fungi isolates (18A06RF and 18B16RF) contained alkaloid compounds. Based on the results of the bioautographic test, it was found that the active extract 18A06RF had activity as an antibacterial for *P. aeruginosa*. Based on the results of analysis using LCMS it was observed that the 18A06RF fraction had a dominant peak at a retention time of 16.52 with the molecular formula $C_{48}H_{88}N_{13}O_{11}$.

Keywords: Fungi, Antibacterial, Secondary Metabolites, Bioautographic Test, Alkaloids, Solid State Fermentation (SSF)