

**UJI TOKSISITAS DAN ANTIMALARIA FRAKSI ETIL ASETAT SPONS
Ancorina sp. ASAL ZONA INTERTIDAL PANTAI WEDIOMBO
YOGYAKARTA**

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INTISARI

Telah dilakukan penelitian tentang isolasi, uji toksisitas, uji antimalaria, dan identifikasi struktur dari fraksi etil asetat spons *Ancorina* sp. asal zona intertidal Pantai Wediombo. Isolasi dilakukan dengan metode ekstraksi menggunakan diklorometana:metanol (1:1 v/v) sebagai pelarut. Ekstrak diklorometana selanjutnya dilakukan partisi dalam pelarut etil asetat:air (2:1 v/v). Ekstrak etil asetat dipisahkan dengan kromatografi kolom. Uji toksisitas dilakukan dengan metode *Brine Shrimp Lethality Test* (BSLT) dan uji aktivitas antimalaria dilakukan dengan metode penghambatan polimerisasi hematin. Analisis senyawa dari fraksi aktif antimalaria dilakukan dengan *Liquid Chromatography-Mass Spectrometry* (LC-MS) untuk menentukan massa molekulnya.

Hasil ekstraksi diperoleh ekstrak kasar etil asetat berwarna ungu kecoklatan sebesar 0,765 g. Hasil pemisahan diperoleh 7 fraksi dan uji toksisitas fraksi menunjukkan nilai LC_{50} masing-masing sebesar 7,67; 18,18; 74,53; 3,22; 79,02; 2,97; dan 121,14 $\mu\text{g/mL}$. Hasil uji aktivitas antimalaria fraksi 1; 2; 4; 6; dan 7 menunjukkan nilai IC_{50} masing-masing sebesar 1,45; 2, 22; 4,49; 29,47; dan 5,77 mg/mL . Fraksi 1 dan 2 memiliki potensi tinggi sebagai agen antimalaria dengan nilai IC_{50} lebih rendah dari klorokuin (2,50 mg/mL).

Berdasarkan analisis LC-MS, mengindikasikan bahwa senyawa hasil isolasi dari fraksi 1 adalah spisiferol A, kondrosterin C, sinularsembranolid A, tsitsikamafuran, silindrisin D, (4-hidroksifenil)-propil-3¹-(3,4-dihidroksifenil)-propionat, asam 7-deoksi-7,14-didehidrosdonik, dan beberapa senyawa baru. Hasil analisis LC-MS fraksi 2 mengindikasikan adanya senyawa spisiferol A, (4-hidroksifenil)-propil-3¹-(3,4-dihidroksifenil)-propionat, meneloida C, silindrisin D, gefirotoksin, dan beberapa senyawa baru.

Kata kunci: *Ancorina* sp., antimalaria, *Brine Shrimp Lethality Test* (BSLT)

TOXICITY TEST AND ANTIMALARIA ASSAY OF ETHYL ACETATE FRACTIONS OF SPONS *Ancorina* sp. FROM INTERTIDAL ZONE OF THE WEDIOMBO BEACH YOGYAKARTA

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ABSTRACT

A research on isolation, toxicity test, antimalaria activity assay, and structure identification of ethyl asetat fractions of sponge *Ancorina* sp. from intertidal zone of the Wediombo Beach, Yogyakarta have been carried out. The isolation by using extraction with dichloromethane:methanol (1:1 v/v) as solvents. The dichloromethane extract was partitioned in ethyl acetate:water (2:1 v/v). The ethyl acetate extract was separated by using coloumn chromatography. Toxicity test was carried out by Brine Shrimp Lethality Test (BSLT) method while antimalaria activities assay was conducted by analyzing of inhibition of hematin polymerization. The active antimalaria fractions were analysed by Liquid Chromatography-Mass Spectrometry (LC-MS).

The ethyl acetate extract was obtained as brownish purple (0,765 g). Fractionated give 7 fractions and the toxicity test of fractions showed LC₅₀ approximately 77,67; 18,18; 74,53; 3,22; 79,02; 2,97; and 121,14 µg/mL. The antimalaria activity of fractions 1, 2, 4, 6, and 7 showed IC₅₀ 1,45; 2, 22; 4,49; 29,47; and 5,77 mg/mL. Fraction 1 and 2 have high potential as antimalaria agent with the IC₅₀ was lower than chloroquin (2,50 mg/mL).

LC-MS analysis indicated that the fraction 1 consist of spiciferol A, chondrosterin I, sinularcembranolide A, tsitsikamafuran, and cylindricine D, (4-hydroxyphenyl)-propyl-3¹-(3,4-dihydroxyphenyl)-propionate, 7-deoxy-7,14-didehydroxydonic acid, and several other novel compounds. Fraction 2 may consist of spiciferol A, (4-hydroxyphenyl)-propyl-3¹-(3,4-dihydroxyphenyl)-propionate, menelloid C, cylindricine D, gephyrotoxin, and several other novel compounds.

Key word: *Ancorina* sp., antimalaria, *Brine Shrimp Lethality Test* (BSLT)