

ABSTRACT

The aimed of this study is to determine the short-term effect of hexane-ethanol fraction from methanol water extract of *Macaranga tanarius* (L.) Müll. Arg. leaves (FHEMM) and to prove information about the relationship between the FHEMM doses to decreased alkaline phosphatase (ALP) level in female Wistar rats induced by carbon tetrachloride.

This study was pure experimental with completely randomized direct sampling design. This study used 30 female Wistar rats, aged about 2-3 months, and \pm 130-180 gram body weight. Rats were devided randomly into six group of 5 rats. Group I (control CMC) were given a dose of 0.057 mg/gBW orally (p.o.) and after six hour, blood were collected. Group II (control hepatotoxin) were given a dose of 2 mL/KgBW carbon tetrachloride – olive oil with ratio 1:1 intraperitoneally (i.p.) and after 24 hour, blood were collected. Group III (control dose of FHEMM) were given a dose of FHEMM 137.14 mg/KgBW once in p.o. and after 6 hour, blood were collected. Group IV, V, and VI (treatment group) sequentially were given FHEMM dose 34.28; 68.57; and 137.14 mg/KgBW once in six hours, then were given a dose of 2 mL/KgBW hepatotoxin in i.p.. Blood in treatment group were collected after 24 hour. Blood collected from the orbital sinus region and then measured ALP serum activities. The obtained data ALP serum activities were analyzed with statistical confidence level of 95%.

The result showed that short-term administration of FHEMM can reduced ALP serum activities in rats induced by carbon tetrachloride. However, there is no relationship between that doses to decrease the ALP serum activities.

Keywords: hexane-ethanol fraction, methanol-water extract, *Macaranga tanarius* (L.) Müll. Arg., short-term, carbon tetrachloride, *Alkaline Phosphatase* (ALP)

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian jangka pendek fraksi heksan-etanol dari ekstrak metanol-air daun *Macaranga tanarius* (L.) Müll. Arg. (FHEMM) serta ada tidaknya kekerabatan antar dosis pemberian FHEMM terhadap penurunan aktivitas *alkaline phosphatase* (ALP) pada tikus betina Wistar terinduksi karbon tetraklorida.

Penelitian ini menggunakan tikus betina Wistar, umur 2-3 bulan, berat badan 130-180 gram. Tikus dibagi secara acak ke dalam 6 kelompok, masing-masing kelompok 5 tikus. Kelompok I (kontrol CMC) diberikan CMC dosis 0,057 mg/KgBB peroral (p.o.) darah diambil pada jam ke 6. Kelompok II (kontrol hepatotoksin) diberikan karbon tetraklorida – *olive oil* dengan perbandingan 1:1 dosis 2 mL/kgBB secara intraperitoneal (i.p.) darah diambil pada jam ke 24. Kelompok III (kontrol dosis FHEMM) diberi FHEMM dosis 137,14 mg/kgBB satu kali secara p.o., darah diambil pada jam ke 6. Kelompok IV, V, dan VI (kelompok perlakuan) berurutan diberikan FHEMM dosis 34,28 mg/kgBB; 68,57 mg/kgBB; 137,14 mg/kgBB satu kali selama enam jam, kemudian diberikan karbon tetraklorida – *olive oil* dosis 2 mL/KgBB secara i.p.. Pencuplikan darah seluruh kelompok perlakuan dilakukan melalui sinus orbitalis. Pencuplikan darah kelompok IV-VI perlakuan FHEMM yaitu 24 jamsetelah perlakuan. Data aktivitas ALP kemudian diuji statistika dengan taraf kepercayaan 95%.

Hasil penelitian menunjukkan bahwa pemberian jangka pendek FHEMM dapat menurunkan aktivitas ALP pada tikus terinduksi karbon tetraklorida. Namun, tidak terdapat kekerabatan antar dosis pemberian terhadap penurunan aktivitas ALP.

Kata kunci: fraksi heksan-etanol, ekstrak metanol, *Macaranga tanarius* (L.) Müll. Arg., jangka pendek, karbon tetraklorida, *Alkaline Phosphatase* (ALP)