

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh pemberian jangka panjang fraksi heksan-etanol ekstrak metanol-air daun *Macaranga tanarius* L. (FHEMM) pada tikus betina galur Wistar yang terinduksi karbon tetraklorida berdasarkan penurunan aktivitas laktat dehidrogenase (LDH) serta untuk mengetahui kekerabatan antar dosis pemberian FHEMM terhadap penurunan aktivitas LDH pada tikus betina galur Wistar yang terinduksi karbon tetraklorida.

Penelitian ini bersifat eksperimental murni dengan rancangan acak lengkap pola searah. Hewan uji yang digunakan adalah tikus putih betina galur Wistar umur 2-3 bulan dengan berat 130-180 gram. Tiga puluh ekor tikus dibagi acak dalam 6 kelompok perlakuan. Kelompok I merupakan kontrol negatif CMC-Na 1% yang diberikan selama 6 hari berturut-turut. Kelompok II merupakan kontrol hepatotoksin karbon tetraklorida 2 ml/kgBB. Kelompok III diberikan FHEMM dosis tertinggi tanpa induksi karbon tetraklorida selama 6 hari berturut-turut. Kelompok IV-VI merupakan perlakuan FHEMM dengan 3 peringkat dosis (34,28; 68,57; dan 137,14 mg/kgBB) yang diberikan selama 6 hari berturut-turut pada hari ke-7 diberikan karbon tetraklorida. Pengambilan darah dilakukan pada jam ke-24 untuk pengukuran kadar LDH. Kadar LDH dianalisis dengan metode *Shapiro-Wilk* dan diperoleh distribusi data tiap kelompok normal maka dilanjutkan dengan analisis pola searah (*One Way Anova*) dengan taraf kepercayaan 95%. Uji *Scheffe* dilakukan untuk melihat perbedaan antar kelompok bermakna (signifikan) ($p<0,05$) atau tidak bermakna (tidak signifikan) ($p>0,05$).

Hasil penelitian menunjukkan bahwa FHEMM terbukti berpengaruh dalam menurunkan aktivitas serum LDH tikus betina galur Wistar yang terinduksi karbon tetraklorida 2 ml/kgBB. Tidak terdapat kekerabatan antar dosis FHEMM dengan aktivitas serum LDH yang muncul, yang terlihat dari semakin besar dosis praperlakuan FHEMM, kadar LDH relatif sama.

Kata kunci: *Macaranga tanarius* L., fraksi ekstrak metanol, karbon tetraklorida, laktat dehidrogenase.

Abstract

The purposes of this research were to find out the long-term effect of hexane-ethanol fraction, derived from methanol-water extract *Macaranga tanarius* L. leaves (FHEMM), toward Wistar female rats that were induced by carbon tetrachloride based on the decreased lactate dehydrogenase (LDH) activity; and to perceive the correlation of FHEMM doses toward the decreased in LDH activity on Wistar female rats induced by carbon tetrachloride.

This research was done in a pure experimental method by using completely randomized design in one direction. Animal tested for this research was Wistar female rats at the age of 2 to 3 months and with a weight of 130-180 grams. Thirty rats were divided randomly into 6 groups. The first group was the negative control of 1% CMC-Na which was given for 6 days in a row. The second group was the control of 2 ml/kgBW carbon tetrachloride as a hepatotoxin. The third group was given the highest dose of FHEMM without being induced by carbon tetrachloride for six days in a row. The fourth to sixth group were provided with FHEMM with three rankings of dose (34.28; 68.57; and 137.14 mg/kgBW) for six days in a row, and on the 7th day carbon tetrachloride was granted. The blood sampling was accomplished on the 24th hour to carry out the measurement of LDH level. LDH level was analyzed by referring to *Shapiro-Wilk*, and since the data distribution of each group was normal, *One Way Anova* design with 95% confidence interval continued. *Scheffe* test was performed to witness the difference between significant groups ($p<0.05$) and insignificant groups ($p>0.05$)

The result showed that the FHEMM had an effect in lowering the serum LDH activity of Wistar female rats induced by 2 ml/kgBW carbon tetrachloride. There's no correlation found between FHEMM doses and the emergence of serum LDH activity, which was seen from the more the dose of FHEMM pre-treatment given, the more LDH levels looked relatively the same.

Keywords: *Macaranga tanarius* L., fraction, methanol extract, carbon tetrachloride, lactate dehydrogenase