

## ABSTRACT

The aim of this study was to prove the possible protective effect of acute *Persea americana* Mill. aqueous seeds extract on carbon tetrachloride-induced nephrotoxicity in male Wistar rats based on the creatinine levels and histological kidney figures.

A total of 30 male Wistar rats, age 2-3 months were randomly divided into equal six groups: I. Nephrotoxin control group: rats were treated with  $\text{CCl}_4$  at a dose 2 mL/kg BW i.p.; II *Olive oil* control group: rats were treated with *olive oil* at a dose 2 mL/kg BW i.p.; III. *Persea americana* Mill. aqueous seeds extract control group: rats were treated *Persea americana* Mill. aqueous seeds extract at a dose 360.71 mg/kg BW orally, and IV, V, VI treatment groups were treated with *Persea americana* Mill. aqueous seeds extract dose 360.71 mg/kg BW orally consecutively for 1, 4, and 6 hours orally, then given by carbon tetrachloride at a dose 2 mL/kg BW i.p. At 48 hours after administration of carbon tetrachloride, blood samples were collected and used for determination of creatinine serum levels, then the rats were sacrificed and the kidney tissues were stained with hematoxylin-eosin for histological kidney figure. The data of creatinine serum levels were analyzed by one way ANOVA and then continued to Scheffe test with 95% level of confidence or T-paired test for two paired groups.

The result of this study showed that acute *Persea americana* Mill. aqueous seeds extract dose 360.71 mg/kg BW had protective effect to reduce serum creatinine levels and histological kidney figures in male Wistar rats that induced by carbon tetrachloride. The most effective time was at 1 hours treated with *Persea americana* Mill. aqueous seeds extract dose 360.71 mg/kg BW

**Key words :** *Persea americana* Mill., aqueous extract, acute, creatinine, carbon tetrachloride

## INTISARI

Tujuan penelitian ini untuk membuktikan pengaruh waktu protektif pemberian infusa biji *Persea americana* Mill. secara akut terhadap kadar kreatinin dan gambaran histologis ginjal tikus Wistar jantan terinduksi karbon tetraklorida.

Sebanyak 30 tikus jantan galur Wistar umur 2-3 bulan, dibagi secara acak dalam enam kelompok: I. Kelompok kontrol nefrotoksin: tikus diberi  $\text{CCl}_4$  dosis 2 mL/kg BB secara i.p.; II. Kelompok kontrol *olive oil*: tikus diberi *olive oil* dosis 2 mL/kg BB secara i.p.; III. Kelompok kontrol infusa biji *Persea americana* Mill.: tikus diberi infusa biji *Persea americana* Mill. dosis 360,71 mg/kg BB secara p.o dan IV, V, VI. Kelompok perlakuan yang diberi infusa biji *Persea americana* Mill. 360,71 mg/kg BB secara p.o berturut-turut pada jam ke 1, 4, dan 6, kemudian diberi karbon tetraklorida dosis 2 mL/kgBB secara i.p. Pada jam ke-48 setelah pemberian karbon tetraklorida diambil darah untuk pengukuran kadar kreatinin serum kemudian tikus dikorbankan dan jaringan ginjalnya dicat dengan *hematoxylin-eosin* guna pengamatan histologis. Data kadar kreatinin serum yang diperoleh dianalisis dengan menggunakan one way ANOVA dan dilanjutkan uji Scheffe dengan tingkat kepercayaan 95% atau uji T berpasangan untuk dua kelompok berpasangan.

Hasil penelitian ini menunjukkan bahwa pemberian infusa biji *Persea americana* Mill. dosis 360,71 mg/kgBB secara akut memiliki pengaruh terhadap penurunan kadar kreatinin serum dan gambaran histologis ginjal tikus jantan terinduksi karbon tetraklorida. Waktu efektif untuk menghasilkan penurunan kadar kreatinin tikus dan gambaran histologis ginjal adalah 1 jam setelah pemberian infusa biji *Persea americana* Mill. dosis 360,71 mg/kgBB.

**Kata kunci :** *Persea americana* Mill., infusa, akut, kreatinin, karbon tetraklorida