

## INTISARI

Telah dilakukan penelitian uji efek hepatoprotektif infusa simplisia daging buah makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) pada mencit jantan terinduksi parasetamol. Tujuan dilakukannya penelitian ini adalah untuk mengetahui kebenaran informasi dan besarnya efek hepatoprotektif infus simplisia daging buah makuto dewo.

Penelitian ini merupakan penelitian eksperimental murni yang dikerjakan mengikuti rancangan acak lengkap pola searah. Sejumlah 35 ekor mencit jantan dibagi menjadi 7 kelompok (N=5). Kelompok I, sebagai kontrol positif diberi suspensi parasetamol dalam CMC 1% dosis 0,225 g/kgBB (p.o). Kelompok II, sebagai kontrol negatif diberi air suling dosis 20,22 g/kgBB (p.o) sekali sehari selama 6 hari. Kelompok III, sebagai kontrol negatif diberi infusa simplisia daging buah makuto dewo dosis 3,9312 g/kgBB (p.o) sekali sehari selama 6 hari. Kelompok IV-VII merupakan kelompok perlakuan, berturut-turut diberi infusa simplisia daging buah makuto dewo dosis 0,3451; 0,7765; 1,7472; dan 3,9312 g/kgBB (p.o) sekali sehari selama 6 hari dan pada hari ke-7 diberi suspensi parasetamol dosis 0,225 g/kgBB (p.o). Kemudian kelompok I-VII diambil darahnya pada rentang waktu 48 jam pada daerah sinus orbitalis mata untuk penetapan aktivitas GPT-serum dengan metode kinetik GPT-ALAT. Sesaat kemudian mencit dikorbankan untuk diambil hatinya dan dimasukkan ke dalam formalin 10% untuk dibuat preparat histopatologi, kemudian diberi skor berdasarkan derajat kerusakannya. Data aktivitas GPT-serum dan berat hati relatif mencit diolah dengan uji statistik analisis ANOVA-one way dilanjutkan dengan uji Scheefe dengan taraf kepercayaan 95%. Selanjutnya dihitung kisaran dosis efektif tengah ( $ED_{50}$ ) hepatoprotektifnya dengan analisis probit (McGilliard, 1985). Data skoring histopatologi dianalisis dengan uji non parametrik Kruskal Wallis dan dilanjutkan dengan uji Mann Whitney dengan taraf kepercayaan 95%. Data berat badan mencit pada tiap-tiap kelompok selama perlakuan diolah berdasarkan analisis *split-plot*.

Hasil penelitian menunjukkan bahwa infusa simplisia daging buah makuto dewo dosis 0,3451; 0,7765; 1,7472; 3,9312 g/kgBB yang diberikan secara oral sekali sehari selama 6 hari mampu menurunkan secara bermakna ( $p < 0,05$ ) aktivitas GPT-serum berturut-turut sebesar 28,01%; 44,56%; 69,19%; dan 93,91% terhadap kontrol parasetamol. Hasil analisis skoring menunjukkan kelompok II dan VII; serta III dan VII secara histopatologi berbeda tidak bermakna ( $p > 0,05$ ), sedangkan kelompok IV-VII secara histopatologi menunjukkan perbedaan yang bermakna ( $p < 0,05$ ) terhadap kontrol parasetamol. Hasil analisis berat badan mencit dan berat hati relatif mencit antar kelompok perlakuan secara umum menunjukkan perbedaan tidak bermakna ( $p > 0,05$ ). Nilai pendekatan dosis efektif tengah ( $ED_{50}$ ) (95% *confidence interval*) hepatoprotektif infusa simplisia daging buah makuto dewo adalah sebesar 808,928 (671,794-955,735) mg/kgBB mencit.

## ABSTRACT

An experimental study on the hepatoprotective effect of infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh had been conducted on male mice induced by acetaminophen. The experiment was intended to obtain factual information and the range of hepatoprotective effective dose of infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh on male mice induced by acetaminophen.

A pure experimental study was done following the direct sampling design and was analyzed by one-way variant. Thirty five male mice were divided into seven groups with the same number. The injection was done orally once a day. The first group (positive control group) was given acetaminophen suspension in CMC 1% with the dose of 0.225 g/kgBW. The second group (negative control group) was given aquadest with the dose of 20.22 g/kgBW for 6 days respectively. The third group was given infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh with the dose of 3.9312 g/kgBW for 6 days respectively. The fourth to seventh groups were treatment groups, which were given infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh with the doses of 0.3451; 0.7765; 1.7472; and 3.9312 g/kgBW respectively for 6 days. Then, on the seventh day, they were given acetaminophen suspension in CMC 1% with the dose of 0.225 g/kgBW. At 48 hours after the last orally injection, all mice's blood was sampled at the eyes sinus orbitalis to determine the activity level of their SGPT level by a kinetic method of GPT-ALAT. The mice were sacrificed and their livers were taken to be made histological blood smear, then they were scored based on their stage of hepatic destruction

SGPT activity data and relative liver weight data were analyzed based on Kolmogorov Smirnov tests to know data distribution. If data distribution was normal, analysis continued by one-way variant analysis at 95 % significance level, and by Scheffe test. Liver histopathology scoring data were analyzed using Kruskal Wallis and Mann Whitney non-parametric statistical test. Body weight data of negative control group dan treatment group were analyzed by split-plot analysis and continued by Scheffe test. Hepatoprotective percent effect data were analyzed by probit analysis to determine median effective dose (ED<sub>50</sub>) range.

The result of study showed that the infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh with the doses of respectively 0.3451; 0.7765; 1.7472; and 3.9312 g/kgBW which were given orally once a day for six days could decrease SGPT activity level to respectively 28.01 %; 44.56 %; 69.19 %; and 93.91 % towards the positive control group. The decline was statistically significant ( $p < 0.05$ ). Whereas, scoring analysis result demonstrated that group II and III; II and VII; III and VII histopathology insignificantly difference ( $p > 0.05$ ), but group IV-VII histopathology showed significantly difference ( $p < 0.05$ ) toward the positive control group. The body weight analysis result showed insignificantly difference ( $p > 0.05$ ) towards the negative control group. The relative liver weight of mice analysis result showed insignificantly difference ( $p > 0.05$ ) towards the positive control group. The hepatoprotective

median effective dose (ED<sub>50</sub>) of infusa of makuto dewo (*Phaleria macrocarpa* (Scheff.) Boerl.) dried fruit flesh is 808.928 (671.794 – 955.735) mg/kgBW mice