ABSTRAK

Kulit batang Faloak (*Sterculia quadrifida* R.Br, Malvaceae) telah digunakan secara empiris untuk pengobatan oleh masyarakat di pulau Timor, NTT, diantaranya untuk mengatasi gangguan hepar. Penelitian ini bertujuan untuk melakukan karakterisasi ekstrak etanol kulit batang Faloak, mengetahui aktivitas hepatoprotektornya pada tikus galur Wistar, serta potensi ketoksikan akutnya.

Kulit batang Faloak diperoleh dari Kupang, NTT dan diidentifikasi di Departemen Biologi Farmasi UGM. Serbuk keringnya diekstraksi dengan metode maserasi menggunakan pelarut etanol 95%. Ekstrak kental hasil penguapan maserat, dilakukan karakterisasi berupa susut pengeringan, penetapan kadar fenolik (ekuivalen asam galat, EAG), flavonoid total (ekuivalen naringin, EN) menggunakan metode spektrofotometri UV-Vis dan penentuan kadar skopoletin menggunakan metode densitometri. Ekstrak kental diuji aktivitas hepatoprotektor secara *in vivo.* Sebanyak 30 ekor tikus jantan galur Wistar (usia 6-8 minggu, 180–250 g) dibagi menjadi enam kelompok perlakuan, yaitu kelompok I (kontrol normal), kelompok II (kontrol positif, sylimarin 117 mg/kg BB), kelompok III (kontrol negatif) dan kelompok IV, V dan VI dengan dosis ekstrak 500, 1000, dan 2000 mg/kg BB. Setelah perlakuan selama 7 hari, semua kelompok (kecuali kelompok I) diberi parasetamol dosis 2,5 g/kgBB pada hari kedelapan. Sampel darah diambil pada hari kesembilan untuk melihat parameter fungsi hepar yaitu *Serum Glutamic Pyruvic Transaminase* (SGPT), *Serum Glutamic Oxaloacetic Transaminase* (SGOT) dan *Alkaline Phosphatase* (ALP). Data yang diperoleh dianalisis dengan uji *Kruskal-Wallis* yang dilanjutkan dengan uji *Mann-Whitney* dengan taraf kepercayaan 95%. Tikus dikorbankan pada hari kesembilan dan hepar dilakukan pengamatan histopatologi. Pengujian toksisitas akut dilakukan dengan mengacu metode OECD 420 (*Fixed Dose Procedure*). Dua kelompok tikus yaitu kelompok normal (CMC-Na) dan kelompok perlakuan (ekstrak 2000 mg/kgBB) diamati tanda-tanda toksisitas dan berat badannya selama 14 hari, selanjutnya dikorbankan dan diambil organ vital untuk pengamatan histologi.

Rendemen ekstrak yang diperoleh adalah 3,45%, susut pengeringan sebesar 15,82±0,87% b/b, kadar fenolik total sebesar 17,69±2,01% EAG, kadar flavonoid total sebesar 8,56±0,02% EN dan kadar skopoletin sebesar 0,006± 0,003%. Ekstrak etanol Faloak dosis 2000 mg/kgBB dapat menurunkan nilai SGPT sebesar 26% dan ALP sebesar 3% dibandingkan dengan parasetamol tidak berbeda bermakna ($p<0,05$). Hasil pengujian toksisitas akut menunjukkan tidak adanya gejala toksisitas dan kematian yang terjadi pada dosis 2000 mg/kgBB.

Kata Kunci : *Sterculia quadrifida,* hepatoprotektor, toksisitas akut, induksi paracetamol

ABSTRACT

The bark of Faloak (Sterculia quadrifida R.Br, Malvaceae) has been used empirically for treatment by people on the island of Timor, NTT, including for treating liver disorders. This study aims to characterize the ethanol extract of Faloak bark, determine hepatoprotective activity in Wistar rats, and determine the potential of acute toxicity.

Faloak bark was obtained from Kupang, NTT, and identified at the UGM Department of Pharmaceutical Biology. The dry powder was extracted by maceration method using 95% ethanol solvent. The viscous extract of macerate evaporation was characterized in the form of drying losses, determination of phenolic content (gallic acid equivalent, GAE), total flavonoids (naringin equivalent, NE) using the UV-Vis spectrophotometric method, and scopoletin content determination using the densitometry method. The viscous extract was tested for hepatoprotective activity in vivo. A total of 30 male Wistar rats (6-8 weeks of age, 180-250 g) were divided into six treatment groups, namely group I (normal control), group II (positive control, silymarin 117 mg/kg BW), group III (negative control) and groups IV, V and VI with extract doses of 500, 1000, and 2000 mg/kg BW. After 7 days of treatment, all groups (except group I) were given a paracetamol dose of 2.5 g/kgBW on the eighth day. Blood samples were taken on the ninth day to see the hepatic function parameters, namely *Serum Glutamic Pyruvic Transaminase* (SGPT), *Serum Glutamic Oxaloacetic Transaminase* (SGOT), and *Alkaline Phosphatase* (ALP). The data obtained were analyzed using the *Kruskal-Wallis* test, followed by the *Mann-Whitney* test with a confidence level of 95%. The rats were sacrificed on the ninth day, and the liver was observed histopathologically. Acute toxicity testing is carried out by referring to the OECD 420 (*Fixed Dose Procedure*) method. Two groups of mice, namely the normal group (CMC-Na) and the treatment group (2000 mg / kgBW extract), were observed for signs of toxicity and body weight for 14 days, then sacrificed and taken vital organs for histological observation.

The yield of the extract obtained was 3.45%, the drying loss was 15,82±0,87% w/w, the total phenolic content was 17,69±2,01% GAE, the total flavonoid content was 8,56±0,02% NE, and scopoletin content was 0,006 ± 0,003%. Faloak ethanol extract at a dose of 2000 mg / kgBW can reduce the SGPT value by 26% and ALP by 3% compared to paracetamol that did not differ significantly ($p<0.05$). The acute toxicity test results showed no toxicity symptoms and death that following the dose of 2000 mg/kgBW.

Keyword : *Sterculia quadrifida,* hepatoprotectors, acute toxicity, paracetamol induction.