

UJI TOKSISITAS SUBKRONIK EKSTRAK ETANOL KULIT BATANG KAYU MANIS (*Cinnamomum burmannii*) PADA MENCIT (*Mus musculus*) STRAIN BALB/C

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ABSTRAK

Latar Belakang: Kulit batang kayu manis efektif sebagai antidiabetik, hepatoprotektor, dan antidislipidemia pada dosis tertentu. Penggunaan dosis dan jangka waktu tidak tepat dapat menimbulkan efek negatif. Data keamanan ekstrak etanol kulit batang kayu manis belum diketahui, sehingga dilakukan uji toksisitas subkronik untuk mengetahui dosis yang tidak menimbulkan ketoksikan dan mendeteksi efek setelah pemberian berulang.

Tujuan: Mengetahui adanya efek toksik (diare), faktor biokimia klinis (SGPT dan kreatinin), serta gambaran histopatologi organ hati mencit setelah pemberian ekstrak etanol kulit batang kayu manis.

Metode: Penelitian eksperimental dengan 50 mencit yang dibagi 5 kelompok (normal, kontrol negatif, perlakuan dosis 100, 300, dan 500 mg/kgBB). Uji dilaksanakan 28 hari dengan pemberian peroral untuk pengamatan diare, SGPT dan kreatinin dari serum darah, serta histopatologi organ hati.

Hasil: Terdapat peningkatan frekuensi defekasi dan bobot feses dibandingkan kelompok normal, namun konsistensi feses padat. Tidak terdapat peningkatan kadar SGPT maupun kreatinin yang mengindikasikan ketoksikan. Histopatologi hati menunjukkan degenerasi hidropik pada dosis ≥ 300 mg/kgBB sebagai respon awal cedera sel.

Kesimpulan: Ekstrak etanol kulit batang kayu manis menunjukkan ketoksikan lokal berupa diare, namun tidak toksik secara sistemik. Terdeteksi respon awal ketoksikan di organ hati pada dosis ≥ 300 mg/kgBB yang bersifat reversibel.

Kata kunci: *Cinnamomum burmannii*, toksisitas subkronik, diare, SGPT, kreatinin, histopatologi

SUBCHRONIC TOXICITY TEST OF ETHANOL EXTRACT OF CINNAMON BARK (Cinnamomum burmannii) IN MICE (Mus musculus) STRAIN BALB/C

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ABSTRACT

Background: Cinnamon bark is effective as an antidiabetic, hepatoprotector and antidyslipidemic at certain doses. Using the wrong dose and time period can cause negative effects. Data on the safety of ethanol extract of cinnamon bark is not yet known, so a subchronic toxicity test was carried out to determine the dose that does not cause toxicity and to detect effects after repeated administration.

Research objectives: Determine the presence of toxic effects (diarrhea), clinical biochemical factors (SGPT and creatinine), as well as the histopathological picture of the liver of mice after administration of ethanol extract of cinnamon bark.

Methods: Experimental research using 50 mice divided into 5 groups (normal, negative control, treatment doses of 100, 300, and 500 mg/kgBW). The test was carried out for 28 days with oral administration to observe diarrhea, SGPT and creatinine from blood serum, as well as liver histopathology.

Results: There was an increase in defecation frequency and stool weight compared to the normal group, but the stool consistency was dense. There was no increase in SGPT or creatinine levels indicating toxicity. Liver histopathology showed hydropic degeneration at doses ≥ 300 mg/kgBW as an initial response to cell injury.

Conclusion: Cinnamon bark ethanol extract showed local toxicity in the form of diarrhea, but was not systemically toxic. An initial toxic response was detected in the liver at a dose of ≥ 300 mg/kgBW which was reversible.

Keywords: *Cinnamomum burmannii, subchronic toxicity, diarrhea, SGPT, creatinine, histopathology*