ABSTRACT

EFFECT OF ETHANOL 95% *Rhizophora apiculata* BARK EXTRACT ON ALT AND AST LEVELS IN Sprague Dawley WHITE RATS (*Rattus norvegicus*) INDUCED BY PARACETAMOL

By

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Background: *Rhizophora apiculata* contains natural antioxidants that are influential in preventing liver damage. This study aims to determine the effect of giving 95% ethanol extract of Rhizophora apiculata stem bark to male white rats induced by paracetamol**.**
Method: Experimental study using a post test control only group design on 30 rats. There were 6 groups, all groups were induced by paracetamol at a dose of 500 mg/kgBW/day for 15 days except KN gorup was only given standard feed, then the K- group was only given paracetamol, the K+ group was given curcumin extract dose of 500 mg/kgBW/day, and groups P1, P2, P3 were each given extract of *Rhizopora apiculata* at doses of 14, 28 and 56 mg/kgBW/day respectively. The rats were terminated, blood was collected via intracardiac. Data were analyzed using the normality test followed by comparative hypothesis testing and follow-up testing.
Result: The mean ALT levels in the KN group (86.6 U/L), K+ (78 U/L), K- (114.4), P1 (92.8 U/L), P2 (82) .2 U/L), and P3 (76.2 U/L). The mean AST levels in the KN group (190.4 U/L), K+ (194 U/L), K- (262.8 U/L), P1 (201.8 U/L), P2 (178.8 U/L), and P3 (151.6 U/L). The mean ALT and AST levels in the treatment group were significantly different from the K- gorup with a $p<0.05$
Conclusion: Giving 95% ethanol extract of *Rhizopora apiculata* stem bark at doses of 14, 28, and 56 mg/kg/day for 15 days could prevent liver damage to male white rats induced by parastamol at a dose of 500 mg/kg/day. At a dose of 56 mg/kgBW/day the effect was better than at a dose of 14.28 mg/kgBW/day and curcumin extract at a dose of 500 mg/kgBW/day.

Keyword: ALT (*Alanin Aminotransferase*), AST (*Aspartat Aminotransferase*), and *Rhizopora apiculata*

ABSTRAK

PENGARUH PEMBERIAN EKSTRAK ETANOL 95% KULIT BATANG *Rhizophora Apiculata* TERHADAP KADAR PLASMA ENZIM *Alanin Aminotransferase* (ALT) dan *Aspartat Aminotransferase* (AST) TIKUS PUTIH JANTAN (*Rattus norvegicus*) GALUR *Sprague Dawley* YANG DIINDUKSI PARASETAMOL

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Latar Belakang: *Rhizophora Apiculata* mengandung antioksidan alami yang berpengaruh dalam pencegahan kerusakan hati. Penelitian ini bertujuan untuk mengetahui efek pemberian ekstrak etanol 95% kulit batang *Rhizopora apiculata* pada tikus putih jantan yang diinduksi parasetamol.
Metode: Penelitian eksperimental dengan menggunakan *posttest control only group design* pada 30 tikus. Ada 6 kelompok, semua kelompok diinduksi parasetamol dosis 500 mg/kgBB/hari selama 15 hari kecuali kelompok KN hanya diberikan pakan standar, kelompok K- hanya diberikan parasetamol saja, kelompok K+ diberikan ekstrak kurkuma dosis 500 mg/kgBB/hari, dan kelompok P1, P2, P3 masing masing diberikan ekstrak *Rhizopora apiculata* dengan masing-masing dosis 14, 28, dan 56 mg/kgBB/Hari. Tikus diterminasi, pengambilan darah melalui intracardiac. Data dianalisis menggunakan uji normalitas dilanjutkan uji hipotesis komparatif dan uji lanjutan.
Hasil: Rerata kadar ALT pada KN (86,6 U/L), K+ (78 U/L), K- (114,4), P1 (92,8 U/L), P2 (82,2 U/L), dan P3 (76,2 U/L). Rerata kadar AST pada KN (190,4 U/L), K+ (194 U/L), K- (262,8 U/L), P1 (201,8 U/L), P2 (178,8 U/L), dan P3 (151,6 U/L). Rerata kadar ALT dan AST pada kelompok perlakuan memiliki nilai $p<0,05$ dengan K-
Simpulan: Pemberian ekstrak etanol 95% kulit batang *Rhizopora apiculata* dosis 14, 28, dan 56 mg/kgBB/hari selama 15 hari dapat mencegah kerusakan hati tikus putih jantan yang diinduksi oleh parastamol dosis 500 mg/kgBB/hari. Pada dosis 56 mg/kgBB/hari lebih baik efeknya dibandingkan dosis 14, 28 mg/kgBB/hari dan ekstrak kurkuma dosis 500 mg/kgBB/hari.

Kata Kunci : ALT (*Alanin Aminotransferase*), AST (*Aspartat Aminotransferase*), dan *Rhizopora apiculata*