

INTISARI

FANANY, NF., 2016, EFEK ANTIHIPERGLIKEMI EKSTRAK ETANOL BIJI MAHONI (*Swietenia macrophylla* King.) DAN EFEKNYA TERHADAP EKSPRESI GLUT2 PADA TIKUS DIINDUKSI STREPTOZOTOSIN-NIKOTINAMID

Biji mahoni bermanfaat untuk pengobatan DM. Penelitian ini bertujuan mengetahui efek antihiperqlikemi, peningkatan ekspresi GLUT2 di pankreas, dan penurunan ekspresi GLUT2 di hati dari ekstrak etanol biji mahoni pada tikus induksi STZ-NA.

Penelitian ini dibagi 5 kelompok, @ 5 ekor tikus. Kelompok 1 kontrol normal, 2 kontrol negatif (STZ-NA), 3 kontrol positif (STZ-NA-Glibenklamid 0,5 mg/kg bb), kelompok 4 dan 5 (STZ-NA-ekstrak etanol biji mahoni 100 mg/kg bb dan 200 mg/kg bb). Perlakuan diberikan secara oral selama 14 hari. Parameter yang diukur kadar glukosa darah, ekspresi GLUT2 di pankreas dan di hati. Data kadar glukosa dianalisis dengan uji statistik Anova 1 jalan, signifikansi (p) < 0,05 dilanjutkan Tukey HSD.

Hasil penelitian menunjukkan kelompok uji ekstrak etanol biji mahoni dapat menurunkan kadar glukosa tikus yang diinduksi STZ + NA secara signifikan dibanding kontrol negatif. Kelompok ekstrak etanol biji mahoni 200 mg/kg bb menunjukkan ekspresi GLUT2 di pankreas lebih tinggi dibanding ekstrak 100 mg/kg bb dan kontrol negatif. Kelompok ekstrak etanol biji mahoni 200 mg/kg bb menunjukkan ekspresi GLUT2 di hati lebih rendah dibanding ekstrak 100 mg/kg bb dan kontrol negatif.

Kata kunci: *Swietenia macrophylla*, King, antihiperqlikemi, ekspresi GLUT2 pankreas dan hati, STZ-NA.

ABSTRACT

FANANY, NF., 2016 ANTIHYPERGLYCEMIC EFFECTS OF MAHOGANY SEEDS ETHANOL EXTRACT (*Swietenia macrophylla* King.) AND ITS EFFECT ON GLUT2 EXPRESSION IN STREPTOZOTOCIN-NICOTINAMIDE INDUCED RATS

Mahogany seed is useful for the treatment of diabetes. This study aims to determine effect of antihyperglycemic, increased expression of GLUT2 in pancreas, and decreased expression of GLUT2 in liver of the mahogany seeds ethanol extract in Streptozotocin-Nicotinamida (STZ-NA) induced rats.

This study was divided 5 groups, @ consisting of 5 rats. Group 1 was normal control, 2 was negative control (STZ-NA), 3 was positive control (STZ-NA-Glibenklamid 0,5 mg/kg bw), group 4 and 5 were administered with STZ-NA-ethanol extract mahogany seeds 100 mg/kg bw and 200 mg/kg bw. Treatments were administered orally for 14 days. Measured parameters were glucose levels, GLUT2 expression in pancreas and liver. Glucose level data were analyzed with 1-Way Anova statistical test, significance (p) <0.05 followed by Tukey HSD.

The results showed that group administered with ethanol extract mahogany seeds can lower glucose levels significantly compared to the negative control. Ethanol extract mahogany seeds group 200 mg/kg bw exhibit higher expression of GLUT2 in pancreas than extract group 100 mg/kg bw and negative control. Ethanol extract mahogany seeds 200 mg/kg bw exhibit lower expression of GLUT2 in liver than the dosage of 100 mg/kg bw and negative control.

Keywords: *Swietenia macrophylla* King, antihyperglycemic, pancreas and liver GLUT2 expression, STZ-NA.