

INTISARI

Penelitian ini dilakukan untuk membuktikan adanya efek hipoglikemik ekstrak etanol buah daruju (*Acanthus ilicifolius* L.) pada tikus jantan terbebani glukosa.

Penelitian efek hipoglikemik ekstrak etanol buah daruju termasuk jenis penelitian eksperimental murni dengan rancangan acak lengkap pola searah. Dua puluh lima ekor tikus putih jantan, dibagi menjadi 5 kelompok secara acak yang masing-masing terdiri atas 5 ekor. Kelompok I sebagai kontrol negatif, diberi suspensi CMC 1%. Kelompok II sebagai kontrol positif, diberi suspensi tolbutamid 0,5%; 45 mg/kg BB. Kelompok III, IV, V sebagai kelompok perlakuan, diberi ekstrak etanol buah daruju dengan peringkat dosis masing-masing 0,032 g/kg BB; 0,162 g/kg BB; dan 0,810 g/kg BB. Semua pemberian dilakukan secara oral.

Efek hipoglikemik ekstrak etanol buah daruju diuji menggunakan metode Uji Toleransi Glukosa Oral (UTGO) dengan menetapkan kadar glukosa darah tikus pada menit ke-0, 15 menit sebelum UTGO dan menit ke-15, 30, 60, 90, 120, 180, 240, 300 setelah UTGO pada masing-masing kelompok. Data kadar glukosa darah dianalisis secara statistik menggunakan metode split-plot, dilanjutkan dengan uji Tukey. Luas daerah di bawah kurva ($LDDK^{0-300}$) dianalisis menggunakan analisis varian satu arah dengan taraf kepercayaan 95% yang dilanjutkan dengan uji Tukey untuk mengetahui perbedaan pengaruh dosis pada masing-masing kelompok.

Berdasarkan hasil analisis data diperoleh penurunan rata-rata $LDDK^{0-300}$ glukosa darah sebesar 22,44%; 26,84%; 29,86% pada masing-masing kelompok perlakuan dosis 0,032 g/kg BB; 0,161 g/kg BB; dan 0,810 g/kg BB terhadap kontrol negatif. Ekstrak etanol buah daruju ekuivalen dengan tolbutamid sebesar 82,82%; 72,44%; 65,31%. Secara statistik penurunan $LDDK^{0-300}$ ketiga perlakuan dosis terhadap kontrol negatif berbeda secara tidak bermakna. Jadi dapat disimpulkan bahwa ekstrak etanol buah daruju pada ketiga peringkat dosis tidak mempunyai efek hipoglikemik.

ABSTRACT

The research of ethanol extract of Daruju (*Acanthus ilicifolius* L.) fruit was held to prove its effect on glucose-preloaded male rats.

This research was a pure experimental research with the one-way complete randomized design. Twenty five (25) rats were randomly devided in five groups with five rats for each group. First group as negative control was given CMC suspension of 1%. Second group as the positive control was given tolbutamid suspension of 0,5%; 45 mg/kg BW. Third until five as the treatment group were given daruju fruit ethanol extract. The total dose for each group were 0,032 g/kg BW; 0,162 g/kg BW and 0,810 g/Kg BW. All treatments were given orally.

The hypoglycemic effect of daruju fruit ethanol extract was treated using glucose oral tolerance test (GOTT) by fixing the proportion of rat's glucose 0 minute, 15 minute before GOTI and 15, 30, 60, 90, 120, 180 240, 300 minute after GOTI treatment of for each group. The data of the glucose was analyzed statistically by using the split-plot method continued with *Tukey* test. The area under curve (AUC 0-300) was analyzed by using *Anova One Way* method, continued Tukey test using a confidence interval of 95%. That was done to know the difference of the effect of each dose on each group.

Based on the results of the data analysis, it was found that the average of the AUC ⁰⁻³⁰⁰ was decreases. The decrease of the AUC average were successively as followed 22,44%; 26,84%; 29,86% for group 0,032 g/kg BW; 0,612 g/kg BW and 0,810 g/kg BW against the negative control. The extract was equivalent with 82,82%; 72,49%; 65,31% of tolbutamid. Statistically the decrease of AUC ⁰⁻³⁰⁰ among the three treatments towards the negative control were not significant. It can be concluded that the extract consisting of three doses had no hipoglikemic effects.