

## **EFEK EKSTRAK METANOL DAUN JERUJU (*Acanthus ilicifolius* L.) SERTA BUAH JERUJU DAN TAURIN DALAM MENURUNKAN KADAR GLUKOSA DARAH DAN KOLESTEROL SERTA FERTILITAS MENCIT JANTAN (*Mus musculus*) YANG DIINDUKSI ALOKSAN**

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### **Abstrak**

Diabetes merupakan penyebab kematian tertinggi di dunia yang disebabkan kelainan atau gangguan kerja sekresi insulin, yang dapat berpengaruh terhadap fertilitas. Daun dan buah jeruju (*Acanthus ilicifolius*) serta senyawa organik taurin memiliki senyawa antidiabetik. Penelitian ini bertujuan untuk mengetahui efek ekstrak metanol daun dan buah jeruju, serta taurin terhadap kadar glukosa darah, kolesterol dan jumlah spermatozoa mencit jantan yang diinduksi aloksan. Metode penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 5 kelompok perlakuan dan 5 pengulangan. Perlakuan diantaranya, K1 sebagai kontrol negatif (normal), K2 sebagai kontrol positif (diinduksi aloksan), K3 yaitu diinduksi aloksan dan diberi ekstrak daun jeruju 22,4 mg/bb selama 14 hari, K4 yaitu diinduksi aloksan dan diberi ekstrak buah jeruju 22,4 mg/bb selama 14 hari, dan K5 sebagai kelompok yang diinduksi aloksan dan diberi taurin 15,6 mg/bb selama 14 hari. Parameter yang diamati antara lain berat tubuh, kadar glukosa darah, kadar kolesterol, jumlah spermatozoa, dan berat testis. Data dianalisis dengan *OneWay-ANOVA* dan dilanjutkan dengan uji *Fisher* pada taraf 5%. Hasil menunjukkan bahwa ekstrak metanol daun dan buah jeruju, serta taurin mempengaruhi berat tubuh, menurunkan kadar glukosa darah dan kolesterol secara signifikan meskipun hanya buah jeruju dan taurin yang positif meningkatkan jumlah spermatozoa mencit jantan yang diinduksi aloksan.

**Kata kunci :** *Acanthus ilicifolius*, Taurin, Glukosa dan Kolesterol darah, Fertilitas

### **Abstract**

Diabetes is one of the highest death-causing diseases in the world that caused by insulin – produce system doesn't work properly and impact on fertility. The leaves and fruits of *Acanthus ilicifolius* and also taurine, which is an organic compound, are expected to show antidiabetic activity. The aim of this research was to determine the effect of *Acanthus ilicifolius* leaves and fruits methanol extracts and also taurine on the blood glucose and cholesterol level as well as to determine the number of spermatozoa in alloxan-induced male mice. This research was conducted in a complete randomized design by using five treatments with five repetitions. The treatments were K1 as negative controls or normal, K2 as positive controls (induced by alloxan), K3 as a group that induced by alloxan and given 22.4 mg/bw *Acanthus ilicifolius* leaves methanol extract for 14 days, K4 as a group that induced by alloxan and given 22.4 mg/bw *Acanthus ilicifolius* fruits methanol extract for 14 days and K5 as a group that induced by alloxan and given 15.6 mg/bw taurine for 14 days. The parameters were body weight, blood glucose level, cholesterol level, number of spermatozoa and testes weight. The data were analyzed by using *OneWay-ANOVA* followed by *Fisher* test at 5% level. The results indicated that administration of methanol extract of *Acanthus ilicifolius* leaves and fruits as well as taurine decreased blood glucose and cholesterol level significantly and affected body weight. However, only *Acanthus ilicifolius* fruits methanol extract and taurine were able to return back the number of spermatozoa in alloxan-induced male mice.

**Keywords :** *Acanthus ilicifolius*, Taurine, Blood Glucose and Cholesterol, Fertility