

**UJI EFEKTIVITAS EKSTRAK BIJI KETUMBAR (*Coriandrum sativum L.*)  
TERHADAP GAMBARAN HISTOPATOLOGI GINJAL TIKUS MODEL  
HIPERKOLESTEROLEMIA DIABETES**

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**Abstrak**

Hiperglikemi persisten dapat memicu produksi stres oksidatif. Stres oksidatif dapat menyebabkan terjadinya hipertrofi glomerulus. Ekstrak biji ketumbar (*Coriandrum sativum L.*) berpotensi mengatasi stres oksidatif. Penelitian ini bertujuan untuk mengetahui efek pemberian ekstrak biji ketumbar (*Coriandrum sativum L.*) terhadap gambaran histopatologi ginjal tikus model hiperkolesterolemia diabetes. Sebanyak 30 ekor tikus putih jantan galur wistar, dikelompokkan menjadi lima kelompok dengan perlakuan berbeda yaitu: (K1) pakan standar dan aquades, (K2) pakan tinggi lemak, aloksan, dan glibenklamid 0,045mg/hari, (K3) pakan tinggi lemak, aloksan dan ekstrak biji ketumbar 300mg/kgBB/hari, K4) pakan tinggi lemak, aloksan dan ekstrak biji ketumbar 500mg/kgBB/hari, (K5) pakan tinggi lemak, aloksan, dan ekstrak biji ketumbar 700mg/kgBB/hari. Ekstrak biji ketumbar diberikan selama 28 hari. Hasil uji Wilcoxon menunjukkan ekstrak biji ketumbar dapat menurunkan kadar kolesterol darah, sedangkan hasil uji T berpasangan menunjukkan ekstrak biji ketumbar dapat menurunkan kadar gula darah sewaktu pada tikus model hiperkolesterolemia diabetes. Histopatologi ginjal dianalisis menggunakan uji Kruskal Wallis didapatkan ( $p=0,001$ ) dan dilanjutkan dengan uji Mann-Whitney. Pada kelompok K4 terdapat penurunan luas glomerulus yang signifikan dibanding kelompok K3 dan K5. Kesimpulannya, ekstrak biji ketumbar dapat menurunkan kadar kolesterol darah, kadar gula darah, dan pada dosis 500mg/kgBB/hari paling efektif untuk menurunkan hipertrofi glomerulus.

**Kata Kunci :** *Coriandrum sativum L.*, ekstrak biji ketumbar, histopatologi ginjal

**EFFECTIVENESS TEST OF CORIANDER SEED EXTRACT (*Coriandrum sativum L.*) ON KIDNEY HISTOPATHOLOGY IN HYPERCHOLESTEROLEMIA DIABETIC RATS**

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**Abstract**

Persistent hyperglycemia can trigger the production of oxidative stress. Oxidative stress can cause glomerular hypertrophy. Coriander seed extract has the potential to overcome oxidative stress. This study aims to determine the effect of coriander seed extract to kidney histopathological examination in hypercholesterolemia diabetic rats. Sample consist of 30 males wistar rats were divided into five treatments i.e: (K1) standard feed and aquades, (K2) high-fat feed, alloxan, and glibenclamid 0,045 mg/day, (K3) high-fat feed, alloxan, and coriander seed extract 300 mg/kgBW/day, (K4) high-fat feed, alloxan, and coriander seed extract 500mg/kgBW/day, (K5) high-fat feed, alloxan, and coriander seed extract 700mg/kgBW/day. Coriander seed extract was given for 28 days. The result of Wilcoxon test showed that coriander seed extract can reduce blood cholesterol level in diabetic hypercholesterolemia, meanwhile the result of paired T-test showed that it can reduce blood sugar level. Measurement of kidney's histopathological structure as glomerular area was analyzed by Kruskal Wallis test ( $p=0,001$ ) and continued with Mann-Whitney test. Group K4 can reduce glomerular area significantly compared with group K3 and K5. In conclusion, coriander seed extract can reduce blood cholesterol, blood sugar level and effectively reduce glomerular hypertrophy at dose of 500mg/kgBW/day.

**Keywords:** *Coriandrum sativum L.*, coriander seed extract, glomerular hypertrophy.