

**EFEK PEMBERIAN BAWANG HITAM TERHADAP KADAR
Glutathione Peroxidase (GSH-Px) PADA TIKUS PUTIH (*Rattus norvegicus*)
MODEL HIPERURISEMIA**

ABSTRAK

Latar Belakang : Hiperurisemia merupakan masalah kesehatan global dan kejadiannya semakin meningkat. Asam urat dapat berfungsi sebagai antioksidan, tetapi ketika ditransport ke dalam sel akan berubah menjadi prooksidan yang akan meningkatkan produksi radikal bebas dan menyebabkan stres oksidatif. *Glutathione Peroxidase* (GSH-Px) adalah enzim antioksidan yang berfungsi untuk melindungi sel dari kerusakan akibat radikal bebas. Bawang hitam memiliki kandungan flavonoid yang diprediksi dapat bersinergi dan meningkatkan aktivitas antioksidan melalui enzim antioksidan seluler, seperti GSH-Px. Penelitian ini bertujuan untuk mengetahui efek larutan bawang hitam terhadap peningkatan kadar GSH-Px tikus putih (*Rattus norvegicus*) model hiperurisemia.

Metode : Penelitian ini adalah penelitian eksperimental menggunakan metode Rancangan Acak Lengkap (RAL) terhadap hewan coba dengan *post test only with control group design*. Sebanyak 30 ekor tikus putih dibagi ke dalam 5 kelompok, yaitu kelompok A (kontrol), kelompok B (allopurinol), kelompok C, D, dan E (bawang hitam dengan dosis 240 mg, 480 mg, dan 960 mg per hari). Kadar GSH-Px diukur menggunakan serum darah dengan metode ELISA.

Hasil : Rerata kadar GSH-Px (U/mg) kelompok A=20,00±1,69; B=78,33±1,32; C=40,30±1,44; D=58,69±2,04; E=71,77±0,62. Hasil uji *One Way ANOVA* menunjukkan $p=0,00$ ($p<0,05$) yang berarti terdapat perbedaan bermakna antar kelompok.

Kesimpulan : Pemberian larutan bawang hitam dapat meningkatkan kadar GSH-Px tikus putih (*Rattus norvegicus*) model hiperurisemia.

Kata Kunci : Bawang hitam, *glutathione peroxidase* (GSH-Px), hiperurisemia

**EFFECT OF BLACK GARLIC ON *Glutathione Peroxidase* (GSH-Px)
LEVELS IN WHITE RATS (*Rattus norvegicus*)
HYPERURICEMIA MODEL**

ABSTRACT

Background : Hyperuricemia is a global health problem and its incidence is increasing. Uric acid can be an antioxidant, but when it is transported into cells it will turn into a pro-oxidant which will increase the production of free radicals and cause oxidative stress. *Glutathione Peroxidase* (GSH-Px) is an antioxidant enzyme that functions to protect cells from damage caused by free radicals. Black garlic contains flavonoids which are predicted to synergize and increase antioxidant activity through cellular antioxidant enzymes, such as GSH-Px. This study aimed to determine the effect of black garlic solution on increasing levels of GSH-Px in white rats (*Rattus norvegicus*) hyperuricemia models.

Method : This research was an experimental study using a Completely Randomized Design (CRD) on experimental animals with a post-test only with a control group design. Thirty white rats were divided into five groups : group A (control), group B (allopurinol), groups C, D, and E (black garlic with doses of 240 mg, 480 mg, and 960 mg per day, respectively). GSH-Px levels were measured using blood serum with the ELISA method.

Results : The average GSH-Px level (U/mg) in group A=20.00±1.69; B=78.33±1.32; C=40.30±1.44; D=58.69±2.04; and E=71.77±0.62. The results of the *One Way ANOVA* test show $p=0.00$ ($p<0.05$), which means that there are differences that had an impact between groups.

Conclusion : Giving black garlic solution can increase GSH-Px levels in white rats (*Rattus norvegicus*) hyperuricemia models.

Keywords : Black garlic, *glutathione peroxidase* (GSH-Px), hyperuricemia