

Pengaruh pemberian ekstrak bekatul varietas IPB3S terhadap kadar glutathion (GSH) pada hati tikus yang diinduksi karbon tetraklorida (CCl₄) = Effect of rice bran variety IPB3S extract to level of glutathione (GSH) in the rats liver induced by CCl₄

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Abstrak

Stres oksidatif di hati dapat terjadi akibat peningkatan produksi radikal bebas berlebih seperti ROS yang akhirnya menyebabkan kerusakan hepatoseluler. Glutathion GSH, antioksidan non enzimatis, berperan dalam memberikan efek proteksi melawan radikal bebas. Selama ini, bekatul diperkirakan mempunyai potensi antioksidan pada hati. Peneliti ingin mengetahui pengaruh pemberian ekstrak bekatul padi *Oryza sativa* varietas IPB3S terhadap kadar GSH pada organ hati tikus yang diinduksi karbon tetraklorida CCl₄. Dua puluh empat ekor tikus jantan Sprague Dawley dibagi ke dalam enam kelompok yaitu, tanpa perlakuan, CCl₄, bekatul 150 mg/kgBB, bekatul 150 mg/kgBB CCl₄, bekatul 300 mg/kgBB, dan bekatul 300 mg/kgBB CCl₄. Kadar GSH jaringan hati tikus diukur pada tiap kelompok perlakuan menggunakan metode Ellman. Data kemudian dianalisis menggunakan One-way ANOVA. Hasil penelitian menunjukkan peningkatan kadar GSH jaringan hati tikus yang bermakna pada kelompok bekatul 150 mg/kgBB $p=0,01$ dan bekatul 150 mg/kgBB CCl₄ $p=0,046$ dibandingkan dengan kelompok tanpa perlakuan dan CCl₄ saja. Sebaliknya, tidak terdapat perbedaan bermakna pada kelompok bekatul 300 mg/kgBB $p=0,118$ dan bekatul 300 mg/kgBB CCl₄ $p=0,247$ terhadap kelompok tanpa perlakuan. Dari penelitian ini disimpulkan bahwa ekstrak bekatul mempunyai potensi sebagai antioksidan terhadap jaringan hati jika dilihat dari adanya peningkatan kadar GSH.

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Oxidative stress in the liver can occur as a result of increased production of excess free radicals such as ROS that eventually cause hepatocellular damage. Glutathione GSH, a non enzymatic antioxidant, plays a role in providing protection against the effects of free radicals. Recently, rice bran has been predicted to have antioxidant potential in the liver tissue. Researcher wanted to determine the effect of rice bran variety IPB3S *Oryza sativa* extract to level of GSH in the rats liver induced by carbon tetrachloride CCl₄. Twenty four male Sprague Dawley rats were divided into six groups which are control, CCl₄, rice bran extract 150 mg kgBW, rice bran extract 150 mg kgBW CCl₄, rice bran extract 300 mg kgBW, and rice bran extract 300 mg kgBW CCl₄. GSH levels in rats liver tissue in each treatment group were measured using Ellman 39 s method. Data were analyzed using One way ANOVA. The results showed a significant increase in rats liver tissue GSH levels in 150 mg kgBW rice bran extract group $p 0.01$ and 150 mg kg rice bran extract CCl₄ group $p 0.046$ compared to the control group and CCl₄ group alone. In contrast, there were no significant differences in the 300 mg kgBW rice bran extract group $p 0.118$ and 300 mg kgBW rice bran extract CCl₄ group $p 0.247$ compared to control group. This study suggested that rice bran extracts had antioxidant potential on liver tissue observed from elevated level of GSH.