

# Efek hepatoprotektif saffron (*Crocus sativus* L.) terhadap penurunan kadar SGPT tikus yang diinduksi high cholesterol diet (HCD)

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## ABSTRAK

Penyakit hati masih menjadi salah satu masalah kesehatan yang penting di Indonesia, termasuk gangguan akibat perubahan gaya hidup seperti *Non-Alcoholic Fatty Liver Disease (NAFLD)*. Kondisi ini sering berkaitan dengan dislipidemia dan konsumsi diet tinggi kolesterol yang dapat meningkatkan penimbunan lemak di hati serta memicu kenaikan kadar SGPT sebagai penanda awal gangguan fungsi hepatoseluler. Saffron (*Crocus sativus* L.) diketahui mengandung crocin, crocetin, dan flavonoid yang memiliki aktivitas antioksidan dan antiinflamasi sehingga berpotensi menurunkan kadar kolesterol sekaligus memberikan perlindungan terhadap kerusakan sel hati, namun kajian mengenai pengaruh saffron terhadap kadar SGPT pada model hewan yang diinduksi diet tinggi kolesterol masih terbatas sehingga diperlukan penelitian lebih lanjut. Penelitian ini bertujuan mengetahui aktivitas hepatoprotektif saffron terhadap kadar enzim hati SGPT pada tikus yang mengalami kerusakan hati akibat induksi *High Cholesterol Diet (HCD)* dengan metode eksperimental menggunakan desain control group pre-post test pada lima kelompok tikus putih (*Rattus norvegicus*) galur Wistar; sebanyak 35 tikus jantan ( $\pm 160$ – $200$  g; usia 2–3 bulan) diaklimatisasi 7 hari, kemudian dipilih secara acak dan dibagi menjadi kontrol normal (pakan standar + aquades), kontrol negatif (diinduksi HCD dan diberi CMC-Na 0,5%), kontrol positif (diinduksi HCD dan diberi curcuma 200 mg/kgBB/hari), perlakuan I (diinduksi HCD dan diberi saffron 40 mg/kgBB/hari), serta perlakuan II (diinduksi HCD dan diberi saffron 80 mg/kgBB/hari) yang disuspensikan dalam CMC-Na 0,5%. Hasil penelitian menunjukkan pemberian saffron pada tikus Wistar terinduksi HCD mampu menurunkan kadar SGPT, namun kesimpulannya tidak terdapat perbedaan yang signifikan antara saffron dosis 40 mg/kgBB, saffron dosis 80 mg/kgBB, dan curcuma 200 mg/kgBB dalam menurunkan SGPT pada tikus terinduksi HCD.

**Kata kunci:** *Saffron, Hepatoprotektif, SGPT, High Cholesterol Diet.*

# Hepatoprotective Effect of Saffron (*Crocus sativus* L.) on Differences in SGPT Levels in Rats Induced with a High-Cholesterol Diet (HCD)

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## ABSTRACT

Liver disease remains a major public health concern in Indonesia, including lifestyle-related conditions such as non-alcoholic fatty liver disease (NAFLD). This condition is often associated with dyslipidemia and the consumption of a high-cholesterol diet, which can increase hepatic fat accumulation and lead to elevated SGPT levels as an early indicator of impaired hepatocellular function. Saffron (*Crocus sativus* L.) is known to contain crocin, crocetin, and flavonoids with antioxidant and anti-inflammatory properties, suggesting potential benefits in lowering cholesterol levels and protecting against hepatocellular injury. However, evidence on the effect of saffron on SGPT levels in animal models induced with a high-cholesterol diet remains limited, warranting further investigation. This study aimed to evaluate the hepatoprotective activity of saffron on SGPT (ALT) levels in rats with liver injury induced by a high-cholesterol diet (HCD). An experimental study with a control-group pre-post test design was conducted using five groups of Wistar rats (*Rattus norvegicus*). A total of 35 male rats (approximately 160–200 g; 2–3 months old) were acclimatized for 7 days, randomly assigned (simple random sampling), and divided into: a normal control group (standard diet + distilled water), a negative control group (HCD induction + 0.5% CMC-Na), a positive control group (HCD induction + curcuma 200 mg/kg body weight/day), treatment group I (HCD induction + saffron 40 mg/kg body weight/day), and treatment group II (HCD induction + saffron 80 mg/kg body weight/day), with the interventions suspended in 0.5% CMC-Na. The results showed that saffron administration reduced SGPT levels in HCD-induced Wistar rats; however, there were no statistically significant differences among saffron 40 mg/kg, saffron 80 mg/kg, and curcuma 200 mg/kg in lowering SGPT levels in HCD-induced rats.

**Keyword:** *Saffron, Hepatoprotective, SGPT, High Cholesterol Diet.*