

**AKTIVITAS ANTIINFLAMASI KOMBINASI EKSTRAK ETANOL BUNGA
ROSELA (*Hibiscus sabdariffa* L.) dan DAUN PEGAGAN (*Centella asiatica*)
PADA TIKUS OBES DENGAN PENGUKURAN KADAR TNF**

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ABSTRAK

Obesitas didefinisikan sebagai penimbunan lemak berlebih yang dapat mengganggu kesehatan. Salah satu penyebab obesitas adalah makanan tinggi lemak yang meningkatkan *Free Fatty Acid* (FFA) dan *Reactive Oxygen Species* (ROS), yang memicu stres oksidatif dan inflamasi kronis, yang berperan dalam berbagai penyakit kronis. Tujuan: Mengetahui pengaruh dan dosis efektif kombinasi ekstrak bunga rosela (*Hibiscus sabdariffa* L.) dan daun pegagan (*Centella asiatica* (L.) Urb.) terhadap kadar *Tumor Necrosis Factor* (TNF- α). Metode: Penelitian menggunakan metode preventif eksperimental dengan studi in vivo pada tikus putih galur wistar sebanyak 32 ekor yang dikelompokkan menjadi kelompok normal, induksi, pembanding orlistat 10,8 mg/kgBB, pembanding kurkumin 1,8 mg/kgBB, uji EDP 200 mg/kgBB, uji EBR 250 mg/kgBB, uji EBRDP 125 : 200 mg/kgBB, dan uji EBRDP 250 : 100 mg/kgBB. Pengukuran kadar TNF- α pada hari ke-60 menggunakan kit ELISA. Hasil penelitian menunjukkan bahwa terdapat penurunan kadar TNF- α kelompok uji EDP 200 mg/kg BB dengan kadar TNF- α 97,4 ng/L, EBR 250 mg/kgBB dengan kadar TNF- α 72,9 ng/L, dan kombinasi EBRDP dosis 125 : 200 mg/kgBB dengan kadar TNF- α 65,6 ng/L. Kesimpulan: Kombinasi EBRDP dosis 125 : 200 mg/kgBB efektif menekan peningkatan kadar TNF- α pada tikus.

Kata Kunci: Ekstrak Bunga Rosela, Ekstrak Daun Pegagan, Inflamasi, Obesitas, *Reaktif Oxygen Species* (ROS), *Tumor Necrosis Factor* (TNF- α)

**ANTIINFLAMATION ACTIVITY OF COMBINATION OF ETANOL EXTRACTS
OF ROSELA FLOWS (*Hibiscus sabdariffa* L.) AND GOTU KOLA LEAVES (*Centella
asiatica*) IN OBESE RATS BY MEASURING TNF CONTROLS**

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ABSTRACT

*Obesity is defined as the accumulation of excess fat that can interfere with health. One of the causes of obesity is high-fat foods that increase Free Fatty Acid (FFA) and Reactive Oxygen Species (ROS), which trigger oxidative stress and chronic inflammation, which play a role in various chronic diseases. Objective: To determine the effect and effective dose of a combination of roselle flower (*Hibiscus sabdariffa* L.) and *Centella asiatica* (L.) Urb. leaf extracts on Tumor Necrosis Factor (TNF- α) levels. Methods: The research used a preventive experimental method with in vivo studies on 32 Wistar white rats grouped into normal, induction, orlistat 10.8 mg/kgBB comparator, curcumin 1.8 mg/kgBB comparator, EDP 200 mg/kgBB test, EBR 250 mg/kgBB test, EBRDP 125: 200 mg/kgBB, and EBRDP test 250: 100 mg/kgBB. Measurement of TNF- α levels on the 60th day using an ELISA kit. The results showed that there was a decrease in TNF- α levels in the EDP 200 mg/kg BW test group with TNF- α levels of 97.4 ng/L, EBR 250 mg/kgBB with TNF- α levels of 72.9 ng/L, and a combination of EBRDP doses 125: 200 mg/kgBB with TNF- α levels of 65.6 ng/L. Conclusion: The combination of EBRDP dose 125: 200 mg/kgBB effectively suppresses the increase in TNF- α levels in rats.*

Keywords: *Rosela Flower Extract, Gotu Kola Leaf Extract, Inflammation, Obesity, Reactive Oxygen Species (ROS), Tumor Necrosis Factor (TNF- α)*