

**POTENSI EKSTRAK DAUN TUJUH BILAH (*Pereskia sacharosa* Griseb)
TERHADAP RESPON INFLAMASI DALAM MENCEGAH KONDISI
KOLITIS PADA MENCIT BALB/C YANG DIINDUKSI 2,4,6-
*Trinitrobenzenesulfonic Acid***

INTISARI

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Penyakit kolitis adalah penyakit penting yang dimediasi kekebalan pada saluran pencernaan. Penggunaan obat antibiotik dan modulator imun untuk mengurangi gejala akibat kolitis sudah banyak dilakukan. Namun, penggunaan jangka panjang menyebabkan toksisitas yang parah. Tanaman *Pereskia sacharosa* G. dapat dimanfaatkan sebagai pangan fungsional dan pencegahan penyakit kolitis. Penelitian ini bertujuan mengetahui pengaruh pemberian ekstrak dan tepung daun *Pereskia sacharosa* terhadap kondisi kolitis pada mencit BALB/c yang diinduksi TNBS. Daun *Pereskia sacharosa* diekstraksi menggunakan pelarut etanol 80% dan 96% dengan metode maserasi. Uji secara *in vivo* telah dilakukan pada penelitian ini dengan mengukur perubahan berat badan, disease activity index (DAI), panjang kolon dan level ekspresi sitokin inflamasi (IL-6, TNF- α , IL-1 β , dan IL-10). Hasil penelitian menunjukkan bahwa kandungan fenolik dalam ekstrak etanol 80% dan 96% dan tepung daun *Pereskia sacharosa* masing-masing (34.83 \pm 0.89 mg GAE/g, 30.04 \pm 0.67 mg GAE/g, dan 5.66 \pm 0.23 mg GAE/g). Total kandungan flavonoid dalam ekstrak etanol 80% dan 96% dan tepung daun *Pereskia sacharosa* masing-masing (17,05 \pm 1.70 mg QE/g, 15,40 \pm 0,93 mg QE/g, dan 8.01 \pm 0.58 mg QE/g). Hasil uji statistik menunjukkan adanya perbedaan yang signifikan antara sampel ekstrak dan sampel tepung daun ($p < 0.05$). Aktivitas antioksidan menunjukkan nilai IC50 ekstrak etanol 80% dan 96% daun *Pereskia sacharosa* masing-masing (251.09 \pm 0.02 dan 204.55 \pm 0.10 ppm) yang tergolong sedang, sedangkan nilai IC50 tepung daun *Pereskia sacharosa* tergolong lemah, yaitu sebesar 571.88 \pm 0.18 ppm. Pemberian ekstrak dan tepung daun *Pereskia sacharosa* mampu menekan peningkatan disease activity index (DAI), memperbaiki konsumsi pakan, menjaga perubahan berat badan, mempertahankan berat dan panjang kolon, memperbaiki histopatologi dan organosomatic index serta menurunkan level ekspresi sitokin pro-inflamasi (IL-6 dan TNF- α , dan IL-1 β) dan meningkatkan level ekspresi sitokin anti-inflamasi (IL-10) pada mencit BALB/c yang diinduksi TNBS.

Kata kunci: Fenolik, flavonoid, kolitis, pangan fungsional, *Pereskia sacharosa*

THE POTENTIAL OF SEVEN-STAR LEAF EXTRACT (*Pereskia sacharosa* Griseb) IN MODULATING INFLAMMATORY RESPONSE TO PREVENT COLITIS IN 2,4,6-Trinitrobenzenesulfonic Acid-INDUCED BALB/C MICE

ABSTRACT

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Colitis is an important immune-mediated disease of the gastrointestinal tract. The use of antibiotic drugs and immune modulators to reduce symptoms due to colitis has been widely practiced. However, long-term use causes severe toxicity. *Pereskia sacharosa* G. plant can be utilized as a functional food and prevention of colitis. This study aims to determine the effect of administration of *Pereskia sacharosa* leaf extract and flour on colitis conditions in BALB/c mice induced by TNBS. *Pereskia sacharosa* leaves were extracted using 80% and 90% ethanol by maceration method. *In vivo* tests were conducted in this study by measuring changes in body weight, disease activity index (DAI), colon length and expression levels of inflammatory cytokines (IL-6, TNF- α , IL-1 β , and IL-10). The results showed that the total phenolic contents (TPC) in 80% and 96% ethanol extracts and *Pereskia sacharosa* leaf flour were (34.83 \pm 0.89 mg GAE/g, 30.04 \pm 0.67 mg GAE/g, and 5.66 \pm 0.23 mg GAE/g, respectively). The total flavonoid content (TFC) in 80% and 96% ethanol extracts and *Pereskia sacharosa* leaf flour were (17.05 \pm 1.70 mg QE/g, 15.40 \pm 0.93 mg QE/g, and 8.01 \pm 0.58 mg QE/g, respectively). Statistical test results showed a significant difference between extract and leaf flour samples ($p < 0.05$). Antioxidant activity showed the IC₅₀ value of 80% and 96% ethanol extract of *Pereskia sacharosa* leaves (251.09 \pm 0.02 and 204.55 \pm 0.10 ppm, respectively) which is classified as moderate, while the IC₅₀ value of *Pereskia sacharosa* leaf flour is classified as weak, which is 571.88 \pm 0.18 ppm. The administration of *Pereskia sacharosa* leaf extract and flour was able to suppress the increase in disease activity index (DAI), improve feed consumption, maintain body weight changes, maintain colon weight and length, improve histopathology and organosomatic index and reduce the expression level of pro-inflammatory cytokines (IL-6 and TNF- α , and IL-1 β) and increase the expression level of anti-inflammatory cytokines (IL-10) in TNBS-induced BALB/c mice.

Keywords: Phenolic, flavonoid, colitis, functional food, *Pereskia sacharosa*