ABSTRAK

Daun sirih merah (*Piper crocatum*) digunakan karena mengandung metabolit sekunder seperti alkaloid, tannin, saponin dan flavonoid yang berpotensi memberikan aktivitas analgesik. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ekstrak etanol daun *Piper crocatum* terhadap proteksi geliat yang dihasilkan oleh mencit betina galur *Swiss* dengan metode rangsangan kimia, yaitu induksi nyeri menggunakan asam asetat 1% secara intraperitoneal. Penelitian ini merupakan penelitian eksperimental murni rancangan acak lengkap pola searah dengan menggunakan dua puluh lima ekor mencit betina yang dibagi secara acak dalam lima kelompok. Kelompok I diberi aquadest sebesar 25 g/kgBB sebagai kontrol negatif. Kelompok II diberi asetosal sebesar 65 mg/kgBB sebagai kontrol positif. Kelompok III, IV, dan V diberikan ekstrak etanol daun *Piper crocatum* sebesar 200;400;800 mg/kgBB. Asam asetat 1% diberikan secara intraperitoneal pada semua kelompok perlakuan setelah selang waktu 10 menit. Pengamatan geliat dilakukan setiap 5 menit selama 1 jam. Hasil penelitian ini dianalisis dengan uji *Shapiro-Wilk*, dilanjutkan dengan uji *Levene*, ANOVA satu arah dan *Post-Hoc* dengan taraf kepercayaan 95%. Hasil penelitian menunjukkan bahwa ekstrak etanol daun sirih merah mampu menurunkan jumlah geliat dan meningkatkan persen proteksi dibandingkan kelompok kontrol negatif, serta menunjukkan perbedaan bermakna antar kelompok perlakuan ($p<0,05$). Dosis 800 mg/kgBB memberikan aktivitas analgesik paling tinggi dibanding dosis 200 mg/kgBB dan 400mg/kgBB. Berdasarkan hasil penelitian, ekstrak etanol daun sirih merah dengan dosis 800 mg/kgBB memiliki aktivitas analgesik paling efektif dalam menekan respons nyeri.

Kata kunci: Analgesik, ekstrak etanol daun *Piper crocatum,* rangsang kimia, persen proteksi geliat, mencit betina galur *Swiss*.

ABSTRACT

Red betel leaves (*Piper crocatum*) are used because they contain secondary metabolites such as alkaloids, tannins, saponins, and flavonoids that have the potential to provide analgesic activity. This study aims to determine the effect of administering ethanol extract of Piper crocatum leaves on the protection of writhing produced by female Swiss strain mice by chemical stimulation method, namely pain induction using 1% acetic acid intraperitoneally. This study is a purely experimental study with a completely randomized design using a one-way pattern using twenty-five female mice randomly divided into five groups. Group I was given distilled water at 25 g/kgBW as a negative control. Group II was given acetosal at 65 mg/kgBW as a positive control. Groups III, IV, and V were given ethanol extract of Piper crocatum leaves at 200; 400; 800 mg/kgBW. 1% acetic acid was administered intraperitoneally to all treatment groups after an interval of 10 minutes. Writhing observations were carried out every 5 minutes for 1 hour. The results of this study were analyzed using the Shapiro-Wilk test, followed by the Levene test, one-way ANOVA, and Post-Hoc with a 95% confidence level. The results showed that the ethanol extract of red betel leaves was able to reduce the number of writhing and increase the percentage of protecti on compared to the negative control group, and showed a significant difference between treatment groups ($p<0.05$). A dose of 800 mg/kgBW provided the highest analgesic activity compared to doses of 200 mg/kgBW and 400 mg/kgBW. Based on the results of the study, the ethanol extract of red betel leaves at a dose of 800 mg/kgBW had the most effective analgesic activity in suppressing pain responses.

Keywords: analgesic activity; ethanol extract of *Piper crocatum* leaves; chemical stimulation; percentage of writhing protection; female Swiss mice.