

**PENGARUH EKSTRAK DAUN SIRIH (*Piper betle Linn*) DALAM
MENURUNKAN JUMLAH NEUTROFIL DARAH MENCIT
YANG DIINFEKSI *Klebsiella pneumoniae***

INTISARI

Bakteri *Klebsiella pneumoniae* dapat menyebabkan pneumonia. Respon imun tubuh terhadap infeksi bakteri ini adalah dengan meningkatkan jumlah neutrofil darah. Daun sirih mengandung berbagai senyawa organik yang memiliki aktifitas antimikroba. Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak daun sirih (*Piper Betle Linn*) dalam menurunkan jumlah neutrofil darah mencit yang diinfeksi *Klebsiella pneumoniae*.

Penelitian ini menggunakan *post test-only control group design*. Sebanyak 30 mencit Balb/c dibagi menjadi 6 kelompok. Kelompok 1 tidak diinfeksi, kelompok 2 diinfeksi *Klebsiella pneumoniae* tanpa diberi perlakuan, kelompok 3 diinfeksi dan diberi ekstrak daun sirih 100mg/kgBB, kelompok 4 diinfeksi dan diberi ekstrak daun sirih 200mg/kgBB, kelompok 5 diinfeksi dan diberi ekstrak daun sirih 400mg/kgBB, kelompok 6 diinfeksi dan diberi amoksisilin 1,3mg/kgBB. Setelah pemberian perlakuan selama 7 hari, jumlah neutrofil darah mencit diperiksa.

Hasil penelitian menunjukkan bahwa rata-rata jumlah neutrofil pada kelompok 1 sebanyak 22,54%, kelompok 2 sebanyak 23.62%, kelompok 3 sebanyak 39.16%, kelompok 4 sebanyak 38.34%, kelompok 5 sebanyak 37.14%, dan kelompok 6 sebanyak 71.02%. Pengujian menggunakan *Kruskal Wallis* menunjukkan $p=0,429$ ($p>0,05$), yang berarti bahwa pemberian ekstrak daun sirih *Piper betle Linn* tidak mampu menurunkan jumlah neutrofil pada mencit Balb/c yang diinfeksi bakteri *Klebsiella pneumoniae*.

Kata kunci : antimikroba, senyawa organik, neutrofil, *Klebsiella pneumoniae*.

**THE INFLUENCE OF PIPER BETEL LEAVE (*Piper betle* Linn)
EXTRACT IN DECREASING THE TOTAL of BLOOD
NEUTROPHILS of MICE INFECTED by *Klebsiella pneumoniae***

ABSTRACT

Klebsiella pneumoniae bacteria can cause pneumonia. The respond of the body immune to this bacteria infection is by increasing the total of blood neutrophils. Betel leaves consist of various organic compound that have anti microbial activity. This research aimed at learning the influence of pier betel leaves (*Piper betle* Linn) extract in decreasing the total of blood neutrophils of mice infected by *Klebsiella pneumoniae*.

This research used post test-only control group design. Thirty mice were divided into 6 groups. Group 1 was not conditioned to be infected, group 2 was conditioned to be infected by *Klebsiella pneumoniae* without any treatment given, group 3 was infected and given 100 mg/kgBW betel leaves extract, group 4 was infected and was given 200 mg/kgBW betel leaves extract, group 5 was infected and given 400 mg/kgBW betel leaves extract, group 6 was infected and given amoxicillin 1,3 mg/kgBW. After 7 days of treatment, the total of mice blood neutrophils was examined.

The result indicated that the average of total neutrophils on group 1 was 22.54%, group 2 was 23.62%, group 3 was 39.16%, group 4 was 38.34%, group 5 was 37.14% and group 6 was 71.02%. The analysis using Kruskal Wallis indicated that $p=0.429$ ($p>0.05$), that meant that the betel leaves extract treatment was unable to decrease the total blood neutrophils of mice infected by *Klebsiella pneumoniae* bacteria.

Keyword: antimicrobial, organic compound, neutrophils, *Klebsiella pneumoniae*.