# INTISARI

Ulkus mulut sering dijumpai dan ditandai adanya daerah putih kekuningan dengan permukaan agak cekung dan terasa nyeri. Terapi ulkus mulut ditujukan untuk mengurangi rasa nyeri dengan menekan reaksi peradangan. Reaksi peradangan disertai dengan migrasi sel-sel inflamasi salah satunya adalah sel makrofag. *Plantago lanceolata L.* mempunyai komponen bioaktif yang bersifat anti-inflamasi. Penelitian ini bertujuan untuk mengetahui efektivitas aplikasi topikal ekstrak etanol daun *Plantago lanceolata L.* terhadap jumlah sel makrofag pada model ulkus mukosa mulut.

Penelitian ini menggunakan 20 ekor tikus Wistar yang dibagi menjadi 5 kelompok perlakuan; kelompok kontrol positif dengan aplikasi Kenalog in Orabase®, kelompok kontrol negatif tanpa perlakuan, dan 3 kelompok perlakuan yaitu ekstrak *P.Lanceolata* berbagai konsentrasi (5%, 15%, 30%). Dua ekor tikus dari tiap kelompok perlakuan didekapitasi pada hari ke-3 dan 7. Kemudian dilakukan pengambilan jaringan ulkus dan dibuat sediaan histologis dengan pengecatan Hematoksilin & Eosin. Sel makrofag pada preparat histologis diamati menggunakan mikroskop cahaya perbesaran 400x dengan OptiLab pada 3 lapang pandang oleh 3 orang pengamat.

Hasil penelitian menunjukkan terjadi penurunan jumlah sel makrofag pada kelompok perlakuan dengan ekstrak *P.lanceolata* konsentrasi 30%. Hasil analisis *Two Way ANOVA* menunjukkan terdapat perbedaan jumlah makrofag yang signifikan ($p<0,05$) antara kelompok perlakuan dan hari pengamatan. Uji Least Significant Differences (LSD) menunjukkan terdapat perbedaan jumlah makrofag yang signifikan antara kontrol negatif dan kelompok perlakuan dengan ekstrak *P.lanceolata* konsentrasi 30%. Kesimpulan penelitian ini adalah ekstrak *P.lanceolata* konsentrasi 30% efektif dalam menurunkan jumlah sel makrofag pada model ulkus mukosa mulut.

**Kata Kunci:** ulkus mulut, *Plantago lanceolata*, Wistar, makrofag

# ABSTRACT

Mouth ulcer is characterized by slightly concave surfaced with white yellowish color and accompanied with painful feeling. The treatment of mouth ulcer is purposed to decrease the pain by reducing the inflammation. The inflammation is indicated by migration of cells such as macrophages into ulcer. *Plantago lanceolata L.* has anti-inflammatory components. This study aims to investigate the effectiveness of the topical application of ethanol leaf extract of *P.Lanceolata* to the number of macrophages in the mouth ulcer models.

This study used 20 male Wistar rats that were divided into 5 groups; positive control was treated with Kenalog in Orabase® application, negative control was without treatment, and 3 groups were treated with various concentration of *P.Lanceolata* leaf extract (5%, 15%, 30%). Two male Wistar rats from each group were decapitated on the third and seventh day. Excisional wounds of tissue ulceration were performed after for histology examination in which the specimens were stained with Hematoxylin-Eosin. Macrophages were observed by 3 observers using 400x magnification of light microscope with OptiLab on 3 field of view.

The result of the research showed a decline number of macrophages in the group treated with 30% extract concentration of *P.lanceolata*. The result of *Two Way ANOVA* analysis showed that there were a significant differences in the number of macrophages ($p<0,05$) between the treatment groups and observation period. LSD post hoc test showed that there were significant differences in the number of macrophages between the negative control group and group treated with 30% extract concentration of *P.lanceolata*. In conclusion, leaf extract of *P.lanceolata* in 30% concentration effective in declining the number of macrophages on the mouth ulcer models.

**Keyword:** mouth ulcer, *Plantago lanceolata*, Wistar, macrophages