

INTISARI

Kanker lidah adalah kanker dengan peringkat ke-6 terbanyak dari seluruh keganasan yang sering terjadi di dunia. Fisalin dalam tanaman ciplukan (*Physalis angulata L.*) merupakan kandungan yang dapat menghambat proliferasi sel. Tujuan dari penelitian ini adalah mengetahui pengaruh ekstrak etanolik herba ciplukan terhadap proliferasi sel epitel lidah tikus galur *Sprague Dawley* yang dipapar 7,12-dimetilbenz[*a*]antrasen (DMBA).

Lima belas ekor tikus *Sprague Dawley* betina, usia 2-3 bulan, berat 80-160 gram, dibagi menjadi kelompok kontrol dan perlakuan. Kanker lidah dipapar dengan injeksi secara intrasubmukosa 0,1 ml per 100 gram BB tikus larutan DMBA 2% pada bagian lateral lidah kanan. Lima minggu setelah injeksi DMBA, kelompok perlakuan diberikan ekstrak etanolik herba ciplukan 750 dan 1500 mg/kg BB. Kelompok kontrol tidak diberikan perlakuan. Tikus dinekropsi, dibuat preparat histologisnya dan dilakukan pengecatan AgNOR.

Hasil uji *One Way ANOVA* menunjukkan nilai ($p < 0,05$) yang mengindikasikan bahwa ekstrak etanolik herba ciplukan mampu menurunkan proliferasi sel epitel lidah tikus yang dipapar DMBA. Hasil *Tukey HSD test* menunjukkan bahwa nilai mAgNOR kelompok perlakuan berbeda signifikan dengan kelompok kontrol dan mAgNOR perlakuan ekstrak etanolik ciplukan 1500 mg/kg BB lebih rendah dibandingkan 750 mg/kg BB yang mengindikasikan bahwa etanolik herba ciplukan dosis 1500 mg/kg BB mampu menghambat proliferasi sel epitel lebih baik dibandingkan dosis 750 mg/kg BB.

Kesimpulan penelitian ini menunjukkan bahwa ciplukan dapat menghambat proliferasi sel epitel lidah tikus yang dipapar DMBA. Ekstrak etanolik herba ciplukan 1500 mg/kg BB mampu menghambat proliferasi sel epitel lebih baik dibandingkan 750 mg/kg BB.

Kata Kunci : 7,12-dimetilbenz[*a*]antrasen (DMBA), kanker lidah, *Physalis angulata L.*, proliferasi.

ABSTRACT

Tongue cancer is the sixth most common cancer in worldwide. Physalin, a substance in ciplukan (*Physalis angulata L.*), is known for its ability to inhibit cell proliferation. The aim of this study was to evaluate the effect of ethanolic ciplukan on epithelial cell proliferation in *Sprague Dawley* rats' tongue induced with 7,12-dimethylbenz[*a*]anthracene (DMBA).

Fifteen female *Sprague Dawley* rats, aged 2-3 months, weight 80-160 grams were used in this study. They were divided into treatment and control groups. Tongue cancer was induced by injecting 0.1 ml/100 gram per body weight of DMBA 2% on the lateral part of the rats' tongue intra submucosally. Five weeks after DMBA injection, the rats in treatment group were treated with 750 and 1500 mg/kg body weight of ethanolic ciplukan extract while in control group, the rats were left untreated. The rats were sacrificed, then processed for histological specimens and stained with AgNOR.

ANOVA showed statistical significant differences among groups ($p < 0.05$), indicating that ethanolic ciplukan extract reduced cell proliferation in the epithelial layer of the rats's tongue. Tukey HSD test result showed that mAgNOR of the treatment groups was significantly lower compared to the control group and mAgNOR of the group treated with 1500 mg/kg body weight of ethanolic ciplukan extract was significantly lower than the group treated with 750 mg/kg body weight. It was indicated that 1500 mg/kg body weight of ethanolic ciplukan extract had a better effect than 750 mg/kg body weight of ethanolic ciplukan extract in reducing cell proliferation.

In conclusion, ethanolic ciplukan extract inhibited epithelial cell proliferation of the rats' tongue. Dose 1500 mg/kg body weight of ethanolic ciplukan extract inhibits epithelial cell proliferation more effectively than 750 mg/kg body weight of ethanolic ciplukan extract.

Key words : 7,12-dimethylbenz[*a*]anthracene (DMBA), tongue cancer, *Physalis angulata L.*, proliferation.