

INTISARI

Bajakah tampala merupakan tanaman yang berasal dari pedalaman hutan Kalimantan, Indonesia. Bajakah tampala dipercaya mampu menyembuhkan berbagai macam penyakit. Kandungan metabolit sekunder pada bajakah tampala memiliki khasiat salah satunya sebagai antikanker. Penelitian ini bertujuan untuk mengetahui potensi ekstrak etanol akar kayu bajakah tampala terhadap hambatan migrasi kemotaksis pada sel kanker lidah manusia.

Penelitian ini diawali dengan pembuatan ekstrak etanol 70% akar kayu bajakah tampala. Konsentrasi ekstrak etanol akar kayu bajakah tampala yang digunakan dalam penelitian ini 0 µg/mL, 10 µg/mL, 25 µg/mL, 50 µg/mL, 100 µg/mL, 200 µg/mL. Uji migrasi kemotaksis yang digunakan dalam penelitian ini adalah *Boyden Chamber Assay* selama 24 jam. Sel kanker lidah manusia yang telah diinkubasi dalam *boyden chamber apparatus*, dipanen dan diwarnai dengan *haematoxylin*. Penghitungan sel dilakukan dibawah mikroskop cahaya dengan perbesaran 400X.

Data hasil penelitian didapatkan rata-rata sebesar $15,83 \pm 3,06$ (konsentrasi 0 µg/mL), $11,83 \pm 1,83$ (konsentrasi 10 µg/mL), $10,83 \pm 2,23$ (konsentrasi 25 µg/mL), $8,50 \pm 2,51$ (konsentrasi 50 µg/mL), $7,67 \pm 2,07$ (konsentrasi 100 µg/mL), dan $7,50 \pm 1,76$ (konsentrasi 200 µg/mL). Hasil rerata penelitian dilakukan uji normalitas *Saphiro-Wilk* dan uji homogenitas *Levene's Test* ($p > 0,05$). Data hasil penelitian dianalisis statistik menggunakan uji ANOVA satu jalur ($p < 0,05$) dan uji korelasi *Pearson*. Kesimpulan dari penelitian ini adalah ekstrak etanol akar kayu bajakah tampala teruji mampu menghambat migrasi kemotaksis sel kanker lidah manusia dengan semakin tinggi konsentrasi menyebabkan jumlah sel yang bermigrasi menurun.

Kata kunci: ekstrak etanol, bajakah tampala, migrasi kemotaksis, sel kanker lidah manusia

ABSTRACT

Bajakah tampala is a plant originated from the heart of the forest in Kalimantan, Indonesia. Bajakah tampala is believed to have the ability to cure various kinds of diseases. The content of secondary metabolites in Bajakah Tampala has several properties, one of which is anticancer. This study aims to determine the potency of the ethanol extract of the root of the Bajakah tampala against chemotactic migration barriers in human tongue cancer cells.

This research began with the manufacture of 70% ethanol extract from the roots of Bajakah tampala. The concentration of the ethanol extract of the root of the Bajakah tampala used in this study were 0 $\mu\text{g/mL}$, 10 $\mu\text{g/mL}$, 25 $\mu\text{g/mL}$, 50 $\mu\text{g/mL}$, 100 $\mu\text{g/mL}$, 200 $\mu\text{g/mL}$. The chemotaxis migration test used in this study was the Boyden Chamber Assay for 24 hours. The Human tongue cancer cells that have been incubated in the boyden chamber apparatus, harvested and stained with hematoxylin. Cell counting was performed under a microscope with 400X magnification.

The research data obtained an average of 15.83 ± 3.06 (0 $\mu\text{g/mL}$ concentration), 11.83 ± 1.83 (10 $\mu\text{g/mL}$ concentration), 10.83 ± 2.23 (25 $\mu\text{g/mL}$ concentration), 8.50 ± 2.51 (50 $\mu\text{g/mL}$ concentration), 7.67 ± 2.07 (100 $\mu\text{g/mL}$ concentration), and 7.50 ± 1.76 (200 $\mu\text{g/mL}$ concentration). The research data was examined to the Shapiro-Wilk normalization test and the Levene's homogeneity test ($p > 0.05$). The research data was statistically analyzed using the one-way ANOVA test ($p < 0.05$) and the Pearson correlation test. The conclusion of this study was that the ethanol extract of the Bajakah tampala's root has been shown the ability to inhibit chemotaxis migration of human tongue cancer cells with an increased in concentrations resulted in the decrease in the number of migrating cells.

Key words: ethanol extract, bajakah tampala, chemotaxis migration, human tongue cancer cells