Efek Pemberian Ekstrak Kedelai Kaya Lunasin terhadap Ekspresi Ki-67 sebagai Penanda Proliferasi Sel Kanker Payudara Tikus yang Diinduksi DMBA = Effect of Administration of Lunasin-Rich Soybean Extract on Ki-67 Expression as a Marker of DMBA-Induced Mouse Breast Cancer Cell Proliferation.

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Abstrak

Latar belakang: Kanker payudara (KP) termasuk penyebab umum kematian pada wanita di dunia. Salah satu tumor marker yang digunakan sebagai penanda proliferasi sel kanker payudara yakni Ki-67. Ki-67 merupakan protein yang mudah diekspresikan di inti sel selama siklus sel, ekspresi Ki-67 yang tinggi menandakan semakin banyak sel yang berproliferasi. Terapi KP yang dijalani sekarang masih banyak ditemukan efek samping sehingga dibutukan terapi adjuvant dalam pengobatan KP yakni kedelai, kedelai dipilih karena murah, mudah dijangkau serta diyakini mampu menurunkan angka kejadian KP. Riset ini dilakukan untuk mengetahui efek lunasin dalam menurunkan ekspresi Ki-67 pada kelenjar payudara tikus. Metode: : Tikus jenis Sprague dewlay (SD) berjumlah 25 ekor dibagi secara acak ke dalam 5 kelompok yakni kelompok normal, kelompok kontrol negatif atau hanya dinduksi DMBA saja, kelompok tamoksifen, kelompok lunasin + tamoksifen dan kelompok lunasin kuratif. Setiap sedian jaringan kanker payudara diberi pewarnaan immunohistokimia terhadap Ki-67 kemudian akan dilihat dibawah mikroskop cahaya dengan pembesaran 400x,perhitungan jumlah sel dilakukan pada 5 lapang pandang untuk menilai ekspresi Ki-67.Perhitungan jumlah sel dengan menggunakan aplikasi Image J dan IHC profiler Hasil: Lunasin mampu menurunkan ekspresi Ki-67. Terdapat perbedaan bermakna pada setiap kelompok uji jika dibandingkan dengan kontrol negatif (p=0,000). Akan tetapi tidak terdapat perbedaan bermakna antara kelompok tamoksifen dengan kelompok terapi lunasin+ tamoksifen (p=0,961). Kesimpulan: Pemberian lunasin, tamoksifen dan lunasin+tamoksifen mampu menurunkan ekspresi Ki-67 pada sel kanker payudara tikus SD yang diinduksi DMBA. Kata kunci: DMBA, kanker payudara, lunasin, kedelai, protein Ki-67, tamoksifen. .....Introduction: Background: Breast cancer (KP) is a common cause of death in women around the world. One of the tumor markers used as a marker for breast cancer cell proliferation is Ki-67. Ki-67 is a protein that is easily expressed in the cell nucleus during the cell cycle, high Ki-67 expression indicates more cells are proliferating. There are still many side effects of KP therapy currently being carried out, so adjuvant therapy is needed in the treatment of KP, namely soybeans, soybeans were chosen because they are cheap, easy to reach, and are believed to be able to reduce the incidence of KP. This research was conducted to determine the effect of lunasin in reducing the expression of Ki-67 in the breast glands of rats. Method: 25 Sprague dewlay (SD) rats were randomly divided into 5 groups namely the normal group, negative control group or DMBA-induced only, tamoxifen group, lunasin + tamoxifen group and curative lunasin group. Each breast cancer tissue preparation was given immunohistochemical staining of Ki-67 and then viewed under a light microscope with 400x magnification, cell counts were performed in 5 fields of view to assess Ki-67 expression. Cell counts were performed using Image J and IHC profiler applications. Result: Lunasin was able to reduce the expression of Ki-67. There was a significant difference in each test group when compared to the negative control (p=0.000). However, there was no significant difference between the

tamoxifen group and the lunasin + tamoxifen therapy group (p=0.961). Conclusion: Administration of lunasin, tamoxifen and lunasin+tamoxifen was able to reduce Ki-67 expression in DMBA-induced SD rat breast cancer cells. Keywords: DMBA, breast cancer, lunasin, soybean, Ki-67 protein, tamoxifen