

ABSTRACT

THE EFFECT OF GALING (CAYRATIA TRIFOLIA) ETHANOL EXTRACT ON BREAST CANCER IN RATTUS NORVEGICUS WHITE RAT WISTAR STRAIN THROUGH EXPRESSION ANALYSES OF CYCLIN D1, P53 WILD TYPE, VEGF AND COX-2

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Background : The number of cancers every year seems to have increased and breast cancer is ranked the highest. At present the method used to treat cancer has not yet given satisfactory results, but it often gives side effects that are very detrimental to the sufferer. Therefore, it is necessary to think about how to overcome them by providing drugs that can kill cancer cells and provide the least possible side effects. One effort to overcome cancer is by utilizing medicinal plants including galing plants (*Cayratia trifolia*). Some studies on herbal medicine Galing Plants (*Cayratia trifolia*) can be used as a complementary medicine for breast cancer chemotherapy with minimal side effects. Hopefully by using herbal medicines Galing Plants (*Cayratia trifolia*), can reduce side effects and inhibit cancer growth. If cancer prevention drugs found to have properties such as chemotherapy and radiotherapy, more and more cancer patients will experience death, so researchers are trying to get plant material that can damage cancer cells, but do not have side effects.

Objective : To prove the mechanism of Galing Plant etanol extract (*Cayratia trifolia*) to overcome the growth of breast cancer cells.

Method : This study used wistar strain *Rattus norvegicus* female rats with 24 rats divided into 3 groups, Normal group, Control group was rats given carboxymethyl cellulose through intra-gastric sonde as control for 4 weeks. and the Treatment group was mice with breast cancer who were given Galing plant etanol extract (*Cayratia trifolia*) at a dose of 200 mg per kg body weight every day for 4 weeks. This type of research is true experimental with a Completely Randomized Design. Samples and treatments are expected to be controlled, measurable, and the treatment effect can be trusted. This study was conducted to obtain information on the effect of etanol extract of Galing Plant (*Cayratia trifolia*) breast cancer on wistar strain *Rattus norvegicus* female rats on expression of COX-2, p53 (wild type), VEGF, Cyclin D1.

Results : There was an increase in breast cancer volume in the control group and treatment group but in the control group there was a very large increase in 4 weeks while in the treatment group there were fewer additions. This shows that Galing plants can slow the growth of breast cancer cells. The expression of p53 (*wild type*) in the treatment group was higher when compared to the control group and the normal group. The expression of proteins in COX-2, p53 (wild type) was higher when compared to the normal group and the control group. but VEGF and Cyclin D1 in the treatment group was lower when compared to the normal group and the control group.

Conclusion : By using galing plant(Cayratia trifolia) etanol extract can inhibit cancer cell growth and increase of proteins in p53 (wild type), decrease the expression of proteins in COX-2, VEGF and Cyclin D1.

Keywords : Galing Plant (Cayratia trifolia), breast cancer, COX-2, p53 (wild type), VEGF, Cyclin D1.