

## **ABSTRACT**

### **CHEMOPREVENTIVE EFFECTS OF SOURSOP LEAVES (*Annona Muricata L.*) INFUSION IN DUCTAL EPITHELIAL OF BREAST TISSUE IN FEMALE SPRAGUE-DAWLEY RATS INDUCED BY 7,12-DIMETHYLBENZ[A]ANTHRACENE (DMBA)**

**By**

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Breast cancer is the cancer with the highest incidence and mortality on woman in the world, and it tends to increase. The Increase of cancer incidence is a serious issue, which needs to be prevented. Soursop leaf has potency as a chemopreventive agent that is safe and relatively inexpensive. The study was aimed to determine the chemopreventive effects of soursop leaf (*Annona muricata L.*) infusion in the ductal epithelial of breast tissue in female rats.

24 female Sprague Dawley rats (*Rattus norvegicus*) were used in this study, and were divided into four groups which treated for four weeks. Those four groups were as follow, KI (negative controls were given 1 ml aquadest (each day), KII (positive control, induced by 7,12 dimethylbenz(a)anthracene (DMBA) 20mg/kg twice a week), KIII (induced by DMBA twice a week and soursop leaf infusion

0.1 g/1ml each day) and KIV (induced by DMBA twice a week and soursop leaf infusion 0.2 g/2ml each day). At the end of the experiment, the rats were terminated by anesthesia and cervical dislocation, then the breast tissue was taken for histopathological preparations with hematoxylin-eosin staining, and subsequently carried out for the observations of epithelial hyperplasia of mammary glands.

The results of microscopic appearance showed that KI had normal breast glandular epithelium ( $0.03 \pm 0.82$ ), KII showed severe hyperplasia – atypia ( $2.2 \pm 0.22$ ), KIII showed mild hyperplasia ( $0.6 \pm 0.13$ ) and KIV showed mild – severe hyperplasia ( $1.03 \pm 0.15$ ). The results of the Kruskal-Wallis and Mann-Whitney test showed significant differences among all treatments (the entire p-values were less than 0.005). The test results showed that the soursop leaves infusion at a dose of 0.1 g/1ml (KIII) had the chemopreventive effects better than other treatments.

**Keywords :** Soursop leaves, Infusion, DMBA, breast ductal epithelial