

## ABSTRAK

Ginjal merupakan organ ekskresi utama yang memiliki peran penting dalam tubuh manusia. Kerusakan pada ginjal dapat berakibat fatal, terutama kerusakan pada fungsi ginjal, sehingga proses filtrasi dan reabsorpsi tidak berlangsung sempurna. 7,12-dimethylbenz-[a]anthracene (DMBA) merupakan zat toksik yang dapat menginduksi kanker dan menyebabkan *nephrotoxicity*. Ginjal yang telah terpapar DMBA akan mengalami perubahan seperti dilatasi kapsula bowman dan degenerasi sel tubular. Telah diketahui, daun dari tumbuhan sirsak (*Annona muricata*) dapat meningkatkan *antioxidant* Nrf-2 dan mengeluarkan faktor antiinflamasi. Tujuan penelitian untuk menganalisis pengaruh pemberian ekstrak daun sirsak terhadap gambaran mikrostruktur ginjal tikus. Sebanyak 17 tikus galur Wistar digunakan sebagai hewan coba. Penelitian ini merupakan penelitian eksperimental murni *in vivo* dan analisis data dengan uji Anova. Data penelitian diambil dengan cara melakukan observasi pada preparat ginjal tikus yang telah diberikan serangkaian perlakuan menggunakan mikroskop cahaya dengan bantuan aplikasi Image Raster. Hasil penelitian menunjukkan adanya perbedaan gambaran sel epitel tubulus dan ukuran capsula bowman ginjal tikus. Hasil analisis statistik menunjukkan bahwa praduga adanya keterkaitan antara kelompok perlakuan dengan ukuran capsula Bowman dan jumlah sel *hydropic* ditolak karena adanya nilai  $p=0.07$  (nilai  $p>0.05$ ). Simpulan, pemberian ekstrak air daun sirsak pada tikus yang telah diinduksi DMBA tidak memiliki keterkaitan ditinjau secara statistik.

**Kata Kunci:** Kanker, Daun sirsak, DMBA, DMBA terhadap Ginjal

## **ABSTRACT**

*Kidney is the main excretory organ that has important role in the human body. Damage to the kidneys can be fatal, due to damage to the kidneys, especially damage to kidney function, the filtration and reabsorption process does not work perfectly. 7,12-dimethylbenz- [a] anthracene (DMBA) is a toxic substance that can induce cancer and cause nephrotoxicity. Kidneys that have been exposed to DMBA will experience changed such as dilation of the bowman's capsule and tubular cell degeneration. It is known, the leaves of the soursop plant (Annona muricata) can increase antioxidant Nrf-2 and antiinflammation. The aim of the study was to analyze the effect of annona muricata leaf extract on rat kidney microstructures. A total of 17 Wistar strain rats were used as experimental animals. This research is purely in vivo experimental research and data analysis by Anova test. research data was taken by observing the rat kidney preparations that had been given a series of treatments using a light microscope with help of the Image Raster application. The results showed differences in the description of tubular epithelial cells and the size of rats bowman capsules in rats kidney. Results of statistical analysis showed that the presumption of the relationship between the treatment group with the size of the capsula Bowman and the number of hydropic cells was rejected because of the value of  $p = 0.07$  ( $p \text{ value} > 0.05$ ). Conclusion, administration of annona muricata leaf water extract to rats that has been induced by DMBA has no connection statistically reviewed.*

**Keyword:** Cancer, Annona muricata, DMBA, DMBA effect to Kidney