

## ABSTRACT

Rohmah, Munawwarotur. 2014. The Effect of Treating the Mulberry Leaf Infusion (*Morus alba* L.) on the Histological Image of Glomerulus and Proximal Tubules of White Rat (*Rattus norvegicus*) suffering Diabetes Mellitus. Thesis, Department of Biology, Faculty of Science and Technology *Maulana Malik Ibrahim* State Islamic University of Malang. Supervisor: Dr. drh. Bayyinatul Muchtaromah, M.Si and Mujahidin Ahmad, M.Sc.

**Keywords:** Mullberry Infusion (*Morus alba* L.), Histology of Glomerulus, Histology of Proximal Tubules, *Aloxan*, Chronic Diabetes Mellitus

Diabetes mellitus is a disease of insulin hormone balance disorder which is characterized by an increase in blood glucose levels. Diabetes mellitus are able to cause an increase of free radicals. The free radicals can damage the structure of the kidney involving proximal tubule and the glomerulus. It was necessary for the intake of natural antioxidants derived from mulberry leaves the plant. Mulberry leaf contains many active substances include BNJ that is able to reduce blood sugar level and contains antioxidants in the form of  $\beta$  Karoten, *B-sitosterone*, *moracetin*, *soquersetin*, *flavonoid*, *eugenol*, dan *vitamin C* that can repair the damage of the kidneys. This research aimed to examine the effect of Mulberry leaf infusion on the histological image of glomerulus and proximal tubules of white rat suffering diabetes mellitus.

This research was experimental research using Randomized Complete Design (RAL) with 4 replicates. The treatments used were white rats without treatment (K-), aloxan induced rat 100 mg/kg (K), the rats were given doses of the mulberry leaf infusion 400, 600, 800 and 1000 mg/kg body weight. Induction of *aloxan* was let for 30 days then given Mulberry leaf infusion and was let for 30 days. After administering the treatment, the rats were dissected and their kidneys were taken to make preparations with the use of histology staining *Hematoxylin Eosin* (HE). Data research results included the damage of cells in the proximal tubule and the glomerulus tissues. The Data obtained were analyzed by one-way ANOVA, when there was a very real difference then continued by Duncan test of 1%.

The result showed that granting infusa mulberry leaves influential in lowering the level of damage the glomerulus and tubules proximally with a dose of optimal p4 ( 1000 mg / kg. bb ).It showed that the group p4 ( 1000 mg / kg. bb containing a chemical compound that is effective in lowering the level of damage the glomerulus and tubules proximally murine white diabetes chronicle.