

ABSTRACT**THE EFFECT OF GIVING ROSELLA CALYX EXTRACT
ON MALONDIALDEHYDE AND OVERVIEW OF HISTOPATHOLOGY
OF WISTAR RATS LIVER EXPOSED TO SMOKE**

Currently the number of smokers in Indonesia are still high. Cigarette smoke contains free radicals. This study aims to analyze the effects of red and purple roselle extract on the prevention of the increase of Malondialdehyde and degeneration of hepatocytes of wistar rats exposed to cigarette smoke. The total sample of 30 male rats and divided into six groups: negative control, positive control, treatment of red roselle extract 270 mg/bw, red roselle extract 540 mg/bw, purple roselle extract 270 mg/bw, and purple roselle extract 540 mg/bw. Negative control only given with standard feed. Positive control given by standard + exposed to 2 cigarettes a day. Treatment group were feed by standard + roselle extract in the morning and exposed to 2 cigarettes after that. This study was conducted for 28 days. At the end of the study, blood serum was analyzed to determine the value of MDA serum and liver observed to see the degeneration of hepatocytes. The results of the study of serum MDA test is analyzed with One Way ANOVA and followed by Tukey HSD test at 5% level. The giving of red roselle calyx extract dose 540 mg/bw can significantly prevent the increase of serum MDA in wistar rats exposed to cigarette smoke. For analysis of hepatocyte degeneration, the result of Kruskal Wallis test showed significant influence ($\alpha = 0.05$), it takes up the Mann-Whitney test. All treatment given by extract were able to prevent the degeneration of hepatocytes of wistar rat exposed to cigarette smoke.

Keywords : roselle, cigarette smoke, serum MDA, hepatocyte degeneration.