

ABSTRACT

**STUDY SUBCHRONIC TOXICITY
EXTRACT ALCOHOL 70% RIND of *Citrus nobilis* Lour
DURING 90 DAYS
(Observation of Histopatology of the Heart, Lung and
Spleen of Rat)**

Endri Zulfikar Fahmi

Rind of *Citrus nobilis* Lour contains a variety of components that are vitamin A, vitamin B, vitamin C, hesperidin, limonene, citral, and methyl antranilate (Li, 2002). Hesperidin is a flavonoid glycoside compound and a polyphenol compound which includes a hyaluronidase inhibitor compound (Prajogo et al, 1997). If the hyaluronidase enzyme is inhibited then the ability to disperse the cumulus oophorus will decrease and in the end there is no penetration (Zaneveld, 1976).

This research is done by subchronic toxicity test by using 70% alcohol extract of rind *Citrus nobilis* Lour with microscopic examination of heart, lung and spleen organ. Wistar rats were then divided into 4 groups: control group,

dose 1 group, dose 2 group and dose 3 group. After rats were given dose treatment for 90 days then observed histopathology of heart, lung and spleen. Each rat organ preparation was observed in five different fields of view then scored and processed with rank ratings then analyzed using non parametric statistical test using Kruskal Wallis test.

Alcoholic extract obtained 70% rind of *Citrus nobilis* Lour for 90 days with a dose of 1000mg / kg of rats based on statistical tests showed damaged heart muscle cell on histopathological observation of the heart. Alcohol extract 70% *Citrus nobilis* Lour for 90 days in all treatment groups based on statistical tests did not show effect on lung histopathology observation where no change in wall thickness of rat lung alveoli was observed. Alcohol extract 70% rind of *Citrus nobilis* Lour for 90 days in all treatment groups based on statistical tests did not show effect on splenic histopathologic observation where there was no increase in the diameter of the white pulp. It is then expected to continue on the chronic toxicity test of alcohol extract 70% rind of *Citrus nobilis* Lour for 12 months to predict the safety of clinical use in humans in the long term.

Keywords : *Citrus nobilis* Lour, subchronic toxicity, hitopatology, heart, lung, spleen.