MOHAMAD ANA SYABANA. Acute and Subchronic Toxicity Studies Of Water Extract Mulberry Fruit (Morus alba L.) on Sprague Dawley Rat. Under direction of FRANSISKA RUNGKAT ZAKARIA and DEWI RATIH AGUNG PRIYONO.

Mulberry fruit have a lot of positive impact to health, so it is suitable to develop it as functional food or phytopharmaceutical. Before it, mulberry fruit must be proven have no negative effect when it is consumed every day. This research aim is to study acute and sub chronic toxicity of mulberry fruit water extract on Sprague Dawley rat. The acute toxicity was determined by giving extract of 5 gram of fruit/kg body weight by gavage to 5 male and female rats group one time. The 3 day observations showed that the treatment did not cause any mortality nor clinical signs such as physical changes, decrease of body weight and feed consumption. The sub chronic toxicity was determined by giving extract of 0.1 and 1 gram of fruit/kg body weight to each 5 male and female rats group daily with the mulberry fruit water extract continuously for 92 days. The 92 days observation showed that the treatment did not cause any mortality nor any clinical signs such as physical changes, decrease of body weight and feed consumption compared to the control group. After 92 days of treatment, all rats were terminated, and their serum, liver and kidneys tissue were collected for assessing liver and kidney damage microscopically. Biochemistry parameters profile that linked with liver damaged did not show any liver toxicity incident, only slight increased of protein in the group that received 1 g/kg bw which was statistically significantly (p<0.05) although it is still within normal range. Microscopic liver examination also did not showed hepatocytes damage. Biochemistry parameter profile that linked with kidney damage and histology of kidney did not show kidney toxicity. The glomerulus lesion is increase along with increasing doses but the tubulus lesion is decrease along with increasing doses, although they are not statistically significant. (p>0.05).

Key words: acute, sub chronic, mulberry fruit water extract, liver, kidney