

**EFFECTS OF VITAMIN C AND VITAMIN E COMBINATION AS  
PREVENTION ON THE LIVER HISTOPATHOLOGICAL  
IN MICE (*Mus musculus*) TREATED WITH BORAX**

Lita Purwita Sari

**ABSTRACT**

The aim of this research was to evaluate the effect of vitamin C and vitamin E combination as prevention on liver histopathological in mice (*Mus musculus*) exposed borax. Twenty five male mice of BALB/c strain were randomly divided into five groups; P0 as negative control was given distilled water, P1 as positive control was given 260 mg/kg/day of borax, P2 was given combination of 28 mg/kg/day vitamin C and 105 mg/kg/day of vitamin E and 260 mg/kg/day of borax, P3 was given combination of 56 mg/kg/day vitamin C and 210 mg/kg/day of vitamin E and 260 mg/kg/day of borax, P4 was given combination of 112 mg/kg/day vitamin C and 420 mg/kg/day of vitamin E and 260 mg/kg/day of borax. Borax solutions on P2, P3, and P4 groups treated in a hour after each groups treated with combination of vitamin C and vitamin E solutions. The treatment were given by oral. The treatment were done every day for 14 day. On the 15<sup>th</sup> day of experimental, mice dislocated cervicalis and the liver organ was taken to make histopathologis sample. The sample were observed increased Kupffer cells, vacuole degeneration, karyorrhexis, and karyolysis. The sample were compared and showed no significant difference. In conclusion, combination of vitamin C and vitamin E as a prevention couldn't prevent damage to liver cells of mice exposed borax.

**Keyword** : borax, vitamin C, vitamin E, histopahtologic.