

PROTECTIVE EFFECT OF *Ocimum sanctum* LEAVES ETHANOL EXTRACT ON THE HISTOPATHOLOGICAL CHANGES OF KIDNEY IN MICE (*Mus musculus*) EXPOSED BY LEAD ACETATE

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ABSTRACT

This research was conducted to investigate the protective effect of *Ocimum sanctum* leaves ethanol extract on the histopathological changes of kidney induced by lead acetate in mice (*Mus musculus*). This research used 20 male mice as the experimental animal which were divided into five groups with four mice on each group; negative control (C-) were given Tween 80 and aquadest, positive control (C+) were given Tween 80 and lead acetate 20 mg/kg BW, T1 were given *Ocimum sanctum* leaves ethanol extract 140 mg/kg BW and lead acetate 20 mg/kg BW, T2 were given *Ocimum sanctum* leaves ethanol extract 280 mg/kg BW and lead acetate 20 mg/kg BW, and T3 were given *Ocimum sanctum* leaves ethanol extract 560 mg/kg BW and lead acetate 20 mg/kg BW. The extract of *Ocimum sanctum* was given orally for 24 days and lead acetate was given orally for 21 day (from 4th until 24th day) within one hour after the treatment. The histopathological changes observed in this research were tubular epithelial hydropic degeneration, tubular epithelial necrosis, and glomerular necrosis. The histopathological changes of kidney were examined with Kruskal-Wallis test followed by Man-Whitney Test to compare the treatment of each group showed significant difference ($p < 0.05$) for tubular epithelial hydropic degeneration and tubular epithelial necrosis, while glomerular necrosis did not show significant difference ($p > 0.05$). The result concluded that *Ocimum sanctum* leaves ethanol extract could protect mice kidney from the damage effect of lead acetate. The best dose of *Ocimum sanctum* on this research was 560 mg/kg BW.

Keywords: kidney, lead acetate, *Mus musculus*, *Ocimum sanctum*

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