ABSTRACT

KIRSTINA DWI WULANDARI. The Effect of Probiotic on the Immunohistochemical Profile of Antioxidant Superoxide Dismutase (SOD) in the Kidney of Enteropathogenic E. coli (EPEC) Treated Rats. Under direction of TUTIK WRESDIYATI.

The study was conducted to evaluate the effect of probiotic Lactobacillus fermentum and Lactobacillus plantarum on the immunohistochemical profile of antioxidant copper,zinc-superoxide dismutase (Cu,Zn-SOD) in the kidney of Enteropathogenic E. coli (EPEC) treated rats. A total of 90 male Sprague Dawley rats were used in this study. They were divided into 6 groups; (A) negative control group, (B) Lactobacillus plantarum treated group, (C) Lactobacillus fermentum treated group, (D) Lactobacillus plantarum and EPEC treated group, (E) Lactobacillus fermentum and EPEC treated group, and (F) EPEC treated (positive control) group. The content of antioxidant cooper,zinc superoxide dismutase (Cu,Zn-SOD) were analyzed immunohistochemically using monoclonal antibody of Cu,Zn-SOD. The result showed that Lactobacillus fermentum treatment for 1 to 3 weeks increased the content of Cu,Zn-SOD in rat kidney. Lactobacillus plantarum treatment for 3 weeks could not increased the content of Cu,Zn-SOD in rat kidney. In the EPEC treated rats, Lactobacillus fermentum gave better effect than Lactobacillus plantarum on the content of Cu,Zn-SOD in rat kidney.

Keywords: Probiotic, Immunohistochemical, Cu,Zn-SOD, Kidney, EPEC