DUODENAL HISTOPATHOLOGICAL CHANGES IN RATS (*Rattus norvegicus*) THE PROVISION OF BACTERIOCINS AND BORAX

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**ABSTRACT**

The purpose of this study was to evaluate the histopathological changes in duodenum of rats after giving bacteriocins and borax using subchronic toxicity doses. The research has been done on April-May 2013 at Faculty of Medicine, Faculty Sains of and Technology, University of Airlangga. Eighteen (18) male rats (*Rattus norvegicus*) aged 2-3 months with weight 200-300 g were used. They were divided into three groups (P0, P1, and P2). P0 were treated with sterile aquadest 0,5 ml/rats/day, P1 were treated with bacteriocins 0,5 ml/rats/day, and P2 were treated with borax 26 mg/rats/day. This research was conducted for 14 days to evaluate the histopathological changes in duodenum. The data were compared using Kruskal-Wallis test and Mann-Whitney test. Statistical comparisons were performed using SPSS v21.0 for Windows. The result showed that bacteriocins did not caused histopathological changes in duodenum while borax significantly caused cloudy swelling, congestion, necrosis and erosion of the villi on duodenal histopathology (p<0,05).

**Key words**: bacteriocins, borax, duodenal histopathology.