ABSTRACT

ANTIBACTERIAL ACTIVITY OF MILK PROBIOTIC *Lactobacillus paracasei* ATCC BAA52 AND MANGO HONEY (*Mangifera indica*) COMBINATION AGAINST *Streptococcus mutans*

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A study had been conducted on the antibacterial activity of the combination of mango honey and probiotic milk of *Lactobacillus paracasei* ATCC BAA52 on the growth of *Streptococcus mutans*. Fermented milk was made by inoculating *Lactobacillus paracasei* ATCC BAA52 fermented milk, mango honey and their combination at optimal ratio (propotion) into fresh milk at 45 °C, then incubated for 24 hours at room temperature. The antibacterial activity test was performed by agar diffusion method with Müeller Hinton agar medium to determine the minimal inhibitory concentration inhibition (MIC). The result of probiotic milk characterization showed that the pH of probiotic milk decreased compared to fresh milk from pH 6.33 to 3.89. Furthermore, the MIC of each samples against *Streptococcus mutans* were determined. The results indicated that the MIC of mango honey solution and *Lactobacillus paracasei* fermented milk was 17,5% and 55% with inhibition 10,40 ± 0,96 mm and 10,65 ± 0,30 mm. The combination of mango honey solution and *L. paracasei* milk probiotic on *S. mutans* was made in various ratio (1:9, 2:8, 3:7, 4:6, 5:5, 6:4, 7:3, 8:2, 9:1) at 8:2 ratio gave maximum activity against *S. mutans* with inhibition 17,12 ± 0,22 mm, which was determined based on the highest average value of inhibition zone diameter. The MIC of the optimum ratio was 25% with inhibition zone diameter of 13,03 ± 0,57 mm

Keyword: antibacterial activity, probiotik milk of *Lactobacillus paracasei* ATCC BAA52, Mango Honey, *Streptococcus mutans*