ABSTRACT

ANTIBACTERIAL ACTIVITY OF MILK PROBIOTIC Lactobacillus paracasei ATCC BAA52 AND MADU RANDU (Ceiba pentandra) COMBINATION AGAINST Streptococcus mutans

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Streptococcus mutans is a Gram-positive bacterium considered as the main pathogenic bacteria that cause dental caries. Dental caries can be prevented in various way such as inhibit the growth of cariogenic bacteria. The randu honey and probiotic milk of Lactobacillus paracasei had antibacterial activity that has been proven in various studies. The objectives of this study were to determine MIC of randu honey and probiotic milk of L. paracasei, to discover the optimal ratio combination of randu honey and probiotic milk of L. paracasei that generate maximum of antibacterial activity and to determine the MIC of above-mentioned combination. The antibacterial activity test was performed with agar well- diffusion method. The samples used in this study were randu honey, probiotic milk of L. paracasei and the combination of those samples in various ratio (1:9, 2:8, 3:7, 4:6, 5:5, 6:4, 7:3, 8:2, 9:1). The results showed that the MIC of randu honey was the concentration of 15% with average value of inhibition zone diameter as 11.55 ± 0.82 mm, while the MIC of L. paracasei probiotic milk was 55% with 10.65 ± 0.30 as the average value of inhibition zone diameter. The optimal ratio of the combination was 9:1 that consisted of 50% concentration of randu honey and L. paracasei probiotic milk 21.85 ± 0.22 mm as the average value of inhibition zone diameter. The MIC of the optimal ratio combination was 25% with 11.91 ± 0.84 mm as the average value of inhibition zone diameter.

Keywords: antibacterial activity, Lactobacillus paracasei, probiotic milk, randu honey, Streptococcus mutans