

ABSTRACT

**ANTIBACTERIAL ACTIVITY OF THE COMBINATION OF
PROBIOTIC MILK MICROPARTICLES AND MICROPARTICLES
OF AQUEOUS EXTRACT OF GUAVA LEAVES AGAINST**

Escherichia coli

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Purpose of this research is to see the activity of combination probiotic microparticles and aqueous extract of guava leaf against *Escherichia coli*. Four different formula probiotic *Lactobacillus sp* microparticles (P) and aqueous extract of guava leaves microparticles (J) were prepared. P₁ and J₁ without matrix HPMC K100LV, P₂ and J₂ used matrix HPMC K100LV 0,1%, P₃ and J₃ used matrix HPMC K100LV 0,2%, P₄ and J₄ used matrix HPMC K100LV 0,3%. Activity test of both microparticles performed at gastrointestinal pH conditions, that is gastric pH and intestine pH. The microparticles are inserted to holes of agar that added bacteri test *Escherichia coli* dan incubated for 24 hours at 37°C. Probiotic *Lactobacillus sp* microparticles that have highest inhibitory activity is P₂ with $7,70 \pm 1,11$ mm, while the highest for aqueous extract of guava leaves microparticles is J₂ with $11,15 \pm 0,23$ mm. Then performed inhibitory activity test to combination of probiotic microparticles and aqueous extract of guava leaves against *Escherichia coli* and the result showed the inhibitory activity $11,73 \pm 0,10$ mm. From statistical test shown that inhibitory activity of those microparticles was significant different from probiotic *Lactobacillus sp* microparticles, and has not significant different from aqueous extract of guava leaves microparticles. It can be concluded that combination of probiotic microparticles and aqueous extract of guava leaves do not have a synergistic effect.

Key word: *Lactobacillus sp.*, *Escherichia coli*, HPMC K100LV, inhibitory activity, guava leaves.