

**UJI AKTIVITAS BAKTERI ASAM LAKTAT (*Lactobacillus bulgaricus*  
DAN *Streptococcus thermophilus*) YOGHURT DALAM  
MENGHAMBAT PERTUMBUHAN ISOLAT  
*Shigella dysenteriae* PENYEBAB DISENTRI**

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**ABSTRAK**

*Shigella dysenteriae* merupakan bakteri patogen penyebab disentri. Pengobatan yang biasa digunakan adalah antibiotik. Kelemahan dari pemberian antibiotik adalah bakteri penyebab disentri akan menjadi resisten, sehingga dibutuhkan terapi pencegahan. Terapi pencegahan bisa dengan mengkonsumsi yoghurt, yaitu minuman probiotik yang dihasilkan melalui proses fermentasi bakteri asam laktat (BAL). Tujuan penelitian adalah untuk mengetahui aktivitas bakteri asam laktat (*Lactobacillus bulgaricus* dan *Streptococcus thermophilus*) pada yoghurt dalam menekan pertumbuhan isolat *Shigella dysenteriae* penyebab disentri. Penelitian menggunakan metode *quasi experimental, posttest-only with Control Group Design*. Pengujian bakteri menggunakan metode dilusi cair. Total sampel sebanyak 30, dibagi menjadi 5 kelompok konsentrasi. K1 (0%) sebagai kelompok kontrol akan dibandingkan dengan K2 (20%), K3 (40%), K4 (60%), K5 (80%) sebagai kelompok perlakuan dengan metode Lay. Rancangan percobaan pada penelitian ini menggunakan metode Rancangan Acak Lengkap (RAL). Analisis data menggunakan uji *One Way ANOVA*, dilanjutkan dengan uji *Post-hoc Bonferroni*. Hasil uji *One Way ANOVA* menunjukkan terdapat perbedaan signifikan karena didapatkan  $p=0,000$  ( $p<0,05$ ). Hasil uji lanjutan *Post-hoc Bonferroni* memiliki perbedaan yang signifikan antara K1 dengan semua kelompok perlakuan yaitu, K1 dan K2  $p=0,002$  ( $p<0,05$ ) dengan persentase penghambatan sebesar 99,56%, K1 dan K3  $p=0,001$  dengan persentase penghambatan sebesar 99,67%, K1 dan K4  $p=0,001$  dengan persentase penghambatan sebesar 99,77%, K1 dan K5  $p<0,001$  dengan persentase penghambatan sebesar 99,80%. Kesimpulan penelitian ini adalah BAL pada yoghurt dapat menekan pertumbuhan isolat *Shigella dysenteriae* penyebab disentri dan konsentrasi hambat minimum yoghurt adalah 20%.

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**Kata kunci:** Yoghurt, Bakteri Asam Laktat, *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, *Shigella dysenteriae*

**ACTIVITY TEST OF YOGHURT LACTIC ACID BACTERI (*Lactobacillus bulgaricus* AND *Streptococcus thermophilus*) IN SUPPRESSING THE GROWTH OF *Shigella dysenteriae* ISOLATES CAUSES OF DISENTRI**

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**ABSTRACT**

*Shigella dysenteriae* is a pathogenic bacterium that causes dysentery. Medications that is usually used is antibiotics. The disadvantage of giving antibiotics is the bacteria that cause dysentery will become resistant, so prevention therapy is needed. Preventive therapy can be by consuming yoghurt, which is a probiotic beverage produced through the fermentation process by lactic acid bacteria (LAB). The purpose of this study was to determine the activity of lactic acid bacteria (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*) on yoghurt in suppressing the growth of *Shigella dysenteriae* isolates that cause dysentery. The study used a quasi-experimental method, posttest-only with Control Group Design. Bacterial testing uses liquid dilution method. The total sample was 30, which were divided into 5 concentration groups. K1 (0%) as a control group will be compared with K2 (20%), K3 (40%), K4 (60%), K5 (80%) as treatment group with Lay method. The experimental design in this study used Completely Randomized Design (CRD) method. Data analysis used One Way ANOVA test and continued with Bonferroni Post-hoc test. One Way ANOVA test results showed that there were significant differences because  $p = 0,000$  ( $p < 0.05$ ). The results of the post-hoc Bonferroni follow-up test had a significant difference between K1 and all treatment groups, K1 with K2  $p = 0.002$  ( $p < 0.05$ ) with inhibition percentage of 99.56%, K1 with K3  $p = 0.001$  with a percentage inhibition of 99.67%, K1 with K4  $p = 0.001$  with inhibition percentage of 99.77%, K1 with K5  $p < 0.001$  with inhibition percentage of 99.80%. The conclusion of this study is that LAB in yoghurt can suppress the growth of *Shigella dysenteriae* isolates that cause dysentery and the minimum inhibitory concentration of yoghurt is 20%.

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**Keywords:** Yoghurt, Lactic Acid Bacteria, *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, *Shigella dysenteriae*