ABSTRACT

Sulthan Hakim.24020120190045. Isolation and Antibacterial Activity of Lactic Acid Bacteria from Infant Feces Against Food Pathogens Bacteria. Under supervision of Siti Nur Jannah and Sri Pujiyanto.

This study aimed to isolate Lactic Acid Bacteria (LAB) from the feces of breastfed infants to evaluate their antibacterial activity against pathogenic bacteria. Ten LAB isolates were successfully obtained and tested using the inhibition zone method against *Staphylococcus aureus* and *Escherichia coli*. The isolation was performed on MRSA media supplemented with 0.5% $CaCO_3$, followed by macroscopic and microscopic characterization. All isolates were confirmed to be Gram-positive, rod-shaped, and catalase-negative. Antibacterial testing showed that isolate IF 4 produced the largest inhibition zone against *S. aureus* with an average of 13.75 mm, while isolate IF 10 showed an inhibition zone of 10.85 mm *against E. coli*. These results indicate that LAB isolates from infant feces exhibit significant antibacterial activity against pathogenic bacteria, particularly *S. aureus* and *E. coli.*

Key words: Antibacterial activity, Escherichia coli, Lactic Acid Bacteria (LAB), Pathogenic bacteria, Staphylococcus aureus