Production Optimization and Antimicrobial Activity of *Bacillus Subtilis* Crude Lipopeptide Biosurfactant From Waste of Traditional Malang Poultry Slaughterhouse's

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ABSTRACT

This research aimed to discover production optimization and antimicrobial activity of *Bacillus subtilis* crude lipopeptide biosurfactant from Poultry Slaughterhouse's waste. Media optimization for biosurfactant production used basal media and carbon source combination. Media production used Nutrient Glucose Broth (NGB) 5 %, and Nutrient Molasses Broth (NMB) 5%, 10%, and 15%. Drop collapse were used as the biosurfactant detection method. Acidity technique was used to isolate crude lipopeptide biosurfactant. Antimicrobial activity against gram positive (*S. aureus*) and negative bacteria (*E. coli*) was examined using diffusion disc method in order to investigate the inhibition of each bacteria. Temperature treatment was used to know effect on crude lipopeptide biosurfactant bacteriostatic activity against *S. aureus*. NMB 5% was optimum media for *B. subtilis* biosurfactant production. The crude lipopeptide biosurfactant has bacteriostatic activity against *S. aureus* and *E. coli*. The crude lipopeptide biosurfactant was stable on temperature treatment.

Key words **:** Crude lipopeptide biosurfactant, Media, Antimicrobial