ABSTRACT

Lactic Acid Bacteria Producing Antibacterial from Pineapple Fruit (Ananas comosus) that Inhibits The Growth of Methicillin-Resistant Staphylococcus aureus (MRSA)

Haniah Hanif

Methicillin-resistant Staphylococcus aureus (MRSA) is Staphylococcus aureus which is resistant to methicillin and to other β -lactam antibiotics. The urgency of MRSA is currently a global health problem, both in developed and developing countries. The search for new antibiotics for MRSA pathogens is included in priority 2 (high). Lactic acid bacteria can produce antibacterial substances that inhibits the growth of MRSA. It produces antibacterial substances with low molecular weight to inhibit both gram positive and negative bacteria, prevent colonization of pathogenic microorganisms by competitive inhibition at the microbial site. The search for new lactic acid bacteria is widely investigated. Fresh or fermented fruits and vegetables is potential as lactic acid bacteria's carriers, due to its natural structure that can be a place for bacteria to grow. Pineapple is a suitable carrier for lactic acid bacteria, because pineapple contains high nutrition for the growth of lactic acid bacteria, including sucrose, glucose, fructose, vitamins, minerals, and fiber. This literature review analyze a number of references related to lactic acid bacteria isolated from pineapples that inhibit the growth of MRSA. The result shows lactic acid bacteria isolated from pineapple that can inhibit MRSA growth are Lactobacillus plantarum, Lactobacilus acidophilus, and Weissella cibaria, where Lactobacillus plantarum produce plantaricin, Lactobacillus acidophilus produce lactacin B or F, and Weissella cibaria produce bacteriocin and H₂O₂ as their antibacterial products that inhibit MRSA.

Keywords: Methicilin-resistant *Staphylococcus aureus*, lactic acid bacteria, *Ananas comosus*, antibacterial.