

ANTIBIOTIC RESISTANCE OF LACTIC ACID BACTERIA ISOLATED FROM PANGELANGAN COW'S MILK

B. Norman^{1*}, B. L. Roostita², R. Nia³, S. B. Lia⁴, P. S. Wendri⁵, S. Puja⁶, U. L. Gemilang⁷

¹Department of Biotechnology, School of Postgraduate, University Padjadjaran, Bandung, Indonesia

²Department of Veterinary Medicine, Faculty of Medicine, University Padjadjaran, Bandung, Indonesia

³Department of Biology, Faculty of Mathematic and Natural Science, University Padjadjaran, Bandung, Indonesia

⁴Department of Animal Production, Faculty of Animal Husbandry, University Padjadjaran, Bandung, Indonesia

⁵Department of Animal Product Technology, Faculty of Animal Husbandry, University Padjadjaran, Indonesia

⁶Faculty of Agriculture, University Padjadjaran, Bandung, Indonesia

⁷Department of Food Technology, Faculty of Agricultural Industrial Technology, University Padjadjaran, Bandung, Indonesia

*e-mail: Normanbilli79@gmail.com

Abstract

World Health Organization (WHO) has stated that antibiotic resistance is one of the global threats for humankind. The occurrence of antibiotic resistance will make antibiotics unable to fight against pathogenic bacteria as the leading cause of several diseases. Nowadays, antibiotic resistance has also been discovered in non-pathogenic bacteria like Lactic Acid Bacteria (LAB), including *Lactobacillus* sp isolated from milk. This research was used by some steps started from the isolation of lactic acid bacteria, identification of lactic acid bacteria, and antibiotic resistance test. The result has exhibited that *Lactobacillus plantarum* isolate from cow's milk is resistant to vancomycin (57%), ampicillin (29%), and intermediate resistance to ciprofloxacin (35%). As a result, Lactic Acid Bacteria isolated from cow's milk at Pangalengan show the dominant resistance to vancomycin. The mechanism of antibiotic resistance that happens in *Lactobacillus plantarum* is intrinsic resistance.

Key word: antibiotic, lactic acid bacteria, lactobacillus, resistance