

Isolation and Identification of Lactic Acid Bacteria that Isolated from Domestic Chicken (*Gallus gallus domesticus*)

by Heru Nurcahyo, Ixora Sartika Mercuriani, Bernadetta Octavia, Adinda Yuslia Rukmanandita, Fita Nilasari

ABSTRACT

The digestive tract of poultry is one of the lactic acid bacteria's habitats. The aims of research was to identify the types of lactic acid bacteria that isolated from *intestinum* of domestic chicken (*Gallus gallus domesticus*) based on phenotypic and genotypic characters. This research was an exploration research. The lactic acid bacteria were cultivated on enrichment media MRSA + CaCO₃ 1% and selection of isolates based on halo zone. The identification based on phenotypic characters was done by using morphological, physiological, and biochemical tests. Analysis of phenotype characters was done by using profile matching with Bergey's Manual of Determinative Bacteriology's book as reference, followed by similarity analysis using Similarity Simple Matching (SSM) and dendogram analysis using MVSP 3.1 program. Genotype identification was done by using amplification of 16S rRNA gene sequences with Polymerase Chain Reaction (PCR) method and sequencing. The sequence was analyzed using BLAST at www.ncbi.nlm.nih.gov. The results of research showed that 87 isolates was isolated from the *intestinum* of domestic chicken based on halo zone on media. The phenotypic characterization tests were performed on 8 isolates (J6, J15, J18, J28, B11, B24, B25, B26). The results showed that 4 isolates has similarity with genus *Bacillus*, 2 isolates has similarity with genus *Lactobacillus*, and 2 isolates has similarity with genus *Streptococcus*. The identification results based on 16S rRNA gene of 4 selected isolates (J15, J28, B24, B26) showed that isolates J15 was identified as *Bacillus cereus* (98,56% similarity), isolates J28 was identified as *Lactobacillus johnsonii* (99,67% similarity), isolates B24 was identified as *Bacillus cereus* (98.30% similarity), and isolates B26 was identified as *Streptococcus pluranimalium* (96.68%similarity).

Kata Kunci: *Isolation, identification, lactic acid bacteria, intestinum, 16S rRNA gene*