

**ANALYSIS OF HOMOLOGY AND PHYLOGENETIC GENES  
ENCODING HN PROTEIN OF NEWCASTLE DISEASE VIRUS  
ISOLATED FROM SURABAYA**

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**ABSTRACT**

The aims of this research are to analyze the nucleotide and homology structure with comparative isolate, and those relation of HN protein ND virus isolated from Surabaya using phylogenetic tree. 2 samples were collected from tracheal and cloacal swabs of 28 backyard chickens from five traditional poultry markets in Surabaya, 3 ND positive isolates from Laboratory of Virology and Immunology Department Microbiology Universitas Airlangga, and also positive La Sota Isolates (ATCC). Samples were isolated on Specific Antibody Negative (SAN) embryonated chicken eggs (ECEs) and identified by HA test and confirmed as NDV by HI test. Positive samples were performed by PCR using a forward and reverse primer with a target of 503 bp. The sequencing result were analyzed by contiguous to generate the complete gene. Homologous and phylogenetic analysis using BLAST Needleman - Wunsch Global Align Nucleotide Sequences from NCBI and software BioEdit Ver.8 and MEGA7. The result of homology and phylogenetic analysis from isolates in this study relate to some isolates of vaccine in the world.

**Keywords** : *Newcastle Disease, Hemagglutinin-Neuraminidase protein, homology, phylogenetic tree, Surabaya.*