

**THE EFFECT OF SILVER ION ( $\text{Ag}^+$ ) SOLUTION AGAINST  
NEWCASTLE DISEASE (ND) VIRUS REPLICATION  
IN VITRO**

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**ABSTRACT**

The purpose of this study was to determine the effect of silver ion ( $\text{Ag}^+$ ) solution against Newcastle disease (ND) virus replication in vitro. In this study the samples were divided into 5 different groups ( $n = 4$ ), group P0 (control) treat with ND virus as much as  $10^7\text{EID}_{50}$  and group P1 (control) treat with silver ion solution in concentration of 15 ppm, while the group P2 (treatment) combination of ND virus and 1 ppm concentration of silver ion solution, group P3 (treatment) combination of ND virus and 5 ppm concentration of silver ion solution, group P4 (treatment) combination of ND virus and 10 ppm concentration of silver ion solution. Each test awaited for 6 minutes before inoculated into 3 embryonated chicken eggs. After that the embryonated chicken egg were incubated for 5 days in incubator at  $37^\circ\text{C}$ . Microtechnic HA test then performed to determine the presence or absence of ND virus growth in embryonated chicken egg. The data obtained will be made in the form of a table and then analyzed with the Kruskal Wallis test, if any changes were significant ( $p < 0.05$ ) then tested again with the Mann-Whitney test for differences between treatments. Result of this study showed that administration of silver ion solution on the P2, P3, P4 had no effect against ND virus because the virus was still alive and replicate in the embryonated chicken egg. This was indicated by the HA test, which the results were not significantly different with group P0 (control).

**Key words:** silver ions solution; Newcastle disease virus; microtechnic HA test