

THE EFFECTIVITY OF EGG YOLK DERIVED ANTI-HEMAGGLUTININ ANTIBODY (IgY) AS IMMUNOTHERAPY AGENT ON THE CHICKEN INFECTED BY AVIAN INFLUENZA A/H5N1 VIRUS

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ABSTRACT

This study was aimed to know ; (1) the reactivity anti-HA antibody *Avian influenza* virus subtype H5N1, (2) the blockage mechanism of antibody anti-HA in the cell tropism by blocking specific receptor *SA alfa 2,3 gal*, (3) the antibody anti-idiotypic formation in the chickens after therapy using anti-HA antibody. This study was divided into three steps ; The first step were hemagglutinin protein characterization by SDS-PAGE and western blot, electroelution of hemagglutinin protein, quantitation, immunogenicity and antigenicity test. The second step were anti-HA antibody isolation from the egg yolk, antibody purification and reactivity test by dot blot method. And the third step were challenge test and artificial infection, anti-idiotypic antibody detection (anti anti-HA), immunohistochemistry test for detecting *Avian influenza* virus antigen and anti-HA antibody blocking in the cell tropism. The result of this study showed that ; (1) Anti-HA antibody can be detected *Avian influenza* A/H5N1 virus antigen and protect the chicken from *Avian influenza* A/H5N1 virus with the protectivity level up to 100%, (2) The protectivity mechanism to the infection was by blocking the receptor *SA alfa 2,3 gal*, (3) anti-idiotypic antibody was not detected after using anti-HA antibody as an immunotherapy agent in the chicken.

Key words : Anti-HA antibody, immunoglobulin Y, immunotherapy agent, *Avian influenza* A/H5N1 virus