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ANALYSIS OF ANTIGEN CONSERVATION AND INACTIVATION OF GAMMA-IRRADIATED AVIAN INFLUENZA VIRUS SUBTYPE H9N2

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Avian influenza A subtype H9N2 virus belongs to *Orthomyxoviridae* family and causes low pathogenic disease avian influenza. The use of gamma irradiated viral antigens has been developed in the production of effective vaccines. In this research LPAIV H9N2 strain, A/Chicken/IRN/Gazvin/2001 was multiplied on specific pathogen free (SPF) eggs and irradiated by a Nordian gamma cell instrument. Irradiated and non-irradiated avian influenza virus (AIV) samples were titrated by EID50 method and hem¬agglutinin antigen were analysed by Hem¬agglutinin test as the WHO method. Infectivity of irradiated virus was determined by eggs inoculation method during four blind cultures. The results showed after increasing dose of gamma radiation, virus titer decreased gradually. D10 value and optimum dose for complete virus inactivation were calculated by dose/response curve, 3.36 and 29.52 kGy, respectively. Also, HA antigenicity of gamma irradiated virus samples from 0-30 kGy was not changed. The results of safety test for gamma irradiated AIV samples showed complete inactivation with gamma ray doses: 30 and 35 kGy without any multiplication on eggs after four blind cultures. According to the results of HA antigen assay and safety test, the gamma irradiated and complete inactivated AIV subtype H9N2 is a good candidate as an inactivated immunogenic agent for poultry vaccination.

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