

# Role on of Humoral and Cell-Mediated Immune Responses

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## Description

This study was designed to determine the extent of exposure of individuals to the avian influenza viruses by evaluating their humoral and cell-mediated immune response. Therefore blood samples were collected from three cohorts i.e. poultry related personals, healthy individuals and flu patients. Serum and PBMC analysis provided the information about humoral and cell-mediated immune responses respectively [1]. The serum samples were examined for the presence of antibodies against indigenous avian influenza strains by using vaccines i.e. avian influenza (H5) monovalent vaccine, avian influenza (H7+H9) bivalent vaccine and commercially available four human international brands of Bird/Swine influenza vaccines i.e. Aventis 2008/2009, Vaxigrip 2009/2010, Agripal 2009/2010 and Vaxigrip 2010/2011 by Dot-Blot assay. In parallel the lymphocytes were isolated from the collected blood of these cohorts and cell mediated immune response was determined by ELI-spot assay and HLA subtyping. The ELI-spot assay of 50 samples of lymphocytes revealed the positive spot for Influenza virus subtype H9 [2]. 90% and 70% of the lymphocytes were positive for influenza virus subtype H7 and H5 respectively. Interestingly, it has been concluded from the results that all those individuals who were having antibodies against H5, H7 and H9 were also positive for ELI-spot assay and they never being immunized against influenza viral strains. Whereas HLA results in chicken hawkers and flu patients revealed that MHC Class II alleles are majorly involved in the susceptibility and resistance to influenza infections. Results indicated that majority of the individuals were heterozygous at all HLA Loci, homozygous individuals at MHC Class II loci showed a highly significant association with influenza viral infection. Whereas the Homozygosis at HLA-class I loci A and B had no effect on the rate of disease progression. Such immunogenetical studies will

help to develop an enhanced mechanistic understanding of the immune response to seasonal flu responses as well [3].

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