AVIAN INFLUENZA VIRUS H3N8 IS HIGHLY STABLE TO PHYSICAL AND CHEMICAL PERTURBATIONS

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The influenza viruses are single stranded RNA-viruses classified in the *Orthomyxoviridae* family which presents a lipid envelope exposing two different glycoprotein, hemagglutinin (HA) and neuraminidase (NA). In this work, we evaluated the stability and infectivity of avian influenza A, subtype H3N8, that due to its extremely pathogenicity has been used to mimic situations with H5N1. The virus stability under treatment with high hydrostatic pressure was monitored by spectroscopic measurements (fluorescence and CD) and light scattering. H3N8 suspensions were pressurized at 3.0 Kbar for different time periods, and its infectivity was measured by hemagglutinating titer. A considerable decrease in titer was observed only after 18 hours under pressure. Even after 55 hours under pressure, we did not observe total loss of hemagglutinating titer of H3N8. The use of chaotropic agents confirmed the high stability of H3N8. We observed small changes in fluorescence emission in the presence of guanidine and urea. These results indicate that H3N8 subtype is more stable then other subtypes already described in literature, consisting in a valuable instrument to understand H5N1 strain that is responsible for a highly pathogenic avian influenza. The concern that the world may be moving towards another pandemic flu elects as crucial studies on the stability of avian influenza strains.

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