

S49-1 Approach from the aspect of glycovirology

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Type A influenza viruses that are now circulating in the human population include swine-originated pandemic H1N1 2009 virus, seasonal influenza viruses (H3N2, H1N1), their anti-influenza drug-resistant mutants (Tamiflu-resistant and Amantazine-resistant viruses), and epidemic B and C type influenza viruses. Highly pathogenic avian influenza viruses (H5N1 subtype) with the next pandemic potential should also be noted, although human-to-human transmission is still limited. There have been at least four influenza pandemics: Spanish influenza (1918, H1N1), Asian flu (1957, H2N2), Hong Kong flu (1968, H3N2), and Pandemic H1N1 2009 from Mexico. Development of new anti-influenza drugs may be needed in addition to a worldwide vaccination project in order to prevent and control these pandemics. All influenza viruses (type A, H1 – H15, N1 – N9) originate in wild waterfowl, such as ducks, and have hemagglutinin (HA) and neuraminidase (NA) spikes. HA is essential for virus binding to sialo-sugar receptors and virus invasion into host cells. NA spike which cleave the terminal sialic acid of the receptor is responsible for virus budding from host cells. In this symposium, a new approach for influenza control will be discussed from the aspect of glycovirology.