Determinant of receptor-preference switch in influenza hemagglutinin

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Hemagglutinin (HA) is one of the two major glycoproteins on the surface of influenza virus. One main function of HA is to selectively bind to sialic-acid receptors on host cells to trigger viral entry by endocytosis. There are two types of sialic-acid receptors that HA recognizes: (2,3)-linked avian-like receptors and (2,6)-linked human-like receptors. Frequently, a small number of substitutions in HA would endorse a switch in receptor-binding specificity from avian-like to human-like receptors, thus allowing cross-species transmission. However, the set of residues required for such a receptor-binding specificity switch differs among various subtypes of influenza type A virus. In my talk, I will discuss the results of our most recent study in understanding the underlying principles of this process.

Speaker Biography

Qinghua Wang has completed her Bachelor's degree at Peking University in China and PhD degree at University of Cambridge in Britain. She then received Post-doctoral training at Harvard University. She is an Assistant Professor at Baylor College of Medicine, Houston, Texas, USA. Her laboratory has made seminal contributions to our understanding of influenza type A and type B virus hemagglutinin.

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