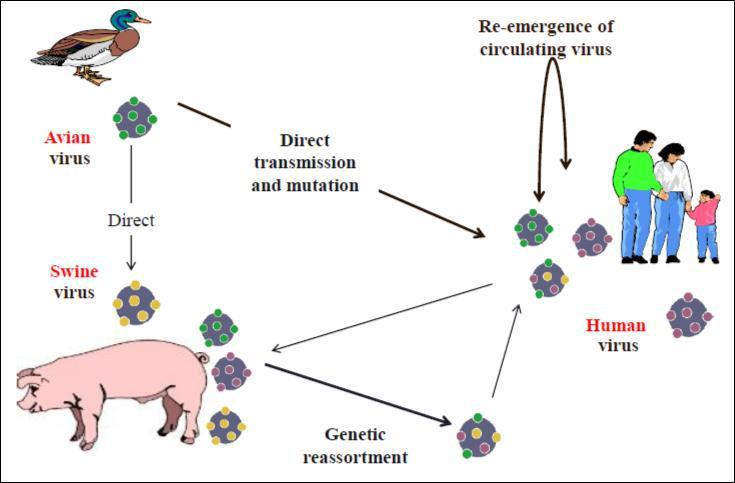
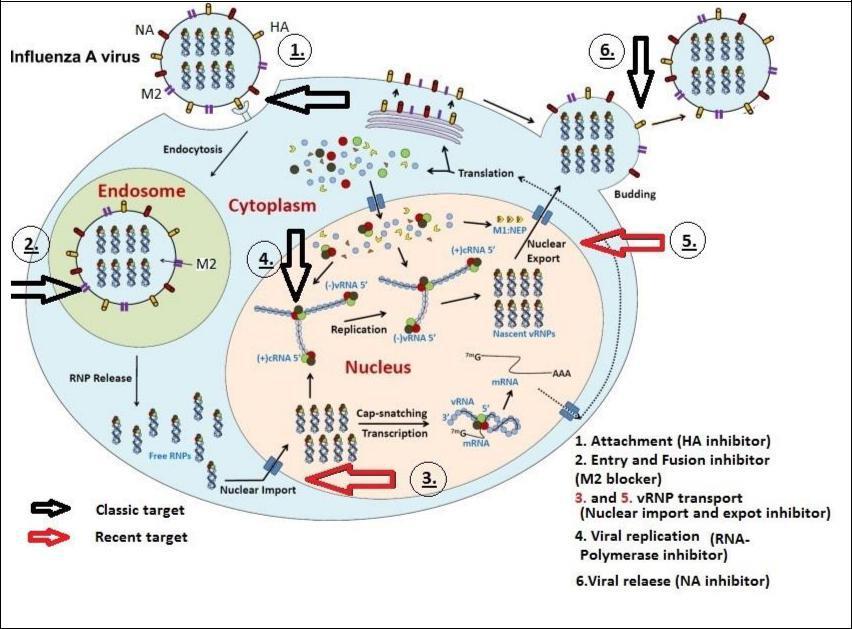


**Figure 1:** This is a conceptual illustration of antigenic drift and antigenic shift.Antigenic drift produces viruses with a slightly-modified antigen, which is shown here as a change in a HA and NA molecules whilst antigenic shift generates viruses with entirely novel antigens, as shown here by recombination of viral segments of different subtypes. The figure is modified from [23].



**Figure 2:** Demonstrates the concept ofantigenic shiftthrough three mechanisms: Genetic reassortment, direct transmission and Re-emergence.



**Figure 3:** Illustrates the influenza A virus life cycle with recent and classical antiviraltargets. The figure is modified from [24].