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Avian influenza viruses as the origin of pandemic strains

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Pandemic influenza viruses arise by genetic reassortment between human and non-human strains. The 1957 Asian H2N2 and A/Hong Kong/68 (H3N2) strains obtained their HA, PB1, and NA genes, and HA and PB1 genes from avian viruses and the remaining genes were from the preceding human strains, respectively. Since avian viruses of any subtype can contribute genes in the generation of reassortants in pigs, none of the 15 HA and 9 NA subtypes can be ruled out as potential candidates for future pandemics. The H5N1 influenza virus transmission from domestic poultry to humans further emphasized the need to have information on influenza viruses circulating in avian species in the world.

We now concentrate into establishing a library of a panel of influenza virus strains of 135 combinations of 15 HA and 9 NA subtypes in order to prepare for the emergence of future pandemics.