Claims

1. A chimeric influenza virus hemagglutinin (HA) polypeptide, comprising one or more stem domain sequence of H1 subtype HA (H1 HA) and/or H5 subtype HA (H5 HA), fused with one or more globular head domain sequence of H1 subtype HA (H1 HA) or H5 subtype HA (H5 HA), wherein the chimeric influenza virus HA polypeptide comprises an amino acid sequence of SEQ ID NO: 4 or SEQ ID NO: 12.

2. The polypeptide of claim 1, wherein the HA is an influenza A HA, an influenza B HA, or an influenza C HA.

3. The polypeptide of claim 1, wherein the homology is at least 65%, 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or 100%.

4. The polypeptide of claim 1, wherein one or more glycosites on HA are monoglycosylated, wherein the monoglycosylated HA has only N-Acetylglucosamine (GlcNAc) on each glycosite.

5. The polypeptide of claim 1, wherein the chimeric influenza virus HA polypeptide is used as an immunogen.

6. An immunogenic composition comprising the chimeric influenza virus HA polypeptide of any of claims 1 to 5 and an adjuvant.

7. The immunogenic composition of claim 6, wherein the adjuvant is a glycolipid adjuvant.

8. Use of the chimeric influenza virus hemagglutinin (HA) polypeptide according to any of claims 1 to 9 or the immunogenic composition of claim 6 in the manufacture of a medicament for immunizing a subject against influenza virus or preventing an influenza virus disease.

9. The use according to claim 8, wherein the medicament is for eliciting $CD4^+$ and $CD8^+$ T-cell immune responses.

10. The use according to claim 8, wherein the medicament is for inducing stem-specific antibodies, exhibiting antibody-dependent cellular cytotoxicity (ADCC), and neutralizing cross-protection activities against H1, H3, H5 and H7 strains and subtypes.

11. The use according to claim 8, wherein the medicament is for inducing elevated levels of IFN-γ, IL-4 and $CD8^+$ memory T cells relative to a baseline immune response prior to immunization.

12. A recombinant polynucleotide comprising a nucleic acid sequence encoding the polypeptide of any of claims 1 to 5 and a nucleic acid sequence encoding a signal peptide.

13. The recombinant polynucleotide of claim 12, wherein the signal peptide comprises a sequence of SEQ ID NO: 13 or SEQ ID NO: 14.

14. A vector comprising the recombinant polynucleotide of claim 13.

15. A host cell comprising the vector of claim 14.