CLAIMS

1. A multivalent immunogenic influenza composition comprising

(a) a detergent-core nanoparticle, wherein the detergent-core nanoparticle comprises a recombinant influenza hemagglutinin (HA) glycoprotein from a Type B influenza strain; and

(b) a Hemagglutinin Saponin Matrix Nanoparticle (HaSMaN), wherein the HaSMaN comprises a recombinant influenza HA glycoprotein from a Type A influenza strain and ISCOM matrix adjuvant; and

(c) a pharmaceutically acceptable buffer.

2. The composition of claim 1 further comprising one or more detergent-core nanoparticles and/or one or more HaSMaNs.

3. The composition of claim 1 wherein each of the nanoparticles is a trypsin-resistant nanoparticle.

4. The composition of claim 1, wherein the ISCOM matrix adjuvant is Matrix M.

5. The composition of claim 6, wherein the Matrix M contains Fraction A Matrix and Fraction C Matrix (85:15; w/w).

6. The composition of claim 1 wherein the detergent is PS-80.

7. The composition of claim 6, wherein the PS-80 detergent is present at about 0.03% to about 0.5%.

8. The composition of claim 6, wherein the PS-80 detergent is present at about 0.04%.

9. The composition of claim 1, wherein the influenza strain is of a subtype selected from the group consisting of H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, and H18.

10. The composition of claim 1, wherein the pharmaceutically acceptable buffer comprises (i) sodium phosphate at about 25 mM; (ii) sodium chloride at about 150 mM; (iii) arginine hydrochloride at about 100 mM; (iv) trehalose at about 5%; wherein the composition pH is at about 7.5.

11. A prefilled syringe or blow-fill seal container comprising the composition of claim 1.

12. The prefilled syringe or blow-fill seal container of claim 10, wherein the composition is stable for at least 12 months.

13. The prefilled syringe or blow-fill seal container of claim 11, wherein the composition is stable at 25°C.

14. A method of stimulating an immune response against influenza comprising administering the multivalent influenza composition of any of claims 1-10.

15. The method of claim 14, wherein the composition is administered intramuscularly.

16. A HaSMaN (Hemagglutinin Saponin Matrix Nanoparticle) comprising an ISCOM matrix particle and recombinant influenza HA glycoprotein trimers, wherein the HA glycoprotein is from a Type A influenza strain, wherein the HA glycoprotein tail is associated with the particle and wherein the HA glycoprotein head extends distally from the particle.

17. The HaSMaN of claim 16, wherein the Type A influenza strain is of a subtype selected from the group consisting of H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, and H18.

18. A composition comprising, the HaSMaN of claim 16, and a pharmaceutically acceptable buffer or carrier.

19. The composition of claim 1, wherein the adjuvant is present at about 50 μg to about 75 μg per dose.

20. The composition of claim 1, wherein the recombinant influenza HA glycoprotein from the Type B influenza strain and the recombinant influenza HA glycoprotein from the Type A influenza strain are both present in an amount of about 60 μg.

21. The composition of claim 1, wherein the recombinant influenza HA glycoprotein from the Type B influenza strain and the recombinant influenza HA glycoprotein from the Type A influenza strain are both wild type influenza HA glycoproteins.

22. The composition of claim 1, wherein the recombinant influenza HA glycoprotein from the Type B influenza strain and the recombinant influenza HA glycoprotein from the Type A influenza strain are expressed in a host cell.

23. The composition of claim 22, wherein the host cell is an insect Sf9 cell.

24. The composition of claim 22, wherein the recombinant influenza HA glycoprotein from the Type B influenza strain and the recombinant influenza HA glycoprotein from the Type A influenza strain are expressed using a baculovirus.

25. A method of preparing a HaSMaN comprising combining a detergent core nanoparticle with a saponin-based matrix adjuvant.

26. The method of claim 25, wherein the saponin-based matrix adjuvant is an ISCOM matrix adjuvant.

27. The method of claim 26, wherein the ISCOM Matrix adjuvant is Matrix M.

28. The method of claim 27, wherein the Matrix M contains Fraction A Matrix and Fraction C Matrix (85:15; w/w).

29. The method of claim 25, wherein the detergent is PS-80.

30. The method of claim 25, comprising incubating the detergent core nanoparticle with the saponin-based matrix adjuvant for at least about 4 hours.

31. The method of claim 30, comprising incubating the detergent core nanoparticle with the saponin-based matrix adjuvant at a temperature of about 25°C for at least about 24 hours.

32. The method of claim 25, wherein the detergent-core nanoparticle comprises a recombinant influenza hemagglutinin (HA) glycoprotein from a Type A influenza strain.

33. The method of claim 32, wherein the Type A influenza strain is selected from the group consisting of H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, and H18.