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, wherein the ISCOM matrix adjuvant consists of Fraction A Matrix and Fraction C Matrix; and

(c) a pharmaceutically acceptable buffer.

2. The composition of claim 1 ~~further~~ comprising an additional one or more detergent-core nanoparticles and~~/or~~ an additional one or more HaSMaNs, wherein each detergent-core nantoparticle comprises a Type B strain HA glycoprotein, and each HaSMaN comprises a Type A strain HA glycoprotein, and wherein each HA glycoprotein is from a different influenza strain.

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~~4. The composition of claim ~~6~~1, wherein the ~~Matrix M contains~~ Fraction A Matrix and Fraction C Matrix are present at ~~(~~85:15; w/w~~)~~.

~~6~~5. The composition of claim 1, wherein the detergent is PS-80.

~~7~~6. The composition of claim ~~6~~5, wherein the PS-80 detergent is present at about 0.03% to about 0.5%.

~~8~~7. The composition of claim ~~6~~5, wherein the PS-80 detergent is present at about 0.04%.

~~9~~8. 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~~9. 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~~10. A prefilled syringe or blow-fill seal container comprising the composition of claim 1.

~~12~~11. The prefilled syringe or blow-fill seal container of claim ~~10~~9, wherein the composition is stable for at least 12 months.

~~13~~12. The prefilled syringe or blow-fill seal container of claim ~~11~~10, wherein the composition is stable at 25°C.

~~14~~13. A method of stimulating an immune response against influenza comprising administering the multivalent influenza composition of ~~any of claims 1-10~~claim 1.

~~15~~14. The method of claim ~~14~~13, 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~~15. The composition of claim 1, wherein the adjuvant is present at about 50 µg to about 75 µg per dose.

~~20~~16. 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~~17. 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~~18. 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~~19. The composition of claim ~~22~~18, wherein the host cell is an insect Sf9 cell.

~~24~~20. The composition of claim ~~22~~18, 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.~~