CLAIMS:

1. A purified micelle comprising one or more rabies virus (RV) glycoproteins (G proteins).

2. The purified micelle of claim 1, wherein the RV G protein is derived from a RV strain selected from human, canine, bat, raccoon, skunk, and fox.

3. A virus-like particle (VLP) comprising a RV G protein.

4. The VLP of claim 3, wherein the RV G protein is derived from a RV strain selected from human, canine, bat, raccoon, skunk, and fox.

5. The VLP of any of claims 3-4, wherein the VLP comprises a matrix (M) protein.

6. The VLP of claim 5, wherein said M protein is derived from RV.

7. The VLP of claim 5, wherein said M protein is M1 from an influenza virus strain.

8. The VLP of claim 5, wherein said influenza virus strain is an avian influenza virus strain.

9. The VLP of claim 8, wherein said avian influenza virus strain is an H5N1 strain.

10. The VLP of claim 9, wherein said H5N1 strain is A/Indonesia/5/05.

11. The VLP of claim 5, wherein said M protein is derived from a Newcastle Disease Virus (NDV) strain.

12. The VLP of any of claims 3-11, wherein the VLP is expressed in a eukaryotic cell under conditions which permit the formation of VLPs.

13. The VLP of claim 12, wherein the eukaryotic cell is selected from the group consisting of yeast, insect, amphibian, avian, mammalian, or plant cells.

14. An immunogenic composition comprising a purified micelle according to any of claims 1-2.

15. An immunogenic composition comprising a VLP according to any of claims 3-13.

16. A pharmaceutically acceptable vaccine composition comprising a purified micelle according to any of claims 1-2, wherein the micelle is capable of eliciting an immune response in a host.

17. A pharmaceutically acceptable vaccine composition comprising a VLP according to any of claims 3-13, wherein the VLP is capable of eliciting an immune response in a host.

18. A kit for immunizing a human subject against a viral infection comprising a purified micelle according to any of claims 1-2.

19. A kit for immunizing a human subject against a viral infection comprising a VLP according to any of claims 3-13.

20. The kit according to any of claims 18-19, wherein the viral infection is a RV infection.

21. A method of vaccinating a mammal against a viral infection comprising administering a purified micelle of any of claims 1-2 in a pharmaceutically acceptable formulation to a human subject.

22. A method of vaccinating a mammal against a viral infection comprising administering a VLP according to any of claims 3-13 in a pharmaceutically acceptable formulation to a human subject.

23. The method according to any of claims 21-22, wherein the pharmaceutically acceptable formulation comprises an adjuvant.

24. The method according to claim 23, wherein the adjuvant is a non-phospholipid liposome.

25. A method of generating an immune response against a viral infection comprising administering a purified micelle of any of claims 1-2 in a pharmaceutically acceptable formulation to a human subject.

26. A method of generating an immune response against a viral infection comprising administering a VLP according to any of claims 3-13 in a pharmaceutically acceptable formulation to a human subject.

27. An isolated nucleic acid encoding a RV G protein of SEQ ID NO: 2.

28. An isolated cell comprising a nucleic acid of claim 27.

29. A vector comprising the nucleic acid of claim 27.

30. A method of making a RV G protein, comprising:

(a) transforming a host cell to express a nucleic acid of claim 27; and

(b) culturing said host cell under conditions conducive to the production of said RV G protein.

31. A method of making a RV G protein micelle, comprising:

(a) transforming a host cell to express a nucleic acid of claim 27; and

(b) culturing said host cell under conditions conducive to the production of said RV G protein micelle.

32. The method according to any of claims 30-31, wherein said host cell is an insect cell.

33. The method according to claim 32, wherein said insect cell is an insect cell transfected with a vector comprising a nucleic acid of claim 27.

CLAIMS:

1. A purified micelle comprising one or more rabies virus (RV) glycoproteins (G proteins) and NP-9 detergent, wherein the G proteins form a trimer.

2. The purified micelle of claim 1, wherein the RV G protein is derived from a RV strain selected from human, canine, bat, raccoon, skunk, and fox.

3. The purified micelle of claim 1 wherein the RV G protein comprises SEQ ID NO:2.

4. The purified micelle of claim 1 wherein the RV G protein consists of SEQ ID NO:2.

5. A pharmaceutically acceptable vaccine composition comprising a purified micelle according to any of claims 1-4, and a pharmaceutically acceptable carrier or diluent, wherein the micelle is capable of eliciting an immune response in a host.

6. The pharmaceutical composition of claim 5 further comprising an adjuvant.

7. The pharmaceutical composition of claim 6 wherein the adjuvant is an aluminium-based adjuvant.

8. The pharmaceutical composition of claim 5, wherein the immune response comprises increased production of anti-G protein antibodies in a host.

9. The pharmaceutical composition of claim 8, wherein the anti-G protein antibodies produced are neutralizing antibodies.

10. The pharmaceutical composition of claim 9, wherein the anti-G protein antibodies produced are protective.

11. The pharmaceutical composition of claim 8, wherein the anti-G protein antibodies are induced in the host after administration of a single dose.

12. The pharmaceutical composition of claim 11, wherein the immune response comprises a seroprotective titer in 7 days.

13. A method of making a micelle comprising rabies virus (RV) glycoproteins (G proteins), wherein the G proteins form a trimer comprising:

(a) transforming an insect host cell to express an isolated nucleic acid encoding a RV G protein; and

(b) culturing said host cell under conditions conducive to the production of the micelle; and

(c) recovering the micelle in the presence of NP-9.

14. A kit for immunizing a human subject against a rabies virus infection comprising a vaccine composition according to any of claims 5-7.

15. The kit of claim 14 wherein the micelle and the pharmaceutically acceptable carrier or diluent are in separate container.