CLAIMS

1. A composition comprising a viral vector comprising nucleic acid having a polynucleotide sequence encoding at least one epitope of the varicella-zoster virus (VZV) Gly E antigen, wherein said viral vector is an adenoviral vector.

2. A composition according to claim 1 wherein said at least one epitope comprises at least one CD4 T cell epitope and at least one CD8 T cell epitope.

3. A composition according to claim 1 or claim 2 wherein said adenoviral vector is of human or simian origin.

4. A composition according to any of claims 1 to 3 wherein said adenoviral vector is ChAdOx 1 or ChAdOx 2.

5. A composition according to any preceding claim wherein said composition is adjuvant-free.

6. A composition according to any preceding claim wherein said Gly E antigen has the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2, suitably SEQ ID NO: 2.

7. A composition according to any preceding claim wherein said polynucleotide sequence comprises the sequence of SEQ ID NO: 3 or SEQ ID NO: 4, suitably SEQ ID NO: 4.

8. A composition according to any preceding claim wherein said polynucleotide sequence further comprises the sequence of the bgh polyadenylation signal SEQ ID NO: 6.

9. A composition according to any preceding claim wherein said polynucleotide sequence encoding at least one epitope of the varicella-zoster virus (VZV) Gly E antigen is operably connected to the long CMV promoter, suitably the long CMV promoter has the nucleotide sequence of SEQ ID NO: 7.

10. A composition according to any of claims 1 to 9 wherein said viral vector sequence is as in ECACC accession number 12052403 (ChAdOx1).

11. A composition according to any of claims 1 to 9 wherein said viral vector sequence is as in SEQ ID NO: 5 (ChAdOx2).

12. A composition according to any preceding claim wherein administration of a single dose of said composition to a mammalian subject induces protective immunity in said subject.

13. A composition according to any preceding claim for induction of an immune response against VZV.

14. A composition according to any preceding claim for induction of an immune response against VZV, wherein a single dose of said composition is administered.

15. A composition according to any of claims 1 to 14 for induction of an immune response against VZV, wherein said composition is administered once.

16. A composition according to any of claims 1 to 14 for induction of an immune response against VZV, wherein said composition is administered once per 5 years, more suitably once per year.

17. A composition according to any preceding claim for use in preventing VZV infection.

18. A composition according to any of claims 1 to 17 for use in prevention of shingles.

19. A composition according to any preceding claim for use in preventing VZV infection, or for use in prevention of shingles, wherein a single dose of said composition is administered.

20. A composition according to any preceding claim for use in preventing VZV infection, or for use in prevention of shingles, wherein said composition is administered once.

21. Use of a composition according to any of claims 1 to 20 in medicine.

22. Use of a composition according to any of claims 1 to 20 in the preparation of a medicament for prevention of VZV infection.

23. Use of a composition according to any of claims 1 to 20 in the preparation of a medicament for prevention of shingles.

24. Use of a composition according to any of claims 1 to 20 in the preparation of a medicament for induction of, or that induces, both CD4+ and CD8+ T cell responses to Gly E antigen in a subject.

25. Use according to claim 24 wherein said medicament further induces antibodies to Gly E antigen in said subject.

26. A method of inducing an immune response against varicella-zoster virus (VZV) in a mammalian subject, the method comprising administering a composition according to any of claims 1 to 20 to said subject.

27. A method of preventing shingles in a mammalian subject, the method comprising administering a composition according to any of claims 1 to 20 to said subject.

28. A method according to claim 26 or claim 27 wherein a single dose of said composition is administered to said subject.

29. A method according to claim 26 or claim 27 wherein said composition is administered once.

30. A method according to claim 26 or claim 27 wherein said composition is administered once per 5 years, more suitably once per year.

31. A method according to any of claims 26 to 30 wherein said composition is administered by a route of administration selected from a group consisting of subcutaneous, intradermal and intramuscular.

32. A method according to claim 31 wherein said administration is intramuscular.

33. Use according to claim 22 to 25, or a method according to any of claims 26 to 31, wherein said subject is human.

34. A composition according to any of claims 1 to 17 for use in treatment or prevention of chickenpox.

CLAIMS

1. A composition comprising a viral vector comprising nucleic acid having a polynucleotide sequence encoding at least one epitope of the varicella-zoster virus (VZV) Gly E antigen, in which the viral vector is an adenoviral vector.

2. A composition according to Claim 1, in which the at least one epitope comprises at least one CD4 T cell epitope and at least one CD8 T cell epitope.

3. A composition according to Claim 1 or 2, in which the adenoviral vector is of human or simian origin.

4. A composition according to Claim 1, 2 or 3, in which the adenoviral vector is ChAdOx 1 or ChAdOx 2.

5. A composition according to any preceding claim, in which the composition is adjuvant-free.

6. A composition according to any preceding claim, in which the Gly E antigen has the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2, suitably SEQ ID NO: 2.

7. A composition according to any preceding claim, in which the polynucleotide sequence comprises the sequence of SEQ ID NO: 3 or SEQ ID NO: 4, suitably SEQ ID NO: 4.

8. A composition according to any preceding claim, in which the polynucleotide sequence further comprises the sequence of the bgh polyadenylation signal SEQ ID NO: 6.

9. A composition according to any preceding claim, in which the polynucleotide sequence encoding at least one epitope of the varicella-zoster virus (VZV) Gly E antigen is operably connected to the long CMV promoter, suitably the long CMV promoter has the nucleotide sequence of SEQ ID NO: 7.

10. A composition according to any preceding claim, in which the viral vector sequence is as in ECACC accession number 12052403 (ChAdOx1), or in which the viral vector sequence is as in SEQ ID NO: 5 (ChAdOx2).

11. A composition according to any preceding claim, in which administration of a single dose of the composition to a mammalian subject induces protective immunity in the subject.

12. A composition according to any preceding claim for induction of an immune response against VZV, preferably in which a single dose of the composition is administered, preferably in which the composition is administered once.

13. A composition according to any preceding claim for induction of an immune response against VZV, in which the composition is administered once per 5 years, more suitably once per year.

14. A composition according to any preceding claim for preventing VZV infection, or for prevention of shingles, preferably in which a single dose of the composition is administered, preferably in which the composition is administered once.

15. A composition according to any preceding claim for treatment or prevention of chickenpox.