Claims

1. An adenovirus vector comprising a polynucleotide or polynucleotides encoding at least HIV antigens RT, Net and Gag or immunogenic fragments thereof arranged so that they are transcribed in the order Gag, RT, Net, so that the Gag portion is at the N terminal end of the resulting fusion protein, characterized in that the virus is a non-human primate adenovirus, and the virus is a chimpanzee adenovirus selected from Pan 5, Pan 6 and Pan 7.
2. The adenovirus according to claim 1 wherein the RT is truncated.
3. The adenovirus according to claim 1 or 2 wherein the Net is truncated.
4. The adenovirus according to any one of claims 1 to 3 wherein the Gag is p17 and p24 only.
5. The adenovirus vector according to any preceding claim wherein the size of the HIV polynucleotide or polynucleotides is such that the overall size of the vector is from 90 to 100% of the size of the virus.
6. The adenovirus vector according to claim 5 wherein the adenovirus is pan 6.
7. The adenovirus vector according to claim 5 wherein the adenovirus is pan 7.
8. The adenovirus vector according to any preceding claim wherein the virus is replication defective.
9. The adenovirus vector according to any preceding claim wherein the virus is deleted in E1 and E3 regions.
10. The adenovirus vector according to any preceding claim wherein the polynucleotide sequences encoding the HIV antigens are arranged as a fusion.
11. The adenovirus vector according to claim 1 comprising the following polynucleotide constructs: p17, p24 (codon optimised) Gag- p66 RT (codon optimised)- truncated Net.
12. An adenovirus vector according to claim 11 wherein the Adenovirus is Pan 6 or Pan 7.
13. An immunogenic composition comprising the virus vector according to any preceding claim and a pharmaceutically acceptable carrier or adjuvant.
14. The use of an adenovirus vector according to any one of claims 1 to 13 in the manufacture of a medicament for the treatment or prophylaxis of HIV infection.
15. A method of preparing a vector according to any one of the claims 1 to 13 comprising the steps of: a) providing an adenovirus vector; b) providing a plasmid carrying the HIV antigen sequences operably linked to a suitable promoter; c) transfecting cells with both the plasmid and the vector; d) allowing sufficient time for recombination to occur; and e) recovering recombinant virus vector carrying the HIV antigen sequences.
16. A method of raising an immune response in a mammal which method comprises administering to the mammal a suitable amount of an immunogenic composition according to claim 13.
17. A fusion protein expressed by the vector according to any one of claims 1 to 12.
18. A fusion protein according to claim 17 produced within the human body.

CLAIMS

1. An adenovirus vector comprising a polynucleotide or polynucleotides encoding at least HIV antigens RT, Nef and Gag or immunogenic derivatives or immunogenic fragments thereof arranged so that they are transcribed in the order Gag, RT, Nef, characterized in that the adenovirus vector is derived from a chimpanzee adenovirus, Gag comprises p17 and p24, and is capable of eliciting an immune response specific to the encoded HIV antigens when administered to a subject.

2. The adenovirus according to claim 1 wherein the RT is truncated.

3. The adenovirus according to claim 1 or 2 wherein the Nef is truncated.

4. The adenovirus according to any one of claims 1 to 3 wherein the Gag is p17 and p24 only.

5. The adenovirus vector according to any preceding claim wherein the size of the HIV polynucleotide or polynucleotides is such that the overall size of the vector is from 90 to 100% of the size of the virus.

6. The adenovirus vector according to claim 1 wherein the chimpanzee adenovirus is selected from pan 5, 6 and 7.

7. The adenovirus vector according to claim 6 wherein the chimpanzee adenovirus is pan 6.

8. The adenovirus vector according to claim 6 wherein the chimpanzee adenovirus is pan 7.

9. The adenovirus vector according to any preceding claim wherein the vector is replication defective.

10. The adenovirus vector according to any preceding claim wherein the vector is deleted in E1 and E3 regions.

11. The adenovirus vector according to any preceding claim wherein the polynucleotide sequences encoding the HIV antigens are arranged as a fusion.

12. The adenovirus vector according to claim 1 comprising the following polynucleotide constructs: p17, p24 (codon optimised) Gag – p66 RT (codon optimised) truncated Nef.

13. An immunogenic composition comprising the virus vector according to any preceding claim and a pharmaceutically acceptable carrier or adjuvant.

14. The use of an adenovirus vector according to any one of claims 1 to 12 in the manufacture of a medicament for the treatment or prophylaxis of HIV infection.

15. A method of preparing an adenovirus vector according to any one of the claims 1 to 12 comprising the steps of: a) providing an adenovirus vector; b) providing a plasmid carrying the HIV antigen polynucleotide sequences operably linked to a suitable promoter; c) transfecting

cells with both the plasmid and the vector; d) allowing sufficient time for recombination to occur; and e) recovering recombinant virus vector carrying the HIV antigen sequences.