CLAIMS

1. A recombinant adenoviral vector encoding a heterologous hexon protein comprising a polynucleotide that encodes an adenoviral hexon protein, wherein the polynucleotide is selected from the group consisting of:

(a) a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:54;

(b) a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:54, wherein the polypeptide comprises a deletion, insertion or substitution of not more than 35 amino acid residues; and

(c) a polynucleotide encoding a polypeptide having an amino acid sequence which is at least 96.5% identical over its entire length to the amino acid sequence of SEQ ID NO:54.

2. The recombinant adenoviral vector as in claim **1** further comprising at least one of the following:

(a) an adenoviral 5'-end or an adenoviral 5' inverted terminal repeat;

(b) an adenoviral E1a region or a fragment thereof selected from the group consisting of 13S region, 12S region, and 9S region;

(c) an adenoviral E1b region or a fragment thereof selected from the group consisting of small T region, large T region, and IX region;

(d) an adenoviral E2b region or a fragment thereof selected from the group consisting of small pTP region, Polymerase region, and IVa2 region;

(e) an adenoviral L1 region or a fragment thereof encoding an adenoviral protein selected from the group consisting of 28.1 kD protein, polymerase, agnoprotein, 52/55 kDa protein, and IIIa protein;

(f) an adenoviral L2 region or a fragment thereof encoding an adenoviral protein selected from the group consisting of:

a penton protein having the amino acid sequence of SEQ ID NO:55,

a VII protein,

a V protein, and

a Mu protein;

(g) an adenoviral L3 region or a fragment thereof encoding an adenoviral protein selected from the group consisting of:

a VI protein,

a hexon protein having the amino acid sequence of SEQ ID NO:54, and

endoprotease;

(h) an adenoviral E2a region;

(i) an adenoviral L4 region or a fragment thereof encoding an adenoviral protein selected from the group consisting of 100 kD protein, 33 kD homolog, and protein VIII;

(j) an adenoviral E3 region or a fragment thereof selected from the group consisting of E3 ORF1, E3 ORF2, E3 ORF3, E3 ORF4, E3 ORF5, E3 ORF6, E3 ORF7, E3 ORF8, and E3 ORF9;

(k) an adenoviral L5 region or a fragment thereof encoding a fiber protein having the amino acid sequence of SEQ ID NO:53;

(l) an adenoviral E4 region or a fragment thereof selected from the group consisting of E4 ORF7, E4 ORF6, E4 ORF5, E4 ORF4, E4 ORF3, E4 ORF2, and E4 ORF1; and

(m) an adenoviral 3'-end or an adenoviral 3' inverted terminal repeat.

3. The recombinant adenoviral vector according to claim **1**, wherein the polynucleotide comprises a polynucleotide which is at least 96.5% identical over its entire length to a polynucleotide selected from the group consisting of SEQ ID NO:63 and SEQ ID NO:63 lacking one or more of genomic regions E1A, E1B, E2A, E2B, E3 or E4.

4. The recombinant adenoviral vector according to claim **1**, wherein the vector

(i) does not comprise a gene in a genomic region selected from the group of genomic regions consisting of E1A, E1 B, E2A, E2B, E3 and E4, or

(ii) comprises at least one gene of a genomic region selected from the group consisting of E1A, E1B, E2A, E2B, E3 and E4, wherein the at least one gene comprises a deletion or a mutation which renders the at least one gene non-functional.

5. The recombinant adenoviral vector according to claim **1**, wherein the recombinant adenoviral vector comprises a molecule for delivery into a target cell.

6. The recombinant adenoviral vector according to claim **1**, wherein the adenoviral vector has a seroprevalence of less than 5% in human subjects.

7. The recombinant adenoviral vector according to claim **1**, wherein the adenoviral vector is capable of infecting a mammalian cell.

8. The recombinant adenoviral vector according to claim **5**, wherein the molecule for delivery into a target cell is a polynucleotide encoding an antigenic protein or a fragment thereof.

9. A composition comprising:

(i) an adjuvant;

(ii) the recombinant adenoviral vector according to claim **1**; and,

(iii) a pharmaceutically acceptable excipient.

10. A cell comprising the recombinant adenoviral vector of claim **1**.

11. The cell according to claim **10**, wherein the cell is a host cell that expresses at least one adenoviral gene selected from the group consisting of E1a, E1b, E2a, E2b, E4, L1, L2, L3, L4, and L5.

12. The recombinant adenoviral vector of claim **1** further comprising at least one of a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 53 and a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 55.

13. The recombinant adenoviral vector of claim **12** wherein the vector comprises a polynucleotide encoding polypeptide having the amino acid sequence of SEQ ID NO: 53, polynucleotide encoding polypeptide having the amino acid sequence of SEQ ID NO: 54 and a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO: 55.

14. The recombinant adenoviral vector of claim **4**, wherein the E4 region of the vector comprises ORF6 from human adenovirus 5 (Ad5 E4ORF6).