CLAIMS

1. An immunogenic composition comprising a Modified Vaccinia Virus Ankara (MVA) vector comprising a polynucleotide encoding a hepatitis B surface antigen (HBs), and a polynucleotide encoding a hepatitis B virus core antigen (HBc), wherein the polynucleotides encoding HBs and HBc are separated by a polynucleotide encoding the 2A cleaving region of the foot and mouth disease virus (FMDV)

2. An immunogenic composition comprising a recombinant hepatitis B surface antigen (HBs), a C-terminal truncated recombinant hepatitis B virus core antigen (HBc), and an adjuvant containing MPL and QS-21; wherein the ratio of recombinant HBc to recombinant HBs in the composition is about 1.5:1, 2:1, 2.5:1, 3:1, 3.5:1, 4:1, 4.5:1, 5:1, 5.5:1, or 6:1.

3. An immunogenic combination comprising:

a) a composition comprising a replication-defective chimpanzee adenoviral (ChAd) vector comprising a polynucleotide encoding a hepatitis B surface antigen (HBs) and a polynucleotide encoding a hepatitis B virus core antigen (HBc);

b) a composition comprising a Modified Vaccinia Virus Ankara (MVA) vector comprising a polynucleotide encoding a hepatitis B surface antigen (HBs) and a polynucleotide encoding a hepatitis B virus core antigen (HBc), wherein the polynucleotides encoding HBs and HBc are separated by a polynucleotide encoding the 2A cleaving region of the foot and mouth disease virus (FMDV); and

c) a composition comprising a recombinant hepatitis B surface antigen (HBs), a recombinant hepatitis B virus core antigen (HBc) comprising amino acids 1-145, 1-146, 1-147, 1-148, or 1-149 of a wild-type hepatitis B virus core antigen protein, and an adjuvant.

4. The immunogenic combination according to claim 3, wherein the ChAd vector of component a) of the combination further comprises a polynucleotide encoding the human invariant chain (hIi) fused to the HBc, the recombinant HBc of component c) of the combination is C-terminal truncated, the adjuvant of component c) of the combination contains MPL and QS-21, and the ratio of recombinant HBc to recombinant HBs of component c) of the combination is about 1.5:1, 2:1, 2.5:1, 3:1, 3.5:1, 4:1, 4.5:1, 5:1, 5.5:1, or 6:1.

5. A kit comprising the following components:

a) a composition comprising a replication-defective chimpanzee adenoviral (ChAd) vector comprising a polynucleotide encoding a hepatitis B surface antigen (HBs) and a polynucleotide encoding a hepatitis B virus core antigen (HBc);

b) a composition comprising a Modified Vaccinia Virus Ankara (MVA) vector comprising a polynucleotide encoding a hepatitis B surface antigen (HBs) and a polynucleotide

encoding a hepatitis B virus core antigen (HBc), wherein the polynucleotides encoding HBs and HBc are separated by a polynucleotide encoding the 2A cleaving region of the foot and mouth disease virus (FMDV); and

c) a composition comprising a recombinant hepatitis B surface antigen (HBs), a recombinant hepatitis B virus core antigen (HBc) comprising amino acids 1-145, 1-146, 1-147, 1-148, or 1-149 of a wild-type hepatitis B core antigen protein, and an adjuvant,

with instructions for administration of the components sequentially or concomitantly for the treatment of chronic hepatitis B (CHB).

6. The immunogenic combination according to claim 3, wherein the HBc of component b) comprises SEQ ID NO:11 or an amino acid sequence at least 98% homologous thereto and the HBs of component b) comprises SEQ ID NO:1 or an amino acid sequence at least 98% homologous thereto, wherein the polynucleotides encoding the HBc and HBs of component b) are separated by a polynucleotide encoding an amino acid sequence comprising SEQ ID NO:3, or an amino acid sequence at least 98% homologous thereto.

7. The immunogenic combination according to claim 3, wherein the MVA vector of component b) comprises a polynucleotide encoding the amino acid sequence of SEQ ID NO:5.

8. The immunogenic combination according to claim 3, wherein the MVA vector of component b) comprises a polynucleotide having the nucleotide sequence of SEQ ID NO:6.

9. The immunogenic combination according to claim 3, wherein the composition of component c) comporises a recombinant HBs (SEQ ID NO:1), a recombinant HBc comprising amino acids 1-149 (SEQ ID NO:2) and an adjuvant compirisng MPL, QS-21 and liposomes composed of dioleoyl phosphatidylcholine (DOPC) and cholesterol in a phosphate buffered saline solution.