CLAIMS

1. An isolated antibody or fragment thereof, wherein the antibody or fragment thereof is capable of specifically binding to at least one HBV derived peptide in association with a major histocompatibility complex (MHC)-class I molecule, wherein the HBV derived peptide comprises HBc18-27.

2. The antibody or fragment thereof according to claim 1, wherein the HBV derived peptide is part of an MHC-I peptide complex, the complex comprising the HBV derived peptide and a HLA class I molecule.

3. The antibody according to any one of the preceding claims, wherein the antibody is selected from the group consisting of:

    a. antibody produced by hybridoma cell line deposited with ATCC with accession number PTA-10167;

    b. antibody that binds to an antigen comprising the amino acid sequence of SEQ ID NO: 3, a fragment thereof, or mutant thereof selected from the group consisting of SEQ ID NOS: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 or fragment of said mutant; and

    c. antibody comprising at least one light chain or fragment thereof and at least one heavy chain or fragment thereof, wherein the light chain comprises the amino acid sequence of SEQ ID NO: 1 and the heavy chain comprises the amino acid sequence of SEQ ID NO: 2.

4. An isolated antibody or fragment thereof, capable of specifically binding to at least one HBV derived peptide comprising HBe183-191 in association with a major histocompatibility complex (MHC)-class I molecule, wherein the antibody is selected from the group consisting of:

    a. antibody produced by hybridoma cell line deposited with ATCC with accession number PTA-11068; and

    b. antibody comprising at least one light chain or fragment thereof and at least one heavy chain or fragment thereof, wherein the light chain comprises the amino acid sequence of SEQ ID NO: 32, and the heavy chain comprises the amino acid sequence of SEQ ID NO: 33.

5. An isolated hybridoma cell line deposited with ATCC selected from the group consisting of the cell line with accession number PTA-10167 and the cell line with accession number PTA-11068.

6. A method of producing at least one hybridoma, Hepatitis B Virus (HBV)-specific antibody or a fragment therefrom, the method comprising the steps of:

a. immunising at least one non-human mammal with at least one HBV derived peptide in association with a MHC-class I molecule, wherein the HBV derived peptide is HBc18- 27, to form at least one B cell specific to the HBV derived peptide in association with a MHC-class I molecule;

b. selecting at least one B cell specific to the HBV derived peptide in association with a MHC-class I molecule; and

c. fusing the selected B cell with at least one immortalized cell to produce at least one hybridoma, wherein the hybridoma is capable of producing at least one HBV-specific antibody or a fragment thereof specific to the HBV derived peptide in association with a MHC-class I molecule; and

d. optionally isolating the HBV-specific antibody from the hybridoma.

7. The method according to claim 6, wherein step (b) comprises incubating at least one B cell specific to the HBV derived peptide in association with a MHC-class I molecule with:

i at least one biotinylated antigen, the antigen capable of binding the B cell specific to the HBV derived peptide in association with a MHC-class I molecule; and

ii at least one anti-biotin conjugated bead.

8. The method according to claim 6 or 7, wherein HBc18-27 comprises the amino acid sequence of SEQ ID NO: 3, or a mutant thereof selected from the group consisting of SEQ ID NOS: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16.

9. A method of detecting and quantifying the presence and distribution of at least one HBV infected cell and/or at least one HBV-linked Hepatocellular Carcinoma (HCC) cell in a subject, the method comprising:

i contacting at least one antibody or fragment thereof according to any one of claims 1 to 4 with at least one sample obtained from at least one subject; and
ii detecting and quantifying binding of the antibody to the HBV infected cell and/or HBV-linked HCC infected cell.

10. The method according to claim 9, wherein the antibody binds specifically to HBc18-27, HBe183-191 of the HBV infected cell.

11. The antibody or a fragment thereof according to any one of claims 1 to 4, for use in medicine.

12. The antibody or a fragment thereof, according to any one of claims 1 to 4 for treatment of HBV and/or at least one HBV-linked disease.