

WHAT IS CLAIMED IS:

1. An antibody capable of binding, with a human major histocompatibility complex (MHC)-restricted specificity, a MHC being complexed with an HLA-restricted peptide tumor antigen or autoimmune antigen, said antibody having a binding specificity dictated by at least 4 amino acid residues in said HLA-restricted peptide such that at least 70 % reduction in binding of said antibody to said complex is observed when each of said at least 4 amino acid residues is substituted by alanine as determined by FACS of cells loaded with said HLA-restricted peptide comprising said substitution, said at least 4 amino acid residues not being anchor residues, wherein said HLA-restricted peptide is not from alpha-fetoprotein.
2. An antibody capable of binding, with a human major histocompatibility complex (MHC)-restricted specificity, a MHC being complexed with an HLA-restricted peptide tumor antigen or autoimmune antigen, said antibody having a binding specificity dictated by at least 4 amino acid residues in said HLA-restricted peptide such that at least 70 % reduction in binding of said antibody to said complex is observed when each of said at least 4 amino acid residues is substituted by alanine as determined by FACS of cells loaded with said HLA-restricted peptide comprising said substitution, said at least 4 amino acid residues not being anchor residues and further wherein the antibody does not bind HLA-restricted peptide antigens presented on normal essential tissues, wherein said HLA-restricted peptide antigen is not from LMP-2A polypeptide or from alpha-fetoprotein.
3. An antibody capable of binding, with a human major histocompatibility complex (MHC)-restricted specificity, a HLA-A2/TyrD369-377 peptide complex, said antibody having a binding specificity dictated by at least 4 amino acid residues in said TyrD369-377 peptide such that at least 70 % reduction in binding of said antibody to said complex is observed when each of said at least 4 amino acid residues is substituted by alanine as determined by FACS of cells loaded with said peptide comprising said substitution, said at least 4 amino acid residues not being anchor residues.

4. The antibody of any one of claims 1-3, wherein said at least 70 % reduction in binding is at least 90 % reduction in binding observed when at least 1 amino acid residue of said at least 4 amino acid residues comprises said substitution or wherein said at least 70 % reduction in binding is at least 90 % reduction in binding observed when each of at least 2 amino acid residues of said at least 4 amino acid residues comprise said substitutions or wherein said at least 4 amino acid residues comprise 5 amino acid residues such that at least 70 % reduction in binding of said antibody to said complex is observed when each of at least 4 amino acid residues of said 5 amino acids residues is substituted by alanine and wherein at least 30 % reduction in binding of said antibody to said complex is observed when a fifth amino acid of said 5 amino acids is substituted by alanine.
5. The antibody of any one of claims 1, 3-4, wherein said antibody does not bind to HLA-presented peptides, which are present in essential tissues as determined by FACS analysis of cells loaded with said HLA-presented peptides, said HLA-presented peptides having at least one amino acid substitution as compared to said HLA-restricted peptide antigen in an amino acid residue which is not one of said at least 4 amino acid residues.
6. An antibody capable of binding, with a human major histocompatibility complex (MHC)-restricted specificity, a MHC being complexed with an HLA-restricted peptide tumor antigen or autoimmune antigen, wherein said antibody does not bind to HLA-presented peptides, which are present in essential tissues as determined by FACS analysis of cells loaded with said HLA-presented peptides, said HLA-presented peptides having at least one amino acid substitution as compared to said HLA-restricted peptide antigen in an amino acid residue not critical for binding said peptide antigen, as determined by as determined by FACS of cells loaded with said HLA-restricted peptide comprising an alanine substitution, wherein said HLA-restricted peptide is not from alpha-fetoprotein.

7. The antibody of any one of claims 2, 4 and 6, wherein said HLA-restricted peptide antigen is not from LMP-2A polypeptide.
8. The antibody of any one of claims 1-7:
 - (i) having a binding affinity below 20 nanomolar to a single chain human major histocompatibility complex (MHC) complexed with said HLA-restricted peptide antigen, as determined by surface plasmon resonance assay;
 - (ii) capable of binding said HLA-restricted peptide antigen when naturally presented on cells, as determined by FACS(iii) not binding an *in-silico* predicted HLA-restricted peptide.
9. The antibody of any one of claims 1, 6-8, wherein said MHC is class I MHC.
10. The antibody of any one of claims 6-9, wherein said at least one amino acid substitution comprises 1-4 amino acid substitutions.
11. An isolated polynucleotide comprising a nucleic acid sequence encoding the antibody of any one of claims 1-10.