Claims

1. A peptide a) consisting of the amino acid sequence according to SEQ ID No. 2 or b) comprising the amino acid sequence according to SEQ ID No. 2 and having a length of up to 14 amino acids.

2. The peptide according to claim 1, wherein said peptide includes non-peptide bonds.

3. A T-cell receptor, preferably a recombinant, soluble or membrane-bound T- cell receptor that is reactive with an HLA ligand, optionally wherein said ligand is part of a peptide-MHC complex, wherein said ligand consists of the amino acid sequence of SEQ ID No. 2.

4. An antibody, in particular a soluble or membrane-bound antibody, that specifically recognizes the peptide according to claim 1, preferably the peptide according to any of claim 1 when bound to an MHC molecule.

5. A nucleic acid, encoding for a peptide according to claim 1 or 2 or for a TCR according to claim 3, or an antibody according to claim 4, optionally linked to a heterologous promoter sequence, or an expression vector expressing said nucleic acid.

6. A recombinant host cell comprising the peptide according to claim 1 or 3, or the nucleic acid or the expression vector according to claim 5, wherein said host cell preferably is an antigen presenting cell such as a dendritic cell, or wherein said host ell preferably is a T cell or NK cell.

7. A method for producing the peptide according to claim 1 or 2, or for producing the T cell receptor according to claim 4, or an antibody according to claim 4, the method comprising culturing the host cell according to claim 7 that presents the peptide according to claim 1, or expresses the nucleic acid or expression vector according to claim 5, and isolating the peptide or the TCR or the antibody from the host cell or its culture medium.

8. An *in vitro* method for producing activated T lymphocytes, the method comprising contacting *in vitro* T cells with antigen loaded human class 1 MHC molecules expressed on the surface of a suitable antigen-presenting cell or an artificial construct mimicking an antigen-presenting cell for a period of time sufficient to activate said T cells in an antigen specific manner, wherein said antigen is a peptide according to claim 1.

9. An activated T lymphocyte, produced by the method according to claim 9 that selectively recognizes a cell which presents a polypeptide comprising an amino acid sequence given in claim 1.

10. A pharmaceutical composition compns1ng at least one active ingredient selected from the group consisting of the peptide according to claim 1 or 3, the nucleic acid or the expression vector according to claim 5, the cell according to claim 6, the activated T lymphocyte according to claim 9 or the antibody according to claim 4 or T-cell receptor according to claim 3, and a pharmaceutically acceptable carrier, and optionally additional pharmaceutically acceptable excipients and/or stabilizers.

11. The peptide according to claim 1 or 3, the nucleic acid or the expression vector according to claim 5, the cell according to claim 6, the activated T lymphocyte according to claim 9 or the antibody according to claim 4 or T-cell receptor according to claim 3 for use in medicine, preferably for use in the diagnosis and/or treatment of cancer.

12. The peptide according to claim 1 or 3, the nucleic acid or the expression vector according to claim 5, the cell according to claim 6, the activated T lymphocyte according to claim 9 or the antibody according to claim 4 or T-cell receptor according to claim 3 for use in the diagnosis and/or treatment of cancer according to claim 11, wherein said cancer is selected from the group of ovarian cancer, non-small cell lung cancer, small cell lung cancer, kidney cancer, brain cancer, colon or rectum cancer, stomach cancer, liver cancer, pancreatic cancer, prostate cancer, leukemia, breast cancer, Merkel cell carcinoma, melanoma, esophageal cancer, urinary bladder cancer, uterine cancer, gallbladder cancer, bile duct cancer and other tumors that show an overexpression of a protein from which a peptide according to SEQ ID No. 2 is derived from, in particular ovarian cancer.

13. A kit comprising:

a) a container comprising a pharmaceutical composition containing the peptide according to claim 1 or 3, the nucleic acid or the expression vector according to claim 5, the cell according to claim 6, the activated T lymphocyte according to claim 9 or the antibody according to claim 4 or T-cell receptor according to claim 3, in solution or in lyophilized form;

b) optionally, a second container containing a diluent or reconstituting solution for the lyophilized formulation;

c) optionally, at least one more peptide selected from the group consisting of SEQ ID No. 3 to 549, and

d) optionally, instructions for (i) use of the solution or (ii) reconstitution and/or use of the lyophilized formulation, and

e) optionally further comprising one or more of (iii) a buffer, (iv) a diluent, (v) a filter, (vi) a needle, or (vii) a syringe.