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Claims

1. A peptide consisting of an amino acid sequence of SEQ ID No. 323, wherein said peptide binds to molecule(s) of the major histocompatibility complex (MHC) and/or induces T cells cross-reacting with said peptide; or a pharmaceutical acceptable salt thereof.

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

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

4. A recombinant, soluble or membrane-bound T-cell receptor that is reactive with an HLA ligand, wherein said ligand consists of SEQ ID No. 323.

5. The T-cell receptor according claim 4, wherein said T-cell receptor is provided as a soluble molecule and optionally carries a further effector function, such as an immune stimulating domain or toxin.

6. The T-cell receptor according to claim 4, wherein the ligand is part of a peptide-MHC complex.

7. A nucleic acid, encoding for a peptide according to any one of claims 1 or 2, or encoding for a TCR according to claims 4 to 6 , optionally linked to a heterologous promoter sequence.

8. An expression vector expressing the nucleic acid according to claim 7.

9. A recombinant host cell comprising the peptide according to any one of claims 1 to 2, the nucleic acid according to claim 7 or the expression vector according to claim 8, wherein said host cell for example is an antigen presenting cell such as a dendritic cell, or wherein said host cell for example is a T cell or NK cell.

10. A method for producing the peptide according to any one of claims 1 to 2, or the TCR according to claims 4 to 6, said method comprising culturing a host cell according to Claim 9, and isolating said peptide or TCR from said host cell and/or its culture medium.

11. An *in vitro* method for producing activated T lymphocytes, the method comprising contacting *in vitro* T cells with antigen loaded human class I 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.

12. Use of the peptide according to any one of claims 1 to 2, the antibody according to claim 3, the TCR according to claims 4 to 6, the nucleic acid according to claim 7, the expression vector according to claim 8, or the host cell according to claim 9 in the manufacture of a medicament for the treatment of cancer selected from the group of breast cancer, colorectal cancer, chronic lymphocytic leukemia, non-small cell lung cancer, Non-Hodgkin lymphoma, acute myeloid leukemia, ovarian cancer, esophageal cancer including cancer of the gastric-esophageal junction, gallbladder adenocarcinoma and cholangiocarcinoma, melanoma, gastric cancer.

13. A kit comprising:
a) a container comprising a pharmaceutical composition containing the peptide according to any one of claims 1 to 2, the antibody according to claim 3, the TCR according to claims 4 to 6, the nucleic acid according to claim 7, the expression vector according to claim 8, or the host cell according to claim 9 in solution or in lyophilized form;
b) optionally, a second container containing a diluent or reconstituting solution for the lyophilized formulation; and
c) optionally, instructions for (i) use of the solution or (ii) reconstitution and/or use of the lyophilized formulation.

14. The kit according to claim 13, further comprising one or more of (iii) a buffer, (iv) a diluent, (v) a filter, (vi) a needle, or (vii) a syringe.

15. A pharmaceutical composition comprising at least one active ingredient selected from the group consisting of the peptide according to any one of claims 1 to 2, the antibody according to claim 3, the TCR according to claims 4 to 6, the nucleic acid according to claim 7, the expression vector according to claim 8, or the host cell according to claim 9, and a pharmaceutically acceptable carrier, and optionally additional pharmaceutically acceptable excipients and/or stabilizers.