

CLAIMS

1. A peptide comprising the amino acid sequence of SEQ ID No. 53, and a pharmaceutical acceptable salt thereof, wherein said peptide has an overall length of from 10 to 30 amino acids, wherein said peptide has the ability to bind to a molecule of the human major histocompatibility complex (MHC) class-I, and wherein said peptide, when bound to MHC, is capable of being recognized by CD8 T cells.
2. The peptide or variant thereof according to claim 1, wherein said peptide has an overall length of from 10 to 16 amino acids, and most preferred wherein the peptide consists of an amino acid sequence according to SEQ ID No. 53.
3. The peptide according to Claim 1 or 2, wherein said peptide includes non-peptide bonds, and/or wherein said peptide is part of a fusion protein comprising N-terminal amino acids of the HLA-DR antigen-associated invariant chain (Ii).
4. An antibody, soluble or membrane-bound, that specifically recognizes the peptide according to any of claims 1 or 2, preferably the peptide according to any of claims 1 or 2 that is bound to an MHC molecule.
5. A T-cell receptor (TCR), soluble or membrane-bound, that is reactive with an HLA ligand, wherein said ligand has at least 88% identity to, and preferably consists of, the amino acid sequence selected from the group consisting of SEQ ID No. 53, wherein optionally said TCR is provided as a soluble molecule and further optionally carries a further effector function such as an immune stimulating domain or toxin.
6. A nucleic acid, encoding a peptide according to any one of claims 1 to 3, the antibody according to claim 4, the TCR according to claim 5, or an expression vector expressing said nucleic acid.

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

8. A method for producing the peptide according to any one of claims 1 to 3, the antibody according to claim 4, or the TCR according to claim 5, the method comprising culturing a host cell according to claim 7 that presents the peptide according to any one of claims 1 to 3, or expresses the nucleic acid or the expression vector according to claim 6, and isolating said peptide, said antibody or said TCR from the host cell and/or its culture medium.

9. 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 or 2.

10. An activated T cell, 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 or 2.

11. 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 3, the antibody according to claim 4, the TCR according to claim 5, the nucleic acid or the expression vector according to claim 6, the host cell comprising the expression vector according to claim 7, the activated T cell according to claim 10, and a pharmaceutically acceptable carrier, and optionally, pharmaceutically acceptable excipients and/or stabilizers.

12. The peptide according to any one of claims 1 to 3, the antibody according to claim 4, the TCR according to claim 5, the nucleic acid or the expression vector according to

claim 6, the host cell comprising the expression vector according to claim 7, the activated T cell according to claim 10, or the pharmaceutical composition according to claim 11 for use in medicine.

13. Use of the peptide according to any one of claims 1 to 3, the antibody according to claim 4, the TCR according to claim 5, the nucleic acid or the expression vector according to claim 6, the host cell comprising the expression vector according to claim 7, the activated T cell according to claim 10, or the pharmaceutical composition according to claim 11 in the manufacture of a medicament for the treatment of cancer.

14. The use according to claim 13, wherein said cancer is HHC, brain cancer, kidney cancer, pancreatic cancer, colon or rectal cancer or leukemia and other tumors that show an overexpression of CFHR5.

15. A kit comprising:

- (a) a container comprising a pharmaceutical composition according to claim 11, 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. 1 to SEQ ID No. 52, and SEQ ID No. 54 to SEQ ID No. 346, and
- (d) optionally, instructions for (i) use of the solution or (ii) reconstitution and/or use of the lyophilized formulation, and, optionally, further comprising one or more of (iii) a buffer, (iv) a diluent, (v) a filter, (vi) a needle, or (v) a syringe.