

CLAIMS

1. A T-cell receptor comprising:
 - (a) an alpha chain comprising an amino acid sequence which is at least 95% identical to the amino acid sequence as set forth in SEQ ID NO: 1; and
 - 5 (b) a beta chain comprising an amino acid sequence which is at least 95% identical to the amino acid sequence as set forth in SEQ ID NO: 2.
2. A T-cell receptor according to Claim 1, in which the alpha chain and beta chain are joined by a linker.
3. A T-cell receptor according to Claim 1 or 2, in which the linker is a 2A peptide linker

10 from porcine teschovirus.
4. A T-cell receptor according to Claim 1, 2 or 3, in which the T-cell receptor comprises an amino acid sequence which is at least 95% identical to the amino acid sequence as set forth in SEQ ID NO: 3.
5. A T-cell receptor according to any preceding claim, in which the T-cell receptor

15 comprises the sequence as set forth in any one of: SEQ ID NO: 1, SEQ ID NO: 2 and SEQ ID NO: 3 except for one or several modifications.
6. A T-cell receptor according to Claim 5, in which the one or several modifications are substitutions.
7. A T-cell receptor according to Claim 5 or 6, in which the one or several modifications

20 are within a variable region.
8. A T-cell receptor according to any preceding claim, in which the T-cell receptor comprises a cysteine residue at position 48 of the variable region of the alpha chain and a cysteine residue at position 57 of the variable region of the beta chain.
9. A T-cell receptor according to any preceding claim, in which the T-cell receptor is

25 encoded by a nucleotide sequence comprising:
 - (a) SEQ ID NO: 6;
 - (b) a nucleotide sequence equivalent to SEQ ID NO: 6 as a result of the degeneracy of the genetic code;

(c) a nucleotide sequence encoding a T-cell receptor functionally equivalent to a T-cell receptor encoded by a nucleotide sequence comprising SEQ ID NO: 6 and having at least 90% identity thereto; or

(d) a nucleotide sequence equivalent to a nucleotide sequence according to (c) above as a result of the degeneracy of the genetic code.

10. An immune-mobilising monoclonal TCR against cancer comprising a soluble TCR according to any preceding claim.

11. An immune-mobilising monoclonal TCR against cancer according to Claim 10, in which the immune-mobilising monoclonal TCR against cancer comprises an anti-CD3 scFv.

12. A nucleic acid sequence comprising:

(a) SEQ ID NO: 6;

(b) a nucleotide sequence equivalent to SEQ ID NO: 6 as a result of the degeneracy of the genetic code;

(c) a nucleotide sequence encoding a T-cell receptor functionally equivalent to a T-cell receptor encoded by a nucleotide sequence comprising SEQ ID NO: 6 and having at least 90% identity thereto; or

(d) a nucleotide sequence equivalent to a nucleotide sequence according to (c) above as a result of the degeneracy of the genetic code.

13. A vector comprising a nucleic acid sequence according to Claim 12.

14. A host cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13.

15. A composition comprising:

(a) a T-cell receptor according to any of Claims 1 to 9;

(b) an immune-mobilising monoclonal TCR against cancer according to Claim 10 or 11;

(c) a nucleic acid sequence according to Claim 12;

(d) a vector according to Claim 13; or

(e) a host cell according to Claim 14.

16. A host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13 or a composition comprising such a host T-cell for use in the treatment or prevention of an EBV+ tumour.

5 17. A host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13 or a composition comprising such a host T-cell for use according to Claim 16, in which the EBV+ tumour is selected from the group consisting of: nasopharyngeal carcinoma, NKT cell lymphoma, Hodgkin's Lymphoma, post-transplant lymphoproliferative disease, Diffuse large B-cell lymphoma and gastric cancer.

10 18. A host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13 or a composition comprising such a host T-cell for use according to Claim 16 or 17, in which the EBV+ tumour is nasopharyngeal carcinoma, such as undifferentiated nasopharyngeal carcinoma.

15 19. A host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13 or a composition comprising such a host T-cell for use according to Claim 16, 17 or 18, in which the T-cell receptor or pharmaceutical composition is formulated to provide a dosage of at least 10^8 T-cells comprising the T-cell receptor.

20 20. Use of a host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13, or a composition comprising such a host T-cell, in the manufacture of a medicament for the treatment or prevention of an EBV+ tumour.

25 21. Use of a host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13, or a composition comprising such a host T-cell according to Claim 20, in which the EBV+ tumour is selected from the group consisting of: nasopharyngeal carcinoma, NKT cell lymphoma, Hodgkin's Lymphoma, post-transplant lymphoproliferative disease, Diffuse large B-cell lymphoma and gastric cancer.

30 22. Use of a host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13, or a composition comprising such a host T-cell according to Claim 20 or 21, in which the EBV+ tumour is nasopharyngeal carcinoma, such as undifferentiated nasopharyngeal carcinoma.

23. Use of a host T-cell transformed or transfected with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13, or a composition comprising such a host T-cell according to Claim 20, 21 or 22, in which the T-cell receptor or composition is formulated to provide a dosage of at least 10^8 T-cells comprising the T-cell receptor.
- 5 24. An *in vitro* method of producing T-cells comprising a T-cell receptor according to any of Claims 1 to 9 comprising: transfecting or transforming a sample of T-cells with a nucleic acid sequence according to Claim 12 or a vector according to Claim 13.