

Claims

1. A tumour specific T-cell receptor (TCR) having a γ chain and a δ chain, characterised by having a complementarity-determining region (CDR) comprising or consisting of the amino acid sequence: CATWDRRDYKKLF (SEQ ID NO: 1) or a sequence that shares at least 92% identity therewith as CDR3 γ ; CALGVLPTVTGGGLIF (SEQ ID NO: 2) or a sequence that shares at least 92% identity therewith as CDR3 δ ; VTNTFY (SEQ ID NO:3) as CDR1 γ ; YDVSTARD (SEQ ID NO: 4) as CDR2 γ ; TSWWSYY (SEQ ID NO: 5) as CDR1 δ ; and QGS (SEQ ID NO: 6) as CDR2 δ .

2. A tumour specific T-cell receptor (TCR) according to claim 2 characterised by having complementarity-determining regions (CDRs) comprising or consisting of the amino acid sequences: CATWDRRDYKKLF (SEQ ID NO: 1) as CDR3 γ ; CALGVLPTVTGGGLIF (SEQ ID NO: 2) as CDR3 δ , VTNTFY (SEQ ID NO:3) as CDR1 γ , YDVSTARD (SEQ ID NO: 4) as CDR2 γ , TSWWSYY (SEQ ID NO: 5) as CDR1 δ and QGS (SEQ ID NO: 6) as CDR2 δ .

3. The tumour specific T-cell receptor (TCR) according to any one of claims 1-2 wherein said TCR has a gamma chain comprising or consisting of the amino acid sequence:

SSNLEGRTKSVTRQTGSSAEITCDLTVTNTFYIHWYLHQEGKAPQRLLYYDV
STARDVLESGLSPGKYTHTPRRWSWILRLQNLIENDSGVYYCATWDRRDY
KKLFGSGTTLVVTDKQLDADVSPKPTIFLPSIAETKLQKAGTYLCLLEKFFPD
VIKIHWEKKSNTILGSQEGNTMKTNDTYMKFSWLTVPKSLDKEHRCIVRH
ENNKNQVDQEIIFFPIKT (SEQ ID NO:7) or an amino acid sequence that
shares at least 92% identity therewith.

4. The tumour specific T-cell receptor (TCR) according to any one of claims 1-3 wherein said TCR has a delta chain comprising or consisting of the amino acid sequence:

AQKVTQAQSSVSMPVRKAVTLNCLYETSWWSYYIFWYKQLPSKEMIFLIRQGSDE
QNAKSGRYSVNFKKAASVALTISALQLEDSAKYFCALGVLPTVTGGGLIFGKGTRV
TVEPNSQPHTKPSVFVMKNGTNVACLVEFYKPKDIRINLVSSKKITEFDPAIVISPSG

KYNAVKLGKYEDSNSVTCSVQHDKTVHSTDFEVKTDST (SEQ ID NO:8) or an amino acid sequence that shares at least 92% identity therewith.

5. The tumour specific T-cell receptor (TCR) according to any one of claims 1-4 wherein said TCR is in a soluble form.

6. The tumour specific T-cell receptor (TCR) according to any one of claims 1-4 wherein said TCR is in a membrane compatible form and has a transmembrane region and an intracellular region.

7. The tumour specific T-cell receptor (TCR) according to any one of claims 1-4 in a single chain form.

8. The tumour specific T-cell receptor (TCR) according to any one of claims 1-7 which binds to a tumour specific ligand in the context of SCNN1A gene expression.

9. A T-cell or T-cell clone expressing said TCR according to any one of claims 1-8.

10. The T-cell clone according to claim 9 wherein said clone is a SW.3G1 clone.

11. A vector encoding the TCR according to anyone of claims 1-8.

12. A bispecific monoclonal antibody comprising a TCR according to any one of claims 1-8 and an immune cell activating component or ligand that binds and so activates an immune cell, such as a Killer T-cell.

13. A pharmaceutical composition comprising said TCR according to any one of claims 1-8 or said cell or clone according to claims 9 or 10 or said vector according to claim 11.

14. Use of a TCR according to any one of claims 1-8 or cell or clone according to claims 9 or 10 or vector according to claim 11 or bispecific monoclonal antibody according to claim 12 or the pharmaceutical composition according to claim 13 in the manufacture of a medicament for the treatment of cancer.

15. The use according to claim 14 wherein said cancer is selected from the group consisting of colorectal cancer, lung, kidney, prostate, bladder, cervical, melanoma

(skin), bone, breast, blood, brain, pancreas, testicle, ovary, head/neck, liver, bladder, thyroid, and uterine cancers.

16. A combination therapeutic for the treatment of cancer comprising:
 - a) the said TCR according to claims 1-8 or the said cell or clone according to claims 9 or 10 or the said vector according to claim 11 or the said bispecific monoclonal antibody according to claim 12 or the said pharmaceutical composition according to claim 13 in combination with;
 - b) a further cancer therapeutic agent.

17. A TCR or polypeptide that binds to at least one of the SCNN1A gene product isoforms shown in Figure 9, optionally wherein the TCR or polypeptide binds to the extracellular domain of said isoform.