CLAIMS

1. An antigen binding receptor comprising an anchoring transmembrane domain and an extracellular domain, wherein the extracellular domain comprises an antigen binding moiety comprising
(i) a heavy chain variable domain (VH) comprising a heavy chain complementary determining region (HCDR) 1 of SEQ ID NO:1, a HCDR 2 of SEQ ID NO:2 or SEQ ID NO:40, and a HCDR 3 of SEQ ID NO:3, and
(ii) a light chain variable domain (VL) comprising a light chain complementarity determining region (LCDR) 1 of SEQ ID NO:4, a LCDR 2 of SEQ ID NO:5 and a LCDR 3 of SEQ ID NO:6.

2. The antigen binding receptor of claim 1, wherein the VH domain comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to an amino acid sequence selected from the group consisting of SEQ ID NO:8, SEQ ID NO:41, SEQ ID NO:44 and SEQ ID NO 128.

3. The antigen binding receptor of claim 1 or 2, wherein the VL domain comprises an amino acid sequence that is at least about 95%, 96%, 97%, 98%, 99% or 100% identical to the amino acid sequence of SEQ ID NO:9 or SEQ ID NO:127.

4. The antigen binding receptor of any one of claims 1-3, wherein the anchoring transmembrane domain is a transmembrane domain selected from the group consisting of the CD8, the CD4, the CD3z, the FCGR3A, the NKG2D, the CD27, the CD28, the CD137, the OX40, the ICOS, the DAP10 or the DAP12 transmembrane domain or a fragment thereof, in particular wherein the anchoring transmembrane domain is the CD8 transmembrane domain or a fragment thereof.

5. The antigen binding receptor of any one of claims 1-4 further comprising at least one stimulatory signaling domain and/or at least one co-stimulatory signaling domain.

6. The antigen binding receptor of any one of claims 1-5, wherein the at least one stimulatory signaling domain is individually selected from the group consisting of the intracellular domain of CD3z, of FCGR3A and of NKG2D, or fragments thereof that retains stimulatory signaling activity, in particular wherein the at least one stimulatory signaling domain is the CD3z intracellular domain or a fragment thereof that retains CD3z stimulatory signaling activity.

7. The antigen binding receptor of any one of claims 1-6, wherein the at least one co-stimulatory signaling domain is individually selected from the group consisting of the intracellular domain of CD27, of CD28, of CD137, of OX40, of ICOS, of DAP10 and of DAP12, or fragments thereof that retain co-stimulatory signaling activity.

8. The antigen binding receptor of any one of claims 1-7, comprising at least one CD28 costimulatory domain or a fragment thereof that retains CD28 co-stimulatory activity, and/or at least one CD137 costimulatory domain or a fragment thereof that retains CD137 co-stimulatory activity.

9. The antigen binding receptor of any one of claims 1-8, wherein the antigen binding receptor comprises a stimulatory signaling domain comprising the intracellular domain of CD3z, or a fragment thereof that retains CD3z stimulatory signaling activity, and wherein the antigen binding receptor comprises a co-stimulatory signaling domain comprising the intracellular domain of CD28, or a fragment thereof that retains CD28 co-stimulatory signaling activity.

10. The antigen binding receptor of any one of claims 1-8, wherein the antigen binding receptor comprises one stimulatory signaling domain comprising the intracellular domain of CD3z, or a fragment thereof that retains CD3z stimulatory signaling activity, and wherein the antigen binding receptor comprises one co-stimulatory signaling domain comprising the intracellular domain of CD137, or a fragment thereof that retains CD137 co-stimulatory signaling activity.

11. The antigen binding receptor of any one of claims 1-10, wherein the antigen binding moiety is connected at the C-terminus to the N-terminus of the anchoring transmembrane domain, optionally through a peptide linker.

12. The antigen binding receptor of any one of claims 1-11, wherein the light chain variable domain (VL) of the antigen binding moiety is connected at the C-terminus to the N-terminus of the anchoring transmembrane domain, optionally through a peptide linker, and/or wherein the heavy chain variable domain (VH) is connected at the C-terminus to the N-terminus of the light chain variable domain (VL), optionally through a peptide linker.

13. A transduced T cell capable of expressing the antigen binding receptor of any one of claims 1-12.

14. An isolated polynucleotide encoding the antigen binding receptor of any one of claims 1-12.

15. A vector, particularly an expression vector, comprising the polynucleotide of claim 14.

16. A kit comprising

(A) a transduced T cell capable of expressing the antigen binding receptor of any one of claims 1-12; and

(B) an antibody that binds to a target cell antigen and that comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

17. A kit comprising

(A) an isolated polynucleotide encoding the antigen binding receptor of any one of claims 1-12; and

(B) an antibody that binds to a target cell antigen and that comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

18. The kit of any one of claims 16 or 17, wherein the target cell antigen is selected from the group consisting of fibroblast activation protein (FAP), carcinoembryonic antigen (CEA), mesothelin (MSLN), CD20, folate receptor 1 (FOLR1), and tenascin (TNC).

19. The kit of any one of claims 16-18 for use as a medicament.

20. The kit of any one of claims 16-18 for use in the treatment of a disease, in particular for use in the treatment of cancer.

21. The transduced T cell of claim 13 for use as a medicament, wherein the transduced T cell is administered before, simultaneously with or after administration of an antibody that binds to a target cell antigen and that comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

22. The transduced T cell of claim 13 for use in the treatment of cancer, wherein the treatment comprises administration of the transduced T cell before, simultaneously with or after administration of an antibody that binds to a target cell antigen and comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

23. A method of treating a disease in a subject, comprising administering to the subject a transduced T cell capable of expressing the antigen binding receptor of any one of claims 1-12 and administering before, simultaneously with or after administration of the transduced T cell a therapeutically effective amount of an antibody that binds to a target cell antigen and that comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

24. A method for inducing lysis of a target cell, comprising contacting the target cell with a transduced T cell capable of expressing the antigen binding receptor of any one of claims 1-12 in the presence of an antibody that binds to a target cell antigen and that comprises an Fc domain comprising the amino acid mutation P329G according to EU numbering.

25. Use of the antigen binding receptor of any one of claims 1-12, the polynucleotide of claim 14 or the transduced T cell of claim 13 for the manufacture of a medicament for the treatment of cancer.

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