CLAIMS

1. A T cell comprising a chimeric antigen receptor (CAR-T cell), wherein the CAR-T cell is deficient in an antigen to which the chimeric antigen receptor specifically binds, and wherein the chimeric antigen receptor specifically binds an antigen expressed on a malignant T cell.

2. The CAR-T cell of claim 1, wherein the antigen is selected from the group consisting of CD7, CD5, CD2, CD30, and CD4.

3. The CAR-T cell of claim 1, wherein the antigen is CD7.

4. The CAR-T cell of any of the preceding claims, wherein the CAR-T cell further comprises a suicide gene.

5. The CAR-T cell of claim 4, wherein the suicide gene encodes a modified Human-Herpes Simplex Virus-1-thymidine kinase (TK) gene fused in-frame to the extracellular and transmembrane domains of the human CD34 cDNA.

6. The CAR-T cell of claim 1, further comprising a modification of the endogenous T-cell Receptor Alpha Chain (TRAC) such that endogenous T cell receptor mediated signaling is blocked in the CAR-T cell.

7. The CAR-T cell of claim 1, where in the CAR-T cell comprises a modification of CD7, and further comprises a modification of TRAC.

8. A CAR-T cell of any one of the preceding claims for use in killing a malignant T cell.

9. Use of a CAR-T cell of any one of claims 1 to 7 in the manufacture of a medicament for the treatment of T-cell acute lymphoblastic leukemia (T-ALL).

10. The use of claim 9, wherein the T cell malignancy is non-Hodgkin lymphoma.

11. Use of a CAR-T cell of any one of claims 1 to 7 in the manufacture of a medicament for the treatment of myeloid and lymphoid malignancies.

12. A CAR-T cell for use in a the treatment of a mammal having a T cell malignancy, wherein a plurality of chimeric antigen receptor T (CAR-T) cells are to be administered to the mammal, the CAR-T cells comprise the same chimeric antigen receptor, the CAR-T cells are deficient in an antigen to which the chimeric antigen receptor specifically binds, and wherein the chimeric antigen receptor specifically binds an antigen expressed on a malignant T cell.

13. Use of a CAR-T cell in the manufacture of a medicament for the treatment of a T cell malignancy in a mammal, wherein the medicament comprises a plurality of chimeric antigen receptor T (CAR-T) cells to be administered to the mammal, the CAR-T cells comprise the same chimeric antigen receptor, the CAR-T cells are deficient in an antigen to which the chimeric antigen receptor specifically binds, and wherein the chimeric antigen receptor specifically binds an antigen expressed on a malignant T cell.

14. The use of claim 13, wherein the antigen expressed on a malignant T cell is selected from the group consisting of CD7, CD5, CD2, CD30, and CD4.

15. The use of claim 14, wherein the antigen expressed on a malignant T cell is CD7.

16. The use of claim 13, wherein endogenous T cell receptor mediated signaling is blocked in the CAR-T cell.

17. The use of claim 14, wherein the CAR-T cells do not induce alloreactivity or graft-versus-host disease.

18. The use of claim 14, wherein the CAR-T cells do not induce fratricide.

19. The use of claim 13, wherein the T cell malignancy is T-cell acute lymphoblastic leukemia (T-ALL) or non-Hodgkin lymphoma.

20. The use of claim 13, wherein the CAR-T cell is used to treat myeloid and lymphoid malignancies.