WHAT IS CLAIMED IS:

1. A nucleic acid encoding a chimeric antigen receptor (CAR) which comprises an antigen recognition moiety, a hinge region, a transmembrane domain and a T cell activation moiety, wherein:

(i) the antigen recognition moiety is directed to a first antigenic determinant, it is operably linked to the T cell activation moiety; and comprises the amino acid sequence of SEQ ID NO: 8;

(ii) the hinge region is selected from a CD8 hinge and a CD28 hinge;

(iii) the transmembrane domain is selected from a CD8 transmembrane domain or a CD28 transmembrane domain; and

(iv) the T cell activation moiety comprises:

(a) a signalling domain selected from a 4-1BB signalling domain and a CD28 signalling domain; and

(b) a TCR zeta signalling domain.

2. A genetically modified mammalian stem cell or a cell comprising a nucleic acid as defined in claim 1.

3. The stem cell of claim 2, wherein the stem cell is selected from an induced pluripotent stem cell (iPSC), a haemopoietic stem cell (HSC) or a lymphoid progenitor.

4. The stem cell of claims 2 or 3, further comprising a nucleic acid encoding a non-signalling antigen-binding receptor which comprises an antigen recognition moiety which is directed to a second antigenic determinant.

5. The stem cell of claim 4, wherein:

(i) the second antigenic determinant is different from the first antigenic determinant; and/or

(ii) the second antigenic determinant is CD47.

6. A cell derived from a stem cell according to any of claims 2 to 5.

7. The cell of any one of claims 2 or 6, wherein the cell is selected from the group consisting of multipotent progenitor cells, common lymphoid progenitor cells, early thymic progenitor cells, pre-T cell progenitor cells, pre-NK progenitor cells, T progenitor cells, NK progenitor cells, T cells, NK cells, NKT cells, B cells, common myeloid progenitor cells, macrophages and monocytes.

8. The cell of any one of claims 2, 6 or 7, wherein the cell is a T cell.

9. The stem cell of any one of claims 2 to 5 or the T cell of claim 8, wherein said cell comprises at least one homozygous HLA haplotype.

10. The T cell of claim 8 or claim 9, wherein the T cell expresses

(i) a CAR encoded by the nucleic acid as defined in any of the claims 1-4 which comprises an antigen recognition moiety directed to a first antigenic determinant;

(ii) a non-signalling antigen-binding receptor which comprises an antigen recognition moiety which is directed to a second antigenic determinant; and

(iii) a T cell receptor (TCR) directed to a third antigenic determinant.

11. The T cell of claim 10, wherein:

(i) the first antigenic determinant, the second antigenic determinant and the third antigenic determinant are all different from each other;

(ii) the third antigenic determinant is selected from tumour antigens; and/or

(iii) the second antigenic determinant is CD47.

12. The stem cell of any one of claims 2 to 5 or 9 or the T cell of claims 10 or 11, wherein the antigen recognition moiety in said CAR is operably linked to said T cell activation moiety through a hinge region and a transmembrane domain.

13. The stem cell of claim 12 or the T cell of claim 12, wherein the hinge region comprises one or more cysteine residues that promotes dimerisation of the CAR.

14. The stem cell of any one of claims 4, 5, 9, 12 or 13 or the T cell of any one of claims 10 to 13, wherein the antigen recognition moiety of said non-signalling antigen-binding receptor is operably linked to a transmembrane region through a hinge region.

15. The stem cell of claim 14 or the T cell of claim 14, wherein:

(i) the non-signalling antigen-binding receptor does not form dimers; or

(ii) the non-signalling antigen-binding receptor has cysteine residues either removed or substituted in the hinge region to prevent the formation of dimers; or

(iii) the non-signaling antigen-binding receptor comprises one or more cysteine residues that promote dimerisation.

16. A composition comprising the cell of any of claims 2 to 15, for use as a medicament.

17. Use of a cell of any one of claims 2 to 15 in the manufacture of a medicament for treating a condition characterised by the presence of an unwanted population of cells in a mammal, for example a condition selected from a neoplastic condition, a microorganism infection, or an autoimmune condition.

18. A method of making a genetically modified mammalian stem cell, comprising:

(i) obtaining a mammalian stem cell which is capable of differentiating; and

(ii) introducing into the mammalian stem cell a nucleic acid as defined in claim 1.

19. A method of making a cell, comprising:

(a) providing a genetically modified stem cell obtainable according to the method of claim 18; and

(b) differentiating the genetically modified stem cell into the cell.