WHAT IS CLAIMED IS:

1. An isolated hypoimmunogenic T cell comprising a nucleic acid encoding a chimeric antigen receptor (CAR),

wherein the isolated hypoimmunogenic T cell has reduced expression of β-2 microglobulin (B2M) and/or reduced expression of class II transactivator (CIITA) compared to a wild-type cell,

wherein the isolated hypoimmunogenic T cell has increased expression of CD47 compared to the wild-type cell, and

wherein the isolated hypoimmunogenic T cell is a naïve T cell, a naïve central memory T cell, an effector memory T cell, or an effector memory RA T cell.

2. The isolated hypoimmunogenic T cell of claim 1, wherein the T cell is a CD3+ T cell, a CD8+ T cell, a CD8+ low T cell, a CD8+ high T cell, a CD4+ T cell, a CD4+/CD8+ high T cell, or a CD4+/CD8+ low T cell.

3. The isolated hypoimmunogenic T cell of claim 1 or claim 2, wherein the CAR comprises an extracellular domain, a transmembrane domain, and an intracellular signaling domain.

4. The isolated hypoimmunogenic T cell of claim 3, wherein the extracellular domain binds to an antigen comprising CD19, CD20, CD22, CD38, CD123, CD171, CS1, BCMA, MUC16, ROR1, and/or WT1.

5. The isolated hypoimmunogenic T cell of claim 3 or claim 4, wherein the extracellular domain comprises a single chain variable fragment (scFv).

6. The isolated hypoimmunogenic T cell of any one of claims 3 to 5, wherein the transmembrane domain comprises CD3ζ, CD4, CD8α, CD28, 4-1BB, OX40, ICOS, CTLA-4, PD-1, LAG-3, and/or BTLA.

7. The isolated hypoimmunogenic T cell of any one of claims 3 to 6, wherein the intracellular signaling domain comprises CD3ζ, CD28, 4-1BB, OX40, ICOS, CTLA-4, PD-1, LAG-3, and/or BTLA.

8. The isolated hypoimmunogenic T cell of any one of claims 1 to 7, wherein:

the extracellular domain binds to CD19, CD22, or BCMA;

the extracellular domain comprises a single chain variable fragment (scFv);

the transmembrane domain comprises CD8α or CD28; and

the intracellular signaling domain comprises CD3ζ and/or 4-1BB.

9. The isolated hypoimmunogenic T cell of any one of claims 1 to 8, wherein the isolated hypoimmunogenic T cell is derived from a human induced pluripotent stem cell (iPSC) or a mouse iPSC.

10. The isolated hypoimmunogenic T cell of claim 9, wherein the isolated hypoimmunogenic T cell is derived from the human iPSC,

wherein the human iPSC has reduced expression of B2M, and/or reduced expression of CIITA compared to a wild-type cell, and

wherein the human iPSC has increased expression of CD47 compared to the wild-type cell, and wherein the increased expression of CD47 results from expression of a CD47 transgene under the control of a constitutive promoter or an inducible promoter.

11. The isolated hypoimmunogenic T cell of claim 10, wherein the CD47 transgene comprises a human CD47 gene, and wherein the CD47 transgene is under the control of a constitutive promoter.

12. The isolated hypoimmunogenic T cell of any one of claims 1 to 11, further comprising a safety switch.

13. The isolated hypoimmunogenic T cell of claim 12, wherein the safety switch is a suicide gene and the suicide gene is activated by a trigger agent.

14. The isolated hypoimmunogenic T cell of claim 13, wherein the suicide gene is a herpes simplex virus thymidine kinase (HSV-tk) gene and the trigger agent is ganciclovir.

15. The isolated hypoimmunogenic T cell of claim 13, wherein the suicide gene is an *Escherichia coli* cytosine deaminase (CD) gene and the trigger agent is 5-fluorocytosine (5-FC).

16. The isolated hypoimmunogenic T cell of claim 13, wherein the suicide gene encodes an inducible caspase 9 protein and the trigger agent is a chemical inducer of dimerization (CID).

17. The isolated hypoimmunogenic T cell of claim 16, wherein the CID is compound AP 1903.

18. The isolated hypoimmunogenic T cell of any one of claims 1 to 17, wherein the isolated hypoimmunogenic T cell is a hypoimmunogenic cytotoxic CAR-T cell.

19. The isolated hypoimmunogenic T cell of any one of claims 1 to 18 for use in a treatment of a cancer.

20. The isolated hypoimmunogenic T cell of claim 19, wherein the cancer is a blood cancer, a solid tumor cancer, or a liquid tumor cancer.

21. The isolated hypoimmunogenic T cell of claim 19, wherein the cancer is leukemia, lymphoma myeloma, glioblastoma, melanoma, neuroblastoma, adenocarcinoma, glioma, soft tissue sarcoma, astrocytoma, fibrosarcoma, myxosarcoma, liposarcoma, oligodendroglioma, ependymoma, medulloblastoma, primitive neural ectodermal tumor (PNET), chondrosarcoma, osteogenic sarcoma, pancreatic ductal adenocarcinoma, small cell lung adenocarcinoma, large cell lung adenocarcinoma, chordoma, angiosarcoma, endotheliosarcoma, squamous cell carcinoma, bronchoalveolarcarcinoma, epithelial adenocarcinoma, epithelial adenocarcinoma, lymphangiosarcoma, lymphangioendotheliosarcoma, hepatoma, cholangiocarcinoma, synovioma, mesothelioma, Ewing's tumor, rhabdomyosarcoma, colon carcinoma, basal cell carcinoma, sweat gland carcinoma, papillary carcinoma, sebaceous gland carcinoma, papillary adenocarcinoma, cystadenocarcinoma, medullary carcinoma, bronchogenic carcinoma, renal cell carcinoma, bile duct carcinoma, choriocarcinoma, seminoma, embryonal carcinoma, Wilms' tumor, testicular tumor, medulloblastoma, craniopharyngioma, ependymoma, pinealoma, hemangioblastoma, acoustic neuroma, oligodendroglioma, meningioma, neuroblastoma, retinoblastoma, Waldenstrom's macroglobulinemia, heavy chain disease, breast tumor, ductal adenocarcinoma, lobular adenocarcinoma, squamous and adenocarcinoma of the uterine cervix, uterine and ovarian epithelial carcinoma, prostatic adenocarcinoma, transitional squamous cell carcinoma of the bladder, B and T cell lymphoma, plasmacytoma, malignant melanoma, soft tissue sarcoma or leiomyosarcoma.

22. A method for producing an isolated hypoimmunogenic T cell comprising a nucleic acid encoding a chimeric antigen receptor (CAR), comprising:

reducing or eliminating endogenous β-2 microglobulin (B2M) gene expression and/or endogenous class II transactivator (CIITA) gene expression in a parent cell using CRISPR/Cas, TALEN, or Zinc Finger technology;

introducing a CD47 transgene in the parent cell; and

introducing the nucleic acid encoding the CAR in the parent cell;

wherein the isolated hypoimmunogenic T cell comprises a naïve T cell, a naïve central memory T cell, an effector memory T cell, or an effector memory RA T cell.

23. The method of claim 22, wherein the method further comprises introducing a safety switch in the parent cell, wherein the safety switch is a suicide gene and the suicide gene is activated by a trigger agent.

24. The method of claim 22 or claim 23, wherein the parent cell is a human induced pluripotent stem cell (iPSC).

25. The method of any one of claims 22-24, wherein the method further comprises subjecting the iPSC to *in vitro* differentiation into the isolated hypoimmunogenic T cell.

26. The method of claim 25, wherein *in vitro* differentiation comprises culturing the iPSC in culture medium comprising bFGF, EPO, Flt3L, IGF, IL-2, IL-3, IL-6, IL-7, IL-15, GM-CSF, SCF, VEGF, or a combination thereof.

27. The method of claim 26, wherein the culture medium further comprises a BMP activator, a GSK3 inhibitor, a ROCK inhibitor, a TGFβ receptor/ALK inhibitor, a NOTCH activator, or a combination thereof.

28. The method of any one of claims 25 to 27, wherein the *in vitro* differentiation comprises culturing the iPSC on feeder cells.

29. The method of any one of claims 25 to 28, wherein the *in vitro* differentiation comprises culturing the iPSC in simulated microgravity.

30. A composition comprising a therapeutically effective amount of one or more isolated hypoimmunogenic T cells of any one of claims 1-21, for use in the treatment of cancer.

31. The composition for use of claim 30, wherein the one or more isolated hypoimmunogenic T cells comprise:

one or more naïve T cells,
one or more naïve central memory T cells,
one or more effector memory T cells,
one or more effector memory RA T cells, or
a combination thereof.

32. The composition for use of claim 30 or 31, wherein the one or more isolated hypoimmunogenic T cells comprise:

one or more CD3+ T cells,
one or more CD8+ T cells,
one or more CD8+ low T cells,
one or more CD8+ high T cells,
one or more CD4+ T cells,
one or more CD4+/CD8+ high T cells,
one or more CD4+/CD8+ low T cells, or
a combination thereof.

33. The composition for use of any one of claims 30-32, wherein the composition further comprises a therapeutically effective carrier for intravenous administration, subcutaneous administration, intranodal administration, intratumoral administration, intrathecal administration, intrapleural administration, intraperitoneal administration, a bolus or continuous perfusion.

34. The composition for use of any one of claims 30-33, wherein the cancer is a blood cancer, a solid tumor cancer, or a liquid tumor cancer.

35. The composition for use of any one of claims 30-34, wherein the cancer is leukemia, lymphoma, myeloma, glioblastoma, melanoma, neuroblastoma, adenocarcinoma, glioma, soft tissue sarcoma, astrocytoma, fibrosarcoma, myxosarcoma, liposarcoma, oligodendroglioma, ependymoma, medulloblastoma, primitive neural ectodermal tumor (PNET), chondrosarcoma, osteogenic sarcoma, pancreatic ductal adenocarcinoma, small cell lung adenocarcinoma, large cell lung adenocarcinoma, chordoma, angiosarcoma, endotheliosarcoma, squamous cell carcinoma, bronchoalveolarcarcinoma, epithelial adenocarcinoma, epithelial adenocarcinoma, lymphangiosarcoma, lymphangioendotheliosarcoma, hepatoma, cholangiocarcinoma, synovioma, mesothelioma, Ewing's tumor, rhabdomyosarcoma, colon carcinoma, basal cell carcinoma, sweat gland carcinoma, papillary carcinoma, sebaceous gland carcinoma, papillary adenocarcinoma, cystadenocarcinoma, medullary carcinoma, bronchogenic carcinoma, renal cell carcinoma, bile duct carcinoma, choriocarcinoma, seminoma, embryonal carcinoma, Wilms' tumor, testicular tumor, medulloblastoma, craniopharyngioma, ependymoma, pinealoma, hemangioblastoma, acoustic neuroma, oligodendroglioma, meningioma, neuroblastoma, retinoblastoma, Waldenstrom's macroglobulinemia, heavy chain disease, breast tumor, ductal adenocarcinoma, lobular adenocarcinoma, squamous and adenocarcinoma of the uterine cervix, uterine and ovarian epithelial carcinoma, prostatic adenocarcinoma, transitional squamous cell carcinoma of the bladder, B and T cell lymphoma, plasmacytoma, malignant melanoma, soft tissue sarcoma or leiomyosarcoma.

36. The composition for use of any one of claims 30-35, wherein the one or more isolated hypoimmunogenic T cells comprise a safety switch and wherein the safety switch is activated by a trigger agent.