CLAIMS

1. A population of T cells expressing a chimeric antigen receptor (CAR), wherein said T cells are placental T cells, and wherein said CAR has been introduced to the cell by viral transduction with a retroviral vector.

2. The population of T cells of claim 1, wherein said placental T cells are cord blood T cells, placental perfusate T cells, or a mixture thereof.

3. The population of T cells of claim 1, wherein said placental T cells are cord blood T cells.

4. The population of T cells of claim 1, wherein said placental T cells are a mixture of cord blood T cells and placental perfusate T cells.

5. The population of T cells of any one of claims 1-4, wherein the predominant subpopulation of CAR+ T cells has a T scm / naïve phenotype.

6. The population of T cells of claim 5, wherein said subpopulation of CAR+ T scm / naïve cells comprises greater than about 30% of the CAR+ T cell population, greater than about 40% of the CAR+ T cell population, greater than about 45% of the CAR+ T cell population, or greater than about 50% of the CAR+ T cell population.

7. The population of T cells of any one of claims 1-6, wherein the subpopulation of CAR+ T cells with an effector memory phenotype (Teff) comprises less than about 75% of the CAR+ T cell population, less than about 70% of the CAR+ T cell population, less than about 60% of the CAR+ T cell population, less than about 50% of the CAR+ T cell population, less than about 40% of the CAR+ T cell population, less than about 35% of the CAR+ T cell population, or less than about 30% of the CAR+ T cell population.

8. The population of T cells of any one of claims 1-7, wherein the subpopulation of CAR+ T cells with a central memory phenotype (Tcm) comprises less than about 10% of the CAR+ T cell population, less than about 8% of the CAR+ T cell population, less than about 6% of the CAR+ T cell population, less than about 5% of the CAR+ T cell population, less than about 4% of the CAR+ T cell population, or less than about 3% of the CAR+ T cell population.

9. The population of T cells of any one of claims 1-8, wherein the relative abundance of the subpopulation of CAR+ T cells which are CD8+ is greater than 50% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+, is greater than 60% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+, is greater than 70% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+, is greater than 80% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+, is greater than 90% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+, is greater than 100% of the relative abundance of the subpopulation of CAR+ T cells which are CD4+.

10. The population of T cells of any one of claims 1-9, wherein said population of T cells has increased anti-tumor activity than a population of peripheral blood mononuclear cell T cells.

11. The population of T cells any one of claims 1-10, wherein said population of T cells comprises a genetic alteration to reduce immunogenicity against a host.

12. The population of T cells claim 11, wherein said genetic alteration is a gene knockout.

13. The population of T cells claim 12, wherein said gene knockout is a T cell receptor (TCR) knockout.

14. The population of T cells claim 13, wherein said gene knockout is a T cell receptor alpha constant (TRAC) knockout.

15. The population of T cells any one of claims 12-14, wherein said genetic alteration is effected by transfection, retroviral transduction, or lentiviral transduction.

16. The population of T cells any one of claims 12-15, wherein further genetic alteration is effected by the use of CRISPR technology.

17. The population of T cells any one of claims 1-16, wherein said TRAC knockout has reduced alloreactivity to peripheral blood mononuclear cells in a mixed lymphocyte reaction (MLR) assay as compared to a population of T cells without said TRAC knockout.

18. The population of T cells of claim 16, wherein said reduced alloreactivity comprises reduced expression or reduced upregulation of CD25 on said population of T cells.

19. The population of T cells of claim 16, wherein said reduced alloreactivity comprises reduced expression or reduced upregulation of a pro-inflammatory or effector protein.

20. . The population of T cells of claim 19, wherein said pro-inflammatory or effector protein is selected from the group consisting of IFN-g, TNF-a, perforin, granzyme B, and combinations thereof.

21. The population of T cells of claim 16, wherein said reduced alloreactivity comprises reduced proliferation / expansion of said pheral blood mononuclear cells.

22. The population of T cells any one of claims 1-21, wherein said TRAC knockout lacks or has reduced alloreactivity in an in vivo GVHD model.

23. The population of T cells of any one of claims 1-22, wherein said population of T cells has a greater percentage of cells expressing CD45RA than a population of peripheral blood mononuclear cell T cells.

24. The population of T cells of any one of claims 1-23, wherein said population of T cells has a greater percentage of cells expressing CD27 than a population of peripheral blood mononuclear cell T cells.

25. The population of T cells of any one of claims 1-24, wherein said population of T cells has a greater percentage of cells expressing CCR7 than a population of peripheral blood mononuclear cell T cells.

26. The population of T cells of any one of claims 1-25, wherein said population of T cells has a greater percentage of cells expressing CD127 than a population of peripheral blood mononuclear cell T cells.

27. The population of T cells of any one of claims 1-26, wherein said population of T cells has a lower percentage of cells expressing CD57 than a population of peripheral blood mononuclear cell T cells.

28. The population of T cells of any one of claims 1-27, wherein said population of T cells has a greater percentage of cells expressing CD62L than a population of peripheral blood mononuclear cell T cells.

29. The population of T cells of any one of claims 1-28, wherein said population of T cells has a lower percentage of cells expressing CD25 than a population of peripheral blood mononuclear cell T cells.

30. The population of T cells of any one of claims 1-29, wherein said population of T cells has a greater percentage of cells expressing Lag-3+ than a population of peripheral blood mononuclear cell T cells.

31. The population of T cells of any one of claims 1-30, wherein said population of T cells has a lower percentage of cells expressing Tim-3 than a population of peripheral blood mononuclear cell T cells.

32. The population of T cells of any one of claims 1-31, wherein said population of T cells exhibit greater in vitro killing of a cancer cell line than a population of peripheral blood mononuclear cell T cells.

33. The population of T cells of any one of claims 1-32, wherein said population of T cells express a greater amount of perforin in an in vitro challenge against a cancer cell line than a population of peripheral blood mononuclear cell T cells.

34. The population of T cells of any one of claims 1-33, wherein said population of T cells express a greater amount of GM-CSF in an in vitro challenge against a cancer cell line than a population of peripheral blood mononuclear cell T cells.

35. The population of T cells of any one of claims 1-34, wherein said population of T cells express a greater amount of TNF-a in an in vitro challenge against a cancer cell line than a population of peripheral blood mononuclear cell T cells.

36. The population of T cells of any one of claims 1-35, wherein said population of T cells express a greater amount of IL-2 in an in vitro challenge against a cancer cell line than a population of peripheral blood mononuclear cell T cells.

37. The population of T cells of any one of claims 1-36, wherein said population of T cells express a greater amount of granzyme B in an in vitro challenge against a cancer cell line than a population of peripheral blood mononuclear cell T cells.

38. The population of T cells of any one of claims 1-37, wherein said population of T cells produces increased survival in an in vivo cancer model than a population of peripheral blood mononuclear cell T cells.

39. The population of T cells of any one of claims 1-38, wherein said population of T cells produces decreased body weight loss in an in vivo cancer model than a population of peripheral blood mononuclear cell T cells.

40. The population of T cells of any one of claims 1-39, wherein said population of T cells produces decreased graft versus host disease (GvHD) in an in vivo cancer model than a population of peripheral blood mononuclear cell T cells.

41. The population of T cells of any one of claims 23-40, wherein said population of peripheral blood mononuclear cell T cells also expresses said CAR.

42. The population of T cells of claim 41, wherein said CAR has been introduced to said population of peripheral blood mononuclear cell T cells by transfection.

43. The population of T cells of claim 41, wherein said CAR has been introduced to said population of peripheral blood mononuclear cell T cells by viral transduction.

44. The population of T cells of claim 43, wherein said CAR has been introduced to said population of peripheral blood mononuclear cell T cells by viral transduction with a retroviral vector.

45. The population of T cells of claim 43, wherein said CAR has been introduced to said population of peripheral blood mononuclear cell T cells by viral transduction with a lentiviral vector.

46. Use of the population of T cells of any one of claims 1-38 in the manufacture of a medicament for treating cancer or a symptom thereof in a patient in need thereof, the population of T cells is to be administered to the patient to alleviate the cancer or symptom thereof in the patient.

47. The use of claim 46, wherein said cancer is a hematologic cancer.

48. The use of claim 47, wherein said hematologic cancer is a B cell cancer.

49. The use of any one of claims 46-48, wherein said cancer is a CD19+ cancer.

50. The use of any one of claims 46-49, wherein the population of T cells are allogeneic to said patient.