WHAT IS CLAIMED IS:

1. A method of increasing the yield of human immune cells and/or stem cells during ex vivo or in vitro culturing while increasing stemness of the human immune cells and/or stem cells comprising culturing human immune cells and/or stem cells in a medium comprising potassium ion at a concentration between 40 mM and 80 mM and NaCl at a concentration between 30 mM and 100 mM, wherein the total concentration of potassium ion and NaCl is between 110 mM and 140 mM.

2. A method of preparing a population of human immune cells and/or stem cells for immunotherapy comprising culturing human immune cells and/or stem cells in a medium comprising potassium ion at a concentration between 40 mM and 80 mM and NaCl at a concentration between 30 mM and 100 mM, wherein the total concentration of potassium ion and NaCl is between 110 mM and 140 mM.

3. A method of increasing stemness of human immune cells [during ex vivo or in vitro culturing for immunotherapy comprising culturing human immune cells in a medium comprising potassium ion at a concentration between 40 mM and 80 mM and NaCl at a concentration between 30 mM and 100 mM, wherein the total concentration of potassium ion and NaCl is between 110 mM and 140 mM.

4. The method of any one of claims 1 to 3, wherein the total concentration of potassium ion and NaCl is between 120 mM and 140 mM.

5. The method of any one of claims 1 to 4, wherein the concentration of potassium ion is selected from the group consisting of about 40 mM, about 45 mM, about 50 mM, about 55 mM, about 60 mM, about 65 mM, about 70 mM, about 75 mM, and about 80 mM.

6. The method of any one of claims 1 to 8, wherein the concentration of potassium ion is between 50 mM and 60 mM.

7. The method of any one of claims 1 to 6, wherein the concentration of potassium ion is about 50 mM.

8. The method of any one of claims 1 to 7, wherein the concentration of potassium ion is about 50 mM, and the concentration of NaCl is less than 90 mM.

9. The method of any one of claims 1 to 6, wherein the concentration of potassium ion is about 55 mM.

10. The method of any one of claims 1 to 6 and 9, wherein the concentration of potassium ion is about 55 mM, and the concentration of NaCl is less than 85 mM.

11. The method of any one of claims 1 to 6, wherein the concentration of potassium ion is about 60 mM.

12. The method of any one of claims 1 to 6 and 11, wherein the concentration of potassium ion is about 60 mM, and the concentration of NaCl is less than 80 mM.

13. The method of any one of claims 1 to 5, wherein the concentration of potassium ion is between 60 mM and 70 mM.

14. The method of claim 13, wherein the concentration of potassium ion is about 65 mM.

15. The method of claim 13 or 14, wherein the concentration of potassium ion is about 65 mM, and the concentration of NaCl is less than 75 mM.

16. The method of claim 13, wherein the concentration of potassium ion is about 70 mM.

17. The method of claim 13 or 16, wherein the concentration of potassium ion is about 70 mM, and the concentration of NaCl is less than 70 mM.

18. The method of claim 13, wherein the concentration of potassium ion is about 75 mM.

19. The method of claim 13 or 18, wherein the concentration of potassium ion is about 75 mM, and the concentration of NaCl is less than 65 mM.

20. The method of any one of claims 1 to 19, wherein the medium further comprises one or more cytokines.

21. The method of claim 20, wherein the one or more cytokines comprise Interleukin-2 (IL-2), Interleukin-7 (IL-2), Interleukin-21 (IL-21), Interleukin-15 (IL-15), or any combination thereof.

22. The method of claim 20, wherein the one or more cytokines comprise IL-2, IL-7, and IL-15.

23. The method of any one of claims 1 to 22, wherein the cells comprise human immune cells.

24. The method of claim 23, wherein the human immune cells comprise T cells, TILs, NK cells, TILs, Tregs, or any combination thereof.

25. The method of any one of claims 1 to 22, wherein the cells comprise human stem cells.

26. The method of any one of claims 1 to 25, wherein the cells express a chimeric antigen receptor (CAR).

27. The method of any one of claims 1 to 25, wherein the cells express an engineered T cell receptor (TCR).

28. The method of any one of claims 1 to 27, wherein the medium further comprises calcium ion, glucose, or any combination thereof.

29. The method of any one of claims 1 to 28, wherein the medium further comprises a cell expansion agent.

30. The method of claim 29, wherein the cell expansion agent comprises a GSK3B inhibitor, an ACLY inhibitor, a PI3K inhibitor, an AKT inhibitor, or any combination thereof.

31. The method of claim 27, wherein the PI3K inhibitor is selected from LY294002, pictilisib, CAL101, IC87114, and any combination thereof.

32. The method of claim 30, wherein the AKT inhibitor is selected from MK2206, A443654, AKTi-VIII, and any combination thereof.

33. The method of any one of claims 1 to 32, wherein the medium is capable of:

a. increasing the number and/or percentage of less differentiated and/or undifferentiated cells;

b. increasing transduction efficiency;

c. increasing stem-like immune cells;

d. increasing in vivo viability;

e. increasing cell potency;

f. preventing cell exhaustion; or

g. any combination thereof;

in the final cell product as compared to the starting cell population.

34. The method of any one of claims 1 to 33, wherein the medium further comprises glucose.

35. The method of claim 34, wherein the concentration of glucose is more than about 10 mM.

36. The method of claim 34 or 35, wherein the concentration of glucose is from about 10 mM to about 25 mM, about 10 mM to about 20 mM, about 15 mM to about 25 mM, about 15 mM to about 20 mM, about 15 mM to about 19 mM, about 15 mM to about 18 mM, about 15 mM to about 17 mM, about 15 mM to about 16 mM, about 16 mM to about 20 mM, about 16 mM to about 19 mM, about 16 mM to about 18 mM, about 16 mM to about 17 mM, about 17 mM to about 20 mM, about 17 mM to about 19 mM, or about 17 mM to about 18 mM.

37. The method of any one of claims 34 to 36, wherein the concentration of glucose is about 10 mM, about 11 mM, about 12 mM, about 13 mM, about 14 mM, about 15 mM, about 16 mM, about 17 mM, about 18 mM, about 19 mM, about 20 mM, about 21 mM, about 22 mM, about 23 mM, about 24 mM, or about 25 mM.

38. The method of any one of claims 34 to 37, wherein the concentration of glucose is about 15.4 mM, about 15.9 mM, about 16.3 mM, about 16.8 mM, about 17.2 mM, or about 17.7 mM.

39. The method of any one of claims 1 to 38, wherein the medium further comprises calcium ion.

40. The method of claim 39, wherein the concentration of calcium ion is more than about 0.4 mM.

41. The method of claim 39 or 40, wherein the concentration of calcium ion is from about 0.4 mM to about 2.5 mM, about 0.5 mM to about 2.0 mM, about 1.0 mM to about 2.0 mM, about 1.1 mM to about 2.0 mM, about 1.2 mM to about 2.0 mM, about 1.3 mM to about 2.0 mM, about 1.4 mM to about 2.0 mM, about 1.5 mM to about 2.0 mM, about 1.6 mM to about 2.0 mM, about 1.7

mM to about 2.0 mM, about 1.8 mM to about 2.0 mM, about 1.2 to about 1.3 mM, about 1.2 to about 1.4 mM, about 1.2 to about 1.5 mM, about 1.2 to about 1.6 mM, about 1.2 to about 1.7 mM, about 1.2 to about 1.8 mM, about 1.3 to about 1.4 mM, about 1.3 to about 1.5 mM, about 1.3 to about 1.6 mM, about 1.3 to about 1.7 mM, about 1.3 to about 1.8 mM, about 1.4 to about 1.5 mM, about 1.4 to about 1.6 mM, about 1.4 to about 1.7 mM, about 1.4 to about 1.8 mM, about 1.5 to about 1.6 mM, about 1.5 to about 1.7 mM, about 1.5 to about 1.8 mM, about 1.6 to about 1.7 mM, about 1.6 to about 1.8 mM, or about 1.7 to about 1.8 mM.

42. The method of any one of claims 39 to 41, wherein the concentration of calcium ion is about 1.0 mM, about 1.1 mM, about 1.2 mM, about 1.3 mM, about 1.4 mM, about 1.5 mM, about 1.6 mM, about 1.7 mM, about 1.8 mM, about 1.9 mM, or about 2.0 mM.

43. The method of any one of claims 1 to 42, wherein the medium comprises about 50 mM potassium ion and

(i) about 80.5 mM NaCl;

(ii) about 17.7 mM glucose;

(iii) about 1.8 mM calcium ion; or

(iv) any combination of (i)-(iii).

44. The method of any one of claims 1 to 42, wherein the medium comprises about 55 mM potassium ion and

(i) about 76 mM NaCl;

(ii) about 17.2 mM glucose;

(iii) about 1.7 mM calcium ion; or

(iv) any combination of (i)-(iii).

45. The method of any one of claims 1 to 42, wherein the medium comprises about 60 mM potassium ion and

(i) about 72.2 mM NaCl;

(ii) about 16.8 mM glucose;

(iii) about 1.6 mM calcium ion; or

(iv) any combination of (i)-(iii).

46. The method of any one of claims 1 to 42, wherein the medium comprises about 65 mM potassium ion and

(i) about 67.6 mM NaCl;

(ii) about 16.3 mM glucose;

(iii) about 1.5 mM calcium ion; or

(iv) any combination of (i)-(iii).

47. The method of any one of claims 1 to 42, wherein the medium comprises about 70 mM potassium ion and

(i) about 63.9 mM NaCl;

(ii) about 15.9 mM glucose;

(iii) about 1.4 mM calcium ion; or

(iv) any combination of (i)-(iii).

48. The method of any one of claims 1 to 42, wherein the medium comprises about 75 mM potassium ion and

(i) about 59.3 mM NaCl;

(ii) about 15.4 mM glucose;

(iii) about 1.3 mM calcium ion; or

(iv) any combination of (i)-(iii).

49. The method of any one of claims 1 to 42, wherein the medium comprises about 80 mM potassium ion and

(i) about 55.6 mM NaCl;

(ii) about 15 mM glucose;

(iii) about 1.2 mM calcium ion; or

(iv) any combination of (i)-(iii).

50. The method of any one of claims 1 to 49, wherein the immune cells are CD3+, CD45RO-, CCR7+, CD45RA+, CD62L+CD27+, CD28+, or TCF7+, or any combination thereof, following culture.

51. The method of any one of claims 1 to 50, wherein the medium comprises IL-2 at a concentration from about 0.1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 15 ng/mL, about 1 ng/mL to about 14 ng/mL, about 1 ng/mL to about 13 ng/mL, about 1 ng/mL to about 12 ng/mL, about 1 ng/mL to about 11 ng/mL, about 1 ng/mL to about 10 ng/mL, about 1 ng/mL to about 9 ng/mL, about 1 ng/mL to about 8 ng/mL, about 1 ng/mL to about 7 ng/mL, about 1 ng/mL to about 6 ng/mL, about 1 ng/mL to about 5 ng/mL, about 1 ng/mL to about 4 ng/mL, about 1 ng/mL to about 3 ng/mL, about 1 ng/mL to about 2 ng/mL, about 5 ng/mL to about 15 ng/mL, about 5 ng/mL to about 10 ng/mL, about 10 ng/mL to about 20 ng/mL, about 10 ng/mL to about 15 ng/mL, or about 15 ng/mL to about 20 ng/mL.

52. The method of claim 51, wherein the concentration of IL-2 is about 0.1 ng/mL, about 0.5 ng/mL, about 1 ng/mL, about 2 ng/mL, about 3 ng/mL, about 4 ng/mL, about 5 ng/mL, about 6 ng/mL, about 7 ng/mL, about 8 ng/mL, about 9 ng/mL, about 10 ng/mL, about 11 ng/mL, about 12 ng/mL, about 13 ng/mL, about 14 ng/mL, about 15 ng/mL, about 16 ng/mL, about 17 ng/mL, about 18 ng/mL, about 19 ng/mL, or about 20 ng/mL.

53. The method of claim 51 or 52, wherein the concentration of IL-2 is about 1.0 ng/mL.

54. The method of claim 51 or 52, wherein the concentration of IL-2 is about 10 ng/mL.

55. The method of any one of claims 1 to 54, wherein the medium comprises IL-21 at a concentration from about 0.1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 20 ng/mL, about

1 ng/mL to about 15 ng/mL, about 1 ng/mL to about 14 ng/mL, about 1 ng/mL to about 13 ng/mL, about 1 ng/mL to about 12 ng/mL, about 1 ng/mL to about 11 ng/mL, about 1 ng/mL to about 10 ng/mL, about 1 ng/mL to about 9 ng/mL, about 1 ng/mL to about 8 ng/mL, about 1 ng/mL to about 7 ng/mL, about 1 ng/mL to about 6 ng/mL, about 1 ng/mL to about 5 ng/mL, about 1 ng/mL to about 4 ng/mL, about 1 ng/mL to about 3 ng/mL, about 1 ng/mL to about 2 ng/mL, about 5 ng/mL to about 15 ng/mL, about 5 ng/mL to about 10 ng/mL, about 10 ng/mL to about 20 ng/mL, about 10 ng/mL to about 15 ng/mL, or about 15 ng/mL to about 20 ng/mL.

56. The method of claim 55, wherein the concentration of IL-21 is about 0.1 ng/mL, about 0.5 ng/mL, about 1 ng/mL, about 2 ng/mL, about 3 ng/mL, about 4 ng/mL, about 5 ng/mL, about 6 ng/mL, about 7 ng/mL, about 8 ng/mL, about 9 ng/mL, about 10 ng/mL, about 11 ng/mL, about 12 ng/mL, about 13 ng/mL, about 14 ng/mL, about 15 ng/mL, about 16 ng/mL, about 17 ng/mL, about 18 ng/mL, about 19 ng/mL, or about 20 ng/mL.

57. The method of claim 55 or 56, wherein the concentration of IL-21 is about 1.0 ng/mL.

58. The method of claim 55 or 56, wherein the concentration of IL-21 is about 10 ng/mL.

59. The method of any one of claims 1 to 58, wherein the medium comprises IL-7 at a concentration from about 0.1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 15 ng/mL, about 1 ng/mL to about 14 ng/mL, about 1 ng/mL to about 13 ng/mL, about 1 ng/mL to about 12 ng/mL, about 1 ng/mL to about 11 ng/mL, about 1 ng/mL to about 10 ng/mL, about 1 ng/mL to about 9 ng/mL, about 1 ng/mL to about 8 ng/mL, about 1 ng/mL to about 7 ng/mL, about 1 ng/mL to about 6 ng/mL, about 1 ng/mL to about 5 ng/mL, about 1 ng/mL to about 4 ng/mL, about 1 ng/mL to about 3 ng/mL, about 1 ng/mL to about 2 ng/mL, about 5 ng/mL to about 15 ng/mL, about 5 ng/mL to about 10 ng/mL, about 10 ng/mL to about 20 ng/mL, about 10 ng/mL to about 15 ng/mL, or about 15 ng/mL to about 20 ng/mL.

60. The method of claim 56, wherein the concentration of IL-7 is about 0.1 ng/mL, about 0.5 ng/mL, about 1 ng/mL, about 2 ng/mL, about 3 ng/mL, about 4 ng/mL, about 5 ng/mL, about 6 ng/mL, about 7 ng/mL, about 8 ng/mL, about 9 ng/mL, about 10 ng/mL, about 11 ng/mL, about 12 ng/mL, about 13 ng/mL, about 14 ng/mL, about 15 ng/mL, about 16 ng/mL, about 17 ng/mL, about 18 ng/mL, about 19 ng/mL, or about 20 ng/mL.

61. The method of claim 59 or 60, wherein the concentration of IL-7 is about 1.0 ng/mL.

62. The method of claim 59 or 60, wherein the concentration of IL-7 is about 10 ng/mL.

63. The method of any one of claims 1 to 62, wherein the medium comprises IL-15 at a concentration from about 0.1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 20 ng/mL, about 1 ng/mL to about 15 ng/mL, about 1 ng/mL to about 14 ng/mL, about 1 ng/mL to about 13 ng/mL, about 1 ng/mL to about 12 ng/mL, about 1 ng/mL to about 11 ng/mL, about 1 ng/mL to about 10 ng/mL, about 1 ng/mL to about 9 ng/mL, about 1 ng/mL to about 8 ng/mL, about 1 ng/mL to about 7 ng/mL, about 1 ng/mL to about 6 ng/mL, about 1 ng/mL to about 5 ng/mL, about 1 ng/mL to about 4 ng/mL, about 1 ng/mL to about 3 ng/mL, about 1 ng/mL to about 2 ng/mL, about 5 ng/mL to about 15 ng/mL, about 5 ng/mL to about 10 ng/mL, about 10 ng/mL to about 20 ng/mL, about 10 ng/mL to about 15 ng/mL, or about 15 ng/mL to about 20 ng/mL.

64. The method of claim 63, wherein the concentration of IL-15 is about 0.1 ng/mL, about 0.5 ng/mL, about 1 ng/mL, about 2 ng/mL, about 3 ng/mL, about 4 ng/mL, about 5 ng/mL, about 6 ng/mL, about 7 ng/mL, about 8 ng/mL, about 9 ng/mL, about 10 ng/mL, about 11 ng/mL, about 12 ng/mL, about 13 ng/mL, about 14 ng/mL, about 15 ng/mL, about 16 ng/mL, about 17 ng/mL, about 18 ng/mL, about 19 ng/mL, or about 20 ng/mL.

65. The method of claim 63 or 64, wherein the concentration of IL-15 is about 1.0 ng/mL.

66. The method of claim 63 or 64, wherein the concentration of IL-15 is about 10 ng/mL.

67. The method of any one of claims 1 to 66, wherein the immune cells and/or stem cells comprise a chimeric antigen receptor (CAR), an engineered T cell receptor, or any combination thereof.

68. The method of any one of claims 1 to 67, wherein the immune cells and/or stem cells are administered to a human subject following culture.

69. The method of any one of claims 1 to 68, wherein the cells are further transduced with a vector.

70. The method of claim 69, wherein the vector comprises a transgene encoding a chimeric antigen receptor (CAR), a T cell receptor (TCR), or a TCR mimic.

71. The method of any one of claims 26 and 67 to 70, wherein the CAR targets CD19, TRAC, TCRβ, BCMA, CLL-1, CS1, CD38, CD19, TSHR, CD123, CD22, CD30, CD70, CD171, CD33, EGFRvIII, GD2, GD3, Tn Ag, PSMA, ROR1, ROR2, GPC1, GPC2, FLT3, FAP, TAG72, CD44v6, CEA, EPCAM, B7H3, KIT, IL- 13Ra2, mesothelin, IL-l lRa, PSCA, PRSS21, VEGFR2, LewisY, CD24, PDGFR-beta, SSEA-4, CD20, folate receptor alpha, ERBB2 (Her2/neu), MUC1, MUC16, EGFR, NCAM, prostase, PAP, ELF2M, Ephrin B2, IGF-I receptor, CAIX, LMP2, gplOO, bcr-abl, tyrosinase, EphA2, fucosyl GM1, sLe, GM3, TGS5, HMWMAA, o-acetyl-GD2, folate receptor beta, TEM1/CD248, TEM7R, CLDN6, GPRC5D, CXORF61, CD97, CD179a, ALK, Polysialic acid, PLAC1, GloboH, NY-BR-1, UPK2, HAVCR1, ADRB3, PANX3, GPR20, LY6K, OR51E2, TARP, WTl, NY-ESO-1, LAGE-la, MAGE-Al, legumain, HPV E6,E7, MAGE Al, ETV6-AML, sperm protein 17, XAGE1, Tie 2, MAD-CT-1, MAD-CT- 2, Fos-related antigen 1, p53, p53 mutant, prostein, surviving, telomerase, PCTA- 1/Galectin 8, MelanA/MARTl, Ras mutant, hTERT, sarcoma translocation breakpoints, ML-IAP, ERG (TMPRSS2 ETS fusion gene), NA17, PAX3, androgen receptor, cyclin Bl, MYCN, RhoC, TRP-2, CYP1B1, BORIS, SART3, PAX5, OY-TES1, LCK, AKAP-4, SSX2, RAGE-1, human telomerase reverse transcriptase, RU1, RU2, intestinal carboxyl esterase, mut hsp70-2, CD79a, CD79b, CD72, LAIR1, FCAR, LILRA2, CD300LF, CLEC12A, BST2, EMR2, LY75, GPC3, FCRL5, IGLL1, CD2, CD3ε, CD4, CD5, CD7, the extracellular portion of the APRIL protein, or any combinations thereof.

72. The method of any one of claims 27 and 67 to 70, wherein the TCR targets AFP, CD19, TRAC, TCRβ, BCMA, CLL-1, CS1, CD38, CD19, TSHR, CD123, CD22, CD30, CD171, CD33, EGFRvIII, GD2, GD3, Tn Ag, PSMA, ROR1, ROR2, GPC1, GPC2, FLT3, FAP, TAG72, CD44v6, CEA, EPCAM, B7H3, KIT, IL- 13Ra2, mesothelin, IL-l lRa, PSCA, PRSS21, VEGFR2, LewisY, CD24, PDGFR-beta, SSEA-4, CD20, folate receptor alpha, ERBB2 (Her2/neu), MUC1, MUC16, EGFR, NCAM, prostase, PAP, ELF2M, Ephrin B2, IGF-I receptor, CAIX, LMP2, gplOO, bcr-abl, tyrosinase, EphA2, fucosyl GM1, sLe, GM3, TGS5, HMWMAA, o-acetyl-GD2, folate receptor beta, TEM1/CD248, TEM7R, CLDN6, GPRC5D, CXORF61, CD97, CD179a, ALK, Polysialic acid, PLAC1, GloboH, NY-BR-1, UPK2, HAVCR1, ADRB3, PANX3, GPR20, LY6K, OR51E2, TARP, WTl, NY-ESO-1, LAGE-la, MAGE-Al, legumain, HPV E6,E7, MAGE Al, ETV6-AML, sperm protein 17, XAGE1, Tie 2, MAD-CT-1, MAD-CT- 2, Fos-related antigen 1, p53, p53 mutant, prostein, surviving, telomerase, PCTA- 1/Galectin 8, MelanA/MARTl, Ras mutant, hTERT, sarcoma translocation breakpoints, ML-IAP, ERG (TMPRSS2 ETS fusion gene), NA17, PAX3, androgen receptor, cyclin Bl, MYCN, RhoC, TRP-2, CYP1B1, BORIS, SART3,

PAX5, OY-TES1, LCK, AKAP-4, SSX2, RAGE-1, human telomerase reverse transcriptase, RU1, RU2, intestinal carboxyl esterase, mut hsp70-2, CD79a, CD79b, CD72, LAIR1, FCAR, LILRA2, CD300LF, CLEC12A, BST2, EMR2, LY75, GPC3, FCRL5, IGLL1, CD2, CD3ε, CD4, CD5, CD7, the extracellular portion of the APRIL protein, or any combinations thereof.

73. The method of any one of claims 69 to 72, wherein the vector is a retroviral vector, a lentiviral vector, an adeno-associated virus (AAV), an adenovirus, an AAV hybrid virus, a baculovirus, or any combination thereof.

74. The method of any one of claims 1 to 73, wherein the potassium ion comprises potassium chloride.

75. A population of cells prepared by the method of any one of claims 1 to 74.

76. A population of cells comprising at least about 5%, at least about 10%, at least about 15%, at least about 20%, at least about 25%, at least about 30%, at least about 35%, at least about 40%, at least about 45%, at least about 50%, at least about 60%, or at least about 70% of the cells are CD3+, CD45RO-, CCR7+, CD45RA+, CD62L+, CD27+, CD28+, and TCF7+, wherein the cells are cultured according to the method of any one of claims 1 to 74.

77. A cell culture medium useful for the method of any one of claims 1 to 74.

78. A cell culture medium comprising (i) a potassium ion at a concentration higher than 40 mM and (ii) NaCl at a concentration of less than 100 mM.

79. The culture medium of caim 78, wherein the concentration of the potassium ion is at least about 45 mM, at least about 50 mM, at least about 55 mM, at least about 60 mM, at least about 65 mM, at least about 70 mM, about 75 mM, about 80 mM, about 85 mM, about 90 mM, about 95 mM, or about 100 mM.

80. The culture medium of claim 78 or 79, comprising:

a. about 45 mM potassium ion and less than 95 mM NaCl,

b. about 50 mM potassium ion and less than 90 mM NaCl,

c. about 55 mM potassium ion and less than 85 mM NaCl,

d. about 60 mM potassium ion and less than 80 mM NaCl,

e. about 65 mM potassium ion and less than 75 mM NaCl,

f. about 70 mM potassium ion and less than 70 mM NaCl,

g. about 75 mM potassium ion and less than 65 mM NaCl,

h. about 80 mM potassium ion and less than 60 mM NaCl,

i. about 85 mM potassium ion and less than 55 mM NaCl, or

j. about 90 mM potassium ion and less than 50 mM NaCl.

81. The culture medium of any one of claims 78 to 90, which further comprises one or more cytokines.

82. The culture medium of claim 91, wherein the one or more cytokines are selected from the group consisting of IL-2, IL-7, IL-15, IL-21, and any combination thereof.

83. The culture medium of any one of claims 78 to 82, wherein the potassium ion comprises potassium chloride.

84. A method of treating a disease or condition in a subject in need thereof comprising administering the population of cells of claim 75 or 76 to the subject.

85. The method of claim 84, wherein the disease or condition comprises a tumor derived from a cancer comprising a breast cancer, head and neck cancer, uterine cancer, brain cancer, skin cancer, renal cancer, lung cancer, colorectal cancer, prostate cancer, liver cancer, bladder cancer, kidney cancer, pancreatic cancer, thyroid cancer, esophageal cancer, eye cancer, stomach (gastric) cancer, gastrointestinal cancer, ovarian cancer, carcinoma, sarcoma, leukemia, lymphoma, myeloma, or a combination thereof.