CLAIM

1. A method of producing T cells comprising
   obtaining T cells from at least one individual,
   activating the T cells,
   expanding a first portion of the activated T cells over a period of time of about 1 days to about 15 days,
   culturing the expanded T cells in the presence of at least one cytokine over about 21 days,
   measuring a cytokine response in the cultured T cells,
   identifying the period of time that yields a maximum cytokine response, and
   expanding a second portion of the activated T cells for the identified period of time that yields a maximum cytokine response.

2. The method of claim 1, further comprising freezing the expanded first portion of the activated T cells prior to culturing.

3. The method of claim 1 or 2, further comprising thawing the frozen expanded first portion of activated T cells prior to culturing.

4. The method of any one of claims 1-3, further comprising resting the thawed expanded first portion of the activated T cells prior to culturing.

5. The method of any one of claims 1-4, wherein the T cells are activated by a stimulator comprising anti-CD3 antibody and an anti-CD28 antibody.

6. The method of claim 4, wherein the resting is carried out for about 2 hours to about 12 hours.

7. A method of decreasing cell death of T cells for use in adoptive immunotherapy comprising

obtaining T cells from at least one healthy donor, patient, or individual,

activating the T cells,

expanding the activated T cells for about 3 days to about 5 days after activation,

collecting the expanded T cells for infusing into the at least one healthy donor, patient, or individual,

wherein the cell death of the T cells expanded for about 3 to about 5 days is reduced relative to that of activated T cells expanded for about 7 days or more after activation.

8. The method of claim 7, wherein the expanded T cells are CD4+ and/or CD8+ T cells.

9. The method of claim 7 or 8, wherein the number of expanded T cells exhibiting a naïve T cells (T_N) and/or stem memory T cells (T_{scm})/T central memory (T_{cm}) phenotype is more than that of the activated T cells expanded more than about 7 days after the activation.

10. A method for producing T cells with improved efficacy for adoptive immunotherapy comprising

obtaining T cells from at least one healthy donor, patient, or individual,

activating the T cells,

expanding the activated T cells for about 3 days to about 5 days after activation,

collecting the expanded T cells for infusing into the at least one healthy donor, patient, or individual,

wherein the efficacy for adoptive immunotherapy of the T cells expanded for about 3 to about 5 days is improved relative to activated T cells expanded for about 7 days or more after activation.

11. The method of claim 10, wherein the T cells are expanded for about 4 days after activation and wherein the efficacy for adoptive immunotherapy of the T cells is greater than that of activated T cells expanded for about 7 days or more after activation.

12. The method of claim 10 or 11, wherein the expanded T cells are CD4+ and/or CD8+ T cells.

13. The method of any one of claims 1-12, further comprising transducing the activated T cells with a viral vector prior to the expanding, wherein the viral vector is a retroviral vector expressing a T cell receptor (TCR).

14. The method of claim 13, wherein the viral vector is a lentiviral vector expressing a TCR.

15. A T cell population produced by the method of any one of claims 1-14.

16. A method for predicting in vivo persistence of T cells in a solid tumor, comprising
thawing cryopreserved T cells expanded for a plurality of expansion times,
resting the thawed T cells in the absence of a cytokine,
seeding the rested T cells,
culturing the seeded T cells for at least one cycle of time,
wherein, at the beginning of the at least one cycle of time, one or more cytokines are added to the culture, and
wherein, at the end of the at least one cycle of time, the added one or more cytokines are depleted,
sampling the cultured T cells at a plurality of time points during the at least one cycle of time,
measuring a cytokine response of the sampled T cells,
identifying an expansion time of the sampled T cells exhibiting a maximum cytokine response from the plurality of expansion times, and
formulating the T cells expanded for the identified expansion time into a composition for treating the solid tumor.

17. The method of claim 16, wherein the T cells are expanded from about 1 day to about 15 days.

18. The method of claim 16 or 17, wherein the resting is carried out for about 2 hours to about 12 hours.

19. The method of any one of claims 16-18, wherein each of the at least one cycle of time is 7 days.

20. The method of claim 19, wherein the at least one cycle of time is three cycles of time.