CLAIMS

1. A method of selecting a sample comprising T cells for adoptive immunotherapy, the method comprising determining the expression of each of IFNg, CD107a, IL-2, and TNF by lymphocytes in the sample and selecting the sample for adoptive immunotherapy if at least ~~a threshold level~~0.5% of the lymphocytes in the sample express IFNg, CD107a, IL-2, and TNF.

2. A method of selecting a sample comprising T cells for inclusion in a cell bank, the method comprising determining the expression of each of IFNg, CD107a, IL-2, and TNF by lymphocytes in the sample and selecting the sample for inclusion in a cell bank if at least ~~a threshold level~~0.5% of the lymphocytes in the sample express IFNg, CD107a, IL-2, and TNF.

3. A method of selecting for adoptive immunotherapy a sample comprising T cells from a library of samples, the method comprising screening the library of samples for the expression of each of IFNg, CD107a, IL-2, and TNF by lymphocytes in the samples and selecting a sample from the library of samples for adoptive immunotherapy in which at least ~~a threshold level~~0.5% of the lymphocytes in the sample express IFNg, CD107a, IL-2, and TNF.

4. A method of selecting for inclusion in a cell bank samples comprising T cells from a library of samples, the method comprising screening the library of samples for the expression of each of IFNg, CD107a, IL-2, and TNF by lymphocytes in the samples and selecting samples for inclusion in a cell bank in which at least ~~a threshold level~~0.5% of the lymphocytes in the sample express IFNg, CD107a, IL-2, and TNF.

5. A method of selecting a sample comprising T cells for *ex vivo* expansion, comprising:

(a) inducing proliferation in T cells from a portion of the sample,

(b) determining the expression of each of IFNg, CD107a, IL-2, and TNF by the lymphocytes in the portion of the sample; and

(c) selecting the sample for expansion if at least ~~a threshold level~~0.5% of the lymphocytes in the sample express IFNg, CD107a, IL-2, and TNF.

6. The method of claim 5, further comprising selecting the sample for inclusion into a cell bank.

7. The method of claim 5, further comprising selecting the sample for adoptive immunotherapy.

~~8. The method of any one of claims 1 to 7, wherein the threshold level for CD107a is at least 0.5%.~~

~~9. The method of any one of claims 1 to 7, wherein the threshold level for CD107a is at least 1%.~~

~~10. The method of any one of claims 1 to 7, wherein the threshold level for CD107a is at least 2%.~~

~~11. The method of any one of claims 1 to 10, wherein the threshold level for IFNg is at least 0.5%.~~

~~12. The method of claim 11, wherein the threshold level for IFNg is at least 1%.~~

~~13. The method of claim 11, wherein the threshold level for IFNg is at least 2%.~~

~~14. The method of any one of claims 1 to 13, wherein the threshold level for IL-2 is at least 0.5%.~~

~~15. The method of claim 14, wherein the threshold level for IL-2 is at least 1%.~~

~~16. The method of claim 14, wherein the threshold level for IL-2 is at least 2%.~~

~~17. The method of claim 14, wherein the threshold level for IL-2 is at least 10%.~~

~~18. The method of any one of claims 1 to 17, wherein the threshold level for TNF is at least 0.5%.~~

~~19. The method of claim 18, wherein the threshold level for TNF is at least 1%.~~

~~20. The method of claim 18, wherein the threshold level for TNF is at least 2%.~~

~~21~~8. The method of any one of ~~the preceding~~ claims 1 to 7, wherein the expression of IFNg, CD107a, IL-2, and TNF is determined by Fluorescence Activated Cell Sorting (FACS) or ELISpot.

~~22~~9. The method of any one of claims 1 to ~~21~~8, wherein the T cells are incubated with antigen-presenting cells to induct proliferation of the T cells before the expression of IFNg, CD107a, IL-2, and TNF by the lymphocytes is determined.

~~23~~10. The method of any one of claims 1 to ~~22~~9, further comprising determining the expression of CD8 by cells in the sample and selecting the sample if at least 20% of the cells express CD8, and/or determining the expression of CD4 by cells in the sample and selecting the sample if at least 10% of the cells express CD4.

~~24. The method of claim 23, wherein the sample is selected if at least 25% of the cells express CD8.~~

~~25. The method of claim 23, wherein the sample is selected if at least 30% of the cells express CD8.~~

~~26. The method of any one of claims 1 to 25, further comprising determining the expression of CD4 by cells in the sample and selecting the sample if at least 10% of the cells express CD4.~~

~~27. The method of claim 26, wherein the sample is selected if at least 15% of the cells in the sample express CD4.~~

~~28. The method of claim 26, wherein the sample is selected if at least 25% of the cells in the sample express CD4.~~

~~29~~11. The method of any one of claims 1 to ~~28~~10, wherein the selected T cells are stored in a cell bank after selection.

~~30~~12. The method of any one of claims 1 to ~~29~~11, wherein the T cells express a TCR specific for an Epstein-Barr Virus (EBV) peptide presented on a class I MHC.

~~31~~13. The method of claim ~~30~~12, wherein the EBV peptide comprises any one of a LMP1 peptide, a LMP2A peptide, an EBNA1 peptide, or fragments thereof.

14. The method of any one of claims 1 to 13, wherein the T cells are $CD8^+$ T cells.

15. The method of claim 14, wherein the $CD8^+$ T cells are cytotoxic T lymphocytes (CTLs).

16. The method of claim 15, wherein the CTLs express IFNg, TNF, IL-2 and CD107.

17. The method of any one of claims 1 to 13, wherein the T cells are $CD4^+$ T cells.

~~32~~18. Use of a composition comprising the T cells selected by the method of any one of claims 1 to ~~31~~ 17 in the manufacture of a medicament for the treatment of cancer in a subject.

~~33~~19. The use of claim ~~32~~18, wherein the cancer is an Epstein-Barr Virus-associated cancer.

~~34~~20. The use of claim ~~32~~ 18 or ~~33~~19, wherein the subject has nasopharyngeal carcinoma, NK/T cell lymphoma, Epstein-Barr Virus-associated gastric carcinoma, or Epstein-Barr Virus-associated leiomyosarcoma.

~~35~~21. Use of a composition comprising the T cells selected by the method of any one of claims 1 to ~~31~~ 17 in the manufacture of a medicament for the treatment of post-transplant lymphoproliferative disorder in a subject.

~~36~~22. Use of a composition comprising the T cells selected by the method of any one of claims 1 to ~~31~~ 17 in the manufacture of a medicament for the treatment of an autoimmune disorder in a subject.

~~37~~23. The use of claim ~~36~~22, wherein the autoimmune disorder is multiple sclerosis.

~~38~~24. The use of any one of claims ~~32~~ 18 to ~~37~~23, wherein the T cells are allogeneic to the subject.

~~39~~25. The use of any one of claims ~~32~~ 18 to ~~38~~24, wherein the T cells are obtained from a cell bank.

~~40~~26. The use of any one of claims ~~32~~ 18 to ~~37~~23, wherein the T cells are autologous to the subject.

~~41~~27. A cell bank of samples comprising T cells, wherein the cell bank is enriched for samples in which at least a threshold level of lymphocytes in the sample expresses a biomarker, wherein the threshold level of lymphocytes expressing the biomarker is:

(a) at least 1% of lymphocytes in the sample express IFNg;

(b) at least 1% of the lymphocytes in the sample express CD107a~~I~~;

(c) at least 1% of the lymphocytes in the sample express IL-2; and

(d) at least 1% of the lymphocytes in the sample express TNF~~;~~.

~~(e) at least 3% of the lymphocytes in the sample express granzyme K;~~

~~(f) at least 2% of the lymphocytes in the sample express perforin;~~

~~(g) at least 20% of the lymphocytes in the sample express CD8;~~

~~(h) at least 10% of the lymphocytes in the sample express CD4;~~

~~(i) at least 5% of the lymphocytes in the sample express PD-1;~~

~~(j) at least 8% of the lymphocytes in the sample express TIM-3;~~

~~(k) at least 3% of the lymphocytes in the sample express LAG-3; or~~

~~(l) at least 8% of the lymphocytes in the sample express CTLA-4.~~

~~42. The cell bank of claim 41, wherein the cell bank is enriched for samples in which at least a threshold level of lymphocytes in the sample express two or more biomarkers.~~

~~43. The cell bank of claim 41, wherein the cell bank is enriched for samples in which at least a threshold level of lymphocytes in the sample express three or more biomarkers.~~

~~44. The cell bank of claim 41, wherein the cell bank is enriched for samples in which at least a threshold level of lymphocytes in the sample express four or more biomarkers.~~

~~45~~28. The cell bank of ~~any one of~~ claim~~s 41~~ 27~~to 44~~, wherein at least 25% of the samples in the cell bank have at least the threshold level of lymphocytes in the sample expressing the biomarker.

~~46. The cell bank of any one of claims 41 to 44, wherein at least 50% of the samples in the cell bank have at least the threshold level of lymphocytes in the sample expressing the biomarker.~~

~~47. The cell bank of any one of claims 41 to 44, wherein at least 75% of the samples in the cell bank have at least the threshold level of lymphocytes in the sample expressing the biomarker.~~

~~48. The cell bank of any one of claims 41 to 44, wherein 100% of the samples in the cell bank have at least the threshold level of lymphocytes in the sample expressing the biomarker.~~

29. The cell bank of claim 27 or 28, wherein the T cells are $CD8^+$ T cells.

30. The cell bank of claim 29, wherein the $CD8^+$ T cells are cytotoxic T lymphocytes (CTLs).

31. The cell bank of claim 30, wherein the CTLs express IFNg, TNF, IL-2 and CD107.

32. The cell bank of claim 27 or 28, wherein the T cells are $CD4^+$ T cells.

~~49~~33. A method of selecting a subject for autologous adoptive immunotherapy, comprising:

a) inducing proliferation of the T cells obtained from the subject,

b) determining the expression of each of IFNg, CD107a, IL-2, and TNF by the T cells, and

c) selecting the subject for the autologous adoptive immunotherapy if at least ~~a threshold level~~0.5% of the T cells express each of IFNg, CD107a, IL-2, and TNF.

~~50~~34. A method of selecting a subject as a T cell donor, comprising:

a) inducing proliferation of the T cells obtained from the subject, and

b) determining the expression of each of IFNg, CD107a, IL-2, and TNF by the T cells, and

c) selecting the subject as a T cell donor if at least ~~a threshold level~~0.5% of the T cells express each of IFNg, CD107a, IL-2, and TNF.

~~51. The method of any one of claims 1 to 31, wherein the T cells are $CD8^+$ T cells.~~

~~52. The method of claim 51, wherein the $CD8^+$ T cells are cytotoxic T lymphocytes (CTLs).~~

~~53. The method of claim 52, wherein the CTLs express IFNg, TNF, IL-2 and CD107.~~

~~54. The method of any one of claims 1 to 31, wherein the T cells are $CD4^+$ T cells.~~

~~55. The cell bank of any one of claims 41 to 48, wherein the T cells are $CD8^+$ T cells.~~

~~56. The cell bank of claim 55, wherein the $CD8^+$ T cells are cytotoxic T lymphocytes (CTLs).~~

~~57. The cell bank of claim 56, wherein the CTLs express IFNg, TNF, IL-2 and CD107.~~

~~58. The cell bank of any one of claims 41 to 48, wherein the T cells are $CD4^+$ T cells.~~