WHAT IS CLAIMED IS:

1. A method of generating an isolated population of non graft versus host disease (GvHD) inducing cells comprising a central memory T-lymphocyte (Tcm) phenotype, said cells being tolerance inducing cells and/or endowed with anti-disease activity, and capable of homing to the lymph nodes following transplantation, the method comprising:

(a) providing a population of at least 70 % memory T cells;

(b) contacting said population of memory T cells with an antigen or antigens so as to allow enrichment of antigen reactive cells; and

(c) culturing said cells resulting from step (b) in the presence of cytokines so as to allow proliferation of cells comprising said Tcm phenotype, thereby generating the isolated population of non-GvHD inducing cells.

2. The method of claim 1, wherein:

said memory T cells are depleted of $CD45RA^+$ cells; and/or

said memory T cells are depleted of $CD4^+$ and/or $CD56^+$ cells; and/or

said contacting said population of memory T cells with an antigen or antigens in effected in the presence of IL-21; and/or

said culturing said cells resulting from step (b) in the presence of cytokines comprises culturing said cells in the presence of any of IL-21, IL-15 and/or IL-7; and/or

said population of at least 70 % memory T cells are enriched towards said antigen or antigens.

3. The method of claim 1, further comprising treating a cell donor with an antigen or antigens prior to said providing said population of at least 70 % memory T cells.

4. A method of generating an isolated population of non-GvHD inducing cells comprising a central memory T-lymphocyte (Tcm) phenotype, said cells being tolerance inducing cells and/or endowed with anti-disease activity, and capable of homing to the lymph nodes following transplantation, the method comprising:

(a) treating non-adherent peripheral blood mononuclear cells (PBMCs) with an agent capable of depleting $CD4^+$, $CD56^+$ and $CD45RA^+$ cells so as to obtain a population of memory T cells comprising a $CD45RA^-CD8^+$ phenotype;

(b) contacting said population of memory T cells with an antigen or antigens in the presence of IL-21 so as to allow enrichment of antigen reactive cells; and

(c) culturing said cells resulting from step (b) in the presence of IL-21, IL-15 and/or IL-7 so as to allow proliferation of cells comprising said Tcm phenotype, thereby generating the isolated population of non-GvHD inducing cells.

5. The method of claim 1 or 4, wherein said antigen or antigens:

is selected from the group consisting of a viral antigen, a bacterial antigen, a tumor antigen, an autoimmune disease related antigen, a protein extract, a purified protein and a synthetic peptide; and/or

is presented by autologous antigen presenting cells, non-autologous antigen presenting cells, artificial vehicles or artificial antigen presenting cells; and/or

is presented by antigen presenting cells of the same origin as said memory T cells.

6. A method of generating an isolated population of non-GvHD inducing cells comprising a central memory T-lymphocyte (Tcm) phenotype, said cells being tolerance inducing cells and/or endowed with anti-disease activity, and capable of homing to the lymph nodes following transplantation, the method comprising:

(a) treating non-adherent peripheral blood mononuclear cells (PBMCs) with an agent capable of depleting $CD4^+$, $CD56^+$ and $CD45RA^+$ cells so as to obtain a population of memory T cells comprising a $CD45RA^-CD8^+$ phenotype;

(b) contacting said population of memory T cells with a viral antigen or antigens in the presence of IL-21 so as to allow enrichment of antigen reactive cells; and

(c) culturing said cells resulting from step (b) in the presence of IL-21, IL-15 and/or IL-7 so as to allow proliferation of cells comprising said Tcm phenotype, thereby generating the isolated population of non-GvHD inducing cells.

7. The method of claim 6, wherein said viral antigen or antigens:

is presented by autologous antigen presenting cells, non-autologous antigen presenting cells, artificial vehicles or artificial antigen presenting cells; and/or

is presented by antigen presenting cells of the same origin as the PBMCs; and/or

comprises two or more viral peptides; and/or

comprises an EBV peptide, a CMV peptide, an Adenovirus (Adv) peptide and/or BK virus peptide; and/or

comprises three EBV peptides, two CMV peptides and two Adenovirus (Adv) peptides; and/or

is selected from the group consisting of EBV-LMP2, EBV-BZLF1, EBV-EBNA1, CMV-pp65, CMV-IE-1, Adv-penton and Adv-hexon; and/or

comprises two or more of EBV-LMP2, EBV-BZLF1, EBV-EBNA1, CMV-pp65, CMV-IE-1, Adv-penton and Adv-hexon; and/or

further comprises a bacterial antigen.

8. The method of any one of claims 2, 4 or 6, wherein:

(i) said contacting said population of memory T cells with said antigen or antigens in the presence of said IL-21:

is effected for 12 hours to 5 days; or

is effected for 3 days;

and/or

(ii) said culturing said cells resulting from step (b) in the presence of IL-21, IL-15 and/or IL-7:

is effected for 12 hours to 10 days; or

is effected for 4 days to 8 days; or

is effected for 6 days.

9. The method of any one of claims 1-8, wherein:

said total length of time for generating the non-GvHD inducing cells is 10 days; and/or

said method is effected ex-vivo.

10. The method of any one of claims 1, 4 or 6,

further comprising depleting alloreactive cells following step (c), and optionally wherein said depleting said alloreactive cells is effected by depletion of CD137+ and/or CD25+ cells following contacting said cells comprising said Tcm phenotype with host antigen presenting cells (APCs); and/or

wherein said cells having said Tcm phenotype comprise a $CD3^+$, $CD8^+$, $CD62L^+$, $CD45RA^-$, $CD45RO^+$ signature.

11. An isolated population of non-GvHD inducing cells comprising cells having a central memory T-lymphocyte (Tcm) phenotype, said cells being tolerance inducing cells and/or endowed with anti-disease activity, and capable of homing to the lymph nodes following transplantation, generated according to the method of any one of claims 1-10.

12. A pharmaceutical composition comprising as an active ingredient the isolated population of non-GvHD inducing cells of claim 11 and a pharmaceutical acceptable carrier.

13. The isolated population of non-GvHD inducing cells of claim 11 for use in treating a disease in a subject in need thereof.

14. The isolated population of non-GvHD inducing cells for use of claim 13, wherein said medicament further comprises a cell or tissue transplant.

15. The isolated population of non-GvHD inducing cells of claim 11 for use as an adjuvant treatment for a cell or tissue transplant into a subject, wherein said subject is in need of a cell or tissue transplantation.