WHAT IS CLAIMED IS:

1. A method of generating an isolated population of cells comprising non-graft versus host (GVHD) inducing anti-third party cells having a central memory T-lymphocyte (Tcm) phenotype, said central memory T-lymphocyte (Tcm) phenotype comprising a CD8+/CD62L+/CD45RO+ signature and wherein at least 50 % of the isolated population of cells have said signature, said cells being tolerance-inducing cells and capable of homing to the lymph nodes following transplantation, the method comprising:

(a) contacting peripheral blood mononuclear cells (PBMC) with a third party antigen or antigens in the presence of IL-21 under conditions which allow elimination of GVH reactive cells; and

(b) culturing said cells resulting from step (a) in the presence of IL-15 in an antigen free environment under conditions which allow proliferation of cells comprising said central memory T-lymphocyte (Tcm) phenotype, thereby generating the isolated population of cells.

2. Use of an isolated population of cells ~~comprising non-graft versus host (GVHD) inducing anti-third party cells having a central memory T-lymphocyte (Tcm) phenotype, said central memory T-lymphocyte (Tcm) phenotype comprising a $CD8^+/CD62L^+/CD45RO+$ signature and wherein at least 50 % of the isolated population of cells have said signature, said cells being tolerance-inducing cells and capable of homing to the lymph nodes following transplantation,~~generated according to the method of claim 1 for the manufacture of a medicament identified for eradication of a disease in a subject who has been transplanted with a non-syngeneic cell or tissue graft, wherein said cells are either:

(i) non-syngeneic with both the subject and said graft; or

(ii) non-syngeneic with said graft and syngeneic with the subject.

3. The use of claim 2, wherein said non-syngeneic cell or tissue graft is derived from a donor selected from the group consisting of an HLA identical donor and an HLA non-identical donor.

4. The use of claim 3, wherein said subject and said donor are both humans.

5. The use of claim 2, where said subject is a human subject.

22. The use of claim 2, where said cells non-syngeneic with said graft and syngeneic with the subject comprise autologous cells.

23. Use of a therapeutically effective amount of an isolated population of cells ~~comprising non-graft-versus-host (GVHD) inducing anti-third-party cells having a central memory T-lymphocyte (Tcm) phenotype, said central memory T-lymphocyte (Tcm) phenotype comprising a CD8+/CD62L+/CD45RO+ signature and wherein at least 50 % of the isolated population of cells have said signature, said cells being tolerance-inducing cells and capable of homing to the lymph nodes following transplantation,~~ generated according to the method of claim 1 for the manufacture of a medicament identified for treating a disease in a subject who has been transplanted with immature hematopoietic cells, and further wherein when said immature hematopoietic cells are syngeneic with the subject, said isolated population of cells are selected syngeneic with the subject or non-syngeneic with the subject.

24. The use of claim 23, wherein said immature hematopoietic cells and said isolated population of cells are autologous.

25. The use of claim 23, wherein said immature hematopoietic cells are autologous and said isolated population of cells are non-autologous.

26. Use of a therapeutically effective amount of an isolated population of cells ~~comprising non-graft-versus-host (GVHD) inducing anti-third-party cells having a central memory T-lymphocyte (Tcm) phenotype, said central memory T-lymphocyte (Tcm) phenotype comprising a CD8+/CD62L+/CD45RO+ signature and wherein at least 50 % of the isolated population of cells have said signature, said cells being tolerance-inducing cells and capable of homing to the lymph nodes following transplantation~~generated according to the method of claim 1 for the manufacture of a medicament identified for treating a disease in a subject who has been transplanted with immature hematopoietic cells, wherein when said immature hematopoietic cells are non-syngeneic with the subject, said isolated population of cells are selected syngeneic with the subject or non-syngeneic with both the subject and said immature hematopoietic cells.

27. The use of claim 26, wherein said immature hematopoietic cells are non-autologous and said isolated population of cells are autologous.

28. The use of claim 26, wherein said immature hematopoietic cells and said isolated population of cells are from different donors.

~~29. The use of claim 2, 23 or 26, wherein said anti-third party cells having a central memory T-lymphocyte (Tcm) phenotype, said cells being tolerance-inducing cells and capable of homing to the lymph nodes following transplantation are obtained by:~~

~~(a) contacting peripheral blood mononuclear cells (PBMC) with a third party antigen or antigens in the presence of IL-21 under conditions which allow elimination of GVH reactive cells; and~~

~~(b) culturing said cells resulting from step (a) in the presence of IL-15 in an antigen free environment under conditions which allow proliferation of cells comprising said central memory T-lymphocyte (Tcm) phenotype, thereby generating the isolated population of cells.~~

~~30~~29. The method of claim 1, ~~or use of claim29,~~ wherein said conditions which allow elimination of GVH reactive cells comprise culturing for 1-5 days.

~~31~~30. The method of claim 1, ~~or use of claim 29,~~ wherein said third party antigen or antigens comprise dendritic cells.

~~32~~31. The method of claim 1, ~~or use of claim 29,~~ wherein said third party antigen or antigens is selected from the group consisting of third party cells, a cell antigen, a viral antigen, a bacterial antigen, a protein extract, a purified protein and a synthetic peptide presented by autologous presenting cells, non-autologous presenting cells or on an artificial vehicle or artificial antigen presenting cell.

~~33~~32. The method of claim 1, ~~or use of claim 29,~~ wherein said conditions which allow proliferation of cells further comprise IL-7 and/or IL-21.

~~34~~33. The method of claim 1, ~~or use of claim 29,~~ wherein said culturing in the presence of IL-15 is effected for 3-30 days.

~~35~~34. The method of claim 1, ~~or use of claim 29,~~ wherein said culturing in the presence of IL-15 is effected for 6-30 days.

~~36~~35. The method of claim 1, ~~or use of claim 29,~~ wherein said culturing in the presence of IL-15 is effected for 3-20 days.

~~37~~36. The use of claim 23 or 26, wherein said disease comprises leukemia or lymphoma.