CLAIMS

1. A composition comprising mesenchymal lineage precursor or stem cells (MLPSCs) in which the MLPSCs are previously cryopreserved such that, after thawing, the cells inhibit proliferation of activated T cells expressing IL-2Rα in a sample of PBMC comprising such activated T cells by at least about 65%, wherein the inhibition of proliferation of activated T cells is measured by co-incubation of the MLPSCs and PBMCs at a ratio of 1 MLPSC:5 PBMC, or less, and determining the level of inhibition of IL-2Rα expression in the activated T cells.

2. A composition according to Claim 1, in which co-incubation of mesenchymal lineage precursor or stem cells with PBMC at a ratio of 1 mesenchymal lineage precursor or stem cell:10 PBMC, or less, inhibits T cell proliferation by at least about 65%.

3. A composition according to Claim 1 , in which co-incubation of mesenchymal lineage precursor or stem cells with PBMC at a ratio of 1 mesenchymal lineage precursor stem cell:50 PBMC, or less, inhibits T cell proliferation by at least about 65%.

4. A composition according to Claim 1, in which co-incubation of mesenchymal lineage stem cells with PBMC at a ratio of 1 mesenchymal lineage precursor or stem cell:100 PBMC, or less, inhibits T cell proliferation by at least about 65%.

5. A composition according to any preceding claim, in which co-incubation of mesenchymal lineage precursor or stem cells with PBMC at a ratio of 1 mesenchymal lineage precursor or stem cell:5 PBMC, or less, inhibits T cell proliferation by at least about 70%.

6. A composition according to any preceding claim, in which co-incubation of mesenchymal lineage precursor or stem cells with PBMC at a ratio of 1 mesenchymal lineage precursor or stem cell:5 PBMC, or less, inhibits T cell proliferation by at least about 80%.

7. A composition according to any preceding claim, in which the mesenchymal lineage precursor or stem cells express TNFR1 in an amount of at least 270 pg/ml.

8. A composition according to any of Claims 1 to 6, in which the mesenchymal lineage precursor or stem cells express TNFR1 in an amount of at least 300 pg/ml.

9. A composition according to any of Claims 1 to 6, in which the mesenchymal lineage precursor or stem cells express TNFR1 in an amount of at least 320 pg/ml.

10. A composition according to any preceding claim, in which the mesenchymal lineage precursor or stem cells are isolated by immunoselection.

11. A composition according to any preceding claim, in which the mesenchymal lineage precursor or stem cells are culture expanded mesenchymal stem cells.

12. Use of a composition comprising mesenchymal lineage precursor or stem cells according to any preceding claim in the manufacture of a medicament for treating a T-cell mediated inflammatory disorder in a subject in need thereof.

13. Use of a composition comprising mesenchymal lineage precursor or stem cells according to any of Claims 1 to 11 in the manufacture of a medicament for alleviating the development of, or treating graft versus host disease (GVHD) in a subject.

14. Use according to Claim 12 or 13, in which the composition comprises a dose of less than 3 x 10^6 cells/kg.

15. Use according to Claim 12 or 13, in which the composition comprises a dose of about 2 x 10^6 cells/kg.

16. Use according to Claim 12 or 13 in which the composition comprises 2 x 10^6 cells/kg.

CLAIMS

1. A composition comprising mesenchymal lineage precursor or stem cells (MLPSCs), in which the MLPSCs have been culture expanded, cryopreserved and thawed, in which the MLPSCs inhibit IL-2Rα expression by ≥ 65%, in which inhibition of IL-2Rα expression is determined by obtaining a population of cells comprising culture expanded, cryopreserved and thawed MLPSCs; co-culturing the MLPSCs in a culture medium with a population of cells comprising T cells; and determining the level of inhibition of IL-2Rα expression.

2. A composition according to Claim 1, in which the MLPSCs are isolated by immunoselection and then culture expanded, in which the immunoselected cells are STRO-1+.

3. A composition according to Claim 1 or 2, in which the population of cells comprising T cells is a sample of PBMCs

4. A composition according to Claim 3, in which the co-culture comprises:

1 MLPSC:10 PBMC, or less;

1 MLPSC:50 PBMC, or less; or

1 MLPSC:100 PBMC, or less.

5. A composition according to any preceding claim, in which the MLPSCs inhibit IL-2Rα expression by ≥ 70%.

6. A composition according to any preceding claim, in which the MLPSCs inhibit IL-2Rα expression by ≥ 80%.

7. A composition according to any preceding claim, in which the MLPSCs are culture expanded by a method comprising:

culturing a population of MPCs or MSCs in a culture medium comprising recombinant trypsin;

culturing the cells in a cell factory with one or more attached air filters;

concentrating and/or washing the cells with tangential flow filtration (TFF); and

passing the cells through a dual screen mesh filter, thereby reducing visible particulates and/or cell aggregates.

8. A composition according to any preceding claim, in which the cells in the composition consist of MSCs.

9. Use of a composition according to any of Claims 1 to 8 in the manufacture of a medicament for alleviating the development of, or treating graft versus host disease (GvHD) in a subject.

10. Use according to Claim 9, in which the composition comprises a dose of less than 3 x 10^6 cells/kg.

11. Use according to Claim 9, in which the composition comprises a dose of about 2 x 10^6 cells/kg.

12. Use according to Claim 9, 10 or 11, in which the composition is administered as a single dose or as a divided dose(s).

13. Use according to any of Claims 9 to 12, in which:

(i) the subject has a malignant or genetic disorder of the blood; or

(ii) the subject has received, is receiving or is about to receive a donor graft comprising hematopoietic cells.

14. Use according to any of Claims 9 to 13, in which the MLPSCs are administered beginning on the day of transplantation of the graft.

15. Use according to any of Claims 9 to 14, in which the subject is refractory to steroid therapy.