CLAIMS

1. Use of a population of cells enriched for cells STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof in the preparation of a medicament for the treatment of GvHD in a mammalian patient.

2. Use according to Claim 1, in which the STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof are allogeneic.

3. Use according to Claim 1 or 2, in which the population of cells enriched for STRO-1^{bright} mesenchymal precursor cells and/or progeny cells thereof is administered systemically.

4. Use according to Claim 3, in which the population of cells enriched for STRO-1^{bright} mesenchymal precursor cells and/or progeny cells thereof is administered by intravenous injection.

5. Use according to any preceding claim, comprising administering between 0.1 x 10^6 to 5 x 10^6 STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof.

6. Use according to any preceding claim, comprising administering between 0.3 x 10^6 to 2 x 10^6 STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof.

7. Use according to any preceding claim, in which a low dose of STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof comprising between 0.1 x 10^5 and 0.5 x 10^6 STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof is administered.

8. Use according to Claim 7, in which a low dose of STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof comprising about 0.3 x 10^6 STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof is administered.

9. Use according to any preceding claim, in which the population enriched for STRO-1^{bright} mesenchymal precursor cells and/or progeny thereof is administered once weekly or less often.

10. Use according to any preceding claim, in which the mammal is suffering from aplastic anemia, myelofibrosis, or bone marrow failure following chemotherapy and radiation therapy.

11. Use according to any preceding claim, further comprising administering an immunosuppressive drug to the mammal.