CLAIMS

1. A use of mesenchymal stem cells in the manufacture of a medicament for increasing osteoblasts in a subject, wherein the medicament is to be used in combination with hematopoietic stem cell transplantation,

wherein the mesenchymal stem cells are a cell population of stem cell clones co-positive for LNGFR (CD271) and Thy-1 (CD90), and meet the following features (a) and (b):

(a) the coefficient of variation for forward scatter in flow cytometry is 40% or less; and

(b) the average size of the cells is 20 μm or less.

2. The use according to claim 1, wherein the hematopoietic stem cells are derived from umbilical cord blood.

3. The use according to claim 1 or 2, wherein the hematopoietic stem cells are derived from the bone marrow of a donor other than the subject.

4. The use according to any one of claims 1 to 3, wherein the subject is a patient with a congenital skeletal disease.

5. The use according to claim 4, wherein the congenital skeletal disease is hypophosphatasia.

6. The use according to any one of claims 1 to 5, wherein the mesenchymal stem cells are human bone marrow-derived rapidly proliferating mesenchymal stem cells.

7. The use according to claim 6, wherein the human bone marrow-derived mesenchymal stem cells are a cell population of rapidly proliferating mesenchymal stem cell clones separated on the basis of being positive for LNGFR (CD271) or co-positive for LNGFR (CD271) and Thy-1 (CD90), and meet the following features (a) and (b):

(a) the coefficient of variation for forward scatter in flow cytometry is 40% or less; and

(b) the average size of the cells is 20 μm or less.

8. The use according to claim 6, wherein the human bone marrow-derived

high-purity mesenchymal stem cells are a cell population of rapidly proliferating mesenchymal stem cell clones derived from cells positive for LNGFR (CD271) or co-positive for LNGFR (CD271) and Thy-1 (CD90), and meet the following features (a) and (b):

(a) the coefficient of variation for forward scatter in flow cytometry is 40% or less; and

(b) the average size of the cells is 20 μm or less.

9. The use according to claim 7, wherein a concentration of the cells is at least 1×10^6 cells/ml.

10. The use according to any one of claims 1 to 8, wherein the HLA of the donor of the mesenchymal stem cells does not match the HLA of the subject.

11. The use according to any one of claims 1 to 8, wherein the HLA of the donor of the mesenchymal stem cells matches at least 4 antigens among 6 antigens at three loci in the HLA of the subject.

12. The use according to any one of claims 1 to 9, wherein the HLA of the donor of the mesenchymal stem cells matches at least 3 antigens among 6 antigens at three loci in the HLA of the subject.