**CLAIMS**

1. Use of a population of cells enriched for $TNAP^+$ multipotential cells and/or progeny thereof in the preparation of a medicament for the treatment or prevention of a disease of vascular endothelial dysfunction in a human subject, in which the medicament is for systemic administration, and in which the disease of vascular endothelial dysfunction is selected from the group consisting of: coronary artery disease, chronic heart failure, peripheral artery disease and chronic renal failure.

2. Use according to Claim 1, in which the medicament is to be administered intravenously.

3. Use according to Claim 1 or 2, in which the medicament is to be administered in an amount sufficient to increase levels of angiopoietin I in a subject.

4. Use according to Claim 1, 2 or 3, in which the medicament is to be administered in an amount sufficient to enhance dilation of endothelium in a subject.

5. Use according to any preceding claim, in which between $0.1 \times 10^6$ to $5 \times 10^6$ $TNAP^+$ cells and/or progeny thereof per kilogram are to be administered to the subject.

6. Use according to any preceding claim, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a constant body dose.

7. Use according to Claim 6, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a dose of about 100 million to 300 million cells irrespective of the weight of the patient.

8. Use according to Claim 6 or 7, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a dose of about 150 million cells irrespective of the weight of the patient.

9. Use according to any preceding claim, in which the medicament is to be administered once weekly or less often.

10. Use according to any preceding claim, in which the population is an allogeneic population.

11. Use according to any preceding claim, in which the population has been culture expanded prior to administration.

12. Use according to any preceding claim, in which the population enriched for $TNAP^+$ cells is enriched for STRO-$1^{bright}$ cells or progeny thereof.

13. Use according to any preceding claim, in which the medicament is to be administered in the form of a composition comprising the $TNAP^+$ cells and/or progeny cells thereof and, optionally, a sodium salt of pentosan polysulfate and a carrier and/or excipient.

14. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is coronary artery disease.

15. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is chronic heart failure.

16. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is peripheral artery disease.

17. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is chronic renal failure.

**CLAIMS**

1. Use of a population of cells enriched for $TNAP^+$ multipotential cells and/or progeny thereof in the preparation of a medicament for the treatment or prevention of a disease of vascular endothelial dysfunction in a human subject, in which the medicament is for systemic administration in an amount sufficient to increase levels of angiopoietin I in the human subject, and in which the disease of vascular endothelial dysfunction is selected from the group consisting of: coronary artery disease, chronic heart failure, peripheral artery disease and chronic renal failure.

2. Use according to Claim 1, in which the medicament is to be administered intravenously.

3. Use according to any preceding claim, in which between $0.1 \times 10^6$ to $5 \times 10^6$ $TNAP^+$ cells and/or progeny thereof per kilogram are to be administered to the subject.

4. Use according to any preceding claim, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a constant body dose.

5. Use according to Claim 4, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a dose of 100 million to 300 million cells irrespective of the weight of the patient.

6. Use according to Claim 4 or 5, in which the population enriched for $TNAP^+$ cells and/or progeny thereof is to be administered at a dose of about 150 million cells irrespective of the weight of the patient.

7. Use according to any preceding claim, in which the medicament is to be administered once weekly or less often.

8. Use according to any preceding claim, in which the population is an allogeneic population.

9. Use according to any preceding claim, in which the population has been culture expanded prior to administration.

10. Use according to any preceding claim, in which the population enriched for $TNAP^+$ cells is enriched for STRO-$1^{bright}$ cells or progeny thereof.

11. Use according to any preceding claim, in which the medicament is to be administered in the form of a composition comprising the $TNAP^+$ cells and/or progeny cells thereof and, optionally, a sodium salt of pentosan polysulfate and a carrier and/or excipient.

12. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is coronary artery disease.

13. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is chronic heart failure.

14. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is peripheral artery disease.

15. Use according to any preceding claim, in which the disease of vascular endothelial dysfunction is chronic renal failure.