CLAIMS:

1. A composition comprising genetically unmodified stem cells wherein said genetically unmodified stem cells express angiopoietin-1 (Ang1) in an amount of at least 0.1 $\mu g/10^6$ cells.

2. The composition of Claim 1 wherein said stem cells express Ang1 in an amount of at least 0.5 $\mu g/10^6$ cells.

3. The composition of Claim 1 wherein said stem cells express Ang1 in an amount of at least 0.7 $\mu g/10^6$ cells.

4. The composition of Claim 1 wherein said stem cells express Ang1 in an amount of at least 1 $\mu g/10^6$ cells.

5. The composition of any one of claims 1 to 4, wherein said stem cells express Vascular Endothelial Growth Factor (VEGF) in an amount less than about 0.05 $\mu g/10^6$ cells.

6. The composition of any one of Claims 1 to 5, wherein said stem cells express VEGF in an amount less than about 0.05 $\mu g/10^6$ cells.

7. The composition of any one of Claims 1 to 5, wherein said stem cells express VEGF in an amount less than about 0.03 $\mu g/10^6$ cells.

8. The composition of any one of Claims 1 to 7, wherein said stem cells express Ang1:VEGF at a ratio of at least about 2:1.

9. The composition of any one of Claims 1 to 7, wherein said stem cells express Ang1:VEGF at a ratio of at least about 10:1.

10. The composition of any one of Claims 1 to 7, wherein said stem cells express Ang1:VEGF at a ratio of at least about 20:1.

11. The composition of any one of Claims 1 to 7, wherein said stem cells express Ang1:VEGF at a ratio of at least about 30:1.

12. The composition of any one of Claims 1 to 7, wherein said stem cells express Ang1:VEGF at a ratio of at least about 50:1.

13. The composition of any one of Claims 1 to 12, wherein said stem cells are mesenchymal stem cells.

14. The composition of Claim 13 wherein said stem cells are mesenchymal precursor cells.

15. The composition of any one of Claims 1 to 14, further comprising an acceptable pharmaceutical carrier.

16. An *in vitro* method for inducing Ang1 expression in stem cells, the method comprising: culturing a population of stem cells in a cell culture media, wherein the cell culture media
contains a short acting L-ascorbic acid derivative but does not contain a substantial amount of a long acting L-ascorbic acid derivative; and/or
is supplemented with less than 10% v/v fetal calf serum (FCS); and/or
is supplemented with non-fetal serum.

17. The method of Claim 16, wherein the method further comprises measuring the Ang1 levels to determine that Ang1 expression is induced.

18. The method of Claim 16 or 17, wherein the method further comprises selecting cells with induced Ang1 expression.

19. The method of any one of Claims 16 to 18, wherein the short acting L-ascorbic acid derivative is a L-ascorbic acid salt.

20. The method of Claim 19, wherein the short acting L-ascorbic acid salt is L-ascorbic acid sodium salt.

21. The method of any one of Claims 16 to 20, wherein the cell culture media is supplemented with at least about 5% v/v FCS.

22. The method of any one of Claims 16 to 21, wherein the cell culture media is supplemented with one or more stimulatory factors selected from the group consisting of lα,25- dihydroxyvitamin D_3 (1,25D), platelet derived growth factor (PDGF), tumor necrosis factor α (TNF- α), interleukin -lβ (IL-lβ) and stromal derived factor lα (SDF-lα).

23. The method of any one of Claims 16 to 22, wherein the cell culture media is supplemented with non-fetal serum.

24. The method of Claim 23 wherein the non-fetal serum is neo-natal serum.

25. The method of Claim 24 wherein the neo-natal serum is new born calf serum (NBCS).

26. The method of Claim 24 wherein the neo-natal serum is human serum.

27. The method of Claim 23 wherein the non-fetal serum is adult serum.

28. The method of Claim 23 wherein the adult serum is human serum.

29. The method of any one of Claims 16 to 25, wherein the cell culture media contains NBCS at a level of at least about 5% v/v.

30. The method of any one of Claims 16 to 25, wherein the cell culture media contains NBCS at a level of at least about 2% v/v.

31. The method of any one of Claims 16 to 25, wherein the cell culture media is supplemented with a mixture of NBCS and FCS.

32. The method of Claim 31, wherein the ratio of NBCS to FCS is about 1:1.

33. The method of Claim 31 or 32, wherein the media is supplemented with 5% v/v FCS and 5% v/v NBCS.

34. A method for obtaining genetically unmodified stem cells suitable for use in promoting vascularisation and/or angiogenesis, comprising:
obtaining at least one cell population including stem cells from at least one donor;
culturing the stem cells;
determining the amount of Ang1 expressed by the stem cells in each of said at least one cell population(s); and
selecting stem cells which express Ang1 in an amount of at least 0.1 µg/10^6 cells.

35. The method of Claim 34 which further comprises:
determining the amount of VEGF expressed by the stem cells in each of said at least one cell population(s); and
selecting stem cells which express Ang1:VEGF at a ratio of at least 10:1.

36. The method of Claim 35 wherein the stem cells express Ang1:VEGF at a ratio of at least 20:1 are selected.

37. The method of Claim 35 wherein the stem cells express Ang1:VEGF at a ratio of at least 30:1 are selected.

38. The method of Claim 35 wherein the stem cells express Ang1:VEGF at a ratio of at least 50:1 are selected.

39. Use of the composition of any one of Claims 1 to 15, for promoting vascularisation and/or angiogenesis.

40. Use of the composition of any one of Claims 1 to 15, for treating a condition in which increased Ang1 expression is desirable.

41. A method for promoting vascularisation and/or angiogenesis in a subject, the method comprising administering the composition of any one of Claims 1 to 15 to subject.

42. A method for treating a condition in which increased Ang1 expression is desirable in a subject, the method comprising administering to the subject the composition of any one of Claims 1 to 15.

43. A population of stem cells cultured according to the methods of any one of Claims 16 to 33 or obtained by the methods of any one of Claims 34 to 38.

44. A composition according to any one of Claims 1 to 15, wherein the stem cells are produced by culturing a population of stem cells according to the methods of any one of Claims 16 to 33 or obtained by the methods of any one of Claims 34 to 38.

45. Use of the composition of any one of Claims 1 to 15 or the methods of any one of Claims 16 to 38 in the manufacture of a medicament for promoting vascularisation and/or angiogenesis.

46. Use of the composition of any one of Claims 1 to 15 or the methods of any one of Claims 16 to 38 in the manufacture of a medicament for treating a condition in which increased Ang1 expression is desirable.

CLAIMS

1. A composition comprising genetically unmodified stem cells in which the genetically unmodified stem cells express angiopoietin-1 (Ang1) in an amount of at least 0.1 $\mu g/10^6$ cells.

2. A composition according to Claim 1 in which the stem cells express Ang1 in an amount of at least 0.5 $\mu g/10^6$ cells.

3. A composition according to Claim 1 in which the stem cells express Ang1 in an amount of at least 1 $\mu g/10^6$ cells.

4. A composition according to Claim 1, 2 or 3, in which the stem cells express Vascular Endothelial Growth Factor (VEGF) in an amount less than about 0.05 $\mu g/10^6$ cells.

5. A composition according to Claim 1, 2 or 3, in which the stem cells express VEGF in an amount less than about 0.03 $\mu g/10^6$ cells.

6. A composition according to any preceding claim, in which the stem cells express Ang1:VEGF at a ratio of at least about 2:1.

7. A composition according to any of Claims 1 to 5, in which the stem cells express Ang1:VEGF at a ratio of at least about 30:1.

8. A composition according to any preceding claim, in which the stem cells are mesenchymal precursor cells.

9. An *in vitro* method for inducing Ang1 expression in stem cells, the method comprising: culturing a population of stem cells in a cell culture media, in which the cell culture media

contains a short acting L-ascorbic acid derivative but does not contain a substantial amount of a long acting L-ascorbic acid derivative; and/or

is supplemented with less than 10% v/v fetal calf serum (FCS); and/or

is supplemented with non-fetal serum.

10. A method according to Claim 9, in which the short acting L-ascorbic acid derivative is a L-ascorbic acid salt.

11. A method according to Claim 10, in which the short acting L-ascorbic acid salt is L-ascorbic acid sodium salt.

12. A method according to Claim 9, 10 or 11, in which the cell culture media is supplemented with:

- non-fetal serum;
- neo-natal serum;
- new born calf serum (NBCS);
- human neo-natal serum;
- non-fetal adult serum; or
- human adult serum.

13. A method according to any of Claims 9 to 12, in which the cell culture media is supplemented with at least about:

- 5% v/v fetal calf serum (FCS);
- 5% v/v new born calf serum (NBCS);
- 2% v/v new born calf serum (NBCS);
- a mixture of NBCS and FCS;
- a mixture of NBCS and FCS at a ratio of about 1:1;
- 5% v/v FCS and 5% v/v NBCS;

and/or

- one or more stimulatory factors selected from the group consisting of lα,25-dihydroxyvitamin D_3 (1,25D), platelet derived growth factor (PDGF), tumor necrosis factor α (TNF- α), interleukin -lβ (IL-lβ) and stromal derived factor lα (SDF-lα).

14. A method for obtaining genetically unmodified stem cells suitable for use in promoting vascularisation and/or angiogenesis, comprising:

obtaining at least one cell population including stem cells from at least one donor;

culturing the stem cells;

determining the amount of Ang1 expressed by the stem cells in each of the at least one cell population(s); and

selecting stem cells which express Ang1 in an amount of at least 0.1 $\mu g/10^6$ cells.

15. A method according to Claim 14 which further comprises:

determining the amount of VEGF expressed by the stem cells in each of the at least one cell population(s); and

selecting stem cells which express Ang1:VEGF at a ratio of at least 10:1.

16. A method according to Claim 14 or 15 in which the stem cells which express Ang1:VEGF at a ratio of at least 20:1, at least 30:1 or at least 50:1 are selected.

17. A composition according to any of Claims 1 to 8, for use in promoting vascularisation, promoting angiogenesis and/or treating a condition in which increased Ang1 expression is desirable.

18. A composition according to any of Claims 1 to 8, in which the stem cells are produced by culturing a population of stem cells according to a method according to any of Claims 9 to 13 or obtained by a method according to any of Claims 14 or 15.

19. Use of a composition according to any of Claims 1 to 8 or a method according to any of Claims 9 to 13 in the manufacture of a medicament for promoting vascularisation, promoting angiogenesis and/or treating a condition in which increased Ang1 expression is desirable.