tissue or the treatment of a patient with damaged, diseased or dysfunctional vascular tissue.

~~44. A method of vascularising, re-vascularising or increasing the vascularisation of tissue or treating a patient with a damaged, diseased or dysfunctional vascular tissue comprising;~~

~~administering a population of SMCs according to claim 41 to an individual in need thereof.~~

~~45~~44. Use of a population according to claim 41 in the manufacture of a medicament for use in vascularising, re-vascularising or increasing the vascularisation of tissue or treating a patient with damaged, diseased or dysfunctional vascular tissue.

~~46~~45. A population according to claim 41~~, method according to claim 44~~ or use according to claim ~~45~~ 44 wherein the SMCs are neuroectodermal SMCs and the vascular tissue is neuroectodermal vascular tissue.

~~47~~46. A population~~,~~ or use ~~or method~~ according to claim ~~46~~ 45 wherein neuroectodermal vascular tissue is ascending and arch of the aorta, the ductus arteriosus, the innominate and right subclavian, a common carotid, cerebral vessel, or a head or neck artery.

~~48~~47. A population according to claim 41~~, method according to claim 44~~ or use according to claim ~~45~~ 44 wherein the SMCs are lateral mesodermal SMCs and the vascular tissue is lateral mesodermal vascular tissue.

~~49~~48. A population~~,~~ or use ~~or method~~ according to claim ~~48~~ 47 wherein lateral mesodermal vascular tissue is an abdominal blood vessel such as descending abdominal aorta, iliac, femoral, aortic root or coronary artery, or a placental vessel.

~~50~~49. A population according to claim 41~~, method according to claim 44~~ or use according to claim ~~45~~ 44 wherein the SMCs are somitic mesodermal SMCs and the vascular tissue is somitic mesodermal vascular tissue.

~~51~~50. A population~~,~~ or use ~~or method~~ according to claim ~~50~~ 49 wherein paraxial mesodermal vascular tissue is descending thoracic aorta.

~~52~~51. A method of screening a compound comprising;

contacting isolated SMCs produced by a method according to any one of claims 1 to 39 with a test compound, and;

determining the effect of the test compound on said SMCs and/or the effect of said SMCs on the test compound.

~~53~~52. A method according to claim ~~52~~ 51 comprising determining the growth, viability, proliferation, phenotypic state, migration, cytokine production, contraction and/or calcium handling of the SMCs or the response of the SMCs to a vasoconstrictor in the presence relative to the absence of the test compound.

~~54~~53. A method according to claim ~~53~~ 52 wherein a decrease in growth, viability, proliferation, phenotypic state, migration, cytokine production, contraction and/or calcium handling of the SMCs or the response of the SMCs to a vasoconstrictor is indicative that the compound has a cytotoxic effect.

~~55~~54. A method according to claim ~~53~~ 52 wherein an increase in growth, viability, proliferation, phenotypic state, migration, cytokine production, contraction and/or calcium handling of the SMCs or the response of the SMCs to a vasoconstrictor is indicative that the compound is useful in vascularising, re-vascularising or increasing

the vascularisation of tissue or the treatment of damaged, diseased or dysfunctional vascular tissue.

~~56~~55. A method of screening for a compound useful in vascularising, re-vascularising or increasing the vascularisation of tissue or treating damaged, diseased or dysfunctional vascular tissue comprising;

contacting a population of SMCs produced by a method according to any one of claims 1 to 39 with a test compound, and;

determining the effect of the test compound on said SMCs.