[0004a] In one aspect, there is provided the use of $CD271^+$ mesenchymal stem cell (MSC) precursor cells in the manufacture of a medicament for preventing or treating cardiovascular diseases or disorders, wherein said $CD271^+$ mesenchymal stem cell (MSC) precursor cells are isolated from bone marrow of a subject and cultured under non-adherent conditions; and said isolated and cultured cells are to be administered to a patient, wherein the $CD271^+$ MSC precursor cells are capable of engrafting in a heart in vivo in infarct and border zones.

9. The use of claims 1-8, wherein one or more agents are administered to the patient, the agents comprising at least one of: cytokines, chemotactic factors, growth factors, or differentiation factors.

10. The use of claims 1-9, wherein the cardiovascular diseases or disorders comprise: heart failure, atherosclerosis, ischemia, myocardial infarction, transplantation, hypertension, restenosis, angina pectoris, rheumatic heart disease, or congenital cardiovascular defect.

11. The use of claim 1, wherein the $CD271^+$ MSC precursor cells are administered to a patient in varying concentrations over a period of time.

12. The use of claims 1-11, wherein the $CD271^+$ MSC precursor cells are conditioned with media conditioned by heart derived stromal cells.