CLAIMS

1. Use of a conditioned medium comprising medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line in the preparation of a medicament for the treatment or prevention of a disease.

2. Use of a conditioned medium according to Claim 1, in which the conditioned medium comprises cardioprotective activity, such as when assayed in a mouse model of acute myocardial infarction (AMI).

3. Use of a conditioned medium according to Claim 1 or 2, in which the conditioned medium comprises a particle secreted by a foetal mesenchymal stem cell, the particle preferably comprising an exosome.

4. Use of a conditioned medium according to Claim 3, in which the exosome comprises at least one biological property of a foetal mesenchymal stem cell such as a biological activity of a foetal mesenchymal stem cell conditioned medium (MSC-CM), for example cardioprotection.

5. Use of a conditioned medium according to any preceding claim, in which the foetal mesenchymal stem cell is obtainable by a method comprising: (a) providing a foetal tissue; (b) contacting the foetal tissue with a plastic surface; (c) allowing foetal mesenchymal stem cells to adhere to the plastic surface, in which the method prefereably further comprises (d) culturing the mesenchymal stem cell in a serum free medium, the serum free medium such as comprising serum-free culture medium supplemented with 10% serum replacement media, non-essential amino acids, 10 ng/ml FGF2, 10ng/ml Recombinant Human EGF and 55μM β–mercaptoethanol.

6. Use of a conditioned medium according to any preceding claim, in which the foetal mesenchymal stem cell has one or more, such as all, of the following characteristics:

(a) one or more morphological characteristics of mesenchymal stem cells, such as fingerprint whorl at confluency or forming an adherent monolayer with a fibroblastic phenotype

(b) is capable of adhering to plastic;

(c) displays an average population doubling time of between 72 to 96 hours;

(d) displays a surface antigen profile comprising expression of one or more, such as all, of the following: CD29, CD44, CD49a, CD49e, CD105, CD166, MHC I, together with reduced or absent expression of one or more of the following: HLA-DR, CD34 and CD45, for example, CD29+, CD44+, CD49a+ CD49e+, CD105+, CD166+, MHC I+, $CD34^{-}$ and $CD45^{-}$;

(e) displays a reduced expression of one or more, such as all, of HESX1, POUFL5, SOX-2, UTF-1 and ZFP42;

(f) displays a reduced expression of one or more, such as all, of OCT4, NANOG and SOX2;

(g) displays no detectable alkaline phosphatase activity;

(h) is maintainable in cell culture for greater than 10, 20, 30, 40 or more generations;

(i) have a substantially stable karyotype or chromosome number when maintained in cell culture for at least 10 generations;

(j) does not substantially induce formation of teratoma when transplanted to a recipient animal, such as an immune compromised recipient animal, such as after 3 weeks, more such as after 2 to 9 months;

(k) is not teratogenic when implanted in SCID mice;

(l) is negative for mouse-specific c-mos repeat sequences and positive for human specific alu repeat sequences;

(m) is capable of undergoing osteogenesis, adipogenesis or chondrogenesis, such as capable of differentiating into osteocytes, adipocytes or chondrocytes;

(n) have a substantially stable gene expression pattern from generation to generation;

(o) any two or more, such as all, mesenchymal stem cells obtainable by the method exhibit substantially identical gene expression profiles;

(p) the gene expression correlation coefficient between any two or more isolates of mesenchymal stem cells obtained by the method is greater than 0.9;

(q) any two or more, such as all, isolates of mesenchymal stem cells obtainable by the method are substantially similar or identical (such as homogenous) with each other;

(r) the gene expression correlation coefficient between a mesenchymal stem cell obtainable by the method and cells of a parental culture is greater than 0.8.

7. Use of a conditioned medium according to any preceding claim, in which the foetal mesenchymal stem cell, cell culture or cell line comprises a mammalian, such as mouse or human, foetal mesenchymal stem cell, cell culture or cell line.

8. Use of a conditioned medium according to any preceding claim, in which the disease is selected from the group consisting of: cardiac failure, bone marrow disease, skin disease, burns and degenerative diseases such as diabetes, Alzheimer's disease, Parkinson's disease, cancer, a disease associated with accumulation of protein aggregates or intracellular or extracellular lesions; Huntingdon's disease and alcoholic liver disease; myocardial infarction, a cutaneous wound, a dermatologic disorder, a dermatological lesion, dermatitis, psoriasis, condyloma, verruca, hemangioma, keloid, skin cancer, atopic dermatitis, Behcet disease, chronic granulomatous disease, cutaneous T cell lymphoma, ulceration, a pathological condition characterised by initial injury inducing inflammation and immune dysregulation leading to chronic tissue remodeling including fibrosis and loss of function, renal ischemic injury, cystic fibrosis, sinusitis and rhinitis or an orthopaedic disease;

9. Use of a conditioned medium comprising medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line: (a) to aid wound healing, scar reduction, bone formation, a bone graft or bone marrow transplantation; (b) to regulate or assist in the regulation of a pathway selected from any one or more of the following: cytoskeletal regulation by Rho GTPase, cell cycle, integrin signalling pathway, Inflammation mediated by chemokine & cytokine signaling pathway, FGF signaling pathway, EGF receptor signaling pathway, angiogenesis, plasminogen activating cascade, blood coagulation, glycolysis, ubiquitin proteasome pathway, de novo purine biosynthesis, TCA cycle, phenylalanine biosynthesis, heme biosynthesis; (c) the regulation of processes including any one or more of the following: cell structure and motility, cell structure, cell communication, cell motility, cell adhesion, endocytosis, mitosis, exocytosis, cytokinesis, cell cycle, immunity and defense, cytokine/chemokine mediated immunity, macrophage-mediated immunity, granulocyte-

mediated immunity, ligand-mediated signaling, cytokine and chemokine mediated signaling pathway, signal transduction, extracellular matrix protein-mediated signaling, growth factor homeostasis, receptor protein tyrosine kinase signaling pathway, cell adhesion-mediated signaling, cell surface receptor mediated signal transduction, JAK-STAT cascade, antioxidation and free radical removal, homeostasis, stress response, blood clotting, developmental processes, mesoderm development, skeletal development, angiogenesis, muscle development, muscle contraction, protein metabolism and modification, proteolysis, protein folding, protein complex assembly, amino acid activation, intracellular protein traffic, other protein targeting and localization, amino acid metabolism, protein biosynthesis, protein disulfide-isomerase reaction, carbohydrate metabolism, glycolysis, pentose-phosphate shunt, other polysaccharide metabolism, purine metabolism, regulation of phosphate metabolism, vitamin metabolism, amino acid biosynthesis, pre-mRNA processing, translational regulation, mRNA splicing; or (d) the supply of functions including any one or more of the following: signaling molecule, chemokine, growth factor, cytokine, interleukin, other cytokine, extracellular matrix, extracellular matrix structural protein, other extracellular matrix, extracellular matrix glycoprotein, protease, metalloprotease, other proteases, protease inhibitor, metalloprotease inhibitor, serine protease inhibitor, oxidoreductase, dehydrogenase, peroxidase, chaperone, chaperonin, Hsp 70 family chaperone, other chaperones, synthetase, synthase and synthetase, select calcium binding protein, aminoacyl-tRNA synthetase, lyase, isomerase, other isomerase, ATP synthase, hydratase, transaminase, other lyase, other enzyme regulator, select regulatory molecule, actin binding cytoskeletal protein, cytoskeletal protein, non-motor actin binding protein, actin and actin related protein, annexin, tubulin, cell adhesion molecule, actin binding motor protein, intermediate filament, ribonucleoprotein, ribosomal protein, translation factor, other RNA-binding protein, histone, calmodulin related protein, vesicle coat protein.

10. Use of an exosome in the preparation of a medicament for the treatment or prevention of a disease, the exosome being obtainable from a conditioned medium comprising medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line.

11. A method of producing an exosome, the method comprising culturing a foetal mesenchymal stem cell, cell culture or cell line in a cell culture medium and isolating the exosome from the conditioned cell culture medium.

12. An exosome obtainable from a conditioned medium comprising medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line.

13. A conditioned medium comprising medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line for use in a method of treatment or prevention of a disease.

14. A method of treatment of a disease comprising obtaining a medium conditioned by a foetal mesenchymal stem cell, cell culture or cell line and administering the conditioned medium into a patient.

15. A method of treatment of a disease according to Claim 14, in which the disease is selected from the diseases set out in Claim 9.

CLAIMS

1. A thing.