

**Key to fields:**

**PN/ PNFP: Publication Number**

**PD : Publication Date**

**PA: Patent Assignee**

**IN: Inventor**

**TI: Title**

**AB: Abstract**

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**RESULTS FOR 1<sup>ST</sup> NOVEMBER 2008- 19 DECEMBER 2008**

**PUBLISHED "A" SPECS**

**ADULT STEM CELLS- 45 Documents**

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**PN - EP2001998** A2 20081217

**PD - 2008-12-17**

**PA - NEW YORK MEDICAL COLLEGE [US]**

**IN - ANVERSA PIERO [US]**

**TI - METHODS AND COMPOSITIONS FOR THE REPAIR AND/OR REGENERATION OF DAMAGED MYOCARDIUM**

**AB-** Methods, compositions, and kits for repairing damaged myocardium and/or myocardial cells including the administration cytokines are disclosed and claimed. Methods and compositions for the development of large arteries and vessels are also disclosed and claimed. The present application also discloses and claims methods and media for the growth, expansion, and activation of human cardiac stem cells.

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**PN - US2008305085** A1 20081211

**PD - 2008-12-11**

**IN - SCADDEN DAVID T [US]; STIER SEBASTIAN [DE]**

**TI - Compositions And Methods For Stem Cell Expansion**

**AB -** The present invention features methods and compositions that are useful for promoting stem cell survival and expansion. In addition, the invention also provides compositions and methods for the treatment of neoplasia.

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**PN - US2008305086** A1 20081211

**PD - 2008-12-11**

**PA - CALIFORNIA STEM CELL INC [US]**

**IN - POOLE ALEKSANDRA J [US]**

**TI - HUMAN LATE STAGE MOTOR NEURON PROGENITOR CELLS AND METHODS OF MAKING AND USING SAME**

**AB -** Motor neuron progenitor (MNP) cells and populations of MNP cells, are provided, in particular, populations of human late stage MNP cells having a purity of greater than about 65% late stage MNP cells and high-purity populations of MNP cells having greater than 95% viable cells, as well as method of making and using the same, including deriving late stage MNP cells from pluripotent embryonic stem cells, producing high-purity populations of late stage MNP cells, producing populations of viable MNP cells, transporting viable MNP cells, and transplanting MNP cells.

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**PN - US2008305148** A1 20081211

**PD - 2008-12-11**

**PA - NAT YANG MING UNIVERSITY [TW]**

IN - FU YU-SHOW [TW]  
TI - Treatment of spinal injuries using human umbilical mesenchymal stem cells  
AB - Transplantation of human umbilical mesenchymal stem cells (HUMSCs) to an area of a spinal injury is therapeutically effective in treating the spinal injury. Methods for treating spinal injuries based on such transplantation are described.

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**PN** - **US2008299097** A1 20081204  
PD - 2008-12-04  
PA - TULANE UNIVERSITY HEALTH SCIEN [US]  
IN - PROCKOP DARWIN J [US]; LEE RYANG HWA [US]  
TI - ISOLATED POPULATION OF RAPIDLY PROLIFERATING MARROW STROMAL CELLS FOR ENHANCED IN VIVO ENGRAFTMENT  
AB - Multipotent stromal cells "MSCs" have been described as consisting of at least two populations of cells, rapidly self-renewing stem cells (RS-MSCs), and larger, slowly replicating cells (mMSCs). The present invention provides methods for enhancing engraftment of MSCs in vivo by administering an enriched fraction of RS-MSCs that express certain cell surface markers.

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**PN** - **US2008299656** A1 20081204  
PD - 2008-12-04  
IN - SONG SUN U [KR]  
TI - ISOLATION OF MULTI-LINEAGE STEM CELLS  
AB - The present application discloses a method of manipulating a biological sample of cells, which includes multi-lineage stem cells, progenitor cells, other marrow stromal cells: allowing the sample of cells to settle in a container; transferring supernatant from the container to another container; and isolating cells from the supernatant, which has comparatively lower density in the sample.

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**PN** - **US2008299095** A1 20081204  
PD - 2008-12-04  
PA - BC CANCER AGENCY [CA]; UNIV MONTREAL [CA]  
IN - HUMPHRIES R KEITH [CA]; SAUVAGEAU GUY [CA]  
TI - Nup98-Hox Fusions for Expansion of Hemopoietic Stem Cells  
AB - Nucleic acid constructs encoding homeobox-nucleoporin fusions are disclosed, compositions comprising same, and methods which provide enhanced expansion of stem cells. In particular, an isolated nucleic acid construct encoding a NUP98-HOX fusion is provided, which when introduced into hemopoietic stem cells provides enhanced expansion of these cells. Methods of expanding stem cells in vivo or ex vivo and methods of treatment using the stem cells are also described.

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**PN** - **US2008299107** A1 20081204  
PD - 2008-12-04  
PA - ZOLTAN LAB LLC [US]  
IN - KISS ZOLTAN [US]  
TI - COMBINATIONS OF HUMAN PROTEINS TO ENHANCE VIABILITY OF TRANSPLANTED STEM CELLS AND PROGENITOR CELLS  
AB - Embodiments of the present invention include the use of placental alkaline phosphatase alone or in combination with human transferrin and, optionally, human alpha1-antitrypsin to enhance the proliferation and survival of transplanted stem cells and stem cell-derived progenitor cells.

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**PN** - **US2008299092** A1 20081204  
PD - 2008-12-04  
PA - MIBELLE AG [CH]  
IN - BLUM PETER [CH]; SCHURCH CORNELIA [CH]; SCHMID DANIEL [CH]; ZULLI

FRED [CH]

TI - Cosmetic preparation and method for preparing the same  
AB - The present invention relates to the use of dedifferentiated plant cells in cosmetic preparations for protecting of stem cells against intrinsic and extrinsic stress factors, in particular for promoting proliferation of stem cells and for protecting them against apoptosis. In particular, the invention relates to the use of dedifferentiated plant cells from fruits of *Malus domestica* (Apple) cultivar Uttwiler Spaetlauber. Further, the invention relates to a method for cultivating of dedifferentiated plant cells, as well as to the preparation of extracts of plant cell cultures which are suitable for such applications.

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**PN** - **US2008299077** A1 20081204  
**PD** - 2008-12-04  
**PA** - NEVADA CANCER INST [US]  
**IN** - MA YUPO [US]; FINK LOUIS M [US]; WARD DAVID C [US]; WANER MILTON [US]  
**TI** - ISOLATION AND GROWTH OF STEM CELLS FROM HEMANGIOMAS  
**AB** - The present invention describes stem cells and progenitor cells derived from hemangiomas, including testing of angiogenic inhibitors using these cells. The invention as described is useful in providing a process to culture and propagate hemangioma stem cells and generate xenograft models to develop treatments for infantile hemangiomas and other types of vascular lesions.

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**PN** - **US2008299540** A1 20081204  
**PD** - 2008-12-04  
**PA** - WHITEHEAD BIOMEDICAL INST [US]; BRIGHAM & WOMENS HOSPITAL [US]  
**IN** - INCE TAN A [US]; WEINBERG ROBERT A [US]  
**TI** - Hormone responsive tissue culture system and uses thereof  
**AB** - The invention provides tissue culture system for primary cells (e.g. normal mammalian primary epithelial progenitors). This system includes: a) a serum-free, chemically defined cell culture media; and, b) methods for isolation and in vitro long-term propagation of primary cells (e.g. primary epithelial cells). Primary cells so isolated and cultured can be kept undifferentiated and proliferate for many weeks (>15 weeks) or population doubling (>35 PD) without senescence, or any detectable genetic alterations. Upon changing media/culture conditions, these cells can be induced to differentiate. The invention also provides methods to transform normal primary cells so cultured into "cancer stem cells." The genetically defined cancer stem cell tumor model mimics the behavior of the disease closely, e.g., the cells are invasive, hormone responsive and metastatic when injected into mice. The tumor cells express genes that are specific to cancer stem cells identified in patient samples.

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**PN** - **US2008299090** A1 20081204  
**PD** - 2008-12-04  
**PA** - UNIV KANSAS STATE [US]; COGNATE BIOSERVICES INC [US]  
**IN** - WEISS MARK [US]; WEISS RITA [US]; ANDERSON CAMERON [US]; MEDICETTY SATISH [US]; VANDERWERFF IRENE [US]; MCINTOSH KEVIN R [US]  
**TI** - Use Of Umbilical Cord Matrix Cells  
**AB** - The invention relates to the isolation and use of stem cells from amniote species (potentially any animal with an umbilical cord, including humans). More particularly the invention relates to obtaining stem cells that are at least multipotent and may be totipotent or nearly totipotent and are envisaged to have a variety of end uses. The cells of the present invention are immunosuppressive and may be used to inhibit the immune response in a subject.

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**PN** - **EP2000478** A1 20081210  
**PD** - 2008-12-10  
**PA** - SEIKAGAKU KOGYO CO LTD [JP]  
**IN** - TAKATA TAKASHI [JP]; KITAGAWA SHOJI [JP]; KANEDA YUJI [JP]  
**TI** - Biologically active peptide and agent containing the same

AB - A peptide having any one of the amino acid sequences of SEQ ID NO: 1 or 13, preferably a peptide having any one of the amino acid sequences of SEQ ID NOS: 2 to 9 or a peptide having any one of the amino acid sequences of SEQ ID NOS: 10 and 15 to 17, is used as an active ingredient of an agent for promoting growth or differentiation of cells such as osteoblasts, chondroblasts, cementoblasts, bone marrow-derived mesenchymal stem cells and periodontal ligament-derived cells.

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**PN** - **EP1999255** A2 20081210  
**PD** - 2008-12-10  
**PA** - CHILDRENS MEDICAL CENTER [US]  
**IN** - ZON LEONARD I [US]; N RTH TRISTA E [US]; GOESSLING WOLFRAM [US]  
**TI** - METHOD TO MODULATE HEMATOPOIETIC STEM CELL GROWTH  
**AB** - The present invention provides for compositions and methods for modulating hematopoietic stem cell populations by using HCS modulators, which are agents that either increase HSC numbers or decrease HSC numbers as desired by a particular indication. For example, HSC modulators found to increase HSC numbers include prostaglandin E2 (PGE2) and agents that stimulate the PGE2 pathway. Conversely, HSC modulators that prevent PGE2 synthesis decrease HSC numbers. HCS modulators may be used in vitro, in vivo, or ex vivo.

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**PN** - **EP1999253** A2 20081210  
**PD** - 2008-12-10  
**PA** - CYTHERA INC [US]  
**IN** - D AMOUR KEVIN [US]; CARPENTER MELISSA [US]; BANG ANNE [US]; MOORMAN MARK [US]; KELLY OLIVIA G [US]; BAETGE EMMANUEL E [US]  
**TI** - ENDOCRINE PRECURSOR CELLS, PANCREATIC HORMONE-EXPRESSING CELLS AND METHODS OF PRODUCTION  
**AB** - Disclosed herein are cell cultures and enriched cell populations of endocrine precursor cells, immature pancreatic hormone-expressing cells and mature pancreatic hormone-expressing cells. Also disclosed herein are methods of producing such cell cultures and cell populations.

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**PN** - **EP1999250** A2 20081210  
**PD** - 2008-12-10  
**PA** - UNIV KARLOVA [CZ]; USTAV HEMATOLOGIE A KREVNI TRA [CZ]; USTAV MAKROMOLEKULARNI CHEMIE [CZ]  
**IN** - PYTLIK ROBERT [CZ]; HOFMAN PETR [CZ]; TRC TOMAS [CZ]; STEHLIK DAVID [CZ]; SOUKUP TOMAS [CZ]; KOBYLKA PETR [CZ]; KLENER PAVEL [CZ]; RYPACEK FRANTISEK [CZ]; MULINKOVA KATARINA [SK]  
**TI** - METHOD OF CULTIVATION OF HUMAN MESENCHYMAL STEM CELLS, PARTICULARLY FOR THE TREATMENT OF NON-HEALING FRACTURES, AND BIOREACTOR FOR CARRYING OUT THIS CULTIVATION METHOD  
**AB** - The invention relates to a novel method of cultivation of mesenchymal stem cells, wherein after aseptic separation of mononuclear cells from the marrow blood, said cells are seeded in low density into sterile plastic cultivation vessels and cultivated for approximately one to three weeks in CellGro™ Hematopoietic Stem Cell Medium, certified for the clinical use, with an addition of 10% human serum and supplements, wherein the supplements are added at least once in the course of the cultivation, without removal of hematopoietic cells and without medium exchange during the cultivation procedure, without any interference with the closed cultivation system, under the standard conditions for the cultivation of tissue cultures. For the cultivation of the mesenchymal stem cells in the closed cultivation system for the clinical use in the field of orthopaedic surgery, a simple bioreactor is proposed. The bioreactor consists of a cassette system containing cultivation vessels with filters for securing the sterile exchange of gas and with aseptic inlets for seeding and harvesting the cells and adding the supplements, and a carrier.

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**PN** - **EP2000531** A1 20081210

PD - 2008-12-10  
PA - BIOMAY AG [AT]  
IN - BARANYI ULRIKE [AT]; LINHART BIRGIT [AT]; PILAT NINA [AT]; BAGELY JESSAMYN [US]; IACOMINI JOHN [US]; VALENTA RUDOLF [AT]; WEKERLE THOMAS [AT]  
TI - Antigen presenting cells  
AB - The present invention relates to a method for inducing specific long-lasting robust immunological tolerance towards at least one polypeptide derived from at least one allergen by transplanting a hematopoietic (stem) cell which is produced to display the said at least one polypeptide derived from at least one allergen.

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**PN** - **US2008292597** A1 20081127  
PD - 2008-11-27  
IN - STEENBLOCK DAVID A [US]  
TI - Umbilical Cord Stem Cell Composition & Method of Treating Neurological Diseases  
AB - A neurological disease is treated by administering to a patient a therapeutically effective amount of a composition including human umbilical cord stem cells. The composition may include growth factors mixed with the stem cells immediately prior to being administered. A specific pre and post transplantation protocol provides optimal methods for obtaining favorable clinical results.

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**PN** - **US2008292600** A1 20081127  
PD - 2008-11-27  
IN - SONG SUN UK [KR]; LEE MOON HEE [KR]; KIM CHUL SOO [KR]  
TI - TREATMENT OF GRAFT-VERSUS-HOST DISEASE  
AB - This present application describes a therapeutic agent for treating acute or chronic graft-versus-host disease using clonal marrow stem cells (cMSCs) as active ingredient.

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**PN** - **US2008292598** A1 20081127  
PD - 2008-11-27  
IN - BROTMAN HARRIS F [US]  
TI - CHIMERIC TRANSPLANT  
AB - Compositions comprising amniotic fluid stem cells which are derived from non-identical donor sources. Donors may be non-identical siblings, non-identical twins, and/or donors which are unrelated by a familial relationship. Also disclosed are methods for making such amniotic stem cell compositions, and methods for their use, such as therapeutic stem cell transplantation.

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**PN** - **US2008293056** A1 20081127  
PD - 2008-11-27  
PA - RIKEN [JP]  
IN - KONDO TORU [JP]  
TI - METHOD FOR PREPARING CANCER STEM CELLS  
AB - The present invention provides a method for preparing cancer stem cells including the step of subjecting normal cells to Ras activation and p53 deficiency; the cancer stem cells prepared by the preparation method; a method for screening a cancer stem cell-targeting substance and a method for screening an anti-cancer substance using the cancer stem cells; a method for treating a cancer comprising administering to a patient the substances obtainable by the screening methods; and a diagnostic method for cancers including the step of detecting proteins specifically expressed in the cancer stem cells or mRNAs of the protein.

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**PN** - **EP1996698** A1 20081203  
PD - 2008-12-03  
PA - CARTELA R & D AB [SE]  
IN - LUNDGREN-AKERLUND EVY [SE]; KJELLMAN CHRISTIAN [SE]  
TI - EXPANSION AND DIFFERENTIATION OF MESENCHYMAL STEM CELLS  
AB - A cell culture system for expanding and differentiating mammalian mesenchymal

stem cells to chondrocytes is provided. Said cell culture system comprises a subpopulation of isolated MSC selected for their expression of integrin alpha 10, as well as additives promoting expansion and differentiation to chondrocytes. Methods and uses of said expanded and differentiated cells with a chondrogen phenotype are also provided, as well as compositions comprising said expanded and differentiated chondrocyte cells.

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**PN** - **US2008286246** A1 20081120  
**PD** - 2008-11-20  
**PA** - HITACHI LTD  
**IN** - HONMOU OSAMU [JP]; HAMADA HIROFUMI [JP]  
**TI** - Internally administered therapeutic agents for cranial nerve diseases comprising mesenchymal cells as an active ingredient  
**AB** - Intravenous administration of bone marrow cells collected from rat bone marrow or peripheral blood to a rat cerebral infarction model was found to be effective in treating cerebral infarction. Human and murine bone marrow stem cells showed similar effects. Mesenchymal cells such as bone marrow cells, cord blood cells, or peripheral blood cells can be used as agents for in vivo administration against cranial nerve diseases.

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**PN** - **US2008286243** A1 20081120  
**PD** - 2008-11-20  
**PA** - SEOUL NAT UNIV IND FOUNDATION [KR]; RNL BIO CO LTD [KR]  
**IN** - KANG KYUNG SUN [KR]; RA JEONG CHAN [KR]  
**TI** - Method For Isolation of a Hair Follicle Stem Cell and a Composition For Hair Reproduction  
**AB** - The present invention relates to a method for isolating hair follicle stem cells and a composition for inducing hair growth. More specifically, relates to a method for isolating hair follicle stem cells showing a positive immunological response to CD34, by chemically degrading hair follicle-containing scalp tissue and then culturing the degraded tissue in a serum-containing medium and a serum-free medium, as well as a composition for inducing hair growth, which contains, as an active ingredient, CD34-positive hair follicle stem cells isolated by the method. The hair follicle-derived stem cells, which are obtained according to the disclosed method, are classified as autologous adult stem cells, have self-renewal capability, the ability to differentiate into adult hair follicle cells and the ability to induce hair growth, and can be used as a novel cell therapeutic agent against hair loss. In addition, the present invention relates to a method for culturing hair follicle cells, which has high yield compared to that of the prior art, as well as a method for identifying hair follicle stem cells.

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**PN** - **US2008286324** A1 20081120  
**PD** - 2008-11-20  
**PA** - CARDIAC PACEMAKERS INC [US]  
**IN** - STOLEN CRAIG [US]; GIROUARD STEVEN D [US]  
**TI** - MEDIA AND DEVICES FOR COLD STORAGE OF THERAPEUTIC CELLS  
**AB** - The invention provides a composition for cold storage of cells which includes a population of isolated stem cells, a cell medium, and isolated trophic factors, as well as devices having a plurality of the trophic factors.

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**PN** - **US2008287391** A1 20081120  
**PD** - 2008-11-20  
**IN** - KITAKAZE MASAFUMI [JP]; MINAMINO TETSUO [JP]; HIRATA AKIO [JP]  
**TI** - Cell Fusion Promoter and Utilization of the Same  
**AB** - It is intended to provide a regeneration promoter for regenerating a tissue with the use of somatic stem cells. It is also intended to provide a cell fusion promoter safely usable in vivo. Namely, it is intended to provide a cell fusion promoter comprising ATP or its metabolite. A cell fusion promoter comprising ATP or its metabolite and a method of producing fused cells in the presence of ATP or its metabolite. A medicinal composition for regenerating or improving the function of a tissue or an organ, which suffers from dysfunction or hypofunction due to injury or denaturation, by using

stem cells. This composition comprises ATP or its metabolite and a pharmaceutically acceptable carrier.

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**PN** - **US2008287855** A1 20081120

**PD** - 2008-11-20

**IN** - MOWER MORTON M [US]

**TI** - SYSTEM AND METHOD FOR MANAGING DETRIMENTAL CARDIAC REMODELING

**AB** - A system and method for managing and inhibiting cardiac remodeling in MI patients. Bi-ventricular stimulation is constantly provided with and without sensing to encourage normal pumping of the heart on a consistent basis. Pulses are administered using an anodal pulse followed by a cathodal pulse to stimulate cardiac muscle contraction. Stem cells are administered to MI areas to encourage regeneration of cardiac tissue in the damaged area. Stimulation may be provided to both healthy and compromised cardiac tissue.

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**PN** - **US2008286249** A1 20081120

**PD** - 2008-11-20

**IN** - VARNEY TIMOTHY R [US]; MILLS CHARLES RANDAL [US]; DANILKOVITCH ALLA [US]

**TI** - USE OF MESENCHYMAL STEM CELLS FOR TREATING GENETIC DISEASES AND DISORDERS

**AB** - A method of treating a genetic disease or disorder such as, for example, cystic fibrosis, Wilson's disease, amyotrophic lateral sclerosis, or polycystic kidney disease, in an animal comprising administering to said animal mesenchymal stem cells in an amount effective to treat the genetic disease or disorder in the animal.

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**PN** - **EP1994163** A2 20081126

**PD** - 2008-11-26

**PA** - HEALTH RESEARCH INC [US]; UNIV DUKE [US]

**IN** - FERRONE SOLDANO [US]; WANG XINHUI [US]; CLAY TIM [US]; LYERLY KIM H [US]; MORSE MICHAEL A [US]; DEVI GAY [US]; OSADA TAKUYA [US]

**TI** - INHIBITION OF BREAST CARCINOMA STEM CELL GROWTH AND METASTASIS

**AB** - Disclosed is a method for inhibiting the growth of breast carcinoma stem cells, that express High Molecular Weight-Melanoma Associated Antigen (HMW-MAA). The method comprises administering to an individual a composition comprising an antibody reactive with HMW-MAA or a fragment of such an antibody in an amount effective to inhibit the growth of the breast carcinoma cells. Also provided are methods for inhibiting metastasis of breast carcinomas and methods for identifying HMW-MAA+ breast cancer stem cells.

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**PN** - **EP1994143** A2 20081126

**PD** - 2008-11-26

**PA** - PLURISTEM LIFE SYSTEMS INC [IL]

**IN** - MERETZKI SHAI [IL]

**TI** - METHOD AND APPARATUS FOR MAINTENANCE AND EXPANSION OF HEMATOPOIETIC STEM CELLS FROM MONONUCLEAR CELLS

**AB** - A method of expanding/maintaining undifferentiated hematopoietic stem cells by obtaining unselected mononuclear cells; and either seeding the mononuclear cells into a stationary phase plug-flow bioreactor in which a three dimensional mesenchymal/stromal cell culture has been pre-established, thereby expanding/maintaining undifferentiated hematopoietic stem cells.

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**PN** - **US2008279956** A1 20081113

**PD** - 2008-11-13

**IN** - LIN TUNG-HO [TW]

TI - Method for collecting a live placenta cord stem cell  
AB - The present invention discloses a method for collecting a live placenta cord stem cell, in which the live placenta cord stem cells are required to be healthy and plenty of endocrine. The cord is first picked with a proper length, then dipped in the sodium citrate solution of a specific concentration as an anticoagulant and then preserved in a refrigerator to maintain natural activity thereof. The collected stem cells can be implanted into human bodies without synthetic chemicals, side effects and rejection, and therefore are suitable for treating many diseases.

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**PN** - **US2008279835** A1 20081113  
PD - 2008-11-13  
PA - UNIV SOUTH FLORIDA [US]  
IN - HENNING ROBERT J [US]; SANBERG PAUL R [US]  
TI - Method of Stem Cell Therapy for Cardiovascular Repair  
AB - A method of treating acute myocardial infarction has the steps of providing human umbilical cord blood cells (HUCBC); and administering the HUCBC to the individual with the acute myocardial infarction at particular time intervals after said myocardial infarction. Preferably the intervals are about one to about three hours or about 12 to about 48 hours after the acute myocardial infarction.

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**PN** - **US2008279828** A1 20081113  
PD - 2008-11-13  
IN - PELED TONY [IL]; TREVES AVI [IL]; ROSEN OREN [IL]  
TI - Methods of expanding stem and progenitor cells and expanded cell populations obtained thereby  
AB - Ex vivo and in vivo methods of expanding a population of stem and/or progenitor cells, while at the same time reversibly inhibiting differentiation of the stem and/or progenitor cells by providing the stem and/or progenitor cells with an effective amount of at least one copper chelate, so as to maintain a free copper concentration available to said cells substantially unchanged, to thereby expand the population of said stem and/or progenitor cells, while at the same time reversibly inhibit differentiation of said stem and/or progenitor cells.

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**PN** - **EP1991664** A2 20081119  
PD - 2008-11-19  
PA - SAN RAFFAELE CENTRO FOND [IT]  
IN - COSSU GIULIO [IT]; GONZALEZ GALVEZ BEATRIZ [IT]; TONLORENZI ROSSANA [IT]  
TI - SKELETAL MUSCLE PERIANGIOBLASTS AND CARDIAC MESANGIOBLASTS, METHOD FOR ISOLATION AND USES THEREOF  
AB - The present invention discloses the isolation and characterization of cells isolated either from adult skeletal muscle or from adult cardiac muscle. These cells are used for the treatment of muscular disorders including muscular dystrophy and cardiopathies, respectively.

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**PN** - **US2008274089** A1 20081106  
PD - 2008-11-06  
IN - PLUCHINO STEFANO [IT]; MARTINO GIANVITO [IT]  
TI - Inflammation  
AB - This invention provides adult neural stem cell (aNSC) materials and methods for treating central nervous system disorders.

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**PN** - **US2008274491** A1 20081106  
PD - 2008-11-06 IN - COLES JOHN G [CA]; HANNIGAN GREGORY [CA]; LU HUANZHANG [CA]  
TI - Modulation of the Integrin Linked Kinase Signaling Pathway to Promote Cardiac Cell Proliferation and Self-Renewal

AB - Modulation of the integrin-linked kinase (ILK) signaling pathway is used to enhance the remodeling process relevant to a wide range of cardiac diseases. More specifically, a process to instigate beneficial human cardiac hypertrophy or for post myocardial infarction (MI) remodeling comprising illiciting an overexpression of ILK, is described. The ILK signaling pathway is also used as a means for cardiac stem cell proliferation and self-renewal

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**PN** - **US2008274086** A1 20081106  
**PD** - 2008-11-06  
**PA** - CEDARS SINAI MEDICAL CENTER [US]  
**IN** - YU JOHN S [US]; EHTESHAM MONÉEB [US]  
**TI** - Use of Cxcr4 Protein Expression on the Surface of Stem Cells as a Marker for Tumor Tropic Potential

AB - The present invention relates to tumor tropic stem cells, and particularly to neural stem cells, and their use as delivery vehicles for therapeutic gene products to neoplastic foci. The stem cells with tumor tropic potential are selected based on the stem cells exhibiting CXCR4 receptors or an affinity for the chemokine SDF-1. The stem cells may additionally exhibit markers characteristic of astrocytic progenitors. The stem cells may be administered as part of a treatment regimen including the chemokine SDF-1.

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**PN** - **US2008274185** A1 20081106  
**PD** - 2008-11-06  
**IN** - MAO JEREMY [US]  
**TI** - Shape and Dimension Maintenance of Soft Tissue Grafts by Stem Cells  
**AB** - Methods and compositions for de novo and in vivo synthesis of soft tissue in predefined shape and dimensions from adult mesenchymal stem cells (MSCs) within a biocompatible scaffold are described. Scaffolds are implanted in vivo in a host animal and fabricated therein, or maintained ex vivo. Inducing angiogenesis enhances success of soft tissue implants.

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**PN** - **US2008274090** A1 20081106  
**PD** - 2008-11-06  
**PA** - UNIV FLORIDA [US]  
**IN** - PECK AMMON B [US]; CORNELIUS JANET G [US]; RAMIYA VIJAYAKUMAR K [US]  
**TI** - REVERSAL OF INSULIN-DEPENDENT DIABETES BY ISLET-PRODUCING STEM CELLS, ISLET PROGENITOR CELLS AND ISLET-LIKE STRUCTURES  
**AB** - The subject invention concerns new methods which make it possible, for the first time, to grow functional islet-producing stem cells (IPSCs), islet progenitor cells (IPCs) and IPC-derived islets (Idls) in in vitro cultures. The subject invention also concerns the use of the in vitro grown IPSCs, IPCs and/or Idls for implantation into a mammal for in vivo therapy of diabetes. The subject invention further concerns a process of using the implanted cells for growing a pancreas-like structure in vivo that has the same functional, morphological and histological characteristics as those observed in normal pancreatic endocrine tissue. The ability to grow these cells in vitro and pancreas-like structures in vivo opens up important new avenues for research and therapy relating to diabetes.

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**PN** - **EP1989295** A1 20081112  
**PD** - 2008-11-12  
**PA** - UNIV BRUXELLES [BE]  
**IN** - EGRISE DOMINIQUE [BE]; GANGJI VALERIE [BE]; HAUZEUR JEAN-PHILIPPE [BE]; LAMBERMONT MICHELINE [BE]; TOUNGOUZ MICHEL [BE]  
**TI** - A METHOD FOR OSTEOGENIC DIFFERENTIATION OF BONE MARROW STEM CELLS (BMSC) AND USES THEREOF  
**AB** - The invention provides a method for obtaining osteoprogenitors, osteoblasts or osteoblast phenotype cells, as well as cell populations comprising such, from human bone marrow stem cells in vitro or ex vivo, comprising contacting the bone marrow stem cells with human serum or

plasma and a growth factor or a biologically active variant or derivative thereof. In addition, the invention provides novel osteoprogenitor or osteoblast phenotype cell types and cell populations comprising such, wherein such cell populations may comprise further cell types, such as preferably endothelial cells or progenitors. In related aspects, the invention provides uses, in particular in the field of therapy, preferably bone therapy, of the above methods, cells and cell populations obtainable using the methods, and of the cell types and cell populations specifically described herein.

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**PN** - **EP1990407** A1 20081112  
**PD** - 2008-11-12  
**PA** - UNIV KEIO [JP]  
**IN** - SHIMMURA SHIGETO [JP]; MIYASHITA HIDEYUKI [JP]; YOSHIDA SATORU [JP]; TSUBOTA KAZUO [JP]  
**TI** - FEEDER CELL DERIVED FROM TISSUE STEM CELL  
**AB** - It is an object of the present invention to provide a feeder cell with less variation in quality. The present invention relates to a feeder cell derived from a tissue stem and/or progenitor cell. A method of preparation of the feeder cell, a method of preparation of a cultured cell using the feeder cell, and a cell culturing kit are also provided.

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**PN** - **EP1989294** A2 20081112  
**PD** - 2008-11-12  
**PA** - REGENERATIVE MEDICINE INST [US]  
**IN** - FRIEDLANDER HYMAN [IL]  
**TI** - COMPOSITIONS AND POPULATIONS OF CELLS OBTAINED FROM THE UMBILICAL CORD AND METHODS OF PRODUCING THE SAME  
**AB** - The present invention relates to population and compositions of stem and progenitor cells derived from the umbilical cord, and methods of obtaining same. In some embodiments, one or more entire umbilical cord or sections thereof are subjected to a process where a cell population is derived without prior removal of any blood vessel. The population may be derived using mechanical and chemical means. The presently disclosed process may be applied to a single umbilical cord or to a plurality of umbilical cords, for example, as a batch process. Optionally, this process includes removing some or all cord blood before deriving the population. In some embodiments, presently disclosed cell populations include mesenchymal stem cells derived from Wharton's jelly and endothelial progenitor cells derived from a wall of a blood vessel of an umbilical cord. Optionally, the cell population includes stem cells derived from cord blood. The presently disclosed cell population and compositions may be banked and/or used in a number of clinical or other applications. Exemplary applications include but are not limited to application related to regenerative medicine, for screening compounds, for research, and for gene therapy.

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**PN** - **EP1990350** A1 20081112  
**PD** - 2008-11-12  
**PA** - CARTELA R & D AB [SE]  
**IN** - LUNDGREN-AAKERLUND EVY [SE]  
**TI** - Marker for mesenchymal stem cells and its use  
**AB** - A marker for mesenchymal stem cells (MSC) is provided, comprising an integrin alpha 10 chain and/or an integrin alpha 11 chain expressed on the cell surface of or intracellular in a MSC. The marker is used in methods for identification of mammalian MSC and in methods for isolation of MSC. Also included are isolated cellular populations of mammalian MSC and a cellular composition comprising the latter. Moreover, uses of said marker for isolation, modulation and identification mammalian MSC are provided.

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**PN** - **EP1988160** A1 20081105  
**PD** - 2008-11-05  
**PA** - JAPAN SCIENCE & TECH AGENCY [JP]  
**IN** - KOSAKA MITSUKO [JP]  
**TI** - Process for producing retinal neurocyte from neural stem cell derived from iris

tissue and retinal neurocyte produced by the process

AB - A method for producing retinal nerve cells by inducing differentiation of iris pigmented epithelial cells into the retinal nerve cells. In a first method, iris pigmented epithelial cells derived from a mammal and embryo retinal stem cells derived from a bird are co-cultured. In a second method, iris pigmented epithelial cells of a bird or a mammal is isolated, and the iris pigmented epithelial- cells is subjected to adherent culturing. According to these methods, the retinal nerve cells can be produced by using iris pigmented epithelial cells collected from a patient per se. Therefore, there is a possibility that highly effective regenerative medical treatment can be realized.

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PN - **EP1987135** A2 20081105  
PD - 2008-11-05  
PA - AUXOCELL LAB INC [US]  
IN - CETRULO KYLE [US]; CETRULO CURTIS [US]  
TI - METHODS AND COMPOSITIONS RELATING TO STEM CELL  
TRANSPLANTATION

AB - The invention relates to methods and compositions for stem cell transplantation. Aspects of the invention relate to administering hematopoietic stem cells and mesenchymal cells to a patient.

### **EMBRYONIC STEM CELLS- 23 Documents**

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PN - **US2008305544** A1 20081211  
PD - 2008-12-11  
IN - IWATA HIROO [JP]; SASAI YOSHIKI [JP]; YAMAZOE HIRONORI [JP]; KOBORI MASATO [JP]; SATOH MITSUO [JP]; YANO KEIICHI [JP]  
TI - Method of Producing Nerve Cell

AB - An Object of the present invention is to provide a process for producing a nerve cell by inducing differentiation of an embryonic stem cell, a method for inducing differentiation of the embryonic stem cell into a nerve cell, a medium to be used in the production process or differentiation induction method, or a method for improving purity of the nerve cell obtained by inducing differentiation of the embryonic stem cell. The present invention provides a process for producing a nerve cell which is applicable to treatment of neurodegenerative disease or the like easily, selectively or inexpensively by inducing differentiation induction of an embryonic stem cell using vitamin B12 or a salt thereof and heparin, a substance having heparin-like activity or a salt.

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PN - **US2008305546** A1 20081211  
PD - 2008-12-11  
IN - BAUER HANS-CHRISTIAN [AT]; TEMPFER HERBERT [AT]  
TI - Method for cultivating tendon cells from pluripotent cells of mesenchymal origin

AB - A method for cultivating tendon cells from non-embryonic pluripotent cells of mesenchymal origin is described, wherein the isolated cells are cultivated in a culture medium under standard culture conditions in a culture vessel. In order to increase the collagen secretion, it is proposed that before their complete confluence, the cells are on the one hand further cultivated in a culture medium mixed with ascorbic acid and/or ascorbic acid-2-phosphate in a concentration of 25 to 75 mug/ml and on the other hand, subjected to hyperosmolar treatment in a culture medium whose osmolarity is adjusted to 350 to 500 mosmol/l.

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PN - **US2008299582** A1 20081204  
PD - 2008-12-04  
PA - GERON CORP  
IN - MANDALAM RAMKUMAR [US]; XU CHUNHUI [US]; GOLD JOSEPH D [US];  
CARPENTER MELISSA K [US]

TI - Culture System for Rapid Expansion of Human Embryonic Stem Cells  
AB - This disclosure provides an improved system for culturing human pluripotent stem cells. Traditionally, pluripotent stem cells are cultured on a layer of feeder cells (such as mouse embryonic fibroblasts) to prevent them from differentiating. In the system described here, the role of feeder cells is replaced by components added to the culture environment that support rapid proliferation without differentiation. Effective features are a suitable support structure for the cells, and an effective medium that can be added fresh to the culture without being preconditioned by another cell type. Culturing human embryonic stem cells in fresh medium according to this invention causes the cells to expand surprisingly rapidly, while retaining the ability to differentiate into cells representing all three embryonic germ layers. This new culture system allows for bulk proliferation of pPS cells for commercial production of important products for use in drug screening and human therapy.

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PN - **US2008299091** A1 20081204  
PD - 2008-12-04  
PA - INTERNAT STEM CELL CORP [US]  
IN - REVAZOVA ELENA S [US]; KUZMICHEV LEONID N [RU]; TUROVETS NICKOLAY A [US]; JANUS JEFFREY D [US]  
TI - Patient-specific stem cell lines derived from human parthenogenetic blastocysts  
AB - Methods are disclosed for generating HLA homozygous parthenogenetic human stem cell (hpSC-Hhom) lines from both HLA homozygous and HLA heterozygous donors. These hpSC-Hhom lines demonstrate typical human embryonic stem cell morphology, expressing appropriate stem cell markers and possessing high levels of alkaline phosphatase and telomerase activity. Additionally, injection of these cell lines into immunodeficient animals leads to teratoma formation. Furthermore, in the case of HLA heterozygous donors, the hpSC-Hhom lines inherit the haplotype from only one of the donor's parents. SNP data analysis suggests that hpSC-Hhom lines derived from HLA heterozygous oocyte donors are homozygous throughout the genome as assessed by single-nucleotide polymorphism (SNP) analysis. The protocol as disclosed minimizes the use of animal-derived components, which makes the stem cells more practical for clinical application.

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PN - **US2008293140** A1 20081127  
PD - 2008-11-27  
PA - UNIV EDINBURGH [GB]  
IN - SMITH AUSTIN GERARD [GB]; BURDON THOMAS GRANT [GB]  
TI - PROPAGATION AND/OR DERIVATION OF EMBRYONIC STEM CELLS  
AB - Embryonic stem (ES) cells are cultured in the presence of a compound which selectively inhibits propagation or survival of cells other than ES cells. The ES cells have not been genetically altered. Instead, the compound inhibits a signalling pathway which is essential for propagation of differentiated cells but is not essential for propagation of ES cells-hence ES cells are selectively maintained in the culture.

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PN - **GB2450059** A 20081210  
PD - 2008-12-10  
PA - CELLARTIS AB [SE]  
IN - STREHL RAIMUND [SE]; ELLERSTROEM CATHARINA [SE]; SEMB HENRIK [SE]  
TI - Culture system and method for propagation of human blastocyst-derived stem cells  
AB - The present invention relates to a culture system for and a method for propagation of human blastocyst-derived stem cells (hBS cells) upon enzymatic dissociation into a single cell suspension. The culture system for propagation of human blastocyst-derived stem (hBS) cells comprises i) human feeder cells at a density of at least 50,000 cells/cm<sup>2</sup>, ii) one or more dissociation agents for dissociation of hBS cell colonies into a single cell suspension, and iii) a supportive culture medium, which culture system makes it possible to propagate hBS cells by dissociation of hBS cell colonies into a single cell suspension at each consecutive passage for an extended time period, while maintaining the significant characteristics of hBS cells.

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PN - **GB2449772** A 20081203

PD - 2008-12-03  
PA - STEM CELL SCIENCES [GB]  
IN - KERBY JULIE [GB]; THOMPSON HAZEL [GB]  
TI - Large scale production of stem cells  
AB - Methods for large-scale production of stem cells, including embryonic stem cells, are provided. Also provided are methods for large-scale production of differentiated cells derived from stem cells and use of stem cells or the differentiated progeny thereof in assays.

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**PN** - **US2008286867** A1 20081120  
PD - 2008-11-20  
PA - UNIV BEIJING [CN]  
IN - DENG HONGKUI [CN]; DING MINGXIAO [CN]; SHI YAN [CN]; JIANG WEI [CN]; HOU LINGLING [CN]; TANG FUCHOU [CN]  
TI - Method of Inducing Embryonic Stem Cells Into Pancreatic Cells  
AB - The present invention provided a simple three-step approach based on the combinational induction with activin A, all-trans retinoic acid and, optionally, other maturation factors which are able to induce embryonic stem cells to differentiate into insulin-producing cells. A kit used to induce embryonic stem cells to differentiate into insulin-producing cells was also provided.

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**PN** - **US2008286862** A1 20081120  
PD - 2008-11-20  
IN - LUDWIG TENNEILLE E [US]; THOMSON JAMES A [US]  
TI - Physiochemical Culture Conditions for Embryonic Stem Cells  
AB - Physiochemical parameters to improve the culturing and sub-culturing (here called cloning) of human embryonic stem cells have been investigated. Low levels of oxygen and higher than expected levels of osmolarity in the culture medium have both been found to contribute to the improved culture of human stem cells.

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**PN** - **EP1993575** A2 20081126  
PD - 2008-11-26  
PA - SHROFF GEETA [IN]  
IN - SHROFF GEETA [IN]  
TI - COMPOSITIONS COMPRISING HUMAN EMBRYONIC STEM CELLS AND THEIR DERIVATIVES, METHODS OF USE, AND METHODS OF PREPARATION  
AB - The present invention relates to a pharmaceutical composition comprising of preparations of human embryonic stem (hES) cells and their derivatives and methods for their transplantation into the human body, wherein transplantation results in the clinical reversal of symptoms, cure, stabilization or arrest of degeneration of a wide variety of presently incurable and terminal medical conditions, diseases and disorders. The invention further relates to novel processes of preparing novel stem cell lines which are free of animal products, feeder cells, growth factors, leukaemia inhibitory factor, supplementary mineral combinations, amino acid supplements, vitamin supplements, fibroblast growth factor, membrane associated steel factor, soluble steel factor and conditioned media. This invention further relates to the isolation, culture, maintenance, expansion, differentiation, storage, and preservation of such stem cells.

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**PN** - **EP1994141** A2 20081126  
PD - 2008-11-26  
PA - NOVOCELL INC [US]  
IN - ROBINS ALLAN [US]; SCHULZ THOMAS [US]  
TI - COMPOSITIONS AND METHODS USEFUL FOR CULTURING DIFFERENTIABLE CELLS  
AB - The present invention relates to cell culture methods and compositions that are essentially serum-free and comprise a basal salt nutrient solution and an ErbB3 ligand.

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**PN** - **EP1994144** A1 20081126  
**PD** - 2008-11-26  
**PA** - AGENCY SCIENCE TECH & RES [SG]  
**IN** - CHOO ANDRE [SG]  
**TI** - HUMAN EMBRYONIC STEM CELL METHODS AND PODXL EXPRESSION  
**AB** - A method of identifying an undifferentiated human embryonic stem cell in a sample which may contain such cells, the method comprising identifying the cell or cells within the sample that express podocalyxin-like protein (PODXL) on their surface. A method of isolating an undifferentiated human embryonic stem cell from a sample containing such cells, the method comprising isolating the cell or cells within the sample that express PODXL on their surface. Typically, the methods use an antibody which binds to PODXL. Undifferentiated human embryonic stem cells isolated by the method may be useful in cell therapy. Also, in particular, compositions of cells differentiated from a human embryonic stem cell but which composition has been depleted of undifferentiated human embryonic stem cells are provided which are useful in cell therapy.

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**PN** - **EP1993553** A1 20081126  
**PD** - 2008-11-26  
**PA** - AGENCY SCIENCE TECH & RES [SG]  
**IN** - YU QIANG [SG]; TAN JING [SG]; YANG XIAO JING [SG]  
**TI** - METHODS FOR CANCER THERAPY AND STEM CELL MODULATION  
**AB** - The present invention relates to a method of inducing apoptosis in a tumour cell as well as modulating pluripotency and/or self-renewing characteristics of a stem/progenitor cell. The method comprises administering to the respective cell a compound of general formula (I). In general formula A is C or N. R<1>, R<4> and R<5> are, independently selected, H or aliphatic, cycloaliphatic, aromatic, arylaliphatic, or arylcycloaliphatic hydrocarbyl groups, that comprise 0 - 3 heteroatoms being N, O, S, or Si. R<4> and R<5> may optionally be linked so as to define an aliphatic hydrocarbyl bridge. R<2> is H or a halogen, such as F or Cl. R<3> is H, or an aliphatic or arylaliphatic hydrocarbyl group comprising 1 - 8 main chain carbon atoms and 0 - 3 heteroatoms being N, O, S, Si, or a halogen such as Cl or F. Also provided is a pharmaceutical composition for inducing apoptosis in a tumour cell and/or modulating pluripotency and/or self-renewing characteristics of a stem/progenitor cell. The pharmaceutical composition comprises a compound as defined above or a pharmaceutically acceptable salt thereof and a carrier or diluent.

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**PN** - **US2008280295** A1 20081113  
**PD** - 2008-11-13 IN - SARTIPY PETER [SE]; NOAKSSON KARIN [SE]; ZORIC NEVEN [SE]; KUBISTA MIKAEL [SE]  
**TI** - Use of Panel of Pairs of Primers Complementary to Reporter Genes of Cell Differentiation  
**AB** - The present invention to a panel comprising at least two pairs of primers that are complementary to at least two different reporter genes, the expression of which are i) either up- or down-regulated upon cell differentiation, and ii) display a similar expression profile in at least two different cell lines of the same kind of cells. The cells may be blastocyst-derived stem (BS) cells or human blastocyst-derived stem (hBS) cells. Furthermore, the present invention relates to the use of a calculated expression index for quantifying and evaluating the expression of the reporter genes, which for example can be used for assessing the state of differentiation of a cell population, such as, e.g. a hBS cell population.

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**PN** - **US2008282424** A1 20081113  
**PD** - 2008-11-13  
**PA** - UNIV SOUTH CAROLINA  
**IN** - MARTON LASZLO [US]; CZAKO MIHALY [US]  
**TI** - Method for micropropagation of monocots based on sustained totipotent cell cultures  
**AB** - The present invention provides a method of micropropagating a monocotyledonous plant comprising: (a) cultivating an explant of tissue from a monocotyledonous plant shoot tip on a primary medium, wherein the explant has been pretreated with a cold temperature and the primary

medium comprises auxin or auxin and cytokinin, to produce a totipotent embryogenic cell culture; (b) treating the totipotent embryonic cell culture with a cold temperature; (c) maintaining the totipotent embryogenic cell culture by cultivation on a secondary medium, whereby a totipotent embryogenic cell culture of a monocotyledonous plant is produced and maintained; and (d) transferring the embryogenic cell culture of step (c) to a tertiary medium to continue multiplication and to produce a plantlet with roots and shoots, thereby micropropagating a monocotyledonous plant. The micropropagation techniques described herein provide plants for such purposes as development of elite plant lines, phytoremediation and biomass production.

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**PN** - **EP1991666** A2 20081119  
**PD** - 2008-11-19PA - MORAGA BIOTECH CORP [US]  
**IN** - YOUNG HENRY [US]; BLACK ASA [US]  
**TI** - NON-EMBRYONIC TOTIPOTENT BLASTOMERE-LIKE STEM CELLS AND METHODS THEREFOR  
**AB** - Human non-embryonic adult totipotent and pluripotent stem cells are isolated in a simplified serum-free and feeder cell-free process. Most remarkably, certain stem cells, and especially BLSCs, are extremely small, fail to exclude trypan blue, but are nevertheless able to proliferate from even high dilutions. Therefore, so obtained stem cells can be used to prepare true monoclonal stem cell populations, which are useful in numerous uses, including therapeutic, prophylactic, diagnostic, and research uses.

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**PN** - **US2008274125** A1 20081106  
**PD** - 2008-11-06  
**PA** - VIVALIS [FR]  
**IN** - GUEHENNEUX FABIENNE [FR]  
**TI** - Human Stem Cell Lines Derived From Es Cells and Uses for Production of Vaccines and Recombinant Proteins  
**AB** - The present invention concerns the field of biology and virology. In particular, the invention concerns a method for obtaining human cell lines, in particular human stem cells derived from human embryonic stem cells, the method comprising separation from the serum, the feeder layer and at least one growth factor. The cell lines are capable of proliferating indefinitely in a basic culture medium. The invention also concerns the use of the cells derived from such cell lines for virus replication, and more particularly for producing human or veterinary vaccines, as well as for producing recombinant proteins of therapeutic interest.

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**PN** - **US2008274087** A1 20081106  
**PD** - 2008-11-06  
**PA** - ACADEMIA SINICA  
**IN** - LI HUNG [TW]; SHYU WOEI-CHERNG [TW]; DING DAH-CHING [TW]; LIN SHIN-ZONG [TW]  
**TI** - BRAIN TISSUE DAMAGE THERAPIES  
**AB** - A cultured pluripotent animal cell that is CD13+, CD90+, and CD117-. Also disclosed are methods for making the cell and methods of treating a brain tissue damage and increasing the expression level of a neurotrophic factor in a subject.

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**PN** - **US2008274446** A1 20081106  
**PD** - 2008-11-06  
**PA** - UNIV GEORGIA [US]  
**IN** - STICE STEVEN [US]; MACHACEK DAVID [US]  
**TI** - Cryopreserved human neuronal cultures  
**AB** - Cryopreserved cultures of post-mitotic neuronal or neural-like cells are provided having a viability after thaw of greater than 10%, typically greater than 50%. Once thawed, the cells are capable of further differentiation. In one embodiment, less than 20% of the cryopreserved cells

are self-proliferating cells. The cells can be provided in a kit including a container of the cryopreserved neuronal or neural-like cells, optionally including additional cell culture reagents and materials. Method for preparing the cryopreserved neuronal or neural-like cells derived from embryonic stem cells, preferably human embryonic stem cells, are also provided.

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**PN** - **US2008274548** A1 20081106  
**PD** - 2008-11-06  
**PA** - MCLEAN HOSPITAL CORP  
**IN** - ISACSON OLE [US]; BJORKLUND LARS [SE]  
**TI** - DOPOMINERGIC NEURONS DIFFERENTIATED FROM EMBRYONIC CELLS FOR TREATING NEURODEGENERATIVE DISEASES  
**AB** - Disclosed herein are methods for generating dopaminergic neurons in vitro by inhibiting a pathway component of a TGF-beta signaling pathway and overexpressing one or more cell fate-inducing polypeptides in pluripotent cells, causing differentiation of the pluripotent cells into dopaminergic neurons. Also disclosed are methods for treating a neurodegenerative disease in a patient by generating dopaminergic neurons in vitro, and transplanting them into the brain of the patient, such that the dopaminergic neurons are sufficient to reduce or eliminate the symptoms of the neurodegenerative disease.

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**PN** - **GB2449042** A 20081105  
**PD** - 2008-11-05  
**PA** - WISCONSIN ALUMNI RES FOUND [US]; THOMAS JAMES A [US]; GUMENYUK MARYNA E [US]  
**IN** - SLUKVIN IGOR I [US]; THOMAS JAMES A [US]; GUMENYUK MARYNA E [US]; VODYANYK MAKSYM A [US]  
**TI** - Erythroid cells producing adult-type b-hemoglobin generated from human embryonic stem cells  
**AB** - Methods and compositions of erythroid cells that produce adult b -hemoglobin, generated by culturing CD31+, CD31+/CD34+ or CD34+ cells from embryonic stem cells under serum-free culture conditions.

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**PN** - **GB2449001** A 20081105  
**PD** - 2008-11-05  
**PA** - STEM CELL SCIENCES [AU]  
**IN** - BELLO PAUL [AU]; JOHNSON JAQUI [AU]  
**TI** - Assay for cell culture media and medium supplements  
**AB** - Assays are provided for assessing the suitability of cell culture media and medium supplements for the culture of particular cell types, particularly stem cells, including embryonic stem cells.

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**PN** - **EP1987136** A2 20081105  
**PD** - 2008-11-05  
**PA** - BURNHAM INST FOR MEDICAL RES [US]  
**IN** - LIPTON STUART [US]; TERSKIKH ALEXEY [US]  
**TI** - MEDIA CONDITIONED BY HUMAN EMBRYONIC STEM CELLS OR OTHER PROGENITOR CELLS AND USES THEREFOR  
**AB** - Compositions for application to the skin of individuals in need thereof are provided that include media conditioned by the growth of human embryonic stem cells.

## **INDUCED EMBRYONIC STEM CELLS/ DEDIFFERENTIATION OF CELLS -5 documents**

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**PN** - **US2008293143** A1 20081127  
**PD** - 2008-11-27  
**IN** - LIN SHI-LUNG [US]; YING SHAO-YAO [US]; WU DAVID TS [TW]  
**TI** - Generation of human embryonic stem-like cells using intronic RNA  
**AB** - This invention generally relates to a method for developing, generating and selecting human embryonic stem (hES)-like pluripotent cells using transgenic expression of intronic microRNA-like RNA agents. More particularly, the present invention relates to a method and composition for generating a non-naturally occurring intron and its intronic components capable of being processed into mir-302-like RNA molecules in mammalian cells and thus inducing certain specific gene silencing effects on differentiation-related and fate-determinant genes of the cells, resulting in reprogramming the cells into a pluripotent embryonic stem (ES)-cell-like state. The ES-like cells so obtained are strongly express hES cell markers, such as Oct3/4, SSEA-3 and SSEA-4, and can be guided into various tissue cell types by treating certain hormones and/or growth factors under a feeder-free cell culture condition in vitro, which may be used for transplantation and gene therapies. Therefore, the present invention offers a simple, effective and safe gene manipulation approach for not only reprogramming somatic cells into ES-like pluripotent cells but also facilitating the maintenance of pluripotent and renewal properties of ES cells under a feeder-free cell culture condition, preventing the tedious retroviral insertion of four large transcription factor genes into one single cell as used in the previous iPS methods.

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**PN** - **US2008280362** A1 20081113  
**PD** - 2008-11-13  
**IN** - JAENISCH RUDOLF [US]; HOCHEDLINGER KONRAD [US]  
**TI** - Methods for reprogramming somatic cells  
**AB** - The invention provides methods for reprogramming somatic cells to generate multipotent or pluripotent cells. Such methods are useful for a variety of purposes, including treating or preventing a medical condition in an individual. The invention further provides methods for identifying an agent that reprograms somatic cells to a less differentiated state.

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**PN** - **EP1991665** A2 20081119  
**PD** - 2008-11-19  
**PA** - TESLAB S R L [IT]  
**IN** - LAINO GREGORIO [IT]; PAPACCIO GIANPAOLO [IT]; DE ROSA ALFREDO [IT]; D AQUINO RICCARDO [IT]; GRAZIANO ANTONIO [IT]  
**TI** - COLLECTION AND SELECTION METHODS OF AN EMBRYONIC- LIKE STEM CELL POPULATION FROM HUMAN ADULT PERIODONTAL FOLLICULAR TISSUES  
**AB** - Methods for the isolation, expansion and storage of a population of stem cells belonging to human dental follicles, called FENC (Follicle-derived Embryonic Neural Crest stem cells,) including: a) Collection of the follicular sack in sterile conditions, digestion and primary culture growth and expansion; b) Optional amplification; c) FACsorting.

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**PN** - **EP1987148** A1 20081105  
**PD** - 2008-11-05  
**PA** - IMGEN CO LTD [KR]  
**IN** - YOU SEUNGKWON [KR]; MOON JAI HEE [KR]; YOON BYUNG SUN [KR]; YOO SEUNG JUN [KR]; KIM KI DONG [KR]; MAENG ISAAC [KR]; PARK GYUMAN [KR]; JUN EUN KYUNG [KR]; KWAK SUNG SIK [KR]; KIM BONA [KR]  
**TI** - DE-DIFFERENTIATION OF ASTROCYTES INTO NEURAL STEM CELL USING BMI-1  
**AB** - Disclosed are a composition and a method for inducing the de-differentiation of astrocytes into neural stem cells using Bmi-1. The de-differentiated neural stem cells have the ability to differentiate into astrocytes,

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**PN** - **EP1987143** A1 20081105  
**PD** - 2008-11-05  
**PA** - IMGEN CO LTD [KR]  
**IN** - YOU SEUNGKWON [KR]; MOON JAI HEE [KR]; YOON BYUNG SUN [KR]; KIM KI DONG [KR]; PARK GYUMAN [KR]; JUN EUN KYUNG [KR]; KIM BONA [KR]; YOO SEUNG JUN [KR]; KWAK SUNG SIK [KR]; MAENG ISSAC [KR]  
**TI** - DE-DIFFERENTIATION OF ASTROCYTES INTO NEURAL STEM CELL USING NANOG  
**AB** - Disclosed are a composition and a method for inducing the de-differentiation of astrocytes into neural stem cells using Nanog. The de-differentiated neural stem cells have the ability to differentiate into astrocytes, neurons, or oligodendrocytes

### GRANTED PATENTS- PUBLISHED "B" SPECS

#### ADULT STEM CELLS- 10 documents

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GRANTED – 2008-11-04

**PNFP** - **US7445931** B2 20081104  
**PA** - (B2)  
**BRESAGEN INC [US]; MED COLLEGE GEORGIA RES INST [US]**  
**IN** - CONDIE BRIAN G [US]; BIEBERICH ERHARD [US]  
**TI** - Compositions and methods for enrichment of neural stem cells using ceramide analogs  
**AB** - The present invention provides compositions and methods for human neural cell production. More particularly, the present invention provides cellular differentiation methods employing amphiphilic lipid compounds, preferably ceramide analogs of the beta-hydroxyalkylamine type and optionally employing an essentially serum free MEDII conditioned medium for the generation of human neural cells from pluripotent human cells. The methods alternatively comprise modulating apoptosis by modifying the levels of PAR-4, with or without the presence of amphiphilic lipid compounds and optionally employing MEDII conditioned medium. The methods alternatively encompass modulating apoptosis by modulating the intracellular concentration of endogenous lipid second messengers, such as ceramide.

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GRANTED – 2008-11-18

**PNFP** - **US7452662** B2 20081118  
**PA** - HEMA QUEBEC [CA]  
**IN** - DUPUIS NICOLAS [CA]; PROULX CHANTAL [CA]  
**TI** - Method of expanding and differentiating cord blood cells by hyperthermic incubation  
**AB** - Based on previous evidence suggesting positive effects of fever on in vivo hematopoiesis, the effect of hyperthermia on the expansion and differentiation of megakaryocytes (MKs) in ex vivo cultures of CB CD34-enriched cells has now been tested. Cells were cultured at 37 DEG C. or 39 DEG C. for 14 days in cytokine conditions optimized for MK development, and analyzed periodically by microscopy, flow cytometry and colony assays. Compared to 37 DEG C., cultures maintained at 39 DEG C. produced much more total cells (5X), MK progenitors (9X) and total MKs (7X), and showed accelerated (3-4 days) and enhanced MK maturation with increased yields of proplatelets and platelets (11.7X). The increased number of CD34+ cells and myeloid progenitors in the 39 DEG C. cultures also suggested a general stimulatory effect of hyperthermia on the expansion of more primitive stem/progenitor cells and of cells of other lineages.

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GRANTED - 2008-11-18

**PNFP** - **US7452532** B2 20081118

PA - SCICOTEC GMBH [DE]  
IN - ALT ECKHARD [DE]  
TI - Transluminal application of adult stem cells for body organ tissue repair  
AB - A method for repairing tissue of a selected organ from among heart, brain, liver, pancreas, kidney, glands, and muscles in a patient's body. Adult stem cells that have the capability to repair tissue of the selected organ are recovered by harvesting from the patient's body. The harvested stem cells are then intraluminally applied through a designated natural body vessel. During the time the stem cells are being applied to the targeted tissue downstream, the designated vessel or duct is selectively occluded to increase concentration and pressure of the applied adult stem cells by the vessel.

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GRANTED 2008-11-04

**PNFP - US7445798** B2 20081104

PA - UNIV PRINCETON [US]

IN - LEMISCHKA IHOR R [US]

TI - Populations of cells that express FLK-1 receptors

AB - Isolated mammalian nucleic acid molecules encoding receptor protein tyrosine kinases expressed in primitive hematopoietic cells and not expressed in mature hematopoietic cells are provided. Also included are the receptors encoded by such nucleic acid molecules; the nucleic acid molecules encoding receptor protein tyrosine kinases having the sequences shown in FIG. 1a (murine flk-2), FIG. 1b (human flk-2) and FIG. 2 (murine flk-1); the receptor protein tyrosine kinases having the amino acid sequences shown in FIG. 1a, FIG. 1b and FIG. 2; ligands for the receptors; nucleic acid sequences that encode the ligands; and methods of stimulating the proliferation and/or differentiation of primitive mammalian hematopoietic stem cells comprising contacting the stem cells with a ligand that binds to a receptor protein tyrosine kinase expressed in primitive mammalian hematopoietic cells and not expressed in mature hematopoietic cells.

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GRANTED – 2008-11-25

**PNFP - US7456017** B2 20081125

OPD - 1999-10-01

PA - UNIV NORTH CAROLINA [US]

IN - KUBOTA HIROSHI [US]; REID LOLA M [US]

TI - Processes for clonal growth of hepatic progenitor cells

AB - A method of propagating mammalian endodermally derived progenitors such as hepatic progenitors, their progeny, or mixtures thereof is developed which includes culturing mammalian progenitors, their progeny, or mixtures thereof on a layer of embryonic mammalian feeder cells in a culture medium. The culture medium can be supplemented with one or more hormones and other growth agents. These hormones and other growth agents can include insulin, dexamethasone, transferrin, nicotinamide, serum albumin, beta-mercaptoethanol, free fatty acid, glutamine, CUSO<sub>4</sub>, and H<sub>2</sub>SeO<sub>3</sub>. The culture medium can also include antibiotics. Importantly, the culture medium does not include serum. The invention includes means of inducing the differentiation of the progenitors to their adult fates such as the differentiation of hepatic progenitor cells to hepatocytes or biliary cells by adding, or excluding epidermal growth factor, respectively. The method of producing mammalian progenitors is useful in that the progenitors can be used subsequently in one or more of the following processes: identification of growth and differentiation factors, toxicological studies, drug development, antimicrobial studies, or the preparation of an extracorporeal organ such as a bioartificial liver.

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GRANTED – 2008-11-12

**PNFP - EP1206525** B1 20081112

PA - CHEN-BETTECKEN UNA [DE]

IN - CHEN-BETTECKEN UNA [DE]

TI - METHOD FOR GROWING STEM CELLS

AB - A method for growing stem cells comprising the steps of: providing stem cells with supporters said supporters being genetically modified in order to provide externally regulatable interactions between the supporters and the stem cells; supporters and stem cells are interchangeable upon genetic modification and interaction; applying an external signal for starting or

stopping the interactions.

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GRANTED – 2008-11-12

**PNFP** - **EP1147179** B1 20081112

PA - UNIV NORTH CAROLINA [US]

IN - REID LOLA M [US]; KUBOTA HIROSHI [US]; MOSS NICHOLAS [US]

TI - HUMAN LIVER PROGENITORS

AB - Methods of isolating and cryopreserving progenitors from human liver are disclosed which include processing human liver tissue to provide a substantially single cell suspension comprising progenitors and non-progenitors of one or more cell lineages found in human liver; subjecting the suspension to a debulking step, which reduces substantially the number of non-progenitors in the suspension, and which provides a debulked suspension enriched in progenitors exhibiting one or more markers associated with at least one of the one or more cell lineages; and selecting from said debulked suspension those cells, which themselves, their progeny, or more mature forms thereof express one or more markers associated with at least one of the one or more cell lineages. Among these markers are CD14, CD34, CD38, CD45, and ICAM. Hepatic progenitors are characterized as being 6-15  $\mu$  in diameter, diploid, glycophorin A<->, CD45<->, AFP<+++>, ALB<+>, ICAM<+> and with subpopulations varying in expression of CD 14<+>, CD34<+++>, CD38<+++>, CD117<+>. These progenitor subpopulations have characteristics expected for cells that are particularly useful in liver cell and gene therapies and for establishing bioartificial organs.

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GRANTED – 2008-11-19

**PNFP** - **EP1137798** B1 20081119

PA - UNIV DUKE [US]

IN - SMITH CLAYTON A [US]; COLVIN MICHAEL [US]; STORMS ROBERT W [US]; LUDEMAN SUSAN M [US]

TI - A METHOD OF ISOLATING STEM CELLS

AB - The present invention relates, in general, to stem cells, and in particular, to a method of isolating stem cells and to reagents suitable for use in such a method. The invention further relates to stem cell populations isolatable in accordance with the present method.

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GRANTED – 2008-11-19

**PNFP** - **EP1604674** B1 20081119

PA - UNIV PITTSBURGH [US]

IN - CHANCELLOR MICHAEL B [US]; HUARD JOHNNY [US]

TI - Use of myoblasts in the manufacture of a medicament for treating stress urinary incontinence

AB - The present invention provides the use of muscle-derived myoblasts for the manufacture of a medicament for ameliorating stress urinary incontinence

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GRANTED – 2008-12-02

**PNFP** - **US7459600** B2 20081202

PA - UNIV EDINBURGH [GB]

IN - SMITH AUSTIN GERARD [GB]; MOUNTFORD PETER SCOTT [AU]

TI - ISOLATION, SELECTION AND PROPAGATION OF ANIMAL TRANSGENIC STEM CELLS

AB - Animal stem cells are obtained and maintained by culturing cells containing, in the genome, a selectable marker. Differential expression of the selectable marker enables preferential survival and/or division of the desired stem cells compared to the non-stem cells.

### **EMBRYONIC STEM CELLS- 6 documents**

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GRANTED – 2008-12-17

**PNFP** - **GB2429718** B 20081217  
PA - ES CELL INT PTE LTD [SG]  
IN - MUMMERY CHRISTINE LINDSAY [NL]; PASSIER ROBERT [NL]  
TI - Improved cardiomyocyte differentiation  
AB - The present invention provides a method of enhancing the efficiency of differentiation of hES cells into cardiomyocytes which method comprises incubating the cells under serum free conditions. The method typically includes providing cells that induce cardiomyocyte differentiation by cell to cell contact. Differentiation to cardiomyocytes can occur via two routes, namely by spontaneous differentiation and by induced differentiation. Without wishing to be bound by theory, the present inventors hypothesise that, in the case of induced differentiation, END-2 cells, for instance, are needed for aggregation to cause local high cell densities and in inducing differentiation of nascent mesoderm. This second step could be enhanced in any human embryonic stem cell line leading to the prediction that it will work in lines other than hES. In cell lines that undergo spontaneous differentiation, it is hypothesised that local induction of embryoid bodies in endoderm occurs. Typically for induced differentiation this method will also comprise culturing the hES cell with a cell secreting at least one cardiomyocyte differentiation inducing factor or with an extracellular medium therefrom, under conditions that induce differentiation.

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GRANTED – 2008-12-17

**PNFP** - **GB2429211** B 20081217  
PA - WICELL RES INST INC [US]  
IN - XU REN-HE [US]; THOMSON JAMES A [US]  
TI - Feeder independent extended culture of embryonic stem cells  
AB - Previous methods for culturing human embryonic stem cells have required either fibroblast feeder cells or a medium which has been exposed to fibroblast feeder cells in order to maintain the stem cells in an undifferentiated state. It has now been found that if an antagonist of bone morphogenic protein is added to the medium in which the stem cells are cultured, together with fibroblast growth factor, the stem cells will remain undifferentiated indefinitely, even without feeder cells or conditioned medium.

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GRANTED – 2008-11-05

**PNFP** - **GB2425129** B 20081105  
PA - AXORDIA LTD [GB]  
IN - MOORE HARRY [GB]; GERKOWITZ PAUL [GB]; HARUN ROSLIAH [GB]  
TI - Cytotrophoblast stem cell  
AB - Cytotrophoblast stem cells which express HLA-G and HLA class I antigens have been isolated. Preferably, human cytotrophoblast stem cells are derived from human embryonic stem cells, by culturing embryoid bodies and enriching for embryoid bodies expressing high levels of chorionic gonadotrophin. Human cytotrophoblast stem cells may also be isolated by enriching for cytotrophoblast stem cells that express HLA-G and HLA class I antigen. The isolated cytotrophoblast stem cells may be used for tissue engineering, the modulation of tissue rejection in transplantation therapy, the identification of genes associated with cytotrophoblast stem cell differentiation, the preparation of a library of cytotrophoblast stem cell specific gene products, methods of screening agents that modulate the angiogenic effects of endothelial cells, and the production of mixed cell compositions or chimeric cells.

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GRANTED 2008-11-18

**PNFP** - **US7452718** B2 20081118  
PA - GERON CORP [US]  
IN - GOLD JOSEPH D [US]; HASSANIPOUR MOHAMMAD [US]; COLLINS LILA R [US]; XU CHUNHUI [US]  
TI - Direct differentiation method for making cardiomyocytes from human embryonic stem cells  
AB - This invention provides a new procedure for generating cardiomyocyte lineage cells from embryonic stem cells for use in regenerative medicine. Differentiating by way of embryoid body formation or in serum is no longer required. Instead, the stem cells are plated onto a solid substrate,

and differentiated in the presence of select factors and morphogens. After enrichment for cells with the appropriate phenotype, the cells are allowed to cluster into cardiac bodies(TM), which are remarkably homogeneous and suitable for the treatment of heart disease.

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GRANTED – 2008-11-11

**PNFP** - **US7449334** B2 20081111

PA - WISCONSIN ALUMNI RES FOUND [US]

IN - THOMSON JAMES A [US]; LUDWIG TENNEILLE [US]

TI - Medium containing pipecholic acid and gamma amino butyric acid and culture of embryonic stem cells

AB - Previous methods for culturing human embryonic stem cells have required either fibroblast feeder cells or a medium which has been exposed to fibroblast feeder cells in order to maintain the stem cells in an undifferentiated state. It has now been found that if high levels of fibroblast growth factor, gamma amino butyric acid, pipecholic acid, lithium and transforming growth factor beta are added to the medium in which the stem cells are cultured, the stem cells will remain undifferentiated indefinitely through multiple passages, even without feeder cells or conditioned medium.

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GRANTED – 2008-11-25

**PNFP** - **US7455983 B2** 20081125

PA - GERON CORP [US]

IN - XU CHUNHUI [US]; LI YAN [US]; MANDALAM RAMKUMAR [US]

TI - Medium for growing human embryonic stem cells

AB - This disclosure provides an improved system for culturing human pluripotent stem cells. Traditionally, pluripotent stem cells are cultured on a layer of mouse embryonic fibroblast feeder cells to prevent them from differentiating. In the system described here, the role of feeder cells is replaced by defined components added to the culture environment that support rapid proliferation without differentiation. The medium contains an isotonic buffer, a blend of essential nutrients such as protein and lipids, and an effective growth factor or combination of factors that promote proliferation while inhibiting differentiation. Culturing human embryonic stem cells in fresh medium on an extracellular matrix according to this invention causes the cells to expand surprisingly rapidly, while retaining the ability to differentiate into cells representing all three embryonic germ layers. This new culture system allows for bulk proliferation of pPS cells for commercial production of important products for use in drug screening and human therapy.

**INDUCED EMBRYONIC STEM CELLS/ DEDIFFERENTIATION OF CELLS - 0 documents**