

**Key to fields:**

**PN/ PNFP: Publication Number**

**PD : Publication Date**

**PA: Patent Assignee**

**IN: Inventor**

**TI: Title**

**AB: Abstract**

**GRANTED: Date "B" specification published**

**RESULTS FOR NOVEMBER 2009-31<sup>st</sup> DECEMBER 2009**

**PUBLISHED "A" SPECS**

**ADULT STEM CELLS- 132 Documents**

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PN - US2009324555 A1 20091231  
PD - 2009-12-31  
PA - STIFTUNG CAESAR [DE]  
IN - THIE MICHAEL [DE]; DEGISTIRICI OEZER [DE]  
TI - Neural Stem Cells  
AB - Subject of the invention is a method for generating neural stem cells in vitro, wherein dental progenitor cells are isolated from soft tissue of tooth or wisdom tooth and cultivated until they form primary spheres which are then dissociated into single cells. These single cells are cultivated until they form spheroids and the spheroid-forming cells are separated to obtain neural stem cells.

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PN - US2009324561 A1 20091231  
PD - 2009-12-31  
PA - SANBIO INC  
IN - DEZAWA MARI [JP]  
TI - Cells exhibiting neuronal progenitor cell characteristics and methods of making them  
AB - Disclosed are cells exhibiting neuronal progenitor cell characteristics, and methods of making them from marrow adherent stem cells by regulating cellular pathways in the marrow adherent stem cells that are associated with glial transdifferentiation of the marrow adherent stem cells.

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PN - US2009325289 A1 20091231  
PD - 2009-12-31  
PA - CENTRE NAT RECH SCIENT [FR]  
IN - HATZFELD JACQUES ALEXANDRE [FR]; HATZFELD ANTOINETTE [FR]  
TI - PROCESS FOR THE MULTIPLICATION OF STEM CELLS  
AB - The use of a cellular development inhibitor in a controlled manner in order to maintain an undifferentiated stem cell state, especially one of human stem cells, whereby cell division is permitted.

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PN - US2009324583 A1 20091231  
PD - 2009-12-31  
PA - UNIV EWHA IND COLLABORATION [KR]

IN - GIL-JA JHON [KR]; JIN-KYUNG LIMB [KR]; SO-YEOP HAN [KR]  
TI - METHODS FOR INDUCING THE DIFFERENTIATION OF HEMATOPOIETIC STEM CELLS INTO MEGAKARYOCYTES AND PLATELETS, AND GENE CONTROLLING THE DIFFERENTIATION

AB - The present invention relates to a method for inducing the differentiation of CD34+ hematopoietic stem cells into megakaryocytes and platelets, more particularly, a method for inducing the differentiation of CD34+ hematopoietic stem cells into megakaryocytes and platelets comprising the steps of coculturing CD34+ hematopoietic stem cells with stromal cells and adding the compound of Formula 1. Further, the present invention relates to a composition for detecting the differentiation of hematopoietic stem cells into megakaryocytes and platelets, comprising an agent measuring expression level of a gene that is selected from the group consisting of KLF2 (Kruppel-like factor2), LOC138255 (OTTHUMP00000021439), GDF15 (growth differentiation factor 15) and INHBE (inhibin, betaE), a kit comprising the composition, a method for detecting the differentiation into megakaryocytes and platelets by using the marker genes, a method for regulating the differentiation into megakaryocytes and platelets, and a method for screening a candidate compound that regulates the differentiation into megakaryocytes and platelets.

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PN - US2009324618 A1 20091231  
PD - 2009-12-31  
IN - ARMSTRONG SCOTT A [US]; KRIVTSOV ANDREI V [US]  
TI - NOVEL SIGNATURE SELF RENEWAL GENE EXPRESSION PROGRAMS  
AB - The present invention relates to compounds and methods which are useful in molecular investigations of target genes, as well as their encoded RNAs and protein, belonging to signature self renewal programs in leukemia and/or cancer stem cells. Data herein shows that leukemia stem cells can be generated from committed progenitors without widespread reprogramming of gene expression, and wherein a leukemia self-renewal associated signature is activated in the process.

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PN - US2009324609 A1 20091231  
PD - 2009-12-31  
PA - GENZYME CORP [US]  
IN - LODIE TRACEY [US]; YOUD MICHELE [US]; TUBO ROSS [US]; EISENBEIS SCOTT [US]  
TI - METHOD OF TREATING AUTOIMMUNE DISEASE WITH MESENCHYMAL STEM CELLS  
AB - Methods and compositions for treating an autoimmune disease, such as new onset type 1 diabetes (T1D) in a subject using autologous or allogeneic mesenchymal stem cells administered to the subject prior to autoimmune-induced complete depletion of insulin-producing pancreatic beta cells, e.g., within six months of new onset type 1 diabetes (T1D) diagnosis or prior to the onset of disease in a subject determined to be at high risk for T1D.

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PN - WO2009157562 A1 20091230  
PD - 2009-12-30  
PA - NAT INST OF ADVANCED IND SCIEN [JP]; KUWABARA TOMOKO [JP]; ASASHIMA MAKOTO [JP]  
IN - KUWABARA TOMOKO [JP]; ASASHIMA MAKOTO [JP]  
TI - METHOD FOR ESTABLISHMENT OF ADULT PANCREATIC STEM CELL, AND METHOD FOR DIFFERENTIATION OF ADULT PANCREATIC STEM CELL  
AB - Disclosed are: a method for establishing an adult pancreatic stem cell; and a method for differentiating an adult pancreatic stem cell. Specifically disclosed are: a method for establishing an adult pancreatic stem cell by applying an establishment technique principally used for an adult neural stem cell; and a method for differentiating an adult pancreatic stem cell into a pancreatic cell by using an inducer for the differentiation into a neural cell. Further disclosed is a pancreatic cell

regeneration therapy kit using the adult pancreatic stem cell in combination with a neural cell differentiation inducer, particularly a nerve regeneration therapy kit using an insulin-producing ss progenitor cell in combination with a neural cell differentiation inducer.

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PN - WO2009157559 A1 20091230  
PD - 2009-12-30  
PA - NAT INST OF ADVANCED IND SCIEN [JP]; KUWABARA TOMOKO [JP]; ASASHIMA MAKOTO [JP]  
IN - KUWABARA TOMOKO [JP]; ASASHIMA MAKOTO [JP]  
TI - PANCREATIC CELL REGENERATION/TRANSPLANTATION KIT FOR PANCREATIC DISEASES OR DIABETES  
AB - Disclosed is a pancreatic cell regeneration/transplantation kit for the regenerative therapy for various pancreatic diseases including diabetes, which comprises an adult neural stem cell and optionally a neuronal differentiation inducer. Also disclosed is a pancreas regeneration therapy method using the transplantation kit.

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PN - WO2009156411 A1 20091230  
PD - 2009-12-30  
PA - UNIV HENRI POINCARÉ NANCY 1 [FR]; MENU PATRICK [FR]; BERTHELEMY NICOLAS [FR]; KERDJOU DJ HALIMA-ASSIA [FR]; STOLTZ JEAN-FRANCOIS [FR]  
IN - MENU PATRICK [FR]; BERTHELEMY NICOLAS [FR]; KERDJOU DJ HALIMA-ASSIA [FR]; STOLTZ JEAN-FRANCOIS [FR]  
TI - CELLULAR DIFFERENTIATION PROCESS AND ITS USE FOR BLOOD VESSEL BUILD-UP  
AB - The present invention relates to the use of specific oxygen concentrations for implementing a process of differentiation of stem, provided that said stem cells are not human embryonic stem cells, and seeded on a support, in an appropriate culture medium, wherein said differentiation leads to: -either a first group of specialized differentiated cells under normoxic conditions, and in an appropriate culture medium, -or a second group of specialized differentiated cells under hypoxic conditions, in a culture medium of the same nature as the one used for obtaining the first group of specialized differentiated cells, said first and second groups of specialized differentiated cells retaining the functional properties of the corresponding specialized differentiated cells respectively obtained through a biological natural process.

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PN - WO2009155777 A1 20091230  
PD - 2009-12-30  
PA - TIANJIN CHASESUN PHARMACEUTICA [CN]; XIAO BAOGUO [CN]; DING JING [CN]; LU CHUANZHEN [CN]; YAO XIAOQING [CN]; SUN CHANGHAI [CN]  
IN - XIAO BAOGUO [CN]; DING JING [CN]; LU CHUANZHEN [CN]; YAO XIAOQING [CN]; SUN CHANGHAI [CN]  
TI - THE USE AND METHOD OF THE COMPOUND OF FASUDIL AND THE PHARMACEUTICAL COMPOSITION THEREOF  
AB - A new use of fasudil in inducing the regeneration of adult brain neural stem cells and/or protecting the neurological functions, and in preventing and/or treating diseases related to damages and/or death of neuron. The use of fasudil in the present invention includes the use in manufacturing medicaments for inducing the regeneration of adult brain neural stem cells and/or protecting the neurological functions. Moreover, the use of fasudil in manufacturing medicaments for preventing and/or treating diseases related to damages and/or death of neuron.

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PN - WO2009155369 A1 20091223  
PD - 2009-12-23

PA - UNIV LELAND STANFORD JUNIOR [US]; DEISSEROTH KARL [US]; STROH ALBRECHT [US]; SCHNEIDER M BRET [US]; AIRAN RAAG D [US]  
IN - DEISSEROTH KARL [US]; STROH ALBRECHT [US]; SCHNEIDER M BRET [US]; AIRAN RAAG D [US]  
TI - APPARATUS AND METHODS FOR CONTROLLING CELLULAR DEVELOPMENT  
AB - According to one aspect and example, a method for facilitating cellular interactions in biological tissue provides controllable activation of a selected type of stem cell among a plurality of cell types present in the tissue. The method includes various steps including the introduction of a microbial opsin into a region of the tissue that includes a selected type of stem cell, by expressing the microbial opsin in the stem cell. A light source is then introduced near the stem cell, and the light source is used to controllably activate the light source to direct pulses of illumination from the light source to the selected type of stem cell, for selectively controlling the growth and development of the stem cell in a manner that is independent of the growth and development of the other types of cells.

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PN - WO2009155334 A1 20091223  
PD - 2009-12-23  
PA - ESCAPE THERAPEUTICS INC [US]; HANTASH BASIL M [US]  
IN - HANTASH BASIL M [US]  
TI - DIFFERENTIATION OF MESENCHYMAL STEM CELLS INTO FIBROBLASTS, COMPOSITIONS COMPRISING MESENCHYMAL STEM CELL-DERIVED FIBROBLASTS, AND METHODS OF USING THE SAME  
AB - Methods and compositions are provided for the differentiation and characterization of mammalian fibroblast from mesenchymal stem cells. The methods of the invention provide a means to obtain mesenchymal stem cell-derived fibroblast populations, e.g., seeded on a scaffold, which may be used in wound healing.

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PN - WO2009155301 A2 20091223  
PD - 2009-12-23  
PA - MCLEAN HOSPITAL CORP [US]; ISACSON OLE [US]; PRUSZAK JAN [US]  
IN - ISACSON OLE [US]; PRUSZAK JAN [US]  
TI - MULTIPOTENT NEURAL CELLS  
AB - The inventions disclosed herein are based on the identification of novel cell populations derived from human embryonic stem cells and other pluripotent cells. The inventive cell populations may be used for cell therapies for the treatment of various neurological diseases and as substrates in pharmacological assays.

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PN - WO2009155041 A2 20091223  
PD - 2009-12-23  
PA - CHILDRENS MEDICAL CENTER [US]; GEN HOSPITAL CORP [US]; BETH ISRAEL HOSPITAL [US]; BRIGHAM & WOMENS HOSPITAL [US]; ZON LEONARD I [US]; NORTH TRISTA E [US]; GOESSLING WOLFRAM [US]  
IN - ZON LEONARD I [US]; GOESSLING WOLFRAM [US]  
TI - METHOD TO MODULATE HEMATOPOIETIC STEM CELL GROWTH  
AB - Described herein are methods, compositions and kits related to manipulating hematopoietic stem cells (HSC) and more particularly to methods, compositions and kits related to increasing the number of hematopoietic stem cells in vitro, ex vivo and/or in vivo. Also described are methods, compositions and kits related to making an expanded population of HSC and methods, compositions and kits related to using the expanded population of HSC. For example, HSC growth may be enhanced by contacting the nascent stem cells or HSC with an agent that stimulates the nitric oxide signaling pathway.

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PN - WO2009154860 A2 20091223  
PD - 2009-12-23  
PA - US OF AMERICA AS REPRESENTED B [US]; STRIZZI LUIGI [US]; BIANCO CATERINA [US]; SALOMON DAVID [US]  
IN - STRIZZI LUIGI [US]; BIANCO CATERINA [US]; SALOMON DAVID [US]  
TI - CRIPTO-1 AS A BIOMARKER FOR CARDIAC HYPOXIA  
AB - The invention provides use of a probe that binds to Cripto-1 or mRNA encoding Cripto-1, wherein the probe and sample are brought into contact, and wherein detection of overexpression of Cripto-1 by the probe indicates cardiac hypoxia in the sample. The invention also provides a method for detecting cardiac hypoxia in a mammal comprising detecting overexpression of Cripto-1 in the mammal, wherein overexpression of Cripto-1 is indicative of cardiac hypoxia, and a method of monitoring stem cell activity in damaged myocardial tissue of a mammal comprising monitoring Cripto-1 expression in the mammal, wherein increased expression of Cripto-1 is indicative of increased stem cell activity, as well as related kits and arrays.

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PN - WO2009154840 A2 20091223  
PD - 2009-12-23  
PA - NEOSTEM INC [US]; FALANGA VINCENT [US]  
IN - FALANGA VINCENT [US]  
TI - COMPOSITIONS AND METHODS USING STEM CELLS IN CUTANEOUS WOUND HEALING  
AB - Provided herein are compositions and methods using stem/progenitor cells in a therapeutic approach for treatment of, or promotion of healing of, acute and chronic wounds.

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PN - WO2009154770 A2 20091223  
PD - 2009-12-23  
PA - TEXAS A & M UNIV SYS [US]; PROCKOP DARWIN J [US]; LEE RYANG HWA [US]  
IN - PROCKOP DARWIN J [US]; LEE RYANG HWA [US]  
TI - MESENCHYMAL STEM CELLS, COMPOSITIONS, AND METHODS FOR TREATMENT OF CARDIAC TISSUE DAMAGE  
AB - The present invention provides compositions comprising mesenchymal stem cells (MSCs), and methods for their novel use in the repair of cardiac damage and treatment of inflammatory diseases. The invention also provides methods for using TSG-6 protein that is secreted by MSCs under certain conditions, for repair of cardiac damage and inflammatory disease. The compositions of the invention may be particularly useful in restoring cardiac function following cardiac damage, including, but not limited to, myocardial infarction, as well as in reducing symptoms of inflammatory disease.

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PN - WO2009154770 A2 20091223  
PD - 2009-12-23  
PA - TEXAS A & M UNIV SYS [US]; PROCKOP DARWIN J [US]; LEE RYANG HWA [US]  
IN - PROCKOP DARWIN J [US]; LEE RYANG HWA [US]  
TI - MESENCHYMAL STEM CELLS, COMPOSITIONS, AND METHODS FOR TREATMENT OF CARDIAC TISSUE DAMAGE  
AB - The present invention provides compositions comprising mesenchymal stem cells (MSCs), and methods for their novel use in the repair of cardiac damage and treatment of inflammatory diseases. The invention also provides methods for using TSG-6 protein that is secreted by MSCs under certain conditions, for repair of cardiac damage and inflammatory disease. The compositions of the invention may be particularly useful in restoring cardiac function following cardiac damage, including, but not limited to, myocardial infarction, as well as in reducing symptoms of inflammatory disease.

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PN - WO2009154265 A1 20091223  
PD - 2009-12-23  
PA - UNIV KYOTO [JP]; KUBO HAJIME [JP]; SAKAI YOSHIHARU [JP]; HISAMORI SHIGEO [JP]  
IN - KUBO HAJIME [JP]; SAKAI YOSHIHARU [JP]; HISAMORI SHIGEO [JP]  
TI - METHODS FOR PRODUCTION OF CANCER STEM CELL AND CANCER CELL LINE  
AB - Disclosed is a method for producing a cancer stem cell, which comprises the steps of: co-culturing a cancer cell that is not a cancer stem cell together with a stellate cell to induce a cancer stem cell from the cancer cell; and isolating the cancer stem cell from the culture. Also disclosed is a method for producing a cancer cell line, which comprises the steps of: co-culturing a cancer cell that is not a cancer stem cell together with a stellate cell; and isolating an established cancer cell line from the culture.

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PN - WO2009153818 A1 20091223  
PD - 2009-12-23  
PA - PONZETTO ANTONIO [IT]; GENNERO LUISA [IT]; POGGI CLAUDIO [IT]  
IN - PONZETTO ANTONIO [IT]; GENNERO LUISA [IT]; POGGI CLAUDIO [IT]  
TI - METHOD FOR ACCELERATING DIFFERENTIATION OF STEM CELLS, PROLIFERATION OF PRIMARY CELLS WITH SPECIFIC TISSUE PHENOTYPES, OR TUMORAL CELL LINES AND FUSION OF DIFFERENT CELL TYPES AND DEVICE THEREFOR  
AB - A method and device therefor, to accelerate the differentiation of stem cells, cells with a specific tissue phenotype, of primary cells, tumoural cells, the proliferation of said cells and/or the fusion of different cell lineages comprising the following operations : i) obtaining a sample of cells; ii) cultivating the cells in a suitable culture medium; iii) applying to the cell culture a low frequency alternating electromagnetic field (ELF) and at least one between a magnetic field and a static electric field, so to induce an acceleration of the differentiation of the stem cells, the proliferation of the stem cells, of the primary cells, and in cell fusion.

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PN - EP2138196 A1 20091230  
PD - 2009-12-30  
PA - TIGENIX N V [BE]  
IN - KNIPPER ANDREAS [DE]; MUIR-MCLEOD PAULA [GB]  
TI - Methods to maintain, improve and restore the cartilage phenotype of chondrocytes  
AB - The present invention relates to regulatory cells, which are capable of restoring, maintaining or improving the stable cartilage phenotype of expanded and passaged chondrocytes. These regulatory cells are also capable of directing precursor and stem cells into the chondrogenic lineage. An enriched population of regulatory cells can be obtained by harvesting the non-adherent cells in the culture medium of a monolayer culture of P0 chondrocytes.

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PN - EP2137297 A1 20091230  
PD - 2009-12-30  
PA - DEUTSCH ROGER [US]  
IN - DEUTSCH ROGER [US]  
TI - METHODS FOR DIAGNOSING BIOLOGICAL SAMPLES CONTAINING STEM CELLS  
B - The present invention relates to a method for diagnosing the compatibility of a biological sample containing stem cells from a donor with the immune system of a recipient. Furthermore, the present invention relates to a method for determining the quality of a stem cell preparation based on the inventive method, as well as methods of diagnosing an immune disorder affecting stem cell recognition. The present invention further relates to a method for producing an improved stem cell preparation, and an apparatus that is equipped for performing the method

according to the invention. The invention can be used in the field of stem cell-based transplantation and respective diseases. The invention also includes a method for testing the efficacy of donor immune cells as treatments for disease such as cancer in a host patient. A method for testing the immune response of a patient to recall antigens is also disclosed.

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PN - EP2137300 A1 20091230  
PD - 2009-12-30  
PA - UNIV RAMOT [IL]  
IN - PITARU SANDU [IL]  
TI - PLURIPOTENT AUTOLOGOUS STEM CELLS FROM ORAL MUCOSA AND METHODS OF USE  
AB - The present invention provides a new readily accessible source of adult somatic stem cells from the lamina propria of the gastrointestinal tract in general and oral mucosa in particular, methods for isolating pluripotent stem cells from the lamina propria of oral mucosa, cells derived therefrom and uses thereof.

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PN - EP2136646 A1 20091230  
PD - 2009-12-30  
PA - SEKULA RAYMOND F JR [US]  
IN - SEKULA RAYMOND F JR [US]  
TI - A METHOD OF PRODUCING PURIFIED NEURAL STEM CELLS AND RELATED METHODS OF TREATING A PATIENT  
AB - The present invention provides a method of producing purified neural stem cells, comprising harvesting fluid containing neural stem cells from cerebrospinal fluid surrounding the spinal cord of an individual, isolating the neural stem cells from the fluid, culturing the neural stem cells in a culture medium effective to induce proliferation of the neural stem cells and purifying the cultured neural stem cells. Also provided is a method of treating a patient afflicted with a neurological condition, in which the purified neural stem cells are administered autologously into the same individual or heterologously to a patient other than the individual. Administration of the purified neural stem cells results in the purified neural stem cells propagating in the site of the brain region afflicted with the neurological condition.

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PN - US2009317367 A1 20091224  
PD - 2009-12-24  
PA - CEDARS SINAI MEDICAL CENTER [US]  
IN - CHAZENBALK GREGORIO [US]; BERTOLOTTO CRISTINA [US]; AZZIZ RICARDO [US]; SIMMONS JR CHARLES F [US]; HENEIDI SALEH [US]  
TI - METHODS OF PRODUCING PREADIPOCYTES AND INCREASING THE PROLIFERATION OF ADULT ADIPOSE STEM/PROGENITOR CELLS  
AB - The present invention describes preadipocytes and methods of differentiating macrophages into preadipocytes by co-culturing adipocytes and resident adipose tissue macrophages. Also described are methods of increasing the proliferative rate of adipose adult stem/progenitor cells.

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PN - US2009317366 A1 20091224  
PD - 2009-12-24  
PA - ACADEMIA SINICA [TW]  
IN - SHEN CHE-KUN JAMES [TW]; TSAI KUEN-JER [TW]  
TI - METHOD FOR TREATING PROGRESSIVE NEURODEGENERATIVE DISORDERS  
AB - A method for treating a progressive neurodegenerative disorder with bone marrow stem cells and a G-CSF receptor agonist

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PN - US2009317365 A1 20091224  
PD - 2009-12-24  
IN - LEE OSCAR KUANG-SHENG [TW]; KUO TOM KWANG-CHUN [TW]  
TI - SYSTEMS AND METHODS FOR MAKING HEPATOCYTES FROM  
EXTRAHEPATIC SOMATIC STEM CELLS AND USE THEREOF  
AB - A method for making hepatocytes from extrahepatic somatic stem cells comprises: a) culturing somatic stem cells in a medium comprising hepatic growth factor to cause the stem cells to differentiate toward hepatocytes; b) culturing cells from a) in a medium comprising HGF and oncostatin M to facilitate the cell differentiation toward hepatocytes; and c) culturing cells from b) in a medium comprising oncostatin M to cause the differentiated cells to mature into hepatocytes, thereby producing a cell population that has morphological features of hepatocytes and at least four of the following characteristics: i) antibody-detectable expression of albumin; ii) real-time reverse transcriptase-polymerase chain reaction-detectable expression of alpha-fetoprotein, HNF-1alpha, HNF-3beta, HNF-4, HNF-6, alpha1-antitrypsin, alkaline phosphatase, tryptophan 2,3-dioxygenase, tyrosine aminotransferase, cytochrome P450 family 2 subfamily E polypeptide 1, glutamine synthetase, and/or low density lipoprotein receptor; iii) urea secretion; iv) cytochrome p450 enzyme activity; v) glycogen storage; and vi) low density lipoprotein uptake.

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PN - US2009318962 A1 20091224  
PD - 2009-12-24  
PA - BIOACTIVE SURGICAL INC [US]  
IN - SPEDDEN RICHARD H [US]; PINGEL LAURA J [US]; SCHON LEW C [US]  
TI - SURGICAL SUTURES INCORPORATED WITH STEM CELLS OR OTHER  
BIOACTIVE MATERIALS  
AB - Materials and Methods for immobilizing bioactive molecules, stem and other precursor cells, and other agents of therapeutic value in surgical sutures and other tissue scaffold devices are described herein. Broadly drawn to the integration and incorporation of bioactive materials into suture constructs, tissue scaffolds and medical devices, the present invention has particular utility in the development of novel systems that enable medical personnel performing surgical and other medical procedures to utilize and subsequently reintroduce bioactive materials extracted from a patient (or their allogenic equivalents) to a wound or target surgical site.

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PN - WO2009152111 A1 20091217  
PD - 2009-12-17  
PA - NEW YORK MEDICAL COLLEGE [US]; HOSODA TORU [US]; ANVERSA PIERO [US]; LERI ANNAROSA [US]; KAJSTURA JAN [US]  
IN - HOSODA TORU [US]; ANVERSA PIERO [US]; LERI ANNAROSA [US]; KAJSTURA JAN [US]  
TI - COMPOSITIONS COMPRISING CARDIAC STEM CELLS OVEREXPRESSING SPECIFIC MICRORNAS AND METHODS OF THEIR USE IN REPAIRING DAMAGED MYOCARDIUM  
AB - The invention provides compositions comprising modified stem cells containing a transgene that affects the expression of at least one gene that inhibits or promotes cardiomyogenesis. In particular, the invention discloses compositions comprising cardiac stem cells, wherein said cardiac stem cells comprise a transgene encoding a microRNA. The compositions of the invention find use in the treatment of cardiovascular disorders, such as myocardial infarction. Methods of repairing damaged myocardium in a subject using the modified stem cells are also disclosed.

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PN - US2009318345 A1 20091224  
PD - 2009-12-24

PA - ACADEMISCH ZIEKENHUIS LEIDEN [NL]  
IN - FIBBE WILLEM EDUARD [NL]; VAN PEL MELISSA [NL]  
TI - MEANS AND METHODS FOR MODULATING STEM CELL MOBILIZATION  
AB - Mobilization of stem cells in individuals is currently used in methods for their collection and in methods for therapeutically intervening in disease processes in the human body. The present invention provides means and methods for increasing numbers of mobilized stem cells and provides uses therefore.

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PN - WO2009152482 A2 20091217  
PD - 2009-12-17  
PA - UNIV CALIFORNIA [US]; LI RONALD [US]; FU JI-DONG [US]  
IN - LI RONALD [US]; FU JI-DONG [US]  
TI - DIRECTED DIFFERENTIATION AND MATURATION OF STEM CELL-DERIVED CARDIOMYOCYTES  
AB - This invention provides an isolated electrophysiologically immature cell or its derivative that has been modified to provide a mature electrophysiological phenotype and populations of these cells. Compositions containing these cells and populations of cells are also provided by this invention. These cells and compositions have therapeutic and diagnostic uses. Non-limiting therapeutic uses include regenerating cardiac tissue, improving cardiac function, restoring action potential of cardiac tissue; and treating or preventing cardiac malfunction. The cells and population of cells also can be used diagnostically to screen drug or other therapeutic candidate.

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PN - WO2009152187 A1 20091217  
PD - 2009-12-17  
PA - AMERICAN STEM CELL INC [US]; MILLER LEN [US]; KOH LYNNET [US]; ICHIM THOMAS E [US]  
IN - MILLER LEN [US]; KOH LYNNET [US]; ICHIM THOMAS E [US]  
TI - AUGMENTATION OF CELL THERAPY EFFICACY INCLUDING TREATMENT WITH ALPHA 1-3 FUCOSYLTRANSFERASE  
AB - Disclosed are methods, compositions of matter, and kits useful for augmentation of homing and engraftment of stem, progenitor and mature cells through modification of cellular membrane properties following ex vivo treatment. The methods, compositions, and cells may be used for the treatment of a wide variety of disorders in which augmentation of cell trafficking, homing and engraftment is desired.

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PN - WO2009152186 A1 20091217  
PD - 2009-12-17  
PA - AMERICAN STEM CELL INC [US]; MILLER LEN [US]; KOH LYNNET [US]; ICHIM THOMAS E [US]  
IN - MILLER LEN [US]; KOH LYNNET [US]; ICHIM THOMAS E [US]  
TI - METHODS FOR ENHANCING CELL THERAPY EFFICACY INCLUDING TREATMENT WITH CD26 PEPTIDASE INHIBITORS  
AB - Disclosed are methods, compositions of matter, and kits useful for augmentation of stem, progenitor and mature cells through the inhibition of cell surface CD26, dipeptidylpeptidase IV. The methods and compositions may be used for the treatment of a wide variety of disorders in which augmentation of cell trafficking, homing and engraftment is desired.

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PN - WO2009152084 A2 20091217  
PD - 2009-12-17  
PA - CELL4VET LLC [US]; LIN CHING SHWUN [US]; LUE TOM F [US]; LIN GUITING [US]

IN - LIN CHING SHWUN [US]; LUE TOM F [US]; LIN GUITING [US]  
TI - ADIPOSE TISSUE-DERIVED STEM CELLS FOR VETERINARY USE  
AB - The invention provides for compositions and methods for making and using adipose-derived stem cells for treating non-human mammals for various medical conditions.

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PN - WO2009151844 A1 20091217  
PD - 2009-12-17  
PA - SAINT PETER S COLLEGE [US]; SCIORRA LEONARD [US]  
IN - SCIORRA LEONARD [US]  
TI - MULTIPOTENT STEM CELL CULTURES  
AB - The invention provides methods for propagation of multipotent stem cells from human skin fibroblast samples using an appropriate medium, such as an amniotic fluid medium (AFM), and subsequent differentiation of the cells into cells of any of the three germ layers. The invention also provides methods of differentiating and making various tissues from multipotent cells in skin fibroblasts cultures that are capable of in vitro differentiation and that the cells are useful as a source of in vivo gene and/or autologist cell therapy. Isolated multipotent stem cells, culture of multipotent stem cells, and differentiated cells derived from the culture multipotent stem cells that are obtained by the methods disclosed herein also are provided. The methods, cells, cultures, media, banks, batches, and collections so provided can be used for various medical, research, diagnostic and therapeutic uses.

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PN - WO2009151742 A2 20091217  
PD - 2009-12-17  
PA - CLARIAN HEALTH PARTNERS INC D [US]; BRIGHT JOHN J [US]  
IN - BRIGHT JOHN J [US]  
TI - METHODS FOR IDENTIFYING NUCLEAR RECEPTOR/LIGAND COMBINATIONS FOR TARGETING BRAIN TUMOR STEM CELLS FOR THEIR USE  
AB - An in vitro method is provided for identifying nuclear receptors abnormally expressed by brain tumor stem cells and a corresponding ligand which, if administered to brain tumor stem cells (BTSC's), is capable of inhibiting cell proliferation. Once the nuclear receptor/ligand combination has been identified, it can be utilized in vitro and in vivo to inhibit the proliferation and survival of the cancerous stem cells and ultimately affect proliferation and survival of tumors. The method can be utilized alone or in combination with other treatment methods. The method can also be utilized with regard to other forms of cancer which have cancerous stem cells associated therewith and which abnormally express one or more nuclear receptors.

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PN - WO2009151207 A1 20091217  
PD - 2009-12-17  
PA - HANCELL CO LTD [KR]; NAM MYEONG-JIN [KR]; LEE SANG-KOO [KR]  
IN - NAM MYEONG-JIN [KR]; LEE SANG-KOO [KR]  
TI - MESENCHYMAL STEM CELLS WHICH EXPRESS HUMAN HEPATIC GROWTH FACTOR, MANUFACTURING METHOD THEREOF, AND USE THEREOF AS THERAPEUTIC AGENT FOR LIVER DISEASES  
AB - The present invention relates to adult stem cells and a manufacturing method thereof. More specifically, the present invention relates to a recombinant expression vector containing a human hepatic growth factor (hHGF) gene, mesenchymal stem cells which are transformed thereby and express the hHGF, a manufacturing method of the mesenchymal stem cells, conditioned media (CM) which is obtained from the transformed cells and proliferates hepatocytes, a culture method of the mesenchymal stem cells producing the same, and the use of the transformed mesenchymal stem cells and their culture media as an agent for preventing and treating liver diseases. The manufacturing method of the mesenchymal stem cells comprises the steps of: isolating and culturing umbilical cord blood-derived mesenchymal stem cells; transforming the mesenchymal stem cells with the recombinant expression vector; and selecting the mesenchymal stem cells. The mesenchymal

stem cells which produce the hHGF in the present invention effectively proliferate hepatocytes, suppress apoptosis and effectively suppress liver cirrhosis. Therefore, the mesenchymal stem cell can be widely used in preventing and treating various liver diseases.

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PN - WO2009150415 A2 20091217  
PD - 2009-12-17  
PA - UNIV CARDIFF [GB]; STEPHENS PHILIP [GB]; DAVIES LINDSAY CATRINA [GB]  
IN - STEPHENS PHILIP [GB]; DAVIES LINDSAY CATRINA [GB]  
TI - NOVEL ADULT PROGENITOR CELL  
AB - The invention relates to the isolation and use of a novel progenitor cell population from the lamina propria of the oral mucosa. The novel progenitor cell population is highly proliferative and can be differentiated into a range of cell lineages. Further, these novel progenitor cells possess immunomodulatory activity and so can be used in the allogeneic transfer of tissue or to help combat immune disorders.

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PN - WO2009150199 A1 20091217  
PD - 2009-12-17  
PA - FRESENIUS MEDICAL CARE DE GMBH [DE]; HERRERA SANCHEZ MARIA BEATRIZ [IT]; FONSA TO VALENTINA [IT]; TETTA CIRO [IT]; CAMUSSI GIOVANNI [IT]  
IN - HERRERA SANCHEZ MARIA BEATRIZ [IT]; FONSA TO VALENTINA [IT]; TETTA CIRO [IT]; CAMUSSI GIOVANNI [IT]  
TI - CONDITIONED MEDIUM OF LIVER PROGENITOR CELLS  
AB - The invention is in the field of regenerative medicine. It has been found that the conditioned medium of non-oval pluripotent liver progenitor cells exerts a tissue regenerating effect. A preparation of the cell free conditioned medium is therefore useful in the treatment of injury and organ failure, preferably liver and / or injury or failure.

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PN - US2009311223 A1 20091217  
PD - 2009-12-17  
PA - MEDISTEM LAB INC [US]  
IN - ICHIM THOMAS E [US]  
TI - TREATMENT OF ERECTILE DYSFUNCTION BY STEM CELL THERAPY  
AB - Methods, cells and compositions of matter are provided for treatment of erectile dysfunction using stem cell therapy. In particular, various stem cells are modified or administered freshly isolated in order to induce smooth muscle regeneration, neural regeneration, and restoration of endothelial function. In some embodiments endogenous stem cells are mobilized or activated to achieve therapeutic benefit. In other embodiments compositions derived from stem cells are utilized for treatment of erectile dysfunction.

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PN - US2009312746 A1 20091217  
PD - 2009-12-17  
IN - KHOURI ROGER [US]  
TI - METHOD AND SYSTEM FOR PREPARING SOFT TISSUE FOR GRAFTING, ENHANCING GRAFTING RESULTS, AND GRAFTING AUTOLOGOUS FAT AND ADIPOCYTE DERIVED STEM CELLS TO SOFT TISSUE SUCH AS THE BREAST AND OTHER TISSUE DEFECTS  
AB - A method is disclosed for preparing a soft tissue site, and augmenting the soft tissue site, such as the breast(s), scar, depression, or other defect, of a subject through use of devices that exert a distractive force on the breast(s) and grafting of autologous fat tissue such as domes with sealing rims for surrounding each of the soft tissue site and a regulated pump. The method for preparing the soft tissue site, and enhancing fat graft results, entails application of the distracting

force to the targeted soft tissue site at least intermittently for some period of time and preferably several weeks prior to the graft procedure. A related aspect of the invention includes following the preparation steps by transfer of fat from other areas of the subject to the subject's soft tissue site, and then reapplication of the distractive force to the soft tissue site that received the autologous fat graft. Alternatively, fat from genetically related sources may be used, and the fat may be further processed prior to injection. Substantial soft tissue augmentation, high rates of graft survival and negligible graft necrosis (data demonstrating 80% survival and only 20% necrosis is presented) or calcification result from the practice of these methods.

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PN - US2009311789 A1 20091217  
PD - 2009-12-17  
IN - PAIN BERTRAND [FR]; LAVIAL FABRICE [FR]; SAMARUT JACQUES [FR]  
TI - METHOD FOR PREPARING DIFFERENTIATED AVIAN CELLS AND GENES INVOLVED IN MAINTAINING PLURIPOTENCY  
AB - The present invention relates to a method for preparing differentiated avian cells from stem cells in culture. Genes involved in maintaining the pluripotency of avian stem cells were identified and cloned. By inhibiting the expression of these genes in stem cells, the latter lose their pluripotency characteristics and enter into differentiation. These differentiated cells obtained in vitro can serve as host cells for pathogens, in particular viruses, and can thus be used for the production of antiviral vaccines.

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PN - EP2132304 A1 20091216  
PD - 2009-12-16  
PA - UNIV QUEENSLAND [AU]  
IN - WALKER TARA LOUISE [AU]; BARTLETT PERRY FRANCIS [AU]  
TI - LATENT NEURAL STEM CELL POPULATION  
AB - The present invention relates to a latent neural stem cell population which is capable of activation by membrane depolarization of a neural cell population, isolation and culture of same, and uses thereof.

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PN - EP2131868 A1 20091216  
PD - 2009-12-16  
PA - MAYO FOUNDATION [US]  
IN - TERZIC ANDRE [US]; BEHFAR ATTA [US]; NELSON TIMOTHY J [US]  
TI - CARDIAC-SPECIFIC PROGENITOR CELLS  
AB - This document provides methods and materials related to treating cardiovascular tissue (e.g., heart tissue or vascular tissue). For example, stem cells (e.g., CXCR4+/Flk-1+ stem cells), compositions containing stem cells, methods for obtaining stem cells, and methods for repairing cardiovascular tissue are provided.

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PN - WO2009148488 A2 20091210  
PD - 2009-12-10  
PA - GEN HOSPITAL CORP [US]; MARTUZA ROBERT [US]; RABKIN SAMUEL [US]; WAKIMOTO HIROAKI [US]; KANAI RYUICHI [US]  
IN - MARTUZA ROBERT [US]; RABKIN SAMUEL [US]; WAKIMOTO HIROAKI [US]; KANAI RYUICHI [US]  
TI - USE OF ONCOLYTIC HERPES VIRUSES FOR KILLING CANCER STEM CELLS  
AB - The invention, in some aspects, relates to the selective killing of cancer stem cells by oncolytic Herpes virus mediated oncolysis. In some aspects, the invention relates to methods for treating a subject having a cancer stem cell by administering to the subject an oncolytic Herpes virus.

In other aspects, the invention provides methods for evaluating the efficacy of an oncolytic Herpes virus for killing cancer stem cells.

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PN - US2009304639 A1 20091210  
PD - 2009-12-10  
IN - YOKOO TAKASHI [JP]; OKABE MASATAKA [JP]; HOSOYA TATSUO [JP]  
TI - Method for preparing an organ for transplantation  
AB - The present invention provides a means for achieving generation of a complex organ such as kidney and the like through the use of hMSCs to generate the human organ. The method for preparing a desired organ for transplantation to human by transplanting an isolated human mesenchymal stem cell to the embryo of a pregnant mammal host to induce differentiation of the mesenchymal stem cell is a method wherein the mesenchymal stem cell is transplanted into the embryo at a corresponding site for differentiation into the desired organ in the host at a transplantation time when the host is still at an immunologically tolerant stage.

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PN - US2009304650 A1 20091210  
PD - 2009-12-10  
IN - SCOTT EDWARD W [US]; SLAYTON WILLIAM B [US]  
TI - Repair of the Bone Marrow Vasculature  
AB - Stem cells repair the marrow vascular niche following bone marrow transplantation. Donor-derived vasculogenesis occurred whether whole bone marrow cells, isolated stem cells, or single stem cells were transplanted. Damaged marrow sinusoids led to hypoxia, followed by upregulation of angiogenic factors hypoxia inducible factor-1 and stromal derived factor-1.

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PN - US2009304647 A1 20091210  
PD - 2009-12-10  
PA - UNIV ILLINOIS [US]  
IN - QU TINGYU [US]; MA KE [US]; SHI GUANGBIN [US]  
TI - Production of Neural Stem Cells from Bone Marrow Tissue and Use Thereof  
AB - The invention provides reagents and methods for preparing mammalian mesenchymal-derived neural stem cells, especially autologous mesenchymal-derived neural stem cells, compositions thereof, and methods for using and administering the cells in a patient in need thereof.

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PN - US2009305403 A1 20091210  
PD - 2009-12-10  
PA - NEURONASCENT INC [US]  
IN - KELLEHER-ANDERSSON JUDITH [US]  
TI - Isolation and Differentiation of Adult Hippocampal Arctic Squirrel Neural Stem Cells  
AB - Neuronal stem cell lines derived from the Arctic Ground Squirrel, methods related to culturing and maintaining a neuronal stem cell line derived from the Arctic Ground Squirrel and a culture media required to maintain and differentiate a neuronal stem cell line derived from the Arctic Ground Squirrel is disclosed. Antibodies specific for antigens expressed on a neuronal stem cell line derived from the Arctic Ground Squirrel, and products and methods related to the use of neuronal stem cell lines derived from the Arctic Ground Squirrel are also included.

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PN - US2009304654 A1 20091210  
PD - 2009-12-10  
PA - UNIV CALIFORNIA [US]

IN - LUE TOM F [US]; LIN CHING SHWUN [US]; LIN GUITING [US]; GARCIA MAURICE M [US]; CARROLL PETER R [US]

TI - METHODS FOR ISOLATING ADIPOSE-DERIVED STEM CELLS AND THERAPEUTIC USE THEREOF

AB - The application discloses adipose tissue-derived stem cells (ADSC) and related compositions and methods. ADSCs are useful for (i) production of insulin producing cells, (ii) treatment of diabetes, (iii) endothelial cell reconstitution, (iv) treatment of overactive bladder and urge incontinence, (v) prevention and treatment of bladder voiding dysfunction; (vi) treatment of neurogenic impotence such as that resulting from diabetes or after prostate cancer therapy; (vii) treatment of vasculogenic impotence, such as that resulting from hypertension, dyslipidemia, atherosclerosis and diabetes; (viii) the promotion of wound healing; (ix) reduction of skin wrinkling; and (x) hair growth.

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PN - US2009305905 A1 20091210

PD - 2009-12-10

IN - BRADBURY ROBERT [US]

TI - COMPOSITIONS AND METHODS RELATING TO CHARACTERIZATION AND THERAPEUTIC APPLICATION OF PRISTINE STEM CELLS

AB - "Pristine" stem cells are provided by a process of precise selection wherein stem cells exhibiting ideal behavior, good morphology and proper gene expression are selected. Stem cells are divided into pools and observed for optimum speed of growth, proper gene expression levels, and other tests indicative of healthy cell function due to lack of mutation or misrepair of genes. Autologous pools of such "pristine" stem cells provide a source of stem cells having the genome least affected by mutation, and therefore in a more pristine state.

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PN - US2009304643 A1 20091210

PD - 2009-12-10

PA - UNIV VIRGINIA [US]

IN - KHURGEL MOSHE [US]; KATZ ADAM J [US]

TI - Methods of Preparing and Characterizing Mesenchymal Stem Cell Aggregates and Uses Thereof

AB - The invention provides compositions and methods for preparing and characterizing multipotential mesenchymal stem cell aggregates. The invention further provides methods for using stem cell aggregates of the invention.

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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 [SI]

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(TM) 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 - US2009305415 A1 20091210  
PD - 2009-12-10  
IN - HUANG LYNN L H [TW]  
TI - Method for preserving proliferation and differentiation potential of undifferentiated cells

AB - A method for preserving proliferation and differentiation potential of undifferentiated cells, has steps of providing a culture carrier having a surface coated with a biological material selected from the group consisting of polysaccharide, sulfated polysaccharide and derivatives thereof; and inoculating and culturing the undifferentiated cells on the surface in the culture carrier with an appropriate medium, such that the proliferation and differentiation potential of undifferentiated cells are preserved. The method can be used for expanding stem cells in vitro without loss of their replicative ability and differentiation capacity. Therefore, the method according to the present invention is amenable to application in regenerative medicine, tissue engineering, and therapy using umbilical cord blood and other cell sources such as peripheral blood, stem cells, tissue progenitor cells, and tissue cells.

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PN - US2009305325 A1 20091210  
PD - 2009-12-10  
PA - DEPT OF BIOTECHNOLOGY [IN]; NAT CT FOR CELL SCIENCE [IN]; INDIAN INST OF SCIENCES [IN]  
IN - KALE VAIJAYANTI P [IN]; LIMAYE LALITA S [IN]; HINGE ASHWINI [IN]; SUROLIA AVADHESHA [IN]

TI - Method for Preservation of Human Hematopoietic Stem or Progenitor Cells

AB - Maintenance of quiescent hematopoietic stem and progenitor cells (HSPC) in culture without the addition of exogenous growth factors is an important aspect in clinical hematology. A recent report described the ability of Flt3 receptor-interacting lectin (FRIL) in the maintenance of cord blood (CB) derived progenitors in vitro. Since FRIL is a mannose binding lectin, the effectiveness of four such lectins of well-characterized specificities on the preservation of HSPC of CB origin have been examined. The HSPC preservation activity of lectins was assessed by in vitro colony forming unit (CFU) and long-term culture initiating cell (LTC-IC) assays. It was found that all four lectins had a HSPC preservation activity at least up to 30 days in culture without addition of exogenous growth factors. The results indicate that use of such lectins may provide a cost effective method of HSPC maintenance for clinical use.

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PN - US2009305413 A1 20091210  
PD - 2009-12-10  
PA - SEOUL NAT UNIV IND FOUNDATION [KR]  
IN - KANG KYUNG SUN [KR]  
TI - MULTIPOTENT ADULT STEM CELLS HAVING AN ABILITY OF OCT4 EXPRESSION DERIVED FROM UMBILICAL CORD BLOOD AND METHOD FOR PREPARING THE SAME

AB - The present invention relates to multipotent adult stem cells expressing Oct4, derived from umbilical cord blood (UCB) and also these cell are expressing CD29, CD31, CD44, simultaneously, a method for preparing the same, and more specifically to multipotent adult stem cells which are obtained by culturing umbilical cord blood-derived monocytes in a medium containing bFGF (basic fibroblast growth factor) and human serum or plasma. In addition, multipotent adult stem cells expressing Oct-4 from UCB are morphologically spindle or round shaped cells Although the stem cells according to the present invention are adult stem cells, they are multipotent and capable of differentiating into ectodermal-, mesodermal-, endodermal-originated tissue or cells including osteogenic cells or nerve cells etc, thus they can be effectively used in the treatment of intractable diseases and incurable diseases.

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PN - US2009304652 A1 20091210  
PD - 2009-12-10  
PA - AO FORSCHUNGSINST [CH]  
IN - ALINI MAURO [CH]; STODDART MARTIN [CH]  
TI - IDENTIFICATION AND SELECTION OF STEM CELLS BEING COMMITTED TO DIFFERENTIATE TO A SPECIFIC TYPE FOR OBTAINING A HOMOGENEOUS POPULATION OF STEM CELLS  
AB - The stem cell (1) includes a cellular DNA (2) comprising a plurality of sequences coding different genes and promoters allowing DNA-protein-interactions, at least one protein molecule (3) generated by means of a specific stimulus (12) and at least one DNA-molecule (6) artificially introduced into the stem cell (1). The artificially introduced DNA-molecule (6) comprises at least one binding site sequence (30) being apt to interact with the protein molecule (3), at least one DNA-sequence (40) coding an indicator molecule (5) and at least one minimal promoter sequence (50), allowing the gene expression of said indicator molecule (5), whereby the stem cell further includes at least one indicator molecule (5) having properties allowing its identification and is produced by synthesis of the DNA-sequence (40) coding an indicator molecule (5) of the artificially introduced DNA-molecule (6).

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PN - US2009304662 A1 20091210  
PD - 2009-12-10  
IN - THILLY WILLIAM G [US]; GOSTJEVA ELENA V [US]  
TI - Methods for Identifying and Targeting Tumor Stem Cells Based on Nuclear Morphology  
AB - Described herein are methods for inhibiting tumor growth comprising targeting a tumor stem cell in the patient with an agent or treatment that chemically modifies a tumor stem cell-specific molecule, thereby preventing proliferation of tumor stem cells.

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PN - US2009305244 A1 20091210  
PD - 2009-12-10  
PA - SCRIPPS RESEARCH INST [US]  
IN - PETERSON SUZANNE EARLENE [US]; YUNG YUN CHUN [US]; REHEN STEVENS KASTRUP [BR]; WESTRA JURJEN WILLEM [US]; CHUN JEROLD JUN [US]  
TI - Selection, Propagation and Use of Mosaic Aneuploid Stem Cells  
AB - The distribution of cell karyotypes within a population of cells can determine the phenotype and ability of stem cells to differentiate into desired cell types, to function normally, as well as represent risk for adverse events like cancer. Therefore, determination of the aneuploid mosaic status of a cell population is useful in identifying and/or maintaining desirable traits and eliminating undesirable traits in stem cells, and for defining them at the level of their chromosomal complement.

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PN - US2009304636 A1 20091210  
PD - 2009-12-10  
PA - ENTPR PARTNERS VENTURE CAPITAL  
IN - ZSEBO KRISZTINA M [US]  
TI - Stem Cell Factor Therapy for Tissue Injury  
AB - The present invention relates to the use of stem cell factor (SCF) for the treatment of ischemic injured tissue such as in cardiovascular disease. The method involves administration of a nucleic acid encoding SCF, wherein the nucleic acid is delivered to the site of the injury and is incorporated into cells which then express the SCF.

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PN - WO2009148170 A1 20091210  
PD - 2009-12-10

PA - RIKEN [JP]; SASAI YOSHIKI [JP]; WATAYA TAKAFUMI [JP]; EIRAKU MOTOTSUGU [JP]  
IN - SASAI YOSHIKI [JP]; WATAYA TAKAFUMI [JP]; EIRAKU MOTOTSUGU [JP]  
TI - METHOD FOR CULTURE OF STEM CELL  
AB - It becomes possible to achieve the efficient suspension culture of stem cells in a serum-free culture medium by involving a step of forming homogeneous aggregates of the stem cells rapidly. Thus, disclosed are: a method for inducing the selective neuronal differentiation of a stem cell; a method for forming a cerebral cortex neural network in vitro; a method for producing a three-dimensional structure of a brain tissue in vitro; and a method for producing a progenitor cell of a hypothalamic neuron, which comprises the steps of culturing a pluripotent stem cell in the form of a floating aggregate in a serum-free culture medium that does not substantially contain any Nodal signal promoter, any Wnt signal promoter, any FGF signal promoter, any BMP signal promoter, retinoic acid or insulin and isolating the progenitor cell of the hypothalamic neuron from a culture.

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PN - WO2009147445 A1 20091210  
PD - 2009-12-10  
PA - CAMBRIDGE ENTPR LTD [GB]; YEAP LENG-SIEW [GB]; HAYASHI KATSUHIKO [GB]; SURANI AZIM [GB]  
IN - YEAP LENG-SIEW [GB]; HAYASHI KATSUHIKO [GB]; SURANI AZIM [GB]  
TI - PLURIPOTENCY ASSOCIATED EPIGENETIC FACTOR  
AB - A method for controlling the pluripotent phenotype of a cell comprising modulating the expression or activity of a ESET/SETDB1 polypeptide, or a homologue thereof, within the cell is provided. Pluripotent cells, cultures of such cells and methods for reprogramming somatic cells to a pluripotent phenotype comprising expressing a ESET/SETDB1 polypeptide in the cells, either alone or in combination with other pluripotency factors, are further provided. Methods for identifying modulators of pluripotency and their use in treating cancer or cancer stem cells are also provided.

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PN - WO2009146911 A2 20091210  
PD - 2009-12-10  
PA - MARX UWE [DE]  
IN - MARX UWE [DE]  
TI - ORGAN-ON-A-CHIP-DEVICE  
AB - The present invention relates to a self-contained sensor controlled organ on a chip-device, which allows establishing or maintaining organs or organoids as well as stem cell niches in a miniaturized chip format, suitable for online observation by live cell imaging and for example two photon microscopy and their use for, e.g. testing the activity, pharmacodynamic and pharmacokinetic of compounds or to study self-assembly, homeostasis, damage, regeneration or interaction of organs or organoids and stem cell niches, as well as phenomena of maturation, aging, death and chronobiology.

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PN - WO2009146746 A1 20091210  
PD - 2009-12-10  
PA - UNIV BRUXELLES [BE]; DAUBIE VALERY [BE]; Pochet Roland [BE]  
IN - DAUBIE VALERY [BE]; Pochet Roland [BE]  
TI - USE OF FXA, FVIIA, TF, OR A COMBINATION THEREOF AS ANTI-APOPTOTIC AGENTS  
AB - The present invention provides new means and methods for culturing clinical grade osteoblasts, neurones or neurones-like cells, astrocytes or astrocytes-like cells, mesenchymal stem cells, hematopoietic stem cells, or endothelial cell progenitors, without the drawbacks of the prior art methods. In particular, the invention provides means and methods to culture osteoblasts or osteoblast-like cells, neurones or neurones-like cells, astrocytes or astrocytes-like cells, mesenchymal stem cells, hematopoietic stem cells, endothelial cell progenitors, in serum-free medium in such a

way, i.e. by addition of TF, FVIIa, FXa or a complex thereof, so that spontaneous apoptosis of said cells is significantly reduced or avoided.

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PN - WO2009146495 A1 20091210  
PD - 2009-12-10  
PA - SYDNEY WEST AREA HEALTH SERVIC [AU]; UNIV SYDNEY [AU]; GOTTLIEB DAVID JONATHON [AU]; BRADSTOCK KENNETH FRANCIS [AU]; SARTOR MARY MIRELLA [AU]; ANTONENAS VICKI [AU]  
IN - GOTTLIEB DAVID JONATHON [AU]; BRADSTOCK KENNETH FRANCIS [AU]; SARTOR MARY MIRELLA [AU]; ANTONENAS VICKI [AU]  
TI - METHOD FOR PREDICTING ENGRAFTMENT POTENTIAL  
AB - The invention relates to methods for the identification of proliferating stem cells in products for transplantation, and uses thereof. More specifically, the invention relates to methods for predicting the engraftment potential of stem cells following transplantation by determining their proliferative capacity.

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PN - US2009297486 A1 20091203  
PD - 2009-12-03  
IN - KOLIATSOS VASSILIS E [US]; YAN JUN [US]; JOHE KARL K [US]  
TI - Survival, Differentiation and Structural Integration Of Human Neural Stem Cells Grafted Into the Adult Rat Spinal Cord  
AB - The present invention provides methods and compositions for treating spinal cord diseases and injuries. The methods involve transplanting neural stem cells which have been previously expanded in vitro into a patient such that the cells can ameliorate the disease or injury. The stem cells to be transplanted are derived from spinal cord tissue.

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PN - US2009300782 A1 20091203  
PD - 2009-12-03  
PA - SINAI SCHOOL MEDICINE [US]  
IN - LINDEN R MICHAEL [GB]; DUTHEIL NATHALIE [US]; HENCKAERTS ELS [US]; KELLER GORDON [CA]  
TI - Targeted gene addition in stem cells  
AB - The present invention provides methods for adenoassociated virus-mediated site-specific integration of a transgene into a stem cell. Stem cells having a transgene integrated therein, and differentiated cells generated from the stem cells are also provided.

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PN - US2009297471 A1 20091203  
PD - 2009-12-03  
PA - MAYO FOUNDATION [US]  
IN - MARKOVIC SVETOMIR N [US]; PORRATA LUIS F [US]  
TI - Methods For Autologous Stem Cell Transplantation  
AB - Materials and methods for obtaining populations of lymphocytes and administering the population of lymphocytes to a subject are disclosed herein. In particular, disclosed herein are materials and methods for obtaining lymphocyte populations that contain at least about  $0.5 \times 10^9$  NK cells per kilogram weight of the subject from which the cells are harvested.

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PN - US2009298045 A1 20091203  
PD - 2009-12-03  
PA - TEL HASHOMER MEDICAL RES INFRA [IL]

IN - TREVES AVRAHAM J [IL]; NAGLER ARNON [IL]; GALSKY HANAN [IL]; BAR IRIS [IL]  
TI - Method For Selectively Expanding, Selecting And Enriching Stem/Progenitor Cell Populations  
AB - A method of producing stem/progenitor cells from human or animal origin. A population, from an embryonic, fetal or adult source, preferably from bone marrow, blood, fat, muscle, heart, intestine, kidney, liver, lung, pancreas, skin or neural tissues, that includes stem/progenitor cells, is treated with one or more first cytostatic or cytotoxic agents to which the stem/progenitor cells are less sensitive than the other cells of the population. Preferably, the agent(s) selectively deplete(s) from the population cells that are negative with respect to expressing a transporter gene of the first agent(s) while sparing cells that are positive with respect to expressing that gene. Preferably, the population also is treated with one or more cytokines and/or growth factors.

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PN - US2009298155 A1 20091203  
PD - 2009-12-03  
IN - SURANI AZIM [GB]; LANGE ULRIKE [GB]; HAJKOVA PETRA [GB]; ANCELIN KATIA [FR]  
TI - Epigenetic Regulatory Complex for Control of Gene Expression  
AB - An epigenetic regulatory polypeptide complex comprises at least a first domain having site-specific DNA binding activity and at least a second domain having an arginine methyltransferase activity, wherein the second domain is capable of methylating an arginine residue located in the tail region of a histone H2A. The complex is able to regulate gene expression in cells, particularly in mammalian stem cells by controlling the methylation of R3 in the tail regions of histones H2A and H4. The complex is exemplified by a polypeptide complex comprising the DNA binding activity of Blimpi and the arginine methyltransferase activity of Prmt5.

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PN - US2009298170 A1 20091203  
PD - 2009-12-03  
IN - D AMOUR KEVIN [US]; BAETGE EMMANUEL E [US]  
TI - HEPATOCYTE LINEAGE CELLS  
AB - Disclosed herein are methods for producing liver precursor cells as well as hepatocyte cells from pluripotent and/or multipotent cells. Also disclosed herein are methods of enriching isolating and/or purifying liver precursor cells and/or hepatocyte cells. Further disclosed are compositions comprising cell cultures and cell populations that are enriched for liver precursor cells or hepatocyte cells.

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PN - US2009297579 A1 20091203  
PD - 2009-12-03  
PA - MASSACHUSETTS INST TECHNOLOGY [US]  
IN - SEMINO CARLOS E [US]; ROLAUFFS BERND [US]; GRODZINSKY ALAN [US]; KAMM ROGER [US]; GARRETA ELENA [ES]; QUINTANA LLUIS [ES]  
TI - Control of Cells and Cell Multipotentiality in Three Dimensional Matrices  
AB - Methods for wound healing or tissue regeneration by means of cell and tissue engineering, including using three-dimensional matrices with cells therein. A three-dimensional matrix, optionally containing cells such as fibroblasts, is inserted into the wound of a subject. An anti-inflammatory factor may also be used to reduce or suppress the immune response. The wound may be covered to limit exposure to gaseous oxygen, for example, using a membrane. An anticoagulant may also be applied. In addition, cells, such as fibroblasts or stem cells, when cultured within a three-dimensional matrix, under certain conditions, can be induced to form non-fibroblast multipotent cells. When stem cells are cultured in the three-dimensional matrix, at least some of the stem cells remain as stem cells and do not differentiate. Kits for promoting the control of cells within three-dimensional matrices are also disclosed.

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PN - WO2009145434 A2 20091203  
PD - 2009-12-03  
PA - HANWHA CHEMICAL CORP [KR]; AHN CU RIE [KR]; LEE EUN MI [KR]; KIM JAE YOUNG [KR]  
IN - AHN CU RIE [KR]; LEE EUN MI [KR]; KIM JAE YOUNG [KR]  
TI - CD70-EXPRESSING NEURAL STEM CELLS CAPABLE OF INHIBITING TRANSPLANT IMMUNE RESPONSES AND USE THEREOF  
AB - The present invention relates to a composition for inhibiting immune responses to transplanted internal organs, tissues or cells including CD70-expressing neural stem cells, and a method for inhibiting immune responses of individuals using the composition.

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PN - WO2009145419 A2 20091203  
PD - 2009-12-03  
PA - BIO SPECTRUM INC [KR]; PARK DEOK HOON [KR]; LEE JIENNY [KR]; LEE JONG SUNG [KR]  
IN - PARK DEOK HOON [KR]; LEE JIENNY [KR]; LEE JONG SUNG [KR]  
TI - COMPOSITION COMPRISING VEGETABLE PEPTONE FOR PROMOTING STEM CELL PROLIFERATION  
AB - The present invention relates to a composition for promoting stem cell proliferation which contains a vegetable peptone. More specifically, this invention relates to: a serum-free composition for culturing stem cells which contains a vegetable peptone; a composition for improving skin condition containing the vegetable peptone as an active ingredient; and a composition for improving skin condition containing a culture medium as an active ingredient in which cultured stem cells are removed after being cultured in a serum-free medium for stem cell culture containing the vegetable peptide. Since the disclosed serum-free composition for culturing stem cells does not need the use of expensive animal serum, the manufacturing cost can be remarkably lowered. Also the use of animal serum in the medium can basically prevent contamination from animal material caused by the use of animal serum. In addition, the disclosed composition containing the vegetable peptone and the medium in which the stem cells are cultured in the serum-free medium both serve to promote and activate the proliferation of stem cells, and improve various skin conditions.

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PN - WO2009144718 A1 20091203  
PD - 2009-12-03  
PA - UNIV RAMOT [IL]; BRAINSTORM CELL THERAPEUTICS I [IL]; KADOURI AVINOAM [IL]; BAR-ILAN AVIHAY [IL]; MELAMED ELDAD [IL]; OFFEN DANIEL [IL]; SADAN OFER [IL]; BAHAT-STROMZA MERAV [IL]  
IN - KADOURI AVINOAM [IL]; BAR-ILAN AVIHAY [IL]; MELAMED ELDAD [IL]; OFFEN DANIEL [IL]; SADAN OFER [IL]; BAHAT-STROMZA MERAV [IL]  
TI - MESENCHYMAL STEM CELLS FOR THE TREATMENT OF CNS DISEASES  
AB - An isolated human cell is disclosed comprising at least one mesenchymal stem cell phenotype and secreting brain-derived neurotrophic factor (BDNF), wherein a basal secretion of the BDNF is at least five times greater than a basal secretion of the BDNF in a mesenchymal stem cell. Methods of generating same and uses of same are also disclosed.

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PN - EP2130911 A1 20091209  
PD - 2009-12-09  
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 - EP2129775 A1 20091209  
PD - 2009-12-09  
PA - ANTHROGENESIS CORP [US]  
IN - EDINGER JAMES W [US]; HARIRI ROBERT J [US]; WANG JIA-LUN [US]; YE QIAN [US]; PEREIRA MARIAN [US]; ABRAMSON SASCHA DAWN [US]; LABAZZO KRISTEN S [US]  
TI - HEPATOCYTES AND CHONDROCYTES FROM ADHERENT PLACENTAL STEM CELLS; AND CD34+, CD45- PLACENTAL STEM CELL-ENRICHED CELL POPULATIONS  
AB - Provided herein are methods and compositions for the production of hepatocytes from placenta stem cells. Further provided herein is the use of such hepatocytes in the treatment of, and intervention in, for example, trauma, inflammation, and degenerative disorders of the liver. Also provided herein are compositions and methods relating to combinations of nanofibrous scaffolds and adherent placental stem cells and methods of using the same in cartilage repair. Finally, provided herein are compositions and methods relating to nonadherent, CD34<+>CD45<-> stem cells from placenta.

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PN - WO2009143353 A1 20091126  
PD - 2009-11-26  
PA - VESTA THERAPEUTICS INC [US]; RUIZ JOSEPH CHARLES [US]; HOYNOWSKI STEVEN MICHAEL [US]  
IN - RUIZ JOSEPH CHARLES [US]; HOYNOWSKI STEVEN MICHAEL [US]  
TI - METHOD OF DIFFERENTIATING MAMMALIAN PROGENITOR CELLS INTO INSULIN PRODUCING PANCREATIC ISLET CELLS  
AB - The invention relates to methods for differentiating progenitor cells into insulin producing pancreatic islet cells and compositions and methods for using such cells.

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PN - WO2009143241 A2 20091126  
PD - 2009-11-26  
PA - BIOE INC [US]; COLLINS DANIEL P [US]  
IN - COLLINS DANIEL P [US]  
TI - DIFFERENTIATION OF MULTI-LINEAGE PROGENITOR CELLS TO PANCREATIC CELLS  
AB - Fetal blood multi-lineage progenitor cells that are capable of a wide spectrum of transdifferentiation are described, as well as methods of differentiating the progenitor cells into pancreatic cells.

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PN - WO2009142888 A2 20091126  
PD - 2009-11-26  
PA - US OF AMERICA AS REPRESENTED B [US]; TALBOT NEIL C [US]; CAPERNA THOMAS J [US]; WILLARD RYAN [US]  
IN - TALBOT NEIL C [US]; CAPERNA THOMAS J [US]; WILLARD RYAN [US]  
TI - IMMORTAL UNIPOTENT PORCINE PICM- 19H AND PICM- 19B STEM CELL LINES  
AB - Two cell lines, PICM-19H and PICM-19B, were derived from the bipotent ARS-PICM-19 pig liver stem cell line and assessed for their potential application in artificial liver devices. The study included assessments of growth rate and cell density in culture, morphological features, and hepatocyte detoxification functions, i.e., inducible CYP450 activity, ammonia clearance, and urea

production. The PICM-19H cells contain numerous mitochondria, Golgi apparatus, smooth and rough endoplasmic reticulum, vesicular bodies and occasional lipid vacuoles. PICM-19H cells display inducible CYP450 activity, clear ammonia, and produce urea in a glutamine-free medium. Ultrastructural analysis of the PICM- 19B monolayers show that the roughly cuboidal cells display basal-apical polarization and are joined by tight junction-like complexes. Other ultrastructure features are similar to those of PICM- 19H cells except that they possess numerous cell bodies resembling mucus vacuoles. The PICM-19B cells possess relatively high levels of GGT activity, but retain some inducible CYP450 activity, and some ammonia clearance and urea synthesis ability. These data indicate that both cell lines, either together or alone, may be useful as the cellular substrate for an artificial liver device. In vitro models of the liver are needed to replace animal models for the rapid assessment of drug biotransformation and toxicity. A unipotent porcine stem cell line PICM- 19H differentiates exclusively into hepatocytes and can be induced to express CYP450 enzymes. These cells have many activities associated with xenobiotic phase I - and phase II metabolism lacking in other liver cell lines. The PICM- 19H cell line was also compared to the tumor-derived human HepG2 C3A cell line and to primary cultures of adult porcine hepatocytes. The results demonstrate the potential for the use of PICM- 19H cells in drug biotransformation and toxicity testing and further support their use in artificial liver device technology.

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PN - US2009291496 A1 20091126  
 PD - 2009-11-26  
 PA - BIODONTOS LLC [US]  
 IN - RACEY GARY [US]; BOWERMASTER RUSSELL [US]; BOB THOMAS [US]  
 TI - Neural Stem Cell Isolates from the Dental Papillary Annulus of Developing Teeth  
 AB - Multipotent cranial neural crest stem cells and non-lineage committed precursor cells are described. The neural crest cells are capable of self-renewal, of being cultured into clonal spheroids including neurospheres, and of differentiation into neurons or other neuroepithelial cells. The non-lineage committed precursors are capable of differentiation into neurons, astrocytes and oligodendrocytes, and are capable of de-differentiation into induced pluripotent stem cells (iPSCs). Methods of obtaining, generating, isolating and culturing cranial neural crest stem cells and non-lineage committed precursor cells are also disclosed, including methods of providing a substantially pure in vitro cell culture consisting essentially of stem cells capable of multipotent differentiation and de-differentiation to a pluripotent state, which may be used for medical research or preserved for future therapeutic use by their autologous donor or a heterologous recipient.

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PN - US2009291061 A1 20091126  
 PD - 2009-11-26  
 IN - RIORDAN NEIL H [US]; ICHIM THOMAS E [US]  
 TI - STEM CELL THERAPY FOR BLOOD VESSEL DEGENERATION  
 AB - The present disclosure provides means of treating degenerated blood vessels through administration of stem cells or activators of stem cells. In one particular embodiment vessel reactivity is increased through administration of stem cells or stem cell activating compounds. Other embodiments include "reconditioning" of vessels prone to aneurysms, repairing aneurysms of vessels, or acceleration of endothelialization after stent placement. Provided within the invention are methods of rejuvenating properties of said vessels associated with physiological health, examples of which include appropriate production of anti-coagulating/clotting factors, control of angiogenesis, and appropriate revascularization of injured tissue.

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PN - US2009291067 A1 20091126  
 PD - 2009-11-26  
 PA - PROSTEMICS CO LTD [KR]  
 IN - PARK BYUNG-SOON [KR]; KIM WON-SERK [KR]; SUNG JONG-HYUK [KR]  
 TI - Composition for treating cancer comprising adult stem cell culture or its fraction

AB - The present invention provides a pharmaceutical composition for treating cancer, comprising a culture of adult stem cells or a fraction of the culture as an active ingredient. The culture of adult stem cells and its fraction, especially a specific fraction of adult stem cell culture, inhibit proliferation of a variety of cancer such as melanoma, pancreatic cancer, breast cancer, hepatic cancer, gastric cancer, colon cancer, lung cancer, and cervical cancer, thereby having excellent cancer-treating activity. The composition according to the present invention includes, not stem cells, but a complex of active proteins secreted from the stem cells, and thus both pharmaceutical problems in formulation and individual variation, which usually occurred when using stem cells, can be minimized. And also, side effects caused by direct administration of cells into the human bodies can be thoroughly prevented.

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PN - WO2009142271 A1 20091126  
PD - 2009-11-26  
PA - NEW IND RES ORGANIZATION [JP]; UNIV OSAKA [JP]; TAKAKURA NOBUYUKI [JP]; UENO MASAYA [JP]  
IN - TAKAKURA NOBUYUKI [JP]; UENO MASAYA [JP]  
TI - CANCER STEM CELL HAVING HIGH LEVEL OF SLD5 EXPRESSION THEREIN  
AB - The object aims to identify a cancer stem cell. Specifically disclosed is a cancer stem cell in which SLD5 is expressed at a high level.

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PN - EP2123747 A1 20091125  
PD - 2009-11-25  
PA - OSIRIS THERAPEUTICS INC [US]  
IN - AGGARWAL SUDEEPTA [US]; PITTENGER MARK F [US]; VARNEY TIMOTHY [US]; DANILKOVITCH ALLA [US]  
TI - Mesenchymal stem cells for use in treating a pulmonary disease or in reducing scar tissue  
AB - The present invention relates to mesenchymal stem cells for use in treating a pulmonary disease, improving pulmonary function or reducing scar tissue in an animal.

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PN - EP2120544 A1 20091125  
PD - 2009-11-25  
PA - UNIV MISSOURI [US]  
IN - ZHAO CHONGBEI [US]; NAGY ANDRAS [CA]; CRITSER JOHN K [US]  
TI - METHODS FOR CONDITIONAL AND INDUCIBLE TRANSGENE EXPRESSION TO DIRECT THE DEVELOPMENT OF STEM CELLS  
AB - Methods are disclosed in which the expression of a specific gene, or combinations of genes, is controlled spatially and temporally to develop intra- and interspecies chimeras. A transgenic EC/ES/P/iPS cell line is created which conditionally expresses a suicide or compromiser gene configured to compromise all cell lineages except that corresponding to a target tissue/organ. The EC/ES/P/iPS cell line is injected into donor embryos having a specific target gene deficiency or embryos genetically engineered to be complementary compromised in lineages corresponding to the target tissue/organ cell lineages of the EC/ES/P/iPS line. One or more stimuli is provided to the embryo to activate compromiser genes for ablation of non-target tissues/organs of the EC/ES/P/iPS line and target tissues/organs of the host embryo, resulting in a chimeric animal having target tissues/organs derived from the genotype of the transgenic cell line and all remaining tissues/organs derived from the donor embryo.

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PN - EP2120977 A2 20091125  
PD - 2009-11-25  
PA - ANTHROGENESIS CORP [US]

IN - EDINGER JAMES W [US]; HARIRI ROBERT J [US]; WANG JIA-LUN [US]; YE QIAN [US]; FALECK HERBERT [US]  
TI - TREATMENT OF INFLAMMATORY DISEASES USING PLACENTAL STEM CELLS  
AB - Provided herein are methods of treatment of individuals having an immune-related disease, disorder or condition, for example, inflammatory bowel disease, graft-versus-host disease, multiple sclerosis, rheumatoid arthritis, psoriasis, lupus erythematosus, diabetes, mycosis fungoides (Alibert-Bazin syndrome), or scleroderma using placental stem cells or umbilical cord stem cells.

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PN - EP2121906 A1 20091125  
PD - 2009-11-25  
PA - STEM CELL SCIENCES UK LTD [GB]  
IN - THOMPSON HAZEL [GB]; KERBY JULIE [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 - EP2121069 A2 20091125  
PD - 2009-11-25  
PA - MEDTRONIC VASCULAR INC [US]  
IN - REA SUSAN [US]  
TI - STEM CELL COATED STENT  
AB - A method of treating a vascular condition includes applying a plurality of stem cells to an exterior surface of a stent, and enveloping the applied stem cells with a topcoat layer. In addition, the method includes delivering the stent with applied stem cells and topcoat to a treatment region of a vessel within a body; and applying an electrical field to the stent for a predetermined time. A system for treating a vascular condition includes a catheter, a stent disposed on the catheter, at least one layer of stem cells disposed on an exterior surface of the stent, and a topcoat layer surrounding the layer of stem cells. In addition, the system includes at least one electrical lead attached to the stent, the electrical lead operable to induce an electrical field around the stent.

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PN - EP2121903 A2 20091125  
PD - 2009-11-25  
PA - SAN RAFFAELE CENTRO FOND [IT]  
IN - GALLI ROSSELLA [IT]  
TI - MITOGEN INDEPENDENCE IDENTIFIES A HIGHLY MALIGNANT POPULATION OF TUMOR STEM CELLS  
AB - The present invention is directed to a method for isolating and establishing Growth Factor-Independent (GF-I) Tumor Stem Cells (TSCs) from tumor biopsies or tumor cell lines consisting in culturing cells in serum-free mitogen-free culture medium. The method discloses cell growth in a culture medium, which does neither comprise serum, nor EGF (Epidermal Growth factor) and FGF-2 (Fibroblast Growth Factor), nor both, nor EGF or FGF-2 derivatives with the same mitogenic characteristics of the parent molecules. According to a preferred embodiment, the method is directed to the isolation of Tumor stem cells (TSCs) from glioblastoma multiforme (GBM) or from other brain tumors or brain tumor cell lines. GF-Independent TSCs can be identified and expanded in vitro providing a homogeneous population of multipotent, self-renewing and highly tumorigenic Growth Factor-Independent TSCs, distinguishable from tumor stem cells derived with other methods, grown in parallel, for the above characteristics. The invention also encompasses therapeutic methods based on Tumor Stem Cells isolated as described.

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PN - EP2128244 A1 20091202

PD - 2009-12-02  
PA - RIKEN [JP]  
IN - TAKAHASHI MASAYO [JP]; OSAKADA FUMITAKA [JP]; MANDAI MICHIKO [JP]; IKEDA HANAKO [JP]  
TI - METHOD FOR INDUCTION/DIFFERENTIATION INTO PHOTORECEPTOR CELL  
AB - The present invention provides a method of producing primate retinal progenitor cells, comprising culturing primate embryonic stem cells as suspended aggregates in a serum-free medium, and obtaining retinal progenitor cells from the culture. The present invention further provides a method of producing photoreceptor precursor cells, comprising culturing isolated retinal progenitor cells differentiated from embryonic stem cells, under adhesive conditions, in the presence of a gamma secretase inhibitor, and obtaining a photoreceptor precursor from the culture.

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PN - EP2126044 A1 20091202  
PD - 2009-12-02  
PA - THERMOGENESIS CORP [US]  
IN - COELHO PHILIP H [US]; BAKER BRUCE A [US]; CHAPMAN JOHN R [US]; LI JUNZHI [US]; CHILDERS ROBERT S [US]; EMMANUEL PRINCE [US]  
TI - STEM AND PROGENITOR CELL COMPOSITIONS RECOVERED FROM BONE MARROW OR CORD BLOOD; SYSTEM AND METHOD FOR PREPARATION THEREOF  
AB - The invention includes compositions of stem and progenitor cells recovered from bone marrow or cord blood containing most of the viable CD34+ cells and substantially depleted of red blood cells resident in the original sample, without any xenobiotic additives to aid cell separation. The invention also includes a system and method for preparing the compositions. The system includes a bag set and a processing device, which utilizes an optical sensor, microcontroller, servo motor, accelerometer, load cell, and battery. The system and method utilize centrifugation to stratify the cells into layers and then separate and transfer the stem cells into a stem cell bag. The processing device's microcontroller receives input from the device's accelerometer, load cell and optical sensor to direct the metering valve in the bag set to open and close to permit the transfer of as many stems cells as possible with as few red cells as possible.

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PN - US2009274668 A1 20091105  
PD - 2009-11-05  
PA - STEM CELL THERAPEUTICS INC [CA]  
IN - THOMPSON BRADLEY G [CA]; WEISS SAMUEL [CA]; SHINGO TETSURO [JP]  
TI - Combined Regulation of Neural Cell Production  
AB - This invention relates to a method of selectively producing neural cells, including neurons or glial cells, in vitro or in vivo. Also provided are methods of treating or ameliorating neurodegenerative disease or medical conditions by producing neural cells. Thus, a combination of factors is used to achieve two steps: increasing the number of neural stem cells and instructing the neural stem cells to selectively become neurons or glial cells.

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PN - US2009285787 A1 20091119  
PD - 2009-11-19  
IN - MINGUELL JOSE J [CL]; LASALA GABRIEL PARENZ [US]  
TI - Intracoronary, intracardia, or intravenous infusion of a mixture of autologous bone marrow derived mononuclear cells and autologous bone marrow derived mesenchymal stem cells for utilization and rescue of infarcted myocardium  
AB - The present invention is a method for improving cardiac function and myocardial regeneration in living subjects after the occurrence of myocardial infarction. The method is a combination stem cell therapy involving a mixture of bone marrow-derived mesenchymal stem cells and bone marrow derived mononuclear cells surgically implanted by using either a direct or catheter-mediated injection into damaged myocardium. Studies have shown that the implant improves heart

function and myocardial regeneration as assessed by MRI, SPECT and echocardiographic measurements.

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PN - US2009285883 A1 20091119  
PD - 2009-11-19  
IN - HOUCHEN COURTNEY [US]; MAY RANDAL [US]; ANANT SHRIKANT [US]; SUREBAN SRIPATHI M [US]  
TI - Identification of gastrointestinal, pancreatic and cancer stem cell markers and methods of use thereof  
AB - DCAMKL-1 has been identified as a biomarker for stem cells, as well as cancer stem cells. Methods of detecting the presence of at least one stem cell, methods of isolating stem cells, and methods of inhibiting growth of cancer cells utilizing DCAMKL-1 are disclosed herein.

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PN - WO2009140464 A1 20091119  
PD - 2009-11-19  
PA - LIGAND PHARM INC [US]; LOEWEN GORDON R [US]; MATSUMOTO RICHARD M [US]  
IN - LOEWEN GORDON R [US]; MATSUMOTO RICHARD M [US]  
TI - METHODS OF ADMINISTRATION OF THROMBOPOIETIN MIMETIC COMPOUNDS  
AB - The embodiments provide methods of administering a loading dose of a TPO modulator to a subject. The embodiments further provide methods of treating thrombocytopenia and/or neutropenia in a subject. Additionally, the embodiments further provide methods of increasing platelet production and/or enhancing the number of peripheral blood stem cells in a subject.

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PN - WO2009140452 A2 20091119  
PD - 2009-11-19  
PA - UNIV MIAMI [US]; MCNIECE IAN K [US]  
IN - MCNIECE IAN K [US]  
TI - ISOLATION OF STEM CELL PRECURSORS AND EXPANSION IN NON-ADHERENT CONDITIONS  
AB - Stem cells and compositions thereof are isolated, cultured and expanded. Culture conditions and methods of culturing the isolated stem cells provide non-adherent stem cells which are prophylactically and therapeutically more effective in patients, diagnostics, screening assays and other stem cell uses.

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PN - WO2009139419 A1 20091119  
PD - 2009-11-19  
PA - PUBLIC UNIVERSITY CORP YOKOHAMA [JP]; TANIGUCHI HIDEKI [JP]; ZHENG YUN-WEN [JP]  
IN - TANIGUCHI HIDEKI [JP]; ZHENG YUN-WEN [JP]  
TI - HUMAN HEPATIC STEM CELL, METHOD FOR PREPARATION OF THE SAME, METHOD FOR INDUCTION OF DIFFERENTIATION OF THE SAME, AND METHOD FOR UTILIZATION OF THE SAME  
AB - Disclosed is a human hepatic stem cell. The human hepatic stem cell is isolated based on the presence or absence of the expression of at least one marker selected from the group consisting of CD318, CD90, CD66 and CD13. Further disclosed are: a method for preparing the human hepatic stem cell; a method for inducing the differentiation of the human hepatic stem cell; a method for utilizing the human hepatic stem cell; and others.

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PN - WO2009140260 A2 20091119  
PD - 2009-11-19  
PA - UNIV PITTSBURGH [US]; PROCHOWNIK EDWARD A [US]  
IN - PROCHOWNIK EDWARD A [US]  
TI - CANCER STEM CELL IMMORTALIZATION  
AB - The present invention relates to the preparation and use of immortalized cancer stem cells. The immortalized cancer stem cells of the invention may be used in assays to identify anti-cancer compounds as well as molecules critical to carcinogenesis. Further, cancer stem cells may be harvested from a patient and used, according to the invention, to select agents more likely to be effective in treating the cancer of that particular patient.

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PN - WO2009137829 A2 20091112  
PD - 2009-11-12  
PA - UNIV WAKE FOREST HEALTH [US]; YOO JAMES [US]; LEE SANG JIN [US]; VAN DYKE MARK [US]; ATALA ANTHONY [US]  
IN - YOO JAMES [US]; LEE SANG JIN [US]; VAN DYKE MARK [US]; ATALA ANTHONY [US]  
TI - DIRECTED STEM CELL RECRUITMENT  
AB - The invention is directed to methods of inducing cell recruitment and tissue regeneration at a target site in a subject. It is also based, in part, on the discovery that a subject's own biological resources and environmental conditions can be used for in situ tissue regeneration and thereby reduce or eliminate the need for donor cell procurement and ex vivo manipulation of such donor cells. Methods are disclosed for recruitment of a subject's own stem cells to a target region by inducing a sustained positive pressure at a target site, such as the kidney, thereby increasing the number of pluripotent cells capable of differentiating to regenerate the target tissue.

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PN - WO2009136283 A2 20091112  
PD - 2009-11-12  
PA - CORETHERAPIX SLU [ES]; GINARD BERNARDO NADAL [ES]  
IN - GINARD BERNARDO NADAL [ES]  
TI - MULTIPOTENT ADULT STEM CELL POPULATION  
AB - The present invention relates to the identification, isolation, expansion and characterization of a specific type of adult stem cell. These adult stem cells are characterised in that they naturally express many of the markers of totipotency, which have hitherto generally been limited to embryonic cell populations. The cells of the invention display an unprecedented capacity for multipotency; they are able to differentiate into cell types of mesodermal, endodermal and ectodermal origin. These adult stem cells may be used as therapeutic agents including, without limitation, for the regeneration of tissue, particularly for regeneration of damaged cardiac tissue, such as myocardium.

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PN - WO2009136168 A1 20091112  
PD - 2009-11-12  
PA - UNIV GLASGOW [GB]; SHIELS PAUL [GB]  
IN - SHIELS PAUL [GB]  
TI - MATERIALS AND METHODS RELATING TO CELL BASED THERAPIES  
AB - The invention relates to the provision of a novel cell population that can be used for tissue regeneration and the treatment of disease states associated with cell degeneration for age related tissue changes. The cell population are derived from adult stem/progenitor cells which are characterised by being positive or negative to the Thyl.1 cell marker.

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PN - WO2009136747 A2 20091112

PD - 2009-11-12  
PA - HAN CELL [KR]; NAM MYEONG JIN [KR]  
IN - NAM MYEONG JIN [KR]  
TI - COSMETIC COMPOSITION COMPRISING A STEM-CELL CULTURE FLUID, AND A PRODUCTION METHOD THEREFOR  
AB - The present invention relates to a composition comprising a stem-cell culture fluid, and more specifically, to a cosmetic composition for wrinkle care, whitening and anti-ageing, which comprises a stem-cell culture fluid. Further, the present invention provides a method for preparing the cosmetic composition, comprising the step of culturing stem cells and isolating the stem cells from the culture fluid.

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PN - WO2009135905 A2 20091112  
PD - 2009-11-12  
PA - BONE THERAPEUTICS S A [BE]; BADOER CINDY [BE]; BASTIANELLI ENRICO [BE]; PESESSE XAVIER [BE]  
IN - BADOER CINDY [BE]; BASTIANELLI ENRICO [BE]; PESESSE XAVIER [BE]  
TI - NOVEL MESENCHYMAL STEM CELLS AND BONE-FORMING CELLS  
AB - The invention relates to a new type of mesenchymal stem cells (MSC) which co-express at least one mesenchymal marker, preferably at least CD105 and CD34. Also provided are bone-forming cells having an analogous phenotype. The invention also provides the cells and cell populations, as well as further products comprising such and uses thereof in bone therapy.

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PN - WO2009137629 A2 20091112  
PD - 2009-11-12  
PA - ADVANCED CELL TECH INC [US]; LANZA ROBERT [US]; LU SHI-JIANG [US]  
IN - LANZA ROBERT [US]; LU SHI-JIANG [US]  
TI - METHODS FOR PRODUCING ENUCLEATED ERYTHROID CELLS DERIVED FROM PLURIPOTENT STEM CELLS  
AB - Methods for generating enucleated erythroid cells using pluripotent stem cells are provided. The methods permit the production of large numbers of cells. The cells obtained by the methods disclosed may be used for a variety of research, clinical, and therapeutic applications. Methods for generating megakaryocyte and platelets are also provided.

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PN - WO2009134429 A2 20091105  
PD - 2009-11-05  
PA - MASSACHUSETTS INST TECHNOLOGY [US]; GEN HOSPITAL CORP [US]; DANA FARBER CANCER INST INC [US]; PAREKKADAN BIJU [US]; YARMUSH MARTIN LEON [US]; TURLEY SHANNON J [US]  
IN - PAREKKADAN BIJU [US]; YARMUSH MARTIN LEON [US]; TURLEY SHANNON J [US]  
TI - METHODS AND COMPOSITIONS FOR MODULATING IMMUNOLOGICAL TOLERANCE  
AB - The invention provides compositions and methods for modulating immune responses using mesenchymal stem cells. The invention further provides methods for inducing tolerance to self antigens using mesenchymal stem cells.

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PN - WO2009134409 A2 20091105  
PD - 2009-11-05  
PA - SANBIO INC [US]; CASE CASEY [US]  
IN - CASE CASEY [US]  
TI - NEURAL REGENERATING CELLS WITH ALTERATIONS IN DNA METHYLATION

AB - Disclosed herein are cells, that are descendents of marrow adherent stem cells (MASCs), capable of rescuing and/or reversing various neural disorders after transplantation into sites of central nervous system (CNS) or peripheral nervous system (PNS) injury. The cells contain alterations in the methylation state of certain genes, compared to their methylation state in MASCs. Methods of making cells capable of rescuing and/or reversing various neural disorders after transplantation into sites of CNS or PNS injury, by alteration of the methylation status of certain genes, are also provided.

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PN - WO2009133939 A1 20091105  
PD - 2009-11-05  
PA - GENOMIX CO LTD [JP]; UNIV OSAKA [JP]; TAMAI KATSUTO [JP]; YAMAZAKI TAKEHIKO [JP]; CHINO TAKENAO [JP]; KANEDA YASUFUMI [JP]  
IN - TAMAI KATSUTO [JP]; YAMAZAKI TAKEHIKO [JP]; CHINO TAKENAO [JP]; KANEDA YASUFUMI [JP]  
TI - AGENT FOR RECRUITMENT OF BONE-MARROW-DERIVED PLURIPOTENT STEM CELL INTO PERIPHERAL CIRCULATION  
AB - The following facts 1) to 3) are found; 1) when a tissue extract which is extracted from an isolated skin graft is administered intravenously, a bone-marrow-derived pluripotent stem cell can be induced in a peripheral blood; 2) the substance which can recruit the bone-marrow-derived pluripotent stem cell contained in the isolated skin graft into the peripheral blood is HMGB1; and 3) HMGB1 which has an activity to recruit the bone-marrow-derived pluripotent stem cell into the peripheral blood can be purified readily from cells in culture.

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PN - WO2009132373 A1 20091105  
PD - 2009-11-05  
PA - TRAUMA CARE CONSULT TCC TRAUMA [AT]; BIO PROD & BIO ENG AG [AT]; EIBL JOHANN [AT]; REDL HEINZ [AT]  
IN - EIBL JOHANN [AT]; REDL HEINZ [AT]  
TI - SESSILE STEM CELLS  
AB - Sterile, virally safe, heterologous, homologous, isologous or autologous tissue, tissue-typed or not tissue-typed, which contains predifferentiated and/or differentiable sessile stem cells and which can be used for wound closure and/or promotion of wound healing.

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PN - WO2009132373 A1 20091105  
PD - 2009-11-05  
PA - TRAUMA CARE CONSULT TCC TRAUMA [AT]; BIO PROD & BIO ENG AG [AT]; EIBL JOHANN [AT]; REDL HEINZ [AT]  
IN - EIBL JOHANN [AT]; REDL HEINZ [AT]  
TI - SESSILE STEM CELLS  
AB - Sterile, virally safe, heterologous, homologous, isologous or autologous tissue, tissue-typed or not tissue-typed, which contains predifferentiated and/or differentiable sessile stem cells and which can be used for wound closure and/or promotion of wound healing.

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PN - US2009274667 A1 20091105  
PD - 2009-11-05  
PA - REGENERATIVE RES FOUNDATION [US]  
IN - TEMPLE SALLY [US]; STERN JEFFREY [US]; SALERO-COCA ENRIQUE L [US]  
TI - RETINAL PIGMENT EPITHELIAL STEM CELLS  
AB - The present invention relates to a retinal pigment epithelial stem cell isolated from a posterior region of the retinal pigment epithelium of an adult mammal. The invention also relates to a method of inducing differentiation of retinal epithelial stem and progenitor cells in vitro, wherein the

cells of the invention are highly plastic, multipotential stem cells. The invention also includes methods for the treatment of retinal diseases and vision loss involving the transplantation of retinal pigment epithelial stem cells or cells differentiated from retinal pigment epithelial stem cells to the retina of a patient in need of treatment.

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PN - US2009275546 A1 20091105  
PD - 2009-11-05  
PA - IST SUPERIORE SANITA [IT]; GEORGE MASON UNIVERSITY [US]  
IN - SIGNORE MICHELE [IT]; DE MARIA RUGGERO [IT]; LIOTTA LANCE A [US];  
PETRICOIN EMANUEL F [US]  
TI - Diagnostic tests and personalized treatment regimes for cancer stem cells  
AB - Provided are methods of identifying a metabolic target in a cancer stem cell that include using a microarray to identify intracellular signaling networks within a population of cancer stem cells that respond to a growth factor for the stem cell. Also provided are methods of determining a personalized therapeutic regime that include receiving metabolic information relating to a cancer stem cell in a patient, determining the patient's personal criteria relevant to the therapeutic regime, and combining the metabolic and personal criteria. Also provided are a diagnostic test for establishing a personalized therapeutic regime for a colon cancer patient and methods of reducing colon cancer stem cells/treating colon cancer.

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PN - WO2009134532 A2 20091105  
PD - 2009-11-05  
PA - UNIV COLUMBIA [US]; UNIV NEW YORK [US]; DORONIN SERGEY V [US];  
POTAPOVA IRINA A [US]; COHEN IRA S [US]; ROSEN MICHAEL R [US]; ROBINSON RICHARD B  
[US]; BRINK PETER R [US]  
IN - DORONIN SERGEY V [US]; POTAPOVA IRINA A [US]; COHEN IRA S [US]; ROSEN  
MICHAEL R [US]; ROBINSON RICHARD B [US]; BRINK PETER R [US]  
TI - HOMING IN MESENCHYMAL STEM CELLS  
AB - The present invention relates to expression of CXCR4 in mesenchymal stem cells (MSCs) and homing of MSCs to sites of injury. In particular, the invention provides expanded cultures of MSCs which maintain cell surface expression of CXCR4. The MSCs are capable of homing to sites of injury and are suitable for treatment of ischemic disorders, including cardiac disorders, bone and cartilage disorders, liver disorders, inflammatory disorders, and stroke.

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PN - US2009280180 A1 20091112  
PD - 2009-11-12  
IN - VOYTIK-HARBIN SHERRY L [US]; KREGER SETH [US]; YODER MERVIN C [US];  
CRITSER PAUL [US]  
TI - COLLAGEN-BASED MATRICES WITH STEM CELLS  
AB - Collagen based-matrices and methods of their use are described. More particularly, collagen-based matrices for differentiating stem cells and progenitor cells, and for producing and isolating blood vessels and vascularized graft constructs are described.

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PN - US2009280198 A1 20091112  
PD - 2009-11-12  
IN - SANBERG CYNDY DAVIS [US]; SANBERG PAUL [US]; BICKFORD PAULA [US];  
SHYTLE R DOUGLAS [US]; TAN JUN [US]  
TI - Combined effects of nutrients on proliferation of stem cells  
AB - A method and composition for stimulating the proliferation and differentiation of stem cells is used to self-repair injury in mammals. A supplement is administered having an effective dose of blueberry, carnosine, catechin, green tea extract, VitaBlue, Vitamin D3 or combinations of these.

For example, a therapeutic amount of two or more of the supplements may be selected having a synergistic effect, allowing a lower dose to achieve the same or greater effective protection as a higher dose of any one of the supplements.

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PN - EP2119434 A1 20091118  
PD - 2009-11-18  
PA - INST NAT SANTE RECH MED [FR]  
TI - Use of heterosidic flavonoid derivatives for therapy of stem cell cancers  
AB - The present invention relates to therapy of stem cell cancer and more specifically against acute myeloid leukaemia. The present invention more precisely deals with the use of heterosidic flavonoid derivatives and in particular rutin, or derivatives thereof for the treatment of stem cell cancer specifically acute myeloid leukaemia, for preventing tumor relapse in a patient and/or for preventing solid tumor metastasis in a patient

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PN - EP2118272 A2 20091118  
PD - 2009-11-18  
PA - NAT UNIV IRELAND [IE]  
IN - BOWES TYRONE VILLALARD [IE]; GREISER UDO [IE]; FINLAY WILLIAM JAMES JOHNATHAN [IE]; O'BRIEN TIMOTHY [IE]; BARRY FRANK [IE]  
TI - MARKERS, ANTIBODIES AND RECOMBINANT SCFVS FOR MESENCHYMAL STEM CELL-SUB-POPULATIONS AND OSTEOCLASTS  
AB - Abstract Markers, antibodies and recombinant scFvs for Mesenchymal Stem Cell sub-populations and osteoclasts. The present invention relates to specific epitopes of surface membrane bound glycoproteins expressed by mesenchymal stem cells and pre-osteoclasts and relates to antibodies such as monoclonal antibodies and recombinant scFv or fragments thereof, raised to the particular epitope and their use in identifying, isolating, and characterization of mesenchymal stem cell sub-populations such as that termed "Stromal Progenitor Cells" (SPCs) in bone marrow and identifying, isolating, and characterization of pre-osteoclasts in peripheral blood. By binding to a specific epitope on the cell surface, limbin/EVC-2 detection and separation by conventional cell sorting methodologies are facilitated

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PN - EP2117543 A2 20091118  
PD - 2009-11-18  
PA - NEPHROGEN LLC [US]  
IN - WESTENFELDER CHRISTOF [US]  
TI - POTENTIATION OF STEM CELL HOMING AND TREATMENT OF ORGAN DYSFUNCTION OR ORGAN FAILURE  
AB - The invention provides methods and compositions for the treatment of multi-organ failure or kidney dysfunction, such as acute renal failure, by mesenchymal stem cells and a CD26 inhibitor, where inhibition of CD26 increases homing of the mesenchymal stem cells to a target tissue.

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PN - EP2119768 A1 20091118  
PD - 2009-11-18  
PA - ORGAN TECHNOLOGIES INC [JP]  
IN - TSUJI TAKASHI [JP]; MORITA RITSUKO [JP]  
TI - METHOD FOR PRODUCTION OF MESENCHYMAL CELL, METHOD FOR PRODUCTION OF TOOTH, AND MESENCHYMAL CELL FOR FORMATION OF TOOTH  
AB - The present invention provides a method for producing mesenchymal cells for production of mesenchymal cells for formation of a tooth, the method comprising: culturing totipotent stem cells in the presence of a differentiation inducer to produce a cell population after differentiation induction treatment, the cell population containing CD44-positive and CD29-positive cells or CD44-

positive and CD106-positive cells; and selecting, from the cell population after the differentiation induction treatment, the CD44-positive and CD29-positive cells or CD44-positive and CD106-positive cells as the mesenchymal cells for the formation of the tooth. The present invention also provides a method for producing a tooth comprising: positioning, in a support carrier capable of retaining cells in a state of contacting therewith, a first cell mass substantially consisting of only either one of mesenchymal cells and epithelial cells and a second cell mass substantially consisting of only the other one of the mesenchymal cells and epithelial cells, the first and second cell masses being not mixed with each other but made to closely contact with each other; and culturing the first and second cell masses; wherein the mesenchymal cells comprise the mesenchymal cells for the formation of the tooth.

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PN - EP2115460 A1 20091111

PD - 2009-11-11

PA - (A1 A4)

SUOMEN PUNAINEN RISTI VERIPALV [FI]; GLYKOS FINLAND LTD [FI]

IN - (A1 A4)

LAINEN JARMO [FI]; SATOMAA TERO [FI]; NATUNEN JARI [FI]; HEISKANEN ANNAMARI [FI];

BLOMQUIST MARIA [FI]; OLONEN ANNE [FI]; SAARINEN JUHANI [FI]; TIITINEN SARI [FI];

IMPOLA ULLA [FI]; AITIO OLLI [FI]; VALMU LEENA [FI]; ANDERSON HEIDI [FI]; PITKAENEN

VIRVE [FI]; PARTANEN JUKKA [FI]; JAATINEN TAINA [FI]

TI - (A1 A4)

NOVEL CARBOHYDRATE FROM HUMAN CELLS AND METHODS FOR ANALYSIS AND MODIFICATION THEREOF

AB - The invention describes reagents and methods for specific binders to glycan structures of stem cells. Furthermore the invention is directed to screening of additional binding reagents against specific glycan epitopes on the surfaces of the stem cells. The preferred binders of the glycans structures includes proteins such as enzymes, lectins and antibodies.

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PN - EP2118273 A1 20091118

PD - 2009-11-18

PA - SUOMEN PUNAINEN RISTI VERIPALV [FI]; GLYKOS FINLAND LTD [FI]

IN - LAINE JARMO [FI]; SATOMAA TERO [FI]; NATUNEN JARI [FI]; JAATINEN TAINA

[FI]; HEISKANEN ANNAMARI [FI]; NYSTEDT JOHANNA [FI]

TI - METHOD FOR MODIFYING CELLS

AB - The invention describes specific sialylated structures present on human stem cells and cell populations derived thereof. The invention is especially directed to methods to control the status of stem cells by changing sialylation and/or fucosylation levels of the cells. The invention is further directed to novel stem cells, the glycosylation of which has been specifically altered. The control methods are preferably mass spectrometric methods

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PN - EP2118271 A1 20091118

PD - 2009-11-18

PA - UNIV PITTSBURGH [US]

IN - CHANCELLOR MICHAEL B [US]; JANKOWSKI RONALD [US]; PRUCHNIC RYAN

[US]; HUARD JOHNNY [US]

TI - MUSCLE DERIVED CELLS FOR THE TREATMENT OF URINARY TRACT PATHOLOGIES AND METHODS OF MAKING AND USING THE SAME

AB - The present invention provides muscle-derived progenitor cells that show long-term survival following transplantation into body tissues and which can augment soft tissue following introduction (e.g. via injection, transplantation, or implantation) into a site of soft tissue. Also provided are methods of isolating muscle-derived progenitor cells, and methods of genetically modifying the cells for gene transfer therapy. The invention further provides methods of using compositions comprising muscle-derived progenitor cells for the augmentation and bulking of mammalian, including

human, soft tissues in the treatment of various functional conditions, including malformation, injury, weakness, disease, or dysfunction. In particular, the present invention provides treatments and amelioration for urinary incontinence and other urinary tract pathologies.

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PN - EP2115124 A2 20091111  
PD - 2009-11-11  
PA - CLEVELAND BIOLABS INC [US]  
IN - SHAKHOV ALEXANDER [US]; STROM EVGUENIA [US]  
TI - METHODS FOR INCREASING AND MOBILIZING HEMATOPOIETIC STEM CELLS  
AB - A method is provided for increasing the number of hematopoietic stem cells in the bone marrow, increasing the mobilization of these cells to migrate from the bone marrow to the bloodstream and elsewhere, and increasing the number of differentiating hematopoietic stem cells in the bloodstream.

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PN - EP2115125 A2 20091111  
PD - 2009-11-11  
PA - CALIFORNIA STEM CELL INC [US]  
IN - NISTOR GABRIEL [US]  
TI - STEM CELL GROWTH MEDIA AND METHODS OF MAKING AND USING SAME  
AB - The invention provides media formulations. A complete media formulation of the invention includes, for example, the following components: albumin, an iron carrier, glutamine, a glycosidase or hydrolase, fibroblast growth factor (FGF), a salt or mineral, and essential amino acids, at an osmolarity of about 220-330 mOsm/Liter.

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PN - US2009274665 A1 20091105  
PD - 2009-11-05  
PA - CELL THERAPY TECHNOLOGIES INC [CA]  
IN - AKABUTU JOHN F [CA]; THEBAUD BERNARD [CA]  
TI - Stem Cells For Treating Lung Diseases  
AB - The invention is compositions and methods for treating lung diseases and conditions using mesenchymal stem cells. The preferred stem cells are those derived from a human umbilical cord, or from bone marrow.

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PN - US2009285786 A1 20091119  
PD - 2009-11-19  
PA - CHILDRENS MEDICAL CENTER [US]  
IN - ZON LEONARD I [US]; NORTH 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 - US2009280093 A1 20091112  
PD - 2009-11-12  
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 populations and compositions of stem and progenitor cells derived from the umbilical cord, and methods of obtaining the same. In some embodiments, one or more entire umbilical cords 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 populations and compositions may be banked and/or used in a number of clinical or other applications. Exemplary applications include but are not limited to applications related to regenerative medicine, for screening compounds, for research, and for gene therapy.

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PN - US2009286695 A1 20091119

PD - 2009-11-19

PA - AXXAM S P A [IT]

IN - CAINARCA SILVIA [IT]; NUCCI CINZIA [IT]; CORAZZA SABRINA [IT]; LOHMER STEFAN [IT]

TI - LUMINESCENT STEM CELLS AND USES THEREOF

AB - It is described a stable recombinant stem cell able to express an apophotoprotein and produce a bioluminescent signal in the presence of a suitable chromophore as substrate in response to intracellular calcium concentration variation: methods for identifying agents modulating the differentiation of stem cells towards a specific cell lineage; methods for identifying a ligand able to stimulate a specific cell lineage target; methods for identifying an antagonist to ligand known to stimulate a specific cell lineage target uses of stable recombinant stem cells for in vitro testing of toxicity and/teratology of a substance.

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PN - US2009275127 A1 20091105

PD - 2009-11-05

IN - ENNIS JANE [CA]; SARUGASER RAHUL [CA]; DAVIES JOHN E [CA]

TI - VIABLE CELLS FROM FROZEN UMBILICAL CORD TISSUE

AB - Viable progenitor cells are extracted from frozen umbilical cord tissue. In embodiments, the umbilical cord tissue is a blood vessel bearing perivascular Wharton's jelly, and the extracted progenitor cells are HUCPVCs.

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PN - US2009287185 A1 20091119

PD - 2009-11-19

PA - TRUSTEES OF THE UNIVERSITY OF [US]

IN - BRIDGES CHARLES R [US]

TI - Cardiac Targeted Delivery of Cells

AB - A method of delivering cardiac stem cell and treating damaged cardiac tissue is provided. The method involves isolation of subject's cardiac circulation from the subject's systemic circulation and perfusing a solution comprising stem cells into the cardiac circuit.

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PN - US2009274663 A1 20091105

PD - 2009-11-05

PA - NIPON STEEL MATERIALS CO LTD [JP]

IN - SHIELS PAUL G [GB]; DAVIES R WAYNE [GB]

TI - Materials and Methods Relating to Cell Based Therapies  
AB - The invention provides a novel multipotent cell population of adult origin that can be used to treat ageing and disease, particularly by transplantation to site of cellular damage.

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PN - US2009285892 A1 20091119  
PD - 2009-11-19  
IN - SAKTHIVEL RAMASAMY [US]; BROWN DONALD J [US]; MAO HAI-QUAN [US]; DOUAY LUC [FR]; POMPILI VINCENT J [US]; MCLNTOSH KEVIN [US]; DAS HIRANMOY [US]; ZHAO YUKANG [US]  
TI - METHODS AND SYSTEMS FOR EXPANDING AC133+ CELLS AND DIRECTING DIFFERENTIATION  
AB - The invention provides, among other things, methods and systems for expanding CD133+ cells. The invention further provides methods and systems for increasing the blood flow to an ischemic tissue in a subject in need thereof, such as to ischemic myocardium. The invention further provides methods and systems for directing differentiation of expanded CD133+ cells. The invention further provides methods and systems for treating a subject with differentiated cells in a subject in need thereof.

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PN - WO2009137874 A1 20091119  
PD - 2009-11-19  
PA - UNIV QUEENSLAND [AU]; WALKER TARA LOUISE [AU]; BARTLETT PERRY FRANCIS [AU]  
IN - WALKER TARA LOUISE [AU]; BARTLETT PERRY FRANCIS [AU]  
TI - METHOD OF INDUCING PROLIFERATION AND/OR DIFFERENTIATION OF NEURAL PRECURSOR CELLS BY INTRODUCING PROLACTIN OR WNT3A TO ACTIVATE LATENT NEURAL PRECURSOR CELLS  
AB - A method of inducing proliferation and/or differentiation of a hippocampal cell population activating a latent neural precursor cell, enriching a cell population for neural precursor cells and treating neurodegenerative diseases and/or repopulating a damaged hippocampus by introducing prolactin or Wnt3a so as to activate a latent neural precursor cell population.

**EMBRYONIC STEM CELLS -39 Documents**

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PN - US2009328243 A1 20091231  
PD - 2009-12-31  
IN - EHLICH ANDREAS [DE]  
TI - Secreted proteins as markers for cell differentiation  
AB - Provided are means and methods for in vitro and in vivo detection of chemically induced effects on embryonic development and differentiation for the purpose of embryotoxicity/teratogenicity screening as well as for the identification of pharmaceuticals such as growth and tissue promoting factors based on differentiating pluripotent embryonic stem (ES) cells. The assays are based on the use of transgenic ES cells and non-human animals comprising such ES cells or derivatives thereof, wherein said ES cells are characterized by the differentiation-dependent expression of a secreted reporter protein; in particular secreted embryonic alkaline phosphatase (SEAP).

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PN - US2009325180 A1 20091231  
PD - 2009-12-31  
IN - FISK GREGORY J [US]; INOKUMA MARGARET S [US]

TI - Drug Screening using Islet Cells and Islet Cell Progenitors from Human Embryonic Stem Cells  
AB - This disclosure provides a system for producing pancreatic islet cells from embryonic stem cells. Differentiation is initiated towards endoderm cells, and focused using reagents that promote emergence of islet precursors and mature insulin-secreting cells. High quality populations of islet cells can be produced in commercial quantities for use in research, drug screening, or regenerative medicine.

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PN - US2009324559 A1 20091231  
PD - 2009-12-31  
PA - IZUMI BIO INC [US]  
IN - SAKURADA KAZUHIRO [JP]; SEIDENMAN KENNETH J [US]  
TI - METHODS AND PLATFORMS FOR DRUG DISCOVERY  
AB - The present invention involves methods for identifying an agent that corrects a phenotype associated with a health condition or a predisposition for a health condition. The invention also involves methods for identifying a diagnostic cellular phenotype, determining the risk of a health condition in a subject, methods for reducing the risk of drug toxicity in a human subject, and methods for identifying a candidate gene that contributes to a human disease. The invention also discloses human induced pluripotent stem cell lines.

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PN - US2009328242 A1 20091231  
PD - 2009-12-31  
IN - KENNEDY JOHN W [US]  
TI - Replication of Undifferentiated Cells in a Weightless Environment, Uses Thereof and a Facility for Such Replication and the Acceleration of the Evolution of Plants and Animals  
AB - The present invention provides manufacturing processes for biological replication of undifferentiated plant and animal cells and tissue in a weightless condition, including those systems used in current stem cell research and development and use of undifferentiated parenchyma in plants. The present invention further provides methods for adapting plants and animals to survive outside their native environments. In particular, undifferentiated cells from plants or animals are replicated under weightless conditions in which cell replication or proliferation is accelerated and sustained. Under such conditions, the undifferentiated cells can be "forced" to express sets of genes useful for survival in particular environmental conditions. In this manner, cells surviving prolonged exposure to specific environmental conditions can be selected for and cultivated to produce an organism adapted to that particular environment in an accelerated manner. Methods of identifying specific genes associated with adaptation of a plant or animal to a specific environment are also disclosed.

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PN - US2009325288 A1 20091231  
PD - 2009-12-31  
PA - ASUBIO PHARMA CO LTD [JP]  
IN - KOSHIMIZU UICHI [JP]; TANAKA TOMOFUMI [JP]; KAWASHIMA KAYOKO [JP]; KADOKURA MICHINORI [JP]  
TI - METHOD FOR INDUCING DIFFERENTIATION OF PLURIPOTENT STEM CELLS INTO CARDIOMYOCYTES  
AB - The present invention provides a method for inducing differentiation of cardiomyocytes efficiently and selectively from stem cells. A method for inducing differentiation of cardiomyocytes from pluripotent stem cells, which comprises: (i) culturing the pluripotent stem cells in a culture medium containing no substance that promotes activation of the canonical Wnt signaling pathway during the time period between initiation of differentiation induction and 24 hours before the period of elevated canonical Wnt gene expression; and then (ii) culturing the pluripotent stem cells in a culture medium containing a substance that promotes activation of the canonical Wnt signaling

pathway during a time period of 24 to 96 hours, starting from 24 to 0 hours before the period of elevated canonical Wnt gene expression.

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PN - US2009325294 A1 20091231  
PD - 2009-12-31  
IN - NELSON SHELLEY [US]  
TI - SINGLE PLURIPOTENT STEM CELL CULTURE  
AB - The present invention relates to the field of pluripotent stem cell culture and methods facilitate pluripotent stem cell culture at industrial levels.

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PN - US2009325293 A1 20091231  
PD - 2009-12-31  
IN - DAVIS JANET [US]; LIU JIAJIAN [US]  
TI - TREATMENT OF PLURIPOTENT CELLS  
AB - The present invention is directed to methods to treat pluripotent cells, whereby the pluripotent cells can be efficiently expanded in culture and differentiated by treating the pluripotent cells with an inhibitor of GSK-3B enzyme activity.

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PN - WO2009156398 A1 20091230  
PD - 2009-12-30  
PA - INST NAT SANTE RECH MED [FR]; GUENOU HIND [FR]; LEMAITRE GILLES [FR]; BALDESCHI CHRISTINE [FR]; PESCHANSKI MARC [FR]  
IN - GUENOU HIND [FR]; LEMAITRE GILLES [FR]; BALDESCHI CHRISTINE [FR]; PESCHANSKI MARC [FR]  
TI - METHODS FOR PREPARING HUMAN SKIN SUBSTITUTES FROM HUMAN PLURIPOTENT STEM CELLS  
AB - The present invention relates to an ex vivo method for obtaining a population of human keratinocytes derived from human pluripotent stem cells comprising a step of co-culturing human pluripotent stem cells with cells that support ectodermal differentiation in presence of an agent that stimulates epidermal induction and a agent that stimulates terminal differentiation of keratinocytes. A further object of the invention relates to a method for preparing a human skin substitute comprising a step of providing an organotypic culture of the substantially pure homogenous population of human keratinocytes derived from human pluripotent stem cells obtained according to the method of the invention.

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PN - WO2009154606 A1 20091223  
PD - 2009-12-23  
PA - CYTHERA INC [US]; D AMOUR KEVIN ALLEN [US]  
IN - D AMOUR KEVIN ALLEN [US]  
TI - GROWTH FACTORS FOR PRODUCTION OF DEFINITIVE ENDODERM  
AB - Disclosed herein are methods for generating endoderm lineage type cells derived from human pluripotent cells, such as human embryonic stem cells, by using various agents including, but not limited to, GDF8, GDF11 and GSK-3beta inhibitors. Also disclosed herein are endoderm lineage cell populations or compositions, such as populations or compositions comprising definitive endoderm and/or other definitive endoderm-derived cell types.

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PN - EP2137295 A2 20091230  
PD - 2009-12-30  
PA - TRYGGVASON KARL [SE]; DOMOGATSKAYA ANNA [SE]; RODIN SERGEY [SE]

IN - TRYGGVASON KARL [SE]; DOMOGATSKAYA ANNA [SE]; RODIN SERGEY [SE]  
TI - COMPOSITION AND METHOD FOR ENABLING PROLIFERATION OF  
PLURIPOTENT STEM CELLS  
AB - The present disclosure is directed to the development of compositions, such as extracellular matrices, and processes for using the same, for culturing stem cells in vitro in an undifferentiated state. In this regard, it has been discovered that when pluripotent mouse and human embryonic stem cells are cultured on plates coated with recombinant laminin-10 (laminin-511) or laminin-5 (laminin-322), or their functional domains, the embryonic stem cells proliferated and maintained their pluripotency.

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PN - EP2134836 A2 20091223  
PD - 2009-12-23  
PA - CELLARTIS AB [SE]  
IN - STREHL RAIMUND [SE]; ADLER SARAH [DE]  
TI - A COMBINED SCALABLE IN VITRO DIFFERENTIATION SYSTEM FOR HUMAN BLASTOCYST-DERIVED STEM (hBS) CELLS OR CELLS DERIVED FROM hBS CELLS FOR DIRECT ASSAY APPLICATION IN MULTIWELL PLATES  
AB - The present invention relates to a combined scalable in vitro differentiation and assay system based on human blastocyst-derived stem (hBS) cells or cells derived from hBS cells. The present invention makes it possible to merge both the differentiation and the assay parts of the system into one. The advantage of the combined assay system is that the hBS cells or the cells derived from hBS cells in the differentiation system are directly applicable for assays, in large variety of assay units, such as different multiwell plates. The herein presented system is therefore a major improvement compared to the prior art, since the cells are differentiated in the same format as they are further being subject to analysis in. The starting cell material can be homogeneously distributed across a variety of different plates, for use and can be cultured attached, semi attached or in suspension.

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PN - WO2009151301 A2 20091217  
PD - 2009-12-17  
PA - CHABIO & DIOSTECH CO LTD [KR]; CHUNG HYUNG MIN [KR]; LIM JOA JIN [KR]; MOON SUNG HWAN [KR]; KIM JU MI [KR]  
IN - CHUNG HYUNG MIN [KR]; LIM JOA JIN [KR]; MOON SUNG HWAN [KR]; KIM JU MI [KR]  
TI - GRAFT MATERIAL FOR WOUND TREATMENT AND TREATMENT METHOD USING VASCULAR PRECURSOR CELLS DERIVED FROM HUMAN EMBRYONIC STEM CELLS  
AB - The present invention provides a graft material for wound treatment including vascular precursor cells derived from human embryonic stem cells, wherein the vascular precursor cells are separated and enriched by differentiating human embryonic stem cells via embryoid body formation under hypoxic conditions. In addition, the present invention provides a wound treatment method using vascular precursor cells derived from embryonic stem cells, comprising: (a) a step of culturing vascular precursor cells derived from embryonic stem cells for transplantation; and (b) a step of transplanting said cultured vascular precursor cells derived from embryonic stem cells into the skin of mammals.

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PN - WO2009150051 A2 20091217  
PD - 2009-12-17  
PA - AARHUS UNI [DK]; DUCH MOGENS RYTTERGAARD [DK]; MARKERT LOTTE [DK]; LOVMAND JETTE [DK]; FUECHTBAUER ANNETTE CHRISTINE [DK]; FUERCHTBAUER ERNST MARTIN [DK]; FOSS MORTEN [DK]; BESENBACHER FLEMMING [DK]; PEDERSEN FINN SKOU [DK]

IN - DUCH MOGENS RYTTERGAARD [DK]; MARKERT LOTTE [DK]; LOVMAND JETTE [DK]; FUECHTBAUER ANNETTE CHRISTINE [DK]; FUERCHTBAUER ERNST MARTIN [DK]; FOSS MORTEN [DK]; BESENBACHER FLEMMING [DK]; PEDERSEN FINN SKOU [DK]  
TI - BIOCOMPATIBLE MATERIALS FOR MAMMALIAN STEM CELL GROWTH AND DIFFERENTIATION  
AB - A biocompatible material, wherein at least a part of a surface of the biocompatible material is characterized by a micro or nano-meter scale topographical structure comprising a plurality of features where the structure is selected to promote the growth of undifferentiated pluripotent stem cells or serve to promote the uniform differentiated growth of stem cells. Furthermore, a biocompatible material is provided having a surface structure and composition that affects a cellular function, in particular cellular functions related to gene induction, cell differentiation and the formation of bone tissue in vivo and ex-vivo.

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PN - US2009311765 A1 20091217  
PD - 2009-12-17  
IN - MAGUIRE TIM [US]; SCHLOSS RENE [US]; YARMUSH MARTIN [US]  
TI - Alginate poly-L-Lysine encapsulation as a technology for controlled differentiation of embryonic stem cells  
AB - Alginate polyelectrolyte encapsulation is used for the controlled differentiation of embryonic stem cells. An isolated cell population is provided. The cell population includes a single cell suspension of ES cells encapsulated within an alginate polyelectrolyte microenvironment. The encapsulated ES cells are capable of differentiating within said microenvironment into hepatocyte lineage cells in the absence of embryoid body intermediates or growth factor supplementation.

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PN - US2009311782 A1 20091217  
PD - 2009-12-17  
PA - TAIPEI VETERANS GENERAL HOSPIT [TW]  
IN - CHIOU SHIH-HWA [TW]; FU YU-SHOW [TW]; HO LARRY LOW-TONE [TW]; HUNG SHIH-CHIEH [TW]  
TI - METHOD FOR PROMOTING DIFFERENTIATION OF STEM CELL INTO INSULIN PRODUCING CELL  
AB - A method for promoting a differentiation of stem cells into insulin producing cells is provided. The method includes steps of suspending the stem cells in a first culture medium, aggregating the stem cells to form a cell pellet, and culturing the cell pellet in a second culture medium to promote the differentiation of the stem cells of the cell pellet into the insulin producing cells.

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PN - US2009311781 A1 20091217  
PD - 2009-12-17  
IN - AMIT MICHAL [IL]; ITSKOVITZ-ELDOR JOSEPH [IL]  
TI - METHODS OF EXPANDING EMBRYONIC STEM CELLS IN A SUSPENSION CULTURE  
AB - A method of expanding and maintaining human embryonic stem cells (ESCs) in an undifferentiated state by culturing the ESCs in a suspension culture under culturing conditions devoid of substrate adherence is provided. Also provided are a method of deriving ESC lines in the suspension culture and methods of generating lineage-specific cells from ESCs which were expanded in the suspension culture of the present invention.

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PN - US2009311735 A1 20091217  
PD - 2009-12-17  
PA - ES CELL INT PTE LTD [SG]

IN - CROOK JEREMY MICAH [SG]; HORNE RACHEL [SG]; PHILLIPS BLAINE WESLEY [SG]  
TI - METHOD FOR STEM CELL CULTURE AND CELLS DERIVED THEREFROM  
AB - There is described a method of promoting the attachment, survival and/or proliferation of a stem cell in culture, the method comprising culturing a stem cell on a positively-charged support surface. There are also provided a cell composition prepared according to the method of the invention.

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PN - EP2132225 A1 20091216  
PD - 2009-12-16  
PA - PROCELL THERAPEUTICS INC [KR]  
IN - JO DAE WOONG [KR]; KIM JIN SOOK [KR]; PARK YUN KYUNG [KR]  
TI - COMBINED USE OF CELL PERMEABLE NANOG AND OCT4 FOR INCREASING SELF-RENEWAL AND SUPPRESSING DIFFERENTIATION OF STEM CELLS  
AB - The present invention discloses cell permeable Nanog and Oct4 recombinant proteins that comprise a kaposi fibroblast growth factor 4 (kFGF4)-derived macromolecule transduction domain (MTD). Also disclosed are polynucleotides encoding the cell permeable Nanog and Oct4 recombinant proteins, a method of increasing self-renewal and suppressing differentiation of stem cells by treating the cells in combination with the cell permeable Nanog and Oct4 recombinant proteins, and the combined use of the cell permeable Nanog and Oct4 recombinant proteins for increasing self-renewal and suppressing differentiation of stem cells.

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PN - WO2009148622 A1 20091210  
PD - 2009-12-10  
PA - PROTEONOMIX INC [US]; SHAMBLOTT MICHAEL [US]; COHEN MICHAEL [US]  
IN - SHAMBLOTT MICHAEL [US]; COHEN MICHAEL [US]  
TI - COMPOSITIONS AND METHODS FOR GROWING EMBRYONIC STEM CELLS  
AB - Methods for deriving and cultivating human embryonic stem (ES) cells and maintaining their pluripotency in culture is provided by utilizing human umbilical cord blood derived stem cells or secreted proteins obtained from the culture medium of human umbilical cord blood derived stem cells.

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PN - US2009305405 A1 20091210  
PD - 2009-12-10  
PA - GERON CORP [US]  
IN - CARPENTER MELISSA K [US]; THIES R SCOTT [US]  
TI - USE OF TGF BETA SUPERFAMILY ANTAGONISTS AND NEUROTROPHINS TO MAKE NEURONS FROM EMBRYONIC STEM CELLS  
AB - This invention provides a system for efficiently producing differentiated cells from pluripotent cells, such as human embryonic stem cells. Rather than permitting the cells to form embryoid bodies according to established techniques, differentiation is effected directly in monolayer culture on a suitable solid surface. The cells are either plated directly onto a differentiation-promoting surface, or grown initially on the solid surface in the absence of feeder cells and then exchanged into a medium that assists in the differentiation process. The solid surface and the culture medium can be chosen to direct differentiation down a particular pathway, generating a cell population that is remarkably uniform. The methodology is well adapted to bulk production of committed precursor and terminally differentiated cells for use in drug screening or regenerative medicine.

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PN - US2009304646 A1 20091210  
PD - 2009-12-10

IN - SAKURADA KAZUHIRO [JP]; MASAKI HIDEKI [JP]; ISHIKAWA TETSUYA [JP]; TAKAHASHI SHUNICHI [JP]  
TI - Multipotent/Pluripotent Cells and Methods  
AB - Described herein are multipotent stem cells, e.g., human and other mammalian pluripotent stem cells, and related methods.

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PN - US2009305404 A1 20091210  
PD - 2009-12-10  
PA - STEMLIFELINE INC [US]  
IN - KRTOLICA ANA [US]; ILIC DUSKO [US]  
TI - Methods and compositions relating to blastomere-derived human embryonic stem cells  
AB - The invention provides methods for producing human embryonic stem cells from blastomeres with reduced or no animal cells or products, including no serum regardless of source and including xeno-free conditions, without compromising derivation efficiency.

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PN - US2009304642 A1 20091210  
PD - 2009-12-10  
PA - AGENCY SCIENCE TECH & RES [SG]  
IN - BAKRE MANJIRI [SG]; STANTON LAWRENCE W [SG]  
TI - METHODS OF SPECIFYING MESODERMAL, ENDODERMAL AND MESOENDODERMAL CELL FATES  
AB - We disclose a method for producing a mesodermal or an endodermal cell from a pluripotent stem cell, the method comprising activating a Wnt signalling pathway in the pluripotent stem cell. In some embodiments, the pluripotent stem cell is in a substantially 2 dimensional configuration, such as a monolayer, for at least a portion of the time when the Wnt signalling pathway is activated.

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PN - GB2460552 A 20091209  
PD - 2009-12-09  
PA - ITI SCOTLAND LTD [GB]  
IN - MCRAE ROBERT SCOTT [GB]  
TI - Stem cell culture media  
AB - Culture media for pluripotent stem cells, in particular human embryonic stem (hES) cells comprising, amongst other ingredients, a nuclear hormone receptor (NHR) agonist, in particular a farnesoid X receptor (FXR) agonist (e.g. linolenic acid or cholic acid), a retinoid X receptor (RXR) or retinoic acid receptor (RAR) agonist (e.g. retinol), a peroxisome proliferator-activated receptor (PPAR) agonist (e.g. linoleic acid), and/or a thyroid hormone receptor (THR) agonist (e.g. tri-iodo-L-thyronine). The invention also provides related culture medium supplements, compositions and uses.

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PN - US2009298169 A1 20091203  
PD - 2009-12-03  
PA - UNIV GEORGIA RES FOUNDATION [US]  
IN - DALTON STEPHEN [US]; REYNOLDS DAVID [US]; KULIK MICHAEL [US]  
TI - Pancreatic and Liver Endoderm Cells and Tissue by Differentiation of Definitive Endoderm Cells Obtained from Human Embryonic Stems  
AB - The invention relates to methods that allow for the efficient differentiation to form pancreatic endoderm cells from pluripotent stem cells such as human embryonic stem cells and definitive endoderm cells. The invention is directly applicable to the ultimate generation of pancreatic beta cells that could be used as part of a therapy to treat or even cure diabetes. Additionally, the present invention may be used to generate liver endoderm cells from human embryonic stem cells

and definite endoderm cells as well. This invention relates to a method for generating definitive endoderm and pancreatic endoderm cells from stem cells, preferably human embryonic stem cells using defined media in the absence of feeder cells. A simply two step procedure to provide pancreatic endoderm cells from embryonic stem cells represents further embodiments of the present invention.

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PN - US2009298178 A1 20091203  
PD - 2009-12-03  
IN - D AMOUR KEVIN ALLEN [US]  
TI - GROWTH FACTORS FOR PRODUCTION OF DEFINITIVE ENDODERM  
AB - Disclosed herein are methods for generating endoderm lineage type cells derived from human pluripotent cells, such as human embryonic stem cells, by using various agents including, but not limited to, GDF8, GDF11 and GSK-3beta inhibitors. Also disclosed herein are endoderm lineage cell populations or compositions, such as populations or compositions comprising definitive endoderm and/or other definitive endoderm-derived cell types.

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PN - EP2129771 A2 20091209  
PD - 2009-12-09  
PA - GOVERNMENT OF THE U S A AS REP [US]  
IN - KO MINORU S H [US]; FALCO GEPPINO [US]; LEE SUNG-LIM [US]; MONTI MANUELA [US]; STANGHELLINI ILARIA [US]  
TI - METHODS FOR MODULATING EMBRYONIC STEM CELL DIFFERENTIATION  
AB - Described herein is Zscan4, a gene exhibiting 2-cell embryonic stage and embryonic stem cell specific expression. Identification of nine Zscan4 co-expressed genes is also described. Inhibition of Zscan4 expression inhibits the 2-cell to 4-cell embryonic transition and prevents blastocyst implantation, expansion and outgrowth. Provided herein are methods of inhibiting differentiation of a stem cell, promoting blastocyst outgrowth of embryonic stem cells and identifying a subpopulation of stem cells expressing Zscan4. Further described is the identification of Trim43 as a gene exhibiting morula-specific expression. Also provided are isolated expression vectors comprising a Zscan4 promoter, or a Trim43 promoter operably linked to a heterologous polypeptide and uses thereof. Further provided are transgenic animals comprising transgenes encoding marker proteins operably linked to Zscan4 and Trim43 promoters.

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PN - US2009280097 A1 20091112  
PD - 2009-11-12  
PA - CELAVIE BIOSCIENCES LLC [US]  
IN - KOPYOV OLEG V [US]  
TI - PLURIPOTENT CELLS  
AB - Pluripotent cells that are immunopositive for both the neural progenitor marker nestin and a pluripotent cell marker are provided. The cells exhibit rapid doubling times and can be maintained in vitro for extended periods. Also provided are cell cultures containing the pluripotent cells, a method of transplanting human pluripotent cells to a host, and a method of reducing seizure activity in a subject. These pluripotent cells, when transplanted into the ventricle of a host animal, migrate to the site of damage and adopt a suitably corrective phenotype, resulting in both structural and functional restoration.

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PN - US2009288177 A1 20091119  
PD - 2009-11-19  
PA - CHUGAI PHARMACEUTICAL CO LTD  
IN - HABU KIYOSHI [JP]; HIRATA YUICHI [JP]  
TI - SGRF GENE-MODIFIED MOUSE

AB - A targeting vector was constructed by replacing exon regions in the SGRF gene with appropriate drug marker genes. This vector was transfected into mouse ES cell lines to obtain chimeric mice, which were then crossed with C57BL/6J mice to obtain mice comprising cells in which one SGRF gene alleles was inactivated. By crossing these mice with each other, the present inventors succeeded in producing mice in which both SGRF gene alleles were inactivated. These genetically modified animals can be used to predict the side effects of drugs such as SGRF antagonists.

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PN - US2009281370 A1 20091112  
PD - 2009-11-12  
PA - REGION HOVEDSTADEN V HERLEV HO [DK]  
IN - LINDENBERG SVEND [DK]  
TI - IN VITRO FERTILISATION  
AB - The present invention relates to a method and a system for producing a mammalian pre-embryo and a stem cell having a better quality than prior art methods. The system comprises means for obtaining a mammalian oocyte, and means for obtaining a mammalian spermatozoa, and an apparatus having at least two separate air-tight chambers, for which the oxygen tension of one chamber may be changed independent of the oxygen tension of the other chamber, said at least two separate air-tight chambers constitute a main chamber and at least one residence chamber. The method for in vitro producing a mammalian pre-embryo comprising the steps: a1) providing a mammalian oocyte, a2) providing a mammalian spermatozoa, b) culturing the oocyte and the spermatozoa, c) fertilizing the oocyte with the spermatozoa obtaining a fertilized oocyte, and d) allowing cell-division of the fertilized oocyte obtaining a multicellular pre-embryo wherein at least one of the steps a1) or a2) is conducted at an oxygen tension below 15%, or e) allowing cell-division of the fertilized oocyte obtaining a multicellular pre-embryo, wherein the culture is performed at an oxygen tension allowing cultivation of the cells and wherein at least one of the steps comprises a change in the oxygen tension Stem cells are produced from the multicellular pre-embryo.

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PN - WO2009139904 A1 20091119  
PD - 2009-11-19  
PA - PROTEONOMIX INC [US]; UNIV JOHNS HOPKINS [US]; COHEN MICHAEL [US]; XIANGCAN ZHAN [US]  
IN - COHEN MICHAEL [US]; XIANGCAN ZHAN [US]  
TI - METHODS AND DEVICES FOR ISOLATING EMBRYONIC STEM CELLS  
AB - Methods, devices and kits are provided for isolating or enriching multicellular embryonic stem (ES) cell colonies from a mixture of multicellular ES cell colonies and single ES cells present in a cellular suspension, by utilizing a filtration matrix that selectively excludes passage of multicellular ES cell colonies. Isolated or enriched multicellular ES cell colonies can be used for propagating pluripotent ES cells.

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PN - WO2009139881 A2 20091119  
PD - 2009-11-19  
PA - PROTEONOMIX INC [US]; UNIV JOHNS HOPKINS [US]; COHEN MICHAEL [US]; XIANGCAN ZHAN [US]; SHAMBLOTT MICHAEL [US]  
IN - COHEN MICHAEL [US]; XIANGCAN ZHAN [US]; SHAMBLOTT MICHAEL [US]  
TI - COMPOSITIONS AND METHODS FOR GROWING EMBRYONIC STEM CELLS  
AB - Methods for deriving and cultivating human embryonic stem (ES) cells and maintaining their pluripotency in culture is provided by utilizing human umbilical cord stem cells or secreted proteins obtained from the culture medium of human umbilical cord stem cells.

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PN - WO2009140413 A1 20091119

PD - 2009-11-19  
PA - BAYLOR COLLEGE MEDICINE [US]; ZWAKA THOMAS P [US]; DEJOSEZ MARION [US]; ZITUR LAURA JO [US]; KRUMENACKER JOSHUA S [US]  
IN - ZWAKA THOMAS P [US]; DEJOSEZ MARION [US]; ZITUR LAURA JO [US]; KRUMENACKER JOSHUA S [US]  
TI - RONIN IS ESSENTIAL FOR PERPETUITY OF MOUSE ES CELLS, AND ACTS INDEPENDENTLY OF CANONICAL PATHWAYS  
AB - The present invention, therefore, encompasses compositions and methods comprising Ronin, a Ronin activator, and methods of their use for maintaining the perpetuity of an ES cell phenotype.

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PN - WO2009137844 A2 20091112  
PD - 2009-11-12  
PA - VISTAGEN THERAPEUTICS INC [US]; BONHAM KRISTINA [US]; SNODGRASS H RALPH [US]; STULL ROBERT [US]; KUBO ATSUSHI [JP]  
IN - BONHAM KRISTINA [US]; SNODGRASS H RALPH [US]; STULL ROBERT [US]; KUBO ATSUSHI [JP]  
TI - PANCREATIC ENDOCRINE PROGENITOR CELLS DERIVED FROM PLURIPOTENT STEM CELLS  
AB - The invention provides pluripotent cells modified to overexpress Pdx1 and Ngn3. Pluripotent cells include embryonic stem cells and induced pluripotent stem cells. Methods of producing pancreatic endocrine progenitor cells from ES cells or from iPS cells by forced expression of Pdx1 and Ngn3 are provided. Pancreatic endocrine progenitor cells are useful for drug discovery and cell replacement therapy.

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PN - WO2009137772 A2 20091112  
PD - 2009-11-12  
PA - BAYLOR COLLEGE MEDICINE [US]; ZWAKA THOMAS P [US]; FUJITA JUN [US]; CRANE ANA [US]; DEJOSEZ MARION [US]  
IN - ZWAKA THOMAS P [US]; FUJITA JUN [US]; CRANE ANA [US]; DEJOSEZ MARION [US]  
TI - CLEAVAGE OF NANOG BY CASPASES MEDIATES THE DIFFERENTIATION OF EMBRYONIC STEM CELLS  
AB - (A2)  
The present invention is based on the discovery that a caspase specifically cleaves the transcription factor, Nanog, leading to the initiation of cellular differentiation of embryonic stem (ES) cells. The present invention includes a method of inhibiting the cleavage of Nanog, thereby maintaining the pluripotency of an ES cell or preventing the differentiation of an ES cell. The present invention further provides compositions and methods for inhibiting caspase expression, activity, and/or stability.  
- (A3)  
A caspase specifically cleaves the transcription factor, Nanog, leading to the initiation of cellular differentiation of embryonic stem (ES) cells. A method of inhibiting the cleavage of Nanog, thereby maintaining the pluripotency of an ES cell or preventing the differentiation of an ES cell is disclosed. Further provided are compositions and methods for inhibiting caspase expression, activity, and/or stability

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PN - US2009280564 A1 20091112  
PD - 2009-11-12  
PA - HITACHI LTD  
IN - HONMOU OSAMU [JP]; HAMADA HIROFUMI [JP]  
TI - METHOD FOR INDUCING DIFFERENTIATION OF MESODERMAL STEM CELLS, ES CELLS, OR IMMORTALIZED MESODERMAL STEM CELLS INTO NEURAL CELLS

AB - Mesodermal stem cells or ES cells, prepared from the mononuclear cell fraction isolated from bone marrow fluid or umbilical blood, were found to differentiate into neural stem cells, neurons, or glial cells when cultured in a basal culture medium. In addition, the differentiation of the mesodermal stem cells or ES cells into neural cells was promoted through the addition of an ischemic brain extract to the above-mentioned basal culture medium. Furthermore, the neural cells obtained using the above-described method for inducing differentiation were revealed to have neural regeneration potency in a brain infarction model, a dementia model, a spinal cord injury model and a demyelination model. In addition, according to the present invention, mesodermal stem cells can be differentiated into neural cells by immortalizing the mesodermal stem cells by highly expressing or activating an immortalization gene in the mesodermal stem cells and culturing the cells under an appropriate condition. The methods of the present invention are very useful in the medical field of neural regeneration.

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PN - WO2009135206 A1 20091105  
PD - 2009-11-05  
PA - STEM CELL PRODUCTS INC [US]; DAIGH CHRISTINE [US]; RAJESH DEEPIKA [US]  
IN - DAIGH CHRISTINE [US]; RAJESH DEEPIKA [US]  
TI - METHOD FOR PRODUCTION OF MAST CELLS FROM STEM CELLS  
AB - Provided are methods for generating mast cells from pluripotent stem cells in vitro. Methods are disclosed for the differentiation of pluripotent cells, such as iPS cells and/or human embryonic stem cells, into mast cells. The resulting mast cells may be used for various purposes including screening cells for drug development and research. Growth factors which may be included in culture media according to the present invention include stem cell factor (SCF), FLT-3 ligand, thrombopoietin (TPO), interleukin-3 (IL-3), and/or interleukin-6 (IL-6).

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PN - US2009275128 A1 20091105  
PD - 2009-11-05  
IN - THOMSON JAMES A [US]; LUDWIG TENNEILLE [US]  
TI - MEDIUM 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, pipercholic 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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PN - US2009275132 A1 20091105  
PD - 2009-11-05  
PA - ASUBIO PHARMA CO LTD [JP]; UNIV KEIO [JP]  
IN - HATTORI FUMIYUKI [JP]; FUKUDA KEIICHI [JP]  
TI - METHOD FOR PURIFYING CARDIOMYOCYTES OR PROGRAMMED CARDIOMYOCYTES DERIVED FROM STEM CELLS OR FETUSES  
AB - An object of the present invention is to develop a method for purify cardiomyocytes at a high degree of purification and at a high yield from a cell mixture comprising cardiomyocytes derived from fetuses and stem cells using various features which have not been previously expected to be used for purification of cardiomyocytes or which are newly found, wherein said method is carried out without undergoing any genetic modification or without adding any special proteins or biologically active agents. The inventors of the present invention found that cardiomyocytes were effectively and highly selected and purified by culturing cardiomyocytes derived from embryonic stem cells in the culture medium under a condition selected from a low-serum-supplemented condition, a low-glucose-supplemented condition, a low-nutritional condition, a low calcium condition, a mildly-acidic pH

condition, a lactic acid-supplemented condition, an aspartic acid/glutamic acid-supplemented condition, and/or a pyruvic acid-supplemented condition. The inventors of the present invention further found that the above method invented in relation to embryonic stem cells was applicable to select and purify cardiomyocytes derived from fetuses or adult stem cells.

#### **INDUCED EMBRYONIC STEM CELLS/ DEDIFFERENTIATION OF CELLS- 20 Documents**

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PN - WO2009157610 A1 20091230  
PD - 2009-12-30  
PA - PUSAN NAT UNIV IND COOP FOUND [KR]; KANG SOO KYUNG [KR]; KIM JEONG HWAN [KR]  
IN - KANG SOO KYUNG [KR]; KIM JEONG HWAN [KR]  
TI - SELENIUM DEDIFFERENTIATED CELL, PREPARATION METHOD AND USAGE THEREOF  
AB - Disclosed herein are a composition for cell dedifferentiation containing selenium, a method of dedifferentiating cells by treating the cells with selenium, dedifferentiated cells obtained using the method, a composition for cell therapy containing the dedifferentiated cells, cells re-differentiated from the dedifferentiated cells, and a composition for cell therapy containing the re-differentiated cells. The disclosed dedifferentiated cells and the cells re-differentiated therefrom can be used as therapeutic agents for treating various diseases.

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PN - WO2009157593 A1 20091230  
PD - 2009-12-30  
PA - UNIV KYOTO [JP]; YAMANAKA SHINYA [JP]; TAKAHASHI KAZUTOSHI [JP]; OKITA KEISUKE [JP]  
IN - YAMANAKA SHINYA [JP]; TAKAHASHI KAZUTOSHI [JP]; OKITA KEISUKE [JP]  
TI - METHOD OF EFFICIENTLY ESTABLISHING INDUCED PLURIPOTENT STEM CELLS  
AB - The present invention provides a method of improving the efficiency of establishment of induced pluripotent stem (iPS) cells, comprising inhibiting the p53 function in the step of somatic cell nuclear reprogramming. The inhibition of p53 function is achieved by bringing a substance selected from the group consisting of (1) chemical inhibitors of p53, (2) dominant negative mutants of p53 and nucleic acids that encode the same, (3) siRNAs and shRNAs against p53 and DNAs that encode the same, and (4) p53 pathway inhibitors, into contact with a somatic cell, and the like. The present invention also provides an agent for improving the efficiency of establishment of iPS cells, the agent comprising an inhibitor of p53 function, particularly (1) chemical inhibitors of p53, (2) dominant negative mutants of p53 and nucleic acids that encode the same, (3) siRNAs and shRNAs against p53 and DNAs that encode the same, and (4) p53 pathway inhibitors. The present invention further provides a method of producing an iPS cell, comprising bringing a nuclear reprogramming substance and an inhibitor of p53 function into contact with a somatic cell.

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PN - WO2009157201 A1 20091230  
PD - 2009-12-30  
PA - UNIV OSAKA [JP]; MIYAZAKI JUN-ICHI [JP]; TASHIRO FUMI [JP]; MIYAZAKI SATSUKI [JP]; YAMATO EIJI [JP]  
IN - MIYAZAKI JUN-ICHI [JP]; TASHIRO FUMI [JP]; MIYAZAKI SATSUKI [JP]; YAMATO EIJI [JP]  
TI - METHOD AND KIT FOR PREPARING IPS CELLS  
AB - The present invention provides a method for preparing iPS cells without use of such a vector that causes the integration of a foreign gene into the chromosomes of a host cell, for example, a retrovirus vector or a lentivirus vector, and a kit for preparing the same. The method for preparing iPS cells comprises a nuclear reprogramming factor introduction step which involves introducing, into somatic cells, an episomal vector into which the gene encoding a nuclear reprogramming factor is

inserted in an expressible form; a cultivation step which involves culturing somatic cells having the episomal vector introduced therein; and a selection step which involves selecting iPS cells generated by reprogramming of the somatic cells.

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PN - WO2009156151 A1 20091230  
PN - EP2138572 A1 20091230  
PD - 2009-12-30  
PA - T2CURE GMBH [DE]; DIMMELER STEFANIE [DE]; ZEIHNER ANDREAS [DE]; KOYANAGI MASAMICHI [DE]  
IN - DIMMELER STEFANIE [DE]; ZEIHNER ANDREAS [DE]; KOYANAGI MASAMICHI [DE]  
TI - MESOANGIOBLAST-LIKE CELL AS WELL AS METHODS AND USES RELATING THERETO  
AB - The present invention relates to a medicament comprising a mesoangioblast-like cell obtained from a subject, a method of isolating a mesoangioblast-like cell, a method of producing a mesoderm-derived cell using a mesoangioblast-like cell, the use of a mesoangioblast-like cell for the preparation of a medicament for treating a cardiovascular disease and/or an ischemic disease and a method of converting the mesoangioblast-like cell into a pluripotent stem cell

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PN - EP2137296 A2 20091230  
PD - 2009-12-30  
PA - WISCONSIN ALUMNI RES FOUND [US]  
IN - THOMSON JAMES [US]; YU JUNYING [US]  
TI - SOMATIC CELL REPROGRAMMING  
AB - The present invention relates to methods for reprogramming a somatic cell to pluripotency by administering into the somatic cell at least one or a plurality of potency- determining factors. The invention also relates to pluripotent cell populations obtained using a reprogramming method.

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PN - WO2009152529 A2 20091217  
PD - 2009-12-17  
PA - WHITEHEAD BIOMEDICAL INST [US]; JAENISCH RUDOLPH [US]  
IN - JAENISCH RUDOLPH [US]  
TI - PROGRAMMING AND REPROGRAMMING OF CELLS  
AB - The disclosure relates to a method of reprogramming one or more somatic cells, e.g., partially differentiated or fully/terminally differentiated somatic cells, to a less differentiated state, e.g., a pluripotent or multipotent state. In further embodiments the invention also relates to reprogrammed somatic cells produced by methods of the invention, to chimeric animals comprising reprogrammed somatic cells of the invention, to uses of said cells, and to methods for identifying agents useful for reprogramming somatic cells.

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PN - WO2009152484 A2 20091217  
PD - 2009-12-17  
PA - IZUMI BIO INC [US]; SAKURADA KAZUHIRO [JP]; SEIDENMAN KENNETH J [US]  
IN - SAKURADA KAZUHIRO [JP]; SEIDENMAN KENNETH J [US]  
TI - METHODS AND PLATFORMS FOR DRUG DISCOVERY  
AB - The present invention involves methods for identifying an agent that corrects a phenotype associated with a health condition or a predisposition for a health condition. The invention also involves methods for identifying a diagnostic cellular phenotype, determining the risk of a health condition in a subject, methods for reducing the risk of drug toxicity in a human subject, and methods

for identifying a candidate gene that contributes to a human disease. The invention also discloses human induced pluripotent stem cell lines.

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PN - WO2009149233 A1 20091210  
PD - 2009-12-10  
PA - STEM CELL PRODUCTS INC [US]; MACK AMANDA [US]; THOMSON JAMES [US]  
IN - MACK AMANDA [US]; THOMSON JAMES [US]  
TI - METHODS FOR THE PRODUCTION OF IPS CELLS USING NON-VIRAL APPROACH  
AB - Methods and composition of induction of pluripotent stem cells and other desired cell types are disclosed. For example, in certain aspects methods for generating essentially vector-free induced pluripotent stem cells are described. Furthermore, the invention provides induced pluripotent stem cells and desired cell types essentially free of exogenous vector elements with the episomal expression vectors to express differentiation programming factors.

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PN - WO2009148057 A1 20091210  
PD - 2009-12-10  
PA - KYOWA HAKKO KIRIN CO LTD [JP]; NAGAO KENJI [JP]; KUNISATO ATSUSHI [JP]; ISHIDA ISAO [JP]  
IN - NAGAO KENJI [JP]; KUNISATO ATSUSHI [JP]; ISHIDA ISAO [JP]  
TI - REPROGRAMMING OF BLOOD CELLS  
AB - Disclosed is a method for producing a pluripotent stem cell from a somatic cell. The method comprises the following steps (a) and (b): (a) culturing the somatic cell in a cell culture medium containing at least two cytokines selected from (i) an IL-6 signaling factor-stimulating factor or a substance having an activity equivalent to that of the factor, (ii) SCF or a substance having an activity equivalent to that of SCF, (iii) TPO or a substance having an activity equivalent to that of TPO, (iv) IL-3 or a substance having an activity equivalent to that of IL-3 and (v) a Flt-3 ligand or a substance having an activity equivalent to that of the Flt-3 ligand; and (b) dedifferentiating the somatic cell. In the method, step (b) may be carried out subsequent to step (a), steps (a) and (b) may be carried out simultaneously, or steps (a) and (b) may be carried out simultaneously and subsequently step (a) may be carried out again. The method enables the production of a pluripotent stem cell from a somatic cell efficiently.

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PN - WO2009146098 A2 20091203  
PD - 2009-12-03  
PA - HARVARD COLLEGE [US]; EGGAN KEVIN [US]  
IN - EGGAN KEVIN [US]  
TI - STEM CELLS AND USES THEREOF  
AB - The disclosure features a method of producing a neuron or glial cell from a somatic cell of a subject, said subject having neurons which are absent, diseased, inactive, or in general possess an unwanted phenotype, the method comprising converting the somatic cell of the subject to an iPS cell; and converting the iPS cell to a neuron or glial cell.

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PN - US2009299763 A1 20091203  
PD - 2009-12-03  
PA - IZUMI BIO INC [US]  
IN - SAKURADA KAZUHIRO [JP]  
TI - METHODS OF CELL-BASED TECHNOLOGIES  
AB - The present disclosure features methods relating to conducting a stem cell technology business such as a regenerative medicine business based on induced pluripotent stem cells (iPSCs) and cells differentiated from iPSCs. The present disclosure also provides a database of

iPSC-derived cells and methods of using the database for tracking customers and samples, as well as methods for marketing and running the business.

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PN - EP2128245 A1 20091202  
PD - 2009-12-02  
PA - MAX PLANCK GESELLSCHAFT [DE]  
TI - Generation of induced pluripotent stem (iPS) cells  
AB - The present invention relates to a method of generating an induced pluripotent stem (iPS) cell comprising the step of introducing into a target cell one or two coding sequences each giving rise upon transcription to a factor that contributes to the reprogramming of said target cell into an induced pluripotent stem cell and selected from Oct3/4 or a factor belonging to the Myc, Klf and Sox families of factors, wherein the target cell endogenously expresses at least the factors that are not encoded by the coding sequences to be introduced and selected from Oct3/4 or factors belonging to the Myc, Klf and Sox families of factors, and wherein the cell resulting from the introduction of the one or two coding sequences expresses the combination of factor Oct3/4 and at least one factor of each family of factors selected from the group of Myc, Klf and Sox. Furthermore, the present invention relates to an induced pluripotent stem cell generated by the method of the invention and a method of identifying a compound that contributes to the reprogramming of a target cell into an induced pluripotent stem cell. Also, a method of generating a transgenic non-human animal and a composition comprising an iPS cell generated by the method of the present invention for gene therapy, regenerative medicine, cell therapy or drug screening are envisaged.

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PN - WO2009143421 A2 20091126  
PD - 2009-11-26  
PA - UNIV JOHNS HOPKINS [US]; SONG HONGJUN [US]; MING GUO-II [US]; MA DENGKE K [US]  
IN - SONG HONGJUN [US]; MING GUO-II [US]; MA DENGKE K [US]  
TI - METHODS FOR PROMOTING FUSION AND REPROGRAMMING OF SOMATIC CELLS  
AB - The invention features methods for reprogramming somatic cells by treating the cells with one or more agents to induce de-differentiation, in particular by targeting demethylase and methyltransferase genes. The invention also features methods of monitoring somatic cell fusion and reprogramming and methods of identifying agent s that alter somatic cell fusion and reprogramming. The invention also features reprogrammed cells and kits.

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PN - WO2009142717 A2 20091126  
PD - 2009-11-26  
PA - HARVARD COLLEGE [US]; RAMANATHAN ARVIND [US]; HECKSHER-SORENSEN JACOB [DK]; SCHREIBER STUART L [US]  
IN - RAMANATHAN ARVIND [US]; HECKSHER-SORENSEN JACOB [DK]; SCHREIBER STUART L [US]  
TI - METHODS AND PRODUCTS FOR DEDIFFERENTIATION OF CELLS  
AB - The invention relates to methods and compositions for dedifferentiating adult somatic cells, thereby generating more immature cells, including pluripotent stem cells.

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PN - US2009291065 A1 20091126  
PD - 2009-11-26  
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 - EP2121902 A2 20091125  
PD - 2009-11-25  
PA - ADVANCED CELL TECH INC [US]  
IN - LANZA ROBERT [US]; CHUNG YOUNG [US]  
TI - HIGHLY EFFICIENT METHODS FOR REPROGRAMMING DIFFERENTIATED CELLS AND FOR GENERATING ANIMALS AND EMBRYONIC STEM CELLS FROM REPROGRAMMED CELLS  
AB - The present invention relates generally to the field of somatic cell nuclear transfer (SCNT) and to the creation of cloned animals and cells. The disclosure relates to a method of cloning a mammal, obtaining pluripotent cells such as embryonic stem cells, or for reprogramming a mammalian cell using an oocyte and a fertilized embryo.

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PN - WO2009140655 A1 20091119  
PD - 2009-11-19  
PA - PRIMEGEN BIOTECH LLC [US]; KANNEMEIER CHRISTIAN [US]; PHAM JANE [US]; JAVIER CARL [US]; SUNDSMO JOHN [US]  
IN - KANNEMEIER CHRISTIAN [US]; PHAM JANE [US]; JAVIER CARL [US]; SUNDSMO JOHN [US]  
TI - METHODS FOR EFFICIENT VIRAL REPROGRAMMING OF SOMATIC CELLS INTO STEM CELL-LIKE PLURIPOTENT CELLS  
AB - Disclosed herein are cellular compositions, stable continuous cell cultures, reporter cell lines, pharmaceutical preparations, viral vectors encoding pluripotent stem cells transcription factors and methods related thereto, all related to reprogramming somatic cells to induce pluripotent stem cells.

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PN - WO2009133971 A1 20091105  
PD - 2009-11-05  
PA - UNIV KYOTO [JP]; YAMANAKA SHINYA [JP]; OKITA KEISUKE [JP]  
IN - YAMANAKA SHINYA [JP]; OKITA KEISUKE [JP]  
TI - METHOD OF NUCLEAR REPROGRAMMING  
AB - This invention provides a method of producing an induced pluripotent stem cell comprising the step of introducing at least one kind of non-viral expression vector (more preferably a plasmid vector) incorporating at least one gene that encodes a reprogramming factor into a somatic cell. An induced pluripotent stem cell wherein no exogenous genes induced is integrated into the cellular genome is also provided.

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PN - US2009275032 A1 20091105  
PD - 2009-11-05  
PA - NUPOTENTIAL INC [US]  
IN - EILERTSEN KENNETH J [US]; POWER RACHEL A [US]; RIM JONG S [US]  
TI - Reprogramming a cell by inducing a pluripotent gene through use of an HDAC modulator  
AB - The invention relate to methods, compositions, and kits for reprogramming a cell. In one embodiment, the invention relates to a method comprising inducing the expression of at least one gene that contributes to a cell being pluripotent or multipotent. In yet another embodiment, the method comprises inhibiting the activity of an HDAC with an HDAC inhibitor and inducing the expression of at

least one gene that contributes to a cell being pluripotent or multipotent. In still another embodiment, the invention relates to a method for reprogramming comprising exposing a cell to more than one agent to inhibit more than one type of regulatory protein. In yet another embodiment, the invention relates to a reprogrammed cell or an enriched population of reprogrammed cells that can have characteristics of an ES-like cell, which can be re- or trans-differentiated into various differentiated cell types

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PN - WO2009136867 A1 20091112  
PD - 2009-11-12  
PA - AGENCY SCIENCE TECH & RES [SG]; FENG BO [SG]; JIANG JIANMING [SG]; NG HUCK HUI [SG]; LUFKIN THOMAS [SG]; KRAUS PETRA [SG]  
IN - FENG BO [SG]; JIANG JIANMING [SG]; NG HUCK HUI [SG]; LUFKIN THOMAS [SG]; KRAUS PETRA [SG]  
TI - METHOD OF EFFECTING DE-DIFFERENTIATION OF A CELL  
AB - The invention provides a method of effecting de-differentiation of an at least partially differentiated cell or of maintaining pluripotency and/or self-renewing characteristics of an undifferentiated cell. The method comprises increasing the amount or the activity of an Err protein, or a functional fragment thereof, in the cell.

### **GRANTED PATENTS- PUBLISHED "B" SPECS**

#### **ADULT STEM CELLS- 30 Documents**

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PNFP - EP1812560 B1 20091223  
GRANTED- 2009-12-23  
PA - UNIVERSITAETSKLINIKUM HAMBURG [DE]  
IN - ZANDER AXEL R [DE]; ENGELMANN KATRIN [DE]; VALTINK MONIKA [DE]; LANGE CLAUDIA [DE]; FEHSE BORIS [DE]  
TI - RETINA-SPECIFIC CELLS DIFFERENTIATED IN VITRO FROM BONE MARROW STEM CELLS, THE PRODUCTION THEREOF AND THEIR USE  
AB - The invention relates to the production of retina-specific cells from human adult bone marrow stem cells by culturing bone marrow stem cells in the presence of a differentiation medium. The invention also relates to retina-specific cells and to the use of these cells for treating diseases associated with acquired or congenital dysfunction of the retinal pigment epithelium, cells of adjacent structures of the entire retina and of the choroid coat as well as of other eye tissue.

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PNFP - EP1807509 B1 20091118  
GRANTED- 2009-11-18  
PA - SEOUL NAT UNIV IND FOUNDATION [KR]  
IN - KANG KYUNG SUN [KR]  
TI - MULTIPOTENT STEM CELLS ISOLATED FROM UMBILICAL CORD BLOOD AND THE CELLULAR THERAPEUTIC AGENT COMPRISING THE SAME FOR TREATING ISCHEMIC DISEASE  
AB - The present invention relates to multipotent stem cells, adult stem cells isolated by culturing umbilical cord blood in a medium containing human serum or plasma, and a cellular therapeutic agent for ischemic necrosis or cardiovascular diseases resulting from occlusive arterial or venous disease, which contains the multipotent stem cells as active ingredients. The multipotent stem cells according to the invention have the ability to differentiate into osteogenic cells, nerve or endothelial cells or even cells even if they are adult stem cells. Thus, the multipotent stem cells will be useful for the treatment of not only diseases where the stagnation of femoral arterial circulation causes peripheral circulatory disorders to degrade microvascular tissue, leading to ischemic necrosis,

but also ischemic diseases, such as cerebral infarction, myocardial infarction, avascular necrosis of hip joint and the necrosis of limb ends resulting from diabetic sequelae.

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PNFP - EP1712616 B1 20091111  
GRANTED- 2009-11-11  
PA - KANAZAWA UNIVERSITY TECHNOLOGY [JP]; JAPAN SCIENCE & TECH AGENCY [JP]  
IN - TAKAKURA NOBUYUKI [JP]; YAMADA YOSHIHIRO [JP]  
TI - INDUCTION OF MYOCARDIAL CELL WITH THE USE OF MAMMALIAN BONE MARROW CELL OR CORD BLOOD-ORIGIN CELL AND FAT TISSUE  
AB - This invention provides a method for differentiating mammalian bone marrow cells or cord blood-derived cells into myocardial precursor cells and/or myocardial cells by culturing said bone marrow cells or cord blood-derived cells with cells isolated from mammalian fat tissues or a culture supernatant thereof.

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PNFP - EP1640450 B1 20091209  
GRANTED- 2009-12-09  
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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PNFP - EP1509597 B1 20091230  
GRANTED- 2009-12-30  
PA - HOFFMANN ROLF [DE]  
IN - HOFFMANN ROLF [DE]; MCELWEE KEVIN J [GB]  
TI - Method for isolating hair follicle mesenchymal stem cells  
AB - The invention relates to a method for isolating hair follicle mesenchymal stem cells and to the use thereof for therapy and prophylaxis as well as for cosmetic treatments.

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PNFP - EP1421174 B1 20091223  
GRANTED- 2009-12-23  
PA - BRIGHAM & WOMENS HOSPITAL [US]  
IN - SACKSTEIN ROBERT [US]  
TI - HEMATOPOIETIC CELL E-SELECTION/L-SELECTIN LIGAND POLYPEPTIDES AND METHODS OF USE THEREOF  
AB - The invention features methods and compositions for treating hematopoietic disorders, inflammatory conditions, and cancer and providing stem cell therapy in a mammal.

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PNFP - EP1322748 B1 20091202  
GRANTED- 2009-12-02  
PA - MEIJI DAIRIES CORP [JP]

IN - LUU BANG [FR]; MOHIER ELIANE [FR]; YAMADA MASASHI [JP]; SUMA YUKIE [JP]; SUZUKI HIROTO [JP]  
TI - STEM CELL DIFFERENTIATION-INDUCING PROMOTER  
AB - Provided is a stem-cell differentiation and induction promoter, which comprises as an effective ingredient a cyclohexenone long-chain alcoholic derivative represented by the formula (1):[wherein, R<1>, R<2> and R<3> each independently represents a hydrogen atom or a methyl group and X represents a linear or branched C10-28 alkylene or alkenylene group]. Since the cyclohexenone long-chain alcoholic derivative according to the present invention promotes differentiation-induction of stem cells into cells expressing a specific biological function, a medicament comprising the derivative is useful as a preventive or remedial drug for diseases such as nervous diseases, bone diseases, circulatory diseases and myopathy, caused by the degeneration of tissues or cells or cell death.

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PNFP - EP1226828 B1 20091209  
GRANTED- 2009-12-09  
PA - CHUGAI PHARMACEUTICAL CO LTD [JP]  
IN - KATAOKA MOTOYUKI [JP]; YAMAMOTO KANAME [JP]  
TI - USE OF G-CSF FOR INHIBITING GVHD  
AB - A method for effectively suppressing GVHD, which occurs after peripheral blood stem cells allotransplantation, without causing marked side effects, and a pharmaceutical composition intended for this purpose and containing human G-CSF as an active ingredient. GVHD can be suppressed by administering human G-CSF to a transplantation recipient after peripheral blood stem cells transplantation.

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PNFP - EP1147176 B1 20091216  
GRANTED- 2009-12-16  
PA - PLURISTEM LTD [IL]  
IN - MERCHAV SHOSHANA [IL]; MERETSKI SHAI [IL]; ZIPORI DOV [IL]; KADOURI AVINOAM [IL]  
TI - METHOD AND APPARATUS FOR MAINTENANCE AND EXPANSION OF HEMOPOIETIC STEM CELLS AND/OR PROGENITOR CELLS  
AB - A method of expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells by obtaining undifferentiated hemopoietic stem cells or progenitor cells; and either seeding the undifferentiated hemopoietic stem cells or progenitor cells into a stationary phase plug-flow bioreactor in which a three-dimensional stromal cell culture has been pre-established on a substrate in the form of a sheet, the substrate including a non-woven fibrous matrix forming a physiologically acceptable three-dimensional network of fibers, thereby expanding/maintaining undifferentiated hemopoietic stem cells or progenitor cells, or culturing the undifferentiated hemopoietic stem cells or progenitor cells in conditioned medium obtained from such a reactor.

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PNFP - EP1115840 B1 20091125  
GRANTED- 2009-11-25  
PA - UNIV EDINBURGH [GB]  
IN - SMITH AUSTIN [GB]; LI MENG [GB]  
TI - LINEAGE SPECIFIC CELLS AND PROGENITOR CELLS  
AB - A method for generating a culture that is purified or enriched in respect of cells of a selected lineage is described in which selectable marker, which is differentially expressed in cells of the selected lineage compared with its expression in other cells, is introduced into a multipotential cell and the multipotential cell is cultured to induce differentiation of the multipotential cell into a cell of the selected lineage, or into a mixture of cells including cells of the selected lineage, or is cultured to induce preferential survival of cells of the selected lineage. Those cells that express the selectable marker are then selected for. Progenitors of selected lineage are also described as is the use of the method in assay techniques.

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PNFP - EP1019490 B1 20091125  
GRANTED- 2009-11-25  
PA - HARVARD COLLEGE [US]  
IN - BARON MARGARET H [US]; FARRINGTON SARAH M [US]; BELAOUSSOFF MARIA [DE]  
TI - METHODS FOR MODULATING HEMATOPOIESIS AND VASCULAR GROWTH  
AB - Methods and assays are provided for selecting compounds that are functionally equivalent to a gene product expressed in an embryo's extraembryonic tissue for use in modulating hematopoiesis and vascular growth, such compound being exemplified by a hedgehog protein, and an agonist of a hedgehog protein binding receptor. According to the method, such compound causes undifferentiated mesodermally derived cells to undergo at least one of hematopoiesis or vasculogenesis. Examples of undifferentiated mesodermally derived cells include hematopoietic stem cells and embryonic explant cells. The method of the invention may be utilized to treat a variety of pathological conditions including developmental errors in vascular growth or hematopoiesis and pathological conditions arising from abnormal numbers of erythroid cells, or abnormally enhanced vascular growth.

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PNFP - US7615374 B2 20091110  
GRANTED- 2009-11-10  
PA - WISCONSIN ALUMNI RES FOUND [US]  
IN - VODYANYK MAKSYM A [US]; YU JUNYING [US]; THOMSON JAMES A [US]; SLUKVIN IGOR I [US]  
TI - GENERATION OF CLONAL MESENCHYMAL PROGENITORS AND MESENCHYMAL STEM CELL LINES UNDER SERUM-FREE CONDITIONS  
AB - Methods for obtaining multipotent mesenchymal stem cells under serum-free conditions and methods for identifying multipotent mesenchymal progenitor cells are disclosed.

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PNFP - US7622267 B2 20091124  
GRANTED- 2009-11-24  
PA - ANDEL RES INST VAN [US]  
IN - WILLIAMS BART O [US]; LINDVALL CHARLOTTA [US]  
TI - LOW-DENSITY LIPOPROTEIN RECEPTOR 6 (LRP6) AS A MAMMARY STEM CELL MARKER AND RELATED METHODS  
AB - A method for enriching a population of somatic mammary stem cells or mammary tumor stem cells based on low-density lipoprotein receptor-related protein 6 (LRP6). Also included are methods for screening for LRP6 modulators, as well as methods for reducing Wnt signaling, for treating Wnt signaling-related diseases, for detecting mammary basal-like cells, for diagnosing basal-like breast cancer, and for inhibiting proliferation of a tumor expressing LRP6, and compositions thereof.

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PNFP - US7622255 B2 20091124  
GRANTED- 2009-11-24  
PA - UNIV LELAND STANFORD JUNIOR [US]  
IN - JAMIESON CATRIONA HELEN M [US]; AILLES LAURIE [US]; REYA TANNISHTHA [US]; WEISSMAN IRVING L [US]  
TI - Methods of identifying and isolating stem cells and cancer stem cells  
AB - Methods and compositions are provided for the identification of stem cells and cancer stem cells. beta-catenin is also identified as a target for the development of therapeutic moieties against hematopoietic tumors, i.e. leukemia and lymphoma cells, which may include screening assays directed at beta-catenin, or members of the beta-catenin signaling pathway. Cellular proliferation in

hematopoietic cells can be altered by introducing stabilized beta-catenin into a hematopoietic cell that is altered in its ability to undergo apoptosis but which is not fully transformed. The immortalized cells are useful in screening assays, and in the analysis of pathways by which hematopoietic cells undergo transformation.

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PNFP - US7632678 B2 20091215  
GRANTED- 2009-12-15  
PA - HOSPITAL FOR SICK CHILDREN [CA]  
IN - HANSFORD LOEN M [CA]; SMITH KRISTEN M [CA]; DATTI ALESSANDRO [CA];  
MILLER FRED A M [CA]; KAPLAN DAVID R [CA]  
TI - Cancer Stem Cells And Uses Thereof  
AB - Disclosed are enriched preparations of neuroblastoma tumor initiating cells (NB TICs). The NB TICs are capable of self-renewal, initiating neuroblastoma tumor growth in vivo and are capable of being passaged in high frequency. These NB TICs have chromosomal abnormalities and are capable of giving rise to secondary tumor spheres. Methods are also disclosed for preparing the enriched preparations of NB TICs, such as from neuroblastoma tumor tissue and metastasized bone marrow. Also disclosed are methods of screening candidate substances to identify therapeutic agents for the treatment of neuroblastoma. Methods are also provided for screening a sample for neuroblastoma, as well as for screening a sample to identify the stage of neuroblastoma present. Kits are also provided for selecting appropriate anti-neuroblastoma compounds for a patient, and utilize isolated compositions of the patients' neuroblastoma tumor initiating cells. In this manner, a customized medicinal profile for the patient may be devised.

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PNFP - US7638128 B2 20091229  
GRANTED- 2009-12-29  
PA - BRIGHAM & WOMENS HOSPITAL [US]; UNIV DUKE [US]  
IN - DZAU VICTOR [US]; MIROTSOU MARIA [DE]  
TI - Method of enhancing cardiac tissue repair by administering a SFRP polypeptide  
AB - A purified paracrine factor of a mesenchymal stem cell, such as a Secreted frizzled related protein (Sfrp) is useful to reduce cell death an/or tissue injury associated with ischemic conditions.

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PNFP - US7638285 B2 20091229  
GRANTED- 2009-12-29  
PA - STEMCELL TECHNOLOGIES INC [CA]; BRITISH COLUMBIA CANCER AGENCY [CA]  
IN - STINGL JOHN [CA]; EAVES CONNIE J [CA]  
TI - Method of the discrimination and isolation of mammary epithelial stem and colony-forming cells  
AB - The present invention relates to an improved method that permits the differential isolation of mouse mammary stem cells and colony forming cells (CFCs). The method involves depletion of non-epithelial cells from freshly dissociated mouse mammary tissue by incubation with an antibody composition containing antibodies specific for CD45, Ter119, CD35 and optionally CD140a. After formation of conjugates between the non-epithelial mammary cells and the antibodies specific for CD45, Ter119, CD35 and optionally CD140a, the cell conjugates are removed and the remaining epithelial cells are then incubated with an antibody composition containing antibodies specific for CD24 and CD49f. After formation of conjugates between the epithelial cells and the antibodies specific for CD24 and CD49f, the mouse mammary stem and the luminal-restricted CFC cells can be differentially isolated. The invention also relates to kits for carrying out this method and to the cell preparations prepared by this method.

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PNFP - US7626074 B2 20091201  
GRANTED- 2009-12-01  
PA - UNIV SALAMANCA [ES]; CONSEJO SUPERIOR INVESTIGACION [ES]  
IN - GARCIA ISIDRO SANCHEZ [ES]; LOSADA JESUS PEREZ [ES]  
TI - Method of screening candidate drugs for the treatment of leukemia  
AB - Transgenic non-human mammals that reproduce human pathologies of stem cell origins, such as chromosomal anomalies associated with chronic myeloid leukemia, B-cell acute lymphoblastic leukemia, T-cell acute or lymphoblastic leukemia, or with the migration of hematopoietic or embryonic stem cells are provided. The transgenic non-human mammals can be produced using as a strategy the expression of genes involved in pathologies by a promoter that directs the expression of a transgene in Sca-1+ cells. The transgenic animals constitute a model for the study of diseases and for the evaluation of compounds for the treatment and/or prevention of the diseases. DNA construct and methods useful for producing the non-human transgenic mammals are also provided.

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PNFP - US7625753 B2 20091201  
GRANTED- 2009-12-01  
PA - CYTHERA INC [US]  
IN - KELLY OLIVIA [US]; BAETGE EMMANUEL E [US]; CARPENTER MELISSA [US]  
TI - Expansion of definitive endoderm cells  
AB - Disclosed herein are cell cultures comprising expanded definitive endoderm cells as well as methods for expanding definitive endoderm cells in culture.

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PNFP - US7635477 B2 20091222  
GRANTED- 2009-12-22  
PA - GEN HOSPITAL CORP [US]  
IN - SCADDEN DAVID T [US]; CALVI LAURA M [US]; ADAMS GREGOR [US];  
KRONENBERG HENRY [US]  
TI - Parathyroid hormone receptor activation and stem and progenitor cell expansion  
AB - The invention relates to methods for manipulating hematopoietic stem or progenitor cells, mesenchymal stem cells, epithelial stem cells, neural stem cells and related products through activation of the PTH/PTHrP receptor in neighboring cells.

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PNFP - US7622108 B2 20091124  
GRANTED- 2009-11-24  
PA - BIOE INC [US]  
IN - COLLINS DANIEL P [US]; SPRAGUE STACEY L [US]; TIGGES BARBARA M [US]  
TI - Multi-lineage progenitor cells  
AB - Fetal blood multi-lineage progenitor cells that are capable of a wide spectrum of transdifferentiation are described.

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PNFP - US7638141 B2 20091229  
GRANTED- 2009-12-29  
PA - ANTHROGENESIS CORP [US]  
IN - HARIRI ROBERT J [US]  
TI - Isolated placental perfusate and placental cells isolated therefrom  
AB - A method of collecting embryonic-like stem cells from a placenta which has been treated to remove residual cord blood by perfusing the drained placenta with an anticoagulant solution to flush out residual cells, collecting the residual cells and perfusion liquid from the drained placenta,

and separating the embryonic-like cells from the residual cells and perfusion liquid. Exogenous cells can be propagated in the placental bioreactor and bioactive molecules collected therefrom.

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PNFP - US7632681 B2 20091215  
GRANTED- 2009-12-15  
PA - CELAVIE BIOSCIENCES LLC [US]  
IN - KOPYOV OLEG V [US]  
TI - Compositions and methods for propagation of neural progenitor cells  
AB - Compositions and methods for the culturing, propagation, cryopreservation and manipulation of neural progenitor cells (NPC) and pluripotent stem cells (PSC) are provided. The cells exhibit rapid doubling times and can be maintained in vitro for extended periods. Also provided is a method of propagating neural progenitor cells, and a method of transplanting human NPC and/or PSC to a host. The cells can be genetically modified to express a therapeutic agent prior to the transplanting.

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PNFP - US7625752 B2 20091201  
GRANTED- 2009-12-01  
PA - MOUNT SINAI HOSPITAL CORP [CA]  
IN - CASPER ROBERT [CA]; ROGERS IAN [CA]  
TI - Cellular compositions and methods of making and using them  
AB - The invention relates to cellular compositions comprising hematopoietic cells with the potential or increased potential to form non-hematopoietic cells; methods for producing such cellular compositions; methods for differentiation of cells of cellular compositions of the invention into cells that exhibit morphological, physiological, functional, and/or immunological features of non-hematopoietic cells; and uses of the cellular compositions. The invention also relates to a method for the expansion of hematopoietic stem and progenitor cells.

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PNFP - US7638330 B2 20091229  
GRANTED- 2009-12-29  
IN - MINCHIOTTI GABRIELLA [IT]; PERSICO MARIA [IT]; PARISI SILVIA [IT]  
TI - Method of Promoting the Differentiation of Staminal Cells  
AB - A method is described by which stem cells are induced to differentiate into cardiomyocytes; the method comprises exposure for a length of time and at efficacious quantities of a protein of the EGF-CFC family or its derivatives having at least the EGE and CFC domains; or to differentiate into neuronal cells, comprising the exposure to Cripto protein inhibitors. Compositions are described for therapeutic use in treating heart disorders, comprising a therapeutically efficacious quantity of a protein or its derivatives having at least the EGF and CFC domains of a protein of the EGF-CFC family.

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PNFP - US7635591 B2 20091222  
GRANTED- 2009-12-22  
PA - FCB PHARMICELL CO LTD [KR]  
IN - KIM HYUN-SOO [KR]; KANG YOUNG-MO [KR]; LEE KYUNG-BOCK [KR]; PARK SANG-KYO [KR]; LEE SANG-KAP [KR]  
TI - Method for differentiating mesenchymal stem cell into neural cell and pharmaceutical composition containing the neural cell for neurodegenerative disease  
AB - The present invention provides a method of differentiating and proliferating a mesenchymal stem cell into the neural cell by culturing in a medium comprising an epidermal growth factor and a hepatocyte growth factor after confluent culture of the mesenchymal stem cell. The present invention provides more effective method of differentiating and proliferating the mesenchymal

stem cell or the mononuclear cell comprising the mesenchymal stem cell into the neural cell with a neuron and an astrocyte in terms of time, efficiency and mature

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PNFP - US7635467 B2 20091222  
GRANTED- 2009-12-22  
PA - TRUSTEES OF THE UNIVERSITY OF [US]  
IN - SUGAYA KIMINOBU [US]; QU TINGYU [US]; VAGHANI ANKUR V [US]; BRANNEN CHRISTOPHER [US]; KIM HOJOONG M [US]; PULIDO JOSE S [US]; DONG XIAJING [US]  
TI - Mammalian multipotent stem cells and compositions, methods of preparation and methods of administration thereof  
AB - This invention provides methods for preparing novel mammalian multipotent stem cells (MSCs), compositions thereof, and methods of preparing and administering the cells.

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PNFP - US7618621 B2 20091117  
GRANTED- 2009-11-17  
PA - TRUSTEES OF THE UNIVERSITY OF [US]  
IN - SUGAYA KIMINOBU [US]; QU TINGYU [US]; PULIDO JOSE S [US]  
TI - Mammalian multipotent neural stem cells and compositions, methods of preparation and methods of administration thereof  
AB - This invention relates to novel mammalian multipotent neural stem cells (MNSCs), compositions thereof, and methods of preparing and administering the cells to diseased, aged or damaged tissue such that the cells properly migrate and differentiate and a neurological or corporal deficit is improved or remedied as a result.

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PNFP - US7632680 B2 20091215  
GRANTED- 2009-12-15  
PA - LEVESQUE BIOSCIENCES INC [US]  
IN - NEUMAN TOOMAS [US]; LEVESQUE MICHEL [US]  
TI - Compositions and methods for isolation, propagation, and differentiation of human stem cells and uses thereof  
AB - The invention is directed to the field of human stem cells and includes methods and compositions for isolating, propagating, and differentiating human stem cells. The invention provides therapeutic uses of the methods and compositions, including autologous transplantation of treated cells into humans for treatment of Parkinson's and other neuronal disorders.

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PNFP - US7622557 B2 20091124  
GRANTED- 2009-11-24  
PA - ST JUDE CHILDRENS RES HOSPITAL [US]  
IN - SORRENTINO BRIAN [US]; SCHUETZ JOHN [US]  
TI - Antibodies having binding specificity for the extracellular domain of a breast cancer resistance protein (BCRP)  
AB - The present invention includes methods of identifying and/or isolating stem cells based on expression of BCRP. The present invention also describes methods of obtaining and/or using cell populations enriched for stem cells. In addition, methods are provided for diagnosing and/or prognosing leukemia, particularly human acute myelogenous leukemia (AML), through assaying for BCRP expression in leukemic cells.

**EMBRYONIC STEM CELLS- 9 Documents**

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PNFP - GB2431582 B 20091223  
GRANTED- 2009-12-23  
PA - GERON CORP [US]  
IN - LEBKOWSKI JANE S [US]; MAJUMDAR ANISH SEN [US]; STEMPEL WILLIAM D [US]; SCHIFF J MICHAEL [US]  
TI - Dendritic cell vaccines made from embryonic stem cells for treating cancer  
AB - This disclosure provides a technology for making a dendritic cell vaccine suitable for high volume manufacturing and distribution. Human stem cells are differentiated in a multi-step protocol to generate cell populations bearing a dendritic cell phenotype. The cells are loaded by pulsing with a specific tumor antigen, or by activation of an inducible transgene. The primed dendritic cells are powerful components of a vaccination strategy to elicit an immune response against tumor-associated antigens like telomerase. Vaccines and reagent combinations prepared according to this invention can be used on demand as off-the-shelf products for treating cancer.

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PNFP - EP1729788 B1 20091125  
GRANTED- 2009-11-25  
PA - BOSTON SCIENT LTD [BB]  
IN - FREYMAN TOBY [US]  
TI - RESTENOSIS THERAPY USING MESENCHYMAL STEM CELLS  
AB - The present invention relates to methods for treating restenosis using mesenchymal stem cells, and in particular to treating restenosis following vascular surgery (e.g., angioplasty, stent implantation, rotoblation, atheroectomy, thrombectomy, or grafting).

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PNFP - EP1650295 B1 20091104  
GRANTED- 2009-11-04  
PA - JAPAN SCIENCE & TECH AGENCY [JP]  
IN - KOSAKA MITSUKO [JP]  
TI - PROCESS FOR PRODUCING TISSUE CELL FROM PLURIPOTENT STEM CELL DERIVED FROM IRIS PIGMENT EPITHELIAL CELL OF ANIMAL AND TISSUE CELL OBTAINED BY THE PROCESS  
AB - A method for producing tissue cells derived from iris pigmented epithelial cells of an animal, and tissue cells obtained by the method are provided. The method and the tissue cells solve problems such as immunological rejection in cell transplantation, ethical issues, and unbalance between the demand and supply of transplant cell sources. In the method of the present invention for producing the tissue cells, first, the iris pigmented epithelial cells isolated from an eyeball of an animal are selectively cultured according to a floated coagulated mass culturing technique so as to obtain pluripotent stem cells. Thereafter, the pluripotent stem cells are cultured by using, for example, serum so as to produce various tissue cells.

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PNFP - EP1442115 B9 20091216  
GRANTED- 2009-12-16  
PA - CHILDRENS MEDICAL CENTER [US]  
IN - ATALA ANTHONY [US]; DE COPPI PAOLO [IT]  
TI - METHODS OF ISOLATION, EXPANSION AND DIFFERENTIATION OF FETAL STEM CELLS FROM CHORIONIC VILLUS, AMNIOTIC FLUID, AND PLACENTA AND THERAPEUTIC USES THEREOF  
AB - The present invention is directed to pluripotent fetal stem cells derived from chorionic villus, amniotic fluid, and placenta and the methods for isolating, expanding and differentiating these cells, and their therapeutic uses such as manipulating the fetal stem cells by gene transfection and other means for therapeutic applications.

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PNFP - EP1780263 B1 20091216  
GRANTED- 2009-12-16  
PA - UNIV NORTH CAROLINA STATE [US]  
IN - PETTITE JAMES N [US]; ZHANG YI GUO [CN]  
TI - Method of producing an undifferentiated avian cell culture using avian primordial germ cells  
AB - A method of producing undifferentiated avian cells expressing an embryonic stem cell phenotype. The method includes the steps of collecting avian gonadal cells comprising primordial germ cells from an avian embryo after the formation of the primitive streak; depositing the avian gonadal cells in contact with a preconditioned feeder matrix; and growing the avian gonadal cells on the pre-conditioned feeder matrix in the presence of media for a time sufficient to produce an avian cell culture consisting essentially of undifferentiated avian cells expressing an embryonic stem cell phenotype.

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PNFP - EP1859055 B1 20091118  
GRANTED- 2009-11-18  
PA - CELLARTIS AB [SE]  
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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PNFP - US7622630 B2 20091124  
GRANTED- 2009-11-24  
PA - AVEO PHARMACEUTICALS INC [US]  
IN - HEYER JOERG [US]; ROBINSON MURRAY [US]; RIDEOUT III WILLIAM [US]; DEPINHO RONALD [US]; CLARK STEVEN C [US]; ZHOU YINGHUI [US]; JACKS TYLER [US]; O'HAGAN RONAN C [US]  
TI - Chimeric Cancer Models  
AB - Chimeric nonhuman mammals useful as inducible spontaneous cancer models are disclosed. The nonhuman mammals are obtained by introducing one or more genetically modified embryonic stem (ES) cells into an early stage embryo, and then implanting the manipulated embryo into a surrogate mother. The ES cells contain a recombinant oncogene, and also may contain a genetic mutation that deletes or inactivates a tumor suppressor gene. Models of different types of cancer are produced by introducing different combinations of genetic mutations into the ES cells that are introduced into the early stage embryo.

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PNFP - US7638328 B2 20091229  
GRANTED- 2009-12-29  
PA - CELLARTIS AB [SE]  
IN - ERIKSSON PETER [SE]; KILMARE EVA KARIN [SE]; TALLHEDEN TOMMI [SE]; ENERBAECK SVEN [SE]  
TI - Method for efficient transfer of human blastocyst-derived stem cells (hBS cells) from a feeder-supported to a feeder-free culture system, long-term propagation of hBS cells under feeder-free conditions and use of cultured hBS cells for applications in myocardial regeneration

AB - A method for the transfer of human blastocyst-derived stem cells (hBS cells) to feeder-free culture system and propagation of the cells in such a feeder-free culture system, the method comprising the following steps of (a) transferring the blastocyst-derived stem cells from feeder to feeder free culture by mechanical treatment, (b) optionally, culturing the blastocyst-derived stem cells under feeder cell free growth conditions in a suitable growth medium and/or on a suitable support substrate, and (c) optionally passaging the blastocyst derived stem cell line every 3-10 days by enzymatic and/or mechanical treatment. The invention also relates to the application of hBS cells cultured under feeder free condition in medicine (e.g., myocardial regeneration) and screening and toxicity tests.

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PNFP - US7611852 B2 20091103  
GRANTED- 2009-11-03  
PA - WISCONSIN ALUMNI RES FOUND [US]  
IN - THOMSON JAMES A [US]; KAMP TIMOTHY J [US]; MA YUE [US]; HE JIA-QIANG [US]  
TI - Functional cardiomyocytes from human embryonic stem cells  
AB - Human embryonic stem cells form embryoid bodies in culture which contain differentiated human cells. Some of the human cells in embryoid bodies differentiate into cardiomyocytes. Here the biological and electrical characteristics of those cardiomyocytes are described with reference to the use of cardiomyocytes derived from human embryonic stem cells in drug screening protocols for mechanisms of cardiac toxicity.

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

## ANNEX A

### Search strategy

..HIS

Databases : EPODOC, WPI

#### SS Results

- 1 8780 /EC/ECNO OR C12N5/06B2P, C12N5/06B3, C12N5/06B6P, C12N5/06B8P, C12N5/06B11P, C12N5/06B12P, C12N5/06B14P, C12N5/06B18P, C12N5/06B20P, C12N5/06B21P, C12N5/06B22P, C12N5/06B26P, C12N5/06B28P, C12N5/06B30P, C12N5/06B3A
- 2 7439 \*M4/PR/ALL
- 3 7025 \*M4/PR/ALL
- 4 4476 \*M4/PR/ALL
- 5 0 \*M4/PR/ALL
- 6 0 \*M4/PR/ALL
- 7 0 \*M4/PR/ALL
- 8 2 \*M4/PR/ALL
- 9 13011 1: 8
- 10 8558 9 AND (STEM? OR PLURIPOTEN+ OR PROGENITOR? OR EMBRYO+ OR HBS OR BLASTOCYST? OR RE\_PROGRAM+ OR DE\_DIFFERENTIAT+ OR RETRO\_D\_DIFFERENTIAT+ OR ?ESC?)
- 11 32258 ((STEM? OR PLURIPOTEN+ OR EMBRYONIC+ OR PROGENITOR? OR EMBRYONAL+ OR HBS OR BLASTOCYST? OR DE\_DIFFERENTIAT+ OR RETRO\_DIFFERENTIAT+ OR ?ES OR RE\_PROGRAM+) 3D CELL?) OR (HESC? OR (HUMAN W ESC?) OR (PRIMATE W ESC?))
- 12 35596 1 OR 10 OR 11
- 13 35596 ..LIM 12
- 14 547 PD<=2009-12 AND PD>2009-10-31
- 15 451 14 AND (OR GB/PN, EP/PN, US/PN, WO/PN) -Viewed- "A" specs
- 16 3 /PN GB S B? S (OR 200912, 200911)
- 17 60 /PN EP S B? S (OR 200912, 200911) – Viewed- "B" specs
- 18 123 /PN US S B? S (OR 200912, 200911)

### Key to ECLA classification marks searched:

- C12N5/06B2P** . . . . (1355) [N: Pluripotent cells, e.g. embryonic stem cells (ES)]
- C12N5/06B3** . . . (489) [N: Non-embryonic pluripotent cells, e.g. MASC] [N0209]
- C12N5/06B3A** . . . . (136) [N: Artificially induced pluripotent cells, e.g. iPS] [N0905]
- C12N5/06B6* . . . (87) [N: Muscle cells] [N9703] [C0209]
- C12N5/06B6P** . . . . (269) [N: Stem cells; Progenitor cells, e.g. satellite cells] [N9703]
- C12N5/06B8* . . . (451) [N: Cells of the nervous system] [N9703]
- C12N5/06B8P** . . . . (1113) [N: Stem cells; Progenitor cells; Precursor cells] [N9703]
- C12N5/06B11* . . . (360) [N: Cells from the blood or the immune system] [N0305]
- C12N5/06B11P** . . . . (1972) [N: Haematopoietic stem cells; Uncommitted or multipotent progenitors]
- C12N5/06B12* . . . (285) [N: Epithelial cells (cornea, eye epithelium C12N5/06B8C)]
- C12N5/06B12P** . . . . (239) [N: Stem cells; Progenitor cells; Precursor cells] [N9703]
- C12N5/06B14* . . . (674) [N: Hepatocytes] [N9703]
- C12N5/06B14P** . . . . (254) [N: Stem cells; Progenitor cells; Precursor cells; Oval cells]
- C12N5/06B18* . . . (651) [N: Osteoblasts; Osteocytes; Odontoblasts]
- C12N5/06B18P** . . . . (164) [N: Stem cells; Progenitor cells; Precursor cells] [N9703]

*C12N5/06B20* ... (1118) [N: Chondrocytes] [N9703]  
**C12N5/06B20P** .... (53) [N: Stem cells; Progenitor cells; Precursor cells] [N0305]

*C12N5/06B21* ... (104) [N: Cells from bone marrow stroma] [N0305]  
**C12N5/06B21P** .... (1072) [N: Mesenchymal stem cells] [N0305]

*C12N5/06B22* ... (975) [N: Pancreatic cells]  
**C12N5/06B22P** .... (173) [N: Stem cells; Progenitor cells; Precursor cells] [N0205]

*C12N5/06B26* ... (325) [N: Fat cells, e.g. adipocytes] [N9703]  
**C12N5/06B26P** .... (259) [N: Stem cells; Progenitor cells, e.g. adipose stroma progenitors; precursor cells] [N0205]

*C12N5/06B28* ... (661) [N: Endothelial cells (eye endothelium C12N5/06B8C)] [N9703]  
**C12N5/06B28P** .... (279) [N: Stem cells; Progenitor cells; Precursor cells] [N0209]

*C12N5/06B30* ... (548) [N: Tumour cells; Cancer cells] [N9703] [C0205]  
**C12N5/06B30P** .... (79) [N: Stem cells; Progenitor cells; Precursor cells] [N0608]