PLURIPOTENT CELLS

FIELD OF THE INVENTION

[0001] The present invention is directed to pluripotent stem cells that can be readily expanded in culture on tissue culture polystyrene and do not require a feeder cell line. The present invention also provides methods to derive the pluripotent stem cell line from human embryonic stem cells.

BACKGROUND

[0002] Advances in cell-replacement therapy for Type I diabetes mellitus and a shortage of transplantable islets of Langerhans have focused interest on developing sources of insulin-producing cells, or β cells, appropriate for engraftment. One approach is the generation of functional β cells from pluripotent stem cells, such as, for example, embryonic stem cells.

[0003] In vertebrate embryonic development, a pluripotent cell gives rise to a group of cells comprising three germ layers (ectoderm, mesoderm, and endoderm) in a process known as gastrulation. Tissues such as, for example, thyroid, thymus, pancreas, gut, and liver, will develop from the endoderm, via an intermediate stage. The intermediate stage in this process is the formation of definitive endoderm. Definitive endoderm cells express a number of markers, such as, HNF-3 beta, GATA-4, Mixl1, CXCR4 and SOX-17.

[0004] Formation of the pancreas arises from the differentiation of definitive endoderm into pancreatic endoderm. Cells of the pancreatic endoderm express the pancreatic-duodenal homeobox gene, PDX-1. In the absence of PDX-1, the pancreas fails to develop beyond the formation of ventral and dorsal buds. Thus, PDX-1 expression marks a critical step in pancreatic organogenesis. The mature pancreas contains, among other cell types, exocrine tissue and endocrine tissue. Exocrine and endocrine tissues arise from the differentiation of pancreatic endoderm.

[0005] Cells bearing the features of islet cells have reportedly been derived from embryonic cells of the mouse. For example, Lumelsky *et al.* (Science 292:1389, 2001) report differentiation of mouse embryonic stem cells to insulin-secreting structures similar to

pancreatic islets. Soria *et al.* (Diabetes 49:157, 2000) report that insulin-secreting cells derived from mouse embryonic stem cells normalize glycemia in streptozotocin-induced diabetic mice.

[0006] In one example, Hori *et al.* (PNAS 99: 16105, 2002) disclose that treatment of mouse embryonic stem cells with inhibitors of phosphoinositide 3-kinase (LY294002) produced cells that resembled β cells.

[0007] In another example, Blyszczuk *et al.* (PNAS 100:998, 2003) reports the generation of insulin-producing cells from mouse embryonic stem cells constitutively expressing Pax4.

[0008] Micallef *et al.* reports that retinoic acid can regulate the commitment of embryonic stem cells to form PDX-1 positive pancreatic endoderm. Retinoic acid is most effective at inducing PDX-1 expression when added to cultures at day 4 of embryonic stem cell differentiation during a period corresponding to the end of gastrulation in the embryo (Diabetes 54:301, 2005).

[0009] Miyazaki *et al.* reports a mouse embryonic stem cell line over-expressing PDX-1. Their results show that exogenous PDX-1 expression clearly enhanced the expression of insulin, somatostatin, glucokinase, neurogenin3, P48, Pax6, and HNF6 genes in the resulting differentiated cells (Diabetes 53: 1030, 2004).

[0010] Skoudy *et al.* reports that activin-A (a member of the TGFβ superfamily) upregulates the expression of exocrine pancreatic genes (p48 and amylase) and endocrine genes (PDX-1, insulin, and glucagon) in mouse embryonic stem cells. The maximal effect was observed using 1nM activin-A. They also observed that the expression level of insulin and PDX-1 mRNA was not affected by retinoic acid; however, 3nM FGF-7 treatment resulted in an increased level of the transcript for PDX-1 (Biochem. J. 379: 749, 2004).

[0011] Shiraki *et al.* studied the effects of growth factors that specifically enhance differentiation of embryonic stem cells into PDX-1 positive cells. They observed that TGFβ2 reproducibly yielded a higher proportion of PDX-1 positive cells (Genes Cells. 2005 Jun; 10(6): 503-16.).

[0012] Gordon *et al.* demonstrated the induction of brachyury+/HNF-3 beta+ endoderm cells from mouse embryonic stem cells in the absence of serum and in the presence of activin along with an inhibitor of Wnt signaling (US2006/0003446A1).

[0013] Gordon *et a*l. (PNAS, Vol 103, page 16806, 2006) states "Wnt and TGF-beta/nodal/ activin signaling simultaneously were required for the generation of theanterior primitive streak".

[0014] However, the mouse model of embryonic stem cell development may not exactly mimic the developmental program in higher mammals, such as, for example, humans.

[0015] Thomson *et al.* isolated embryonic stem cells from human blastocysts (Science 282:114, 1998). Concurrently, Gearhart and coworkers derived human embryonic germ (hEG) cell lines from fetal gonadal tissue (Shamblott et al., Proc. Natl. Acad. Sci. USA 95:13726, 1998). Unlike mouse embryonic stem cells, which can be prevented from differentiating simply by culturing with Leukemia Inhibitory Factor (LIF), human embryonic stem cells must be maintained under very special conditions (U.S. Pat. No. 6,200,806; WO 99/20741; WO 01/51616).

[0016] D'Amour *et al.* describes the production of enriched cultures of human embryonic stem cell-derived definitive endoderm in the presence of a high concentration of activin and low serum (D'Amour KA et al. 2005). Transplanting these cells under the kidney capsule of mice resulted in differentiation into more mature cells with characteristics of some endodermal organs. Human embryonic stem cell-derived definitive endoderm cells can be further differentiated into PDX-1 positive cells after addition of FGF-10 (US 2005/0266554A1).

[0017] D'Amour *et al.* (Nature Biotechnology - 24, 1392 - 1401 (2006)) states "We have developed a differentiation process that converts human embryonic stem (hES) cells to endocrine cells capable of synthesizing the pancreatic hormones insulin, glucagon, somatostatin, pancreatic polypeptide and ghrelin. This process mimics *in vivo* pancreatic organogenesis by directing cells through stages resembling definitive endoderm, gut-tube endoderm, pancreatic endoderm and endocrine precursor en route to cells that express endocrine hormones".

[0018] In another example, Fisk *et al.* reports a system for producing pancreatic islet cells from human embryonic stem cells (US2006/0040387A1). In this case, the differentiation pathway was divided into three stages. Human embryonic stem cells were first differentiated to endoderm using a combination of n-butyrate and activin-A. The cells were then cultured with TGFß antagonists such as Noggin in combination with EGF or betacellulin to generate PDX-1 positive cells. The terminal differentiation was induced by nicotinamide.

[0019] In one example, Benvenistry *et al.* states: "We conclude that over-expression of PDX-1 enhanced expression of pancreatic enriched genes, induction of insulin expression may require additional signals that are only present *in vivo*" (Benvenistry *et al*, Stem Cells 2006; 24:1923–1930).

[0020] Current methods to culture human embryonic stem cells requires the use of either extracellular matrix proteins or a fibroblast feeder layer, or the addition of exogenous growth factors, such as, for example, bFGF.

[0021] In one example, Cheon *et al* (BioReprod DOI: 10.1095/biolreprod.105.046870, October 19, 2005) disclose a feeder-free, serum-free culture system in which embryonic stem cells are maintained in unconditioned serum replacement (SR) medium supplemented with different growth factors capable of triggering embryonic stem cell self-renewal.

[0022] In another example, Levenstein *et al* (Stem Cells 24: 568-574, 2006) disclose methods for the long-term culture of human embryonic stem cells in the absence of fibroblasts or conditioned medium, using media supplemented with bFGF.

[0023] In another example, US20050148070 discloses a method of culturing human embryonic stem cells in defined media without serum and without fibroblast feeder cells, the method comprising: culturing the stem cells in a culture medium containing albumin, amino acids, vitamins, minerals, at least one transferrin or transferrin substitute, at least one insulin or insulin substitute, the culture medium essentially free of mammalian fetal serum and containing at least about 100 ng/ml of a fibroblast growth factor capable of activating a fibroblast growth factor signaling receptor, wherein the growth factor is supplied from a source other than just a fibroblast feeder

layer, the medium supported the proliferation of stem cells in an undifferentiated state without feeder cells or conditioned medium.

[0024] In another example, US20050233446 discloses a defined media useful in culturing stem cells, including undifferentiated primate primordial stem cells. In solution, the media is substantially isotonic as compared to the stem cells being cultured. In a given culture, the particular medium comprises a base medium and an amount of each of bFGF, insulin, and ascorbic acid necessary to support substantially undifferentiated growth of the primordial stem cells.

[0025] In another example, US6800480 states "In one embodiment, a cell culture medium for growing primate-derived primordial stem cells in a substantially undifferentiated state is provided which includes a low osmotic pressure, low endotoxin basic medium that is effective to support the growth of primate-derived primordial stem cells. The basic medium is combined with a nutrient serum effective to support the growth of primate-derived primordial stem cells and a substrate selected from the group consisting of feeder cells and an extracellular matrix component derived from feeder cells. The medium further includes nonessential amino acids, an anti-oxidant, and a first growth factor selected from the group consisting of nucleosides and a pyruvate salt."

[0026] In another example, US20050244962 states: "In one aspect the invention provides a method of culturing primate embryonic stem cells. One cultures the stem cells in a culture essentially free of mammalian fetal serum (preferably also essentially free of any animal serum) and in the presence of fibroblast growth factor that is supplied from a source other than just a fibroblast feeder layer. In a preferred form, the fibroblast feeder layer, previously required to sustain a stem cell culture, is rendered unnecessary by the addition of sufficient fibroblast growth factor."

[0027] In a further example, WO2005065354 discloses a defined, isotonic culture medium that is essentially feeder-free and serum-free, comprising: a. a basal medium; b. an amount of bFGF sufficient to support growth of substantially undifferentiated mammalian stem cells; c. an amount of insulin sufficient to support growth of substantially undifferentiated mammalian stem cells; and d. an amount of ascorbic acid sufficient to support growth of substantially undifferentiated mammalian stem cells.

[0028] In another example, WO2005086845 discloses a method for maintenance of an undifferentiated stem cell, said method comprising exposing a stem cell to a member of the transforming growth factor-beta (TGFβ) family of proteins, a member of the fibroblast growth factor (FGF) family of proteins, or nicotinamide (NIC) in an amount sufficient to maintain the cell in an undifferentiated state for a sufficient amount of time to achieve a desired result.

[0029] Additionally, formation of pancreatic endocrine cells, pancreatic hormone expressing cells, or pancreatic hormone secreting cells from human embryonic cells may require genetic manipulation of the human embryonic stem cells. Transfection of human embryonic stem cells using traditional techniques, such as, for example, lipofectamine or electroporation is inefficient.

[0030] WO2007027157 discloses a method comprising: (a) providing an embryonic stem (ES) cell; and (b) establishing a progenitor cell line from the embryonic stem cell; in which the progenitor cell line is selected based on its ability to self-renew. Preferably, the method selects against somatic cells based on their inability to self renew. Preferably, the progenitor cell line is derived or established in the absence of co-culture, preferably in the absence of feeder cells, which preferably selects against embryonic stem cells. Optionally, the method comprises (d) deriving a differentiated cell from the progenitor cell line.

[0031] Therefore, there still remains a significant need to develop conditions for establishing pluripotent stem cell lines that can be expanded to address the current clinical needs, while retaining the potential to differentiate into pancreatic endocrine cells, pancreatic hormone expressing cells, or pancreatic hormone secreting cells.

SUMMARY

[0032] The present invention provides a cell population with characteristics of human embryonic stem cells, that can be readily expanded in culture, in low serum, that requires no feeder cell line or a coating of complex matrix proteins, can be passaged in single cell suspension, can be transfected with a very high efficiency, and cultured under hypoxic conditions. This combination of unique attributes separates the cells described in the present invention from the prior art.

[0033] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Obtaining cells, and

b. Culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

[0034] The cells may be human embryonic stem cells, or they may be cells expressing markers characteristic of the definitive endoderm lineage. The human embryonic stem cells may be cultured in normoxic conditions prior to culturing the cells on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix. Alternatively, the human embryonic stem cells may be cultured in hypoxic conditions.

[0035] The human embryonic stem cells may be cultured in normoxic conditions prior to culturing the cells on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, and treated with a Rho kinase inhibitor. Alternatively, the human embryonic stem cells may be cultured in hypoxic conditions, and treated with a Rho kinase inhibitor.

[0036] The cells expressing markers characteristic of the definitive endoderm lineage may be cultured in normoxic conditions prior to culturing the cells on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix. Alternatively, the cells expressing markers characteristic of the definitive endoderm lineage may be cultured in hypoxic conditions.

[0037] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Culturing human embryonic stem cells,

b. Differentiating the human embryonic stem cells into cells expressing markers characteristic of definitive endoderm cells, and

c. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

[0038] The cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, activin-A, and a Wnt ligand. Alternatively, the cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pretreated with a protein or an extracellular matrix, in medium containing serum, activin-A, a Wnt ligand, and IGF-1.

[0039] The cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, a Rho kinase inhibitor, activin-A, and a Wnt ligand. Alternatively, the cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pretreated with a protein or an extracellular matrix, in medium containing serum, a Rho kinase inhibitor, activin-A, a Wnt ligand, and IGF-1.

[0040] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Culturing human embryonic stem cells, and

b. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

[0041] The cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, activin-A, and a Wnt ligand. Alternatively, the cells may be cultured under hypoxic

conditions, on a tissue culture substrate that is not pretreated with a protein or an extracellular matrix, in medium containing serum, activin-A, a Wnt ligand, and IGF-1.

[0042] The cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, a Rho kinase inhibitor, activin-A, and a Wnt ligand. Alternatively, the cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pretreated with a protein or an extracellular matrix, in medium containing serum, a Rho kinase inhibitor, activin-A, a Wnt ligand, and IGF-1.

[0043] The cells expressing pluripotency markers derived by the methods of the present invention are capable of expansion in culture under hypoxic conditions, on tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

[0044] In one embodiment, the present invention provides a method to expand cells expressing markers characteristic of the definitive endoderm lineage, comprising the steps of culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix. In one embodiment, the cells expressing markers characteristic of the definitive endoderm lineage are derived from pluripotent cells formed by the methods of the present invention.

[0045] The cells may be cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, activin-A, a Wnt ligand, and a GSK-3B inhibitor.

BRIEF DESCRIPTION OF THE FIGURES

[0046] **Figure 1** shows the expression of CXCR4 (CD 184, Y-axis) and CD9 (X-axis) in cells from the human embryonic stem cell line H9 at passage 54 that have been differentiated into definitive endoderm following treatment with low serum +Activin-A + WNT-3A for 4 days.

[0047] **Figure 2** shows the real-time PCR analysis of cells from the human embryonic stem cell line H9 at passage 54 at day 4 and 6 of the definitive endoderm differentiation protocol outlined in **Example 5**. Panel a) depicts expression of AFP, Bry, CXCR4,

GSC, and SOX-7. Panel b) depicts the expression of SOX-17, GATA-4, and HNF-3 beta.

[0048] **Figure 3** shows the isolation protocol used to derive EXPRES cells from embryonic stem cells according to the methods of the present invention.

[0049] **Figure 4** shows the morphology of expanded EXPRES cells at P0, at day 11, that were cultured in 2% FBS + DMEM-F12 + 100 ng/ml of Activin-A (Panel a) or 2% FBS + DMEM-F12 + 100 ng/ml of Activin-A + 20 ng/ml of WNT-3A (Panel b). Panel c shows the morphology of the EXPRES cells at passage 3.

[0050] **Figure 5** shows the real-time PCR analysis of expanded EXPRES cells cultured in 2-5% FBS + DMEM-F12 + 100 ng/ml of Activin-A + 20 ng/ml of WNT-3A for three passages. Panel a) depicts expression of AFP, Bry, CXCR4, GSC, and SOX-7. Panel b) depicts the expression of SOX-17, GATA-4, and HNF-3 beta.

[0051] **Figure 6** shows the effect of the addition of Wnt-3A on gene expression in EXPRES cells. Panel a) depicts real-time PCR expression of SOX-17, GATA-4, and HNF-3 beta. Panel b) depicts real-time PCR expression of AFP, Bry, CXCR4, GSC, and SOX-7.

[0052] **Figure 7** shows the effect of IGF-1, Wnt-3A and activin-A on gene expression in EXPRES cells. Panel a) depicts real-time PCR expression of SOX-17, GATA-4, HNF-3 beta, Bry, CXCR4, and GSC. Panel b) depicts real-time PCR expression of and SOX-7 and AFP. Panel c) depicts real-time PCR expression of OCT-4.

[0053] **Figure 8** shows the morphology of expanded EXPRES cells derived from the human embryonic stem cell line H9 at passage 54, cultured in a) 2% FBS +DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A, b) 2% FBS + DMEMF12 + 100 ng/ml of AA, c) 2% FBS + DMEM-F12 + 50 ng/ml of IGF-I.

[0054] **Figure 9** shows the expansion potential of EXPRES 01 and 02 cells cultured on tissue culture polystyrene under hypoxic conditions. EXPRES 01 was cultured in 2% FBS + DM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A + 50 ng/ml of IGF-I and EXPRES 02 cells were cultured in 2% FBS + DM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A.

[0055] **Figure 10** shows the morphology of EXPRES cells derived from single cell suspension of undifferentiated ES cells on TCPS (tissue culture polystyrene) in DM-F12 + 2% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 50 ng/ml of IGF-I.

[0056] **Figure 11** shows the protein expression as determined by FACS in EXPRES 01 cells at passage 24 cells. Panel a) shows the expression levels of E-cadherin, panel b) shows the expression levels of CXCR4, panel c) shows the expression levels of CD9, panel d) shows the expression levels of CD117, panel e) shows the expression levels of CD30, panel f) shows the expression levels of LIF receptor, panel g) shows the expression levels of TRA 1-60, panel h) shows the expression levels of TRA 1-81, panel i) shows the expression levels of SSEA-1, panel j) shows the expression levels of SSEA-3, panel k) shows the expression levels of SSEA-4, and Panel l) shows the expression levels of CD56.

[0057] **Figure 12** shows the protein expression as determined by FACS in EXPRES 02 at passage 21 cells. Panel a) shows the expression levels of E-cadherin, panel b) shows the expression levels of CXCR4, panel c) shows the expression levels of CD9, panel d) shows the expression levels of CD117, panel e) shows the expression levels of CD30, panel f) shows the expression levels of LIF receptor, panel g) shows the expression levels of TRA 1-60, panel h) shows the expression levels of TRA 1-81, panel i) shows the expression levels of SSEA-1, panel j) shows the expression levels of SSEA-3, panel k) shows the expression levels of SSEA-4, and panel l) shows the expression levels of CD56.

[0058] **Figure 13** shows immuno fluorescent images of EXPRES 01 at passage 10 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A + 50 ng/ml of IGF-I. Panel a) DAPI image for panel b, panel b) Nanog, panel c) DAPI (blue) and Oct-4 (green) co-staining, panel d) DAPI image for panel e, panel e) SOX-2, and panel f) DAPI (blue) and HNF-3 beta (green) co-staining.

[0059] **Figure 14** shows immuno fluorescent images of EXPRES 02 at passage 9 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A. Panel a) DAPI image for panel b, panel b) HNf3B, panel c) DAPI image for panel d, panel d) OCT-4, panel e) DAPI image for panel f, panel f) SOX-2, panel g) DAPI image for panel h, panel h) NANOG.

[0060] **Figure 15** shows gene expression as determined by real-time PCR for EXPRES 01 cells, EXPRES 02 cells, EB derived from H9 cells, SA002 cultured on MATRIGEL in MEF-CM, and undifferentiated H9 cells cultured on MATRIGEL in MEFCM. All the expression levels are normalized to undifferentiated H9 cells. Panel a) shows SOX-1 expression, panel b) shows FOXD3, MYOD1, POU5F1, and ZFP42 expression, panel c) shows ABCG2, Connexin 43, Connexin 45, and cytokeratin 15 expression, panel d) shows nestin, SOX-2, UTF1, and vimentin, panel e) shows GATA-2, Brachyury, TERT, and tubulin-beta III expression, panel f) shows CFC1, and GATA-4 expression, Panel g) shows AFP and FOXA2 expression, and Panel h) shows IPF1A and MSX1 expression.

[0061] **Figure 16** shows the expression, as determined by FACS of CXCR4 (Y-axis) and CD9 (x-axis) in a) EXPRES 01 cells passage 5 cells cultured on tissue culture polystyrene in growth media and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A and 20 ng/ml of WNT3A for 2 days followed by additional 2 days in DMEM-F12 + 2% FBS + 100 ng/ml of activin-A, b) EXPRES 02 cells passage 4 cells cultured on tissue culture polystyrene in growth media and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A and 20 ng/ml of WNT3A for 2 days followed by additional 2 days in DMEM-F12 + 2% FBS + 100 ng/ml of activin-A.

[0062] **Figure 17** shows gene expression as determined by real-time PCR in a) EXPRES 01 cells and b) EXPRES 02 cells treated with low serum plus AA + WNT3a.

[0063] **Figure 18** shows immuno fluorescent images of EXPRES 01 cells at passage 5 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A + 50 ng/ml of IGF-I and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A and 20 ng/ml of WNT3A for 2 days, followed by additional 2 days in DMEM-F12 + 2% FBS + 100 ng/ml of activin-A. Panel a) DAPI image for panel b, panel b) GATA-4, panel c) DAPI image for panel d, panel d) SOX-17, panel e) DAPI image for panel f, panel f) HNF-3 beta, panel g) DAPI image for panel h, and panel h) OCT-4.

[0064] **Figure 19** shows immuno fluorescent images of EXPRES 02 cells at passage 4 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A and 20 ng/ml of WNT3A for 2 days followed by additional 2 days in DMEM-F12 + 2% FBS + 100

ng/ml of activin-A. Panel a) DAPI image for panel b, panel b) GATA-4, panel c) DAPI image for panel d, panel d) SOX-17, panel e) DAPI image for panel f, panel f) HNF-3 beta, panel g) DAPI image for panel h, and panel h) OCT-4.

[0065] **Figure 20** shows protein expression as determined by FACS of CXCR4 (Y-axis) and CD9 (x-axis) for a) EXPRES 01 cells at passage 19 cells and b) EXPRES 02 cells at passage 14 cells cultured on tissue culture polystyrene in growth media and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A + 100 nM GSK-3B inhibitor IX, and 20 ng/ml of WNT3A for 4days.

[0066] **Figure 21** shows immuno fluorescent images of EXPRES 01 cells at passage 19 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A + 50 ng/ml of IGF-I and EXPRES 02 cells at passage 14 cultured in 2% FBS + DMEM-F12 + 100 ng/ml of AA + 20 ng/ml of WNT-3A and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml of activin-A + 100 nM GSK-3B inhibitor IX, and 20 ng/ml of WNT3A for 5days. Panel a) DAPI image for panel b, panel b) HNF-3 beta, panel c) DAPI image for panel d, panel d) GATA-4, panel e) DAPI image for panel f, panel f) SOX-17, panel g)DAPI image for panel h, panel h) HNF-3 beta, Panel i) DAPI image for panel j, panel j) GATA-4, panel k)DAPI image for panel l, panel l) SOX-17.

[0067] **Figure 22** shows gene expression as determined by real-time PCR data for a) EXPRES 01 and EXPRES 02 cells treated with low serum plus AA + WNT3a + GSK-3B IX inhibitor for 5 days. Panel a depicts expression of AFP, Brachyury, CDX2, Mox1, OCT3/4, SOX-7, and ZIC1 and panel b shows expression levels of CXCR4, GATA-4, Goosecoid, HNf3B, and SOX-17.

[0068] **Figure 23** shows gene expression as determined by real-time PCR for EXPRES 01 cells seeded at 5000-40000 cells/cm^2 on tissue culture polystyrene in growth media and then switched to DMEM-F12 + 0.5% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 100 nM GSK-3B inhibitor IX for four days under hypoxic conditions. Panel a depicts expression levels of AFP, Brachyury, SOX-7, and OTX2. Panel b depicts expression levels of CXCR4, HNF-3 beta, GATA-4, SOX-17, Cerb, and GSC.

[0069] **Figure 24** shows the results of a telomere length assay in low telomere control cells (lane 1), EXPRES 01 cells at passage 24 (lane 2), EXPRES 02 cells at passage 17 (lane

3), undifferentiated cells from the human embryonic stem cell line H1 at passage 40 (lane 4), and high telomere length control cells (lane 5).

[0070] **Figure 25** shows gene expression as determined by real-time PCR data for EXPRES 01 cells at passage 21 that have been differentiated to foregut endoderm cells (S3), pancreatic endoderm cells (S4), and pancreatic endocrine cells (S5).

[0071] **Figure 26** shows immuno fluorescent images of EXPRES 01 at passage 35 cultured according to **Example 18**. Panel a) DAPI image for panel b, panel b) Anti-1 trypsin, panel c) HNF-3 beta in green Albumin in Red, panel d) Albumin in red and DAPI (blue), panel e) DAPI image for panel f, panel f) PDX-1, panel g) DAPI image for panel h, panel h) SOX-17, panel i) DAPI image for panel j, panel j) CDX-2.

[0072] **Figure 27** shows scatter plots of microarray data comparing, panel a) EXPRES 01 cells (y-axis) to undifferentiated cells from the human embryonic stem cell line H9 (x-axis), panel b) EXPRES 02 cells (y-axis) to undifferentiated cells from the human embryonic stem cell line H9 (x-axis), panel c) EXPRES 01 cells (y-axis) to EXPRES 02 cells (x-axis), panel d) EXPRES 01 cells (y-axis) to cells from the human embryonic stem cell line H9 that have been differentiated into definitive endoderm (x-axis), panel e) EXPRES 02 cells (y-axis) to cells from the human embryonic stem cell line H9 that have been differentiated into definitive endoderm (x-axis), panel f) undifferentiated cells from the human embryonic stem cell line H9 (y-axis) to cells from the human embryonic stem cell line H9 that have been differentiated into definitive endoderm (x-axis).

[0073] **Figure 28** shows the morphology of EB bodies formed by EXPRES 01 cells.

[0074] **Figure 29** shows gene expression as determined by real-time PCR for cells of the EXPRES 01 cell line, cells of the EXPRES 02 cell line, and cells from the human embryonic stem cell line H9 at passage 43, following five weeks of transplantation beneath the kidney capsule of NOD-SCID mice. Panels a-e, show mesoderm markers. Panels f & g show ectoderm markers. Panels h & i show endoderm markers. Panel j shows extra embryonic endoderm markers. Panels k-m show pluripotency markers.

[0075] **Figure 30** shows the proliferation and cell cycle status of EXPRES 03 cells, as determined by BRDU incorporation. EXPRES 03 cells were cultured in 2%

FBS/DMEM/F12, supplemented with, panel a) activin-A (100 ng/ml) and wnt3a (20ng/ml), panel b) Activin-A (100 ng/ml) and wnt3a (20ng/ml) and IGF (50nh/ml). Other cells shown include, panel c) hES cells (H9p43), panel d) Amniotic Fluid Cells (AFDX002) and panel e) mitomycin treated MEF cells. Panel f) shows the frequency of cells in S-phase, G1 and G2/M-phases of cell cycle for different cell populations studied.

[0076] **Figure 31** shows the transfection efficiency and expression of EGFP in EXPRES 01 cells and human embryonic stem cells plated either as single cell dispersions or cell clusters. Cells were analyzed 24 hrs later by fluorescence microscopy and flow cytometry. Panel A) shows data obtained from EXPRES 01 cells. Panel B) shows data obtained from single cell dispersions of human embryonic stem cells and Panel C) shows data obtained from cell clusters of human embryonic stem cells.

[0077] **Figure 32** shows average OD readings representing dehydrogenase enzyme activity versus cell number as measured by MTS assay for a) EXPRES 01 cells cultured in atmospheric oxygen (approximately 21%), b) EXPRES 01 cells cultured in 3% O2, c) EXPRES 02 cells cultured in atmospheric oxygen (approximately 21%), d) EXPRES 02 cells cultured in 3% O2 conditions.

[0078] **Figure 33** shows gene expression as determined by real-time PCR for EXPRES 01 P27 cells seeded at 10000 cells/cm^2 on tissue culture polystyrene in DMEMF12 + 0.5% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 100 nM GSK-3B inhibitor IX.. Panel a depicts expression levels of AFP, Brachyury, SOX-7, and OTX2. Panel b depicts expression levels of CXCR4, HNF-3 beta, GATA-4, SOX-17, Cer1, and GSC.

[0079] **Figure 34** shows protein expression of CXCR4 (Y-axis) and CD9 (x-axis), as determined by FACS for EXPRES 01 P27 cells cultured on tissue culture polystyrene in DMEM-F12 + 0.5% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 100 nM GSK-3B inhibitor IX for three passages.

[0080] **Figure 35** shows the effects of siRNA transfection on the expression of GSK-3B and beta-catenin. EXPRES cells were analyzed by fluorescence microscopy and quantitative RT-PCR methods. A) Fluorescence microscopy of cells transfected with i) CY3 labeled siRNA and ii) Fluorescein labeled siRNA. B) Target gene knockdown

expressed as % remaining activity in cells transfected with i) GSK3b and ii) Beta-catenin siRNA oligo sequences.

[0081] **Figure 36** shows the karyotype of two cell lines derived by methods of the present invention. Panel a: EXPRES 01 cell line. Panel b: EXPRES 02 cell line.

[0082] **Figure 37** shows the morphology of EXPRES 15 cells at passage 0 after 24h culture in a) 2% FBS + DM-F12 + 100 ng/ml of activin-A+ 20 ng/ml of WNT-3A + 50 ng/ml IGF or b) 2% FBS + DM-F12 + 100 ng/ml of Activin-A+ 20 ng/ml of WNT-3A + 50 ng/ml IGF + 10 μM of the Rho kinase inhibitor Y-27632.

[0083] **Figure 38** shows the karyotype of EXPRES 15 cells cultured in 2% FBS + DM-F12 + 100 ng/ml of Activin-A+ 20 ng/ml of WNT-3A + 50 ng/ml IGF + 10 μM of the Rho kinase inhibitor Y-27632 for 12 passages.

[0084] **Figure 39** shows the proliferation as determined by A_{490} of EXPRES 11 cells cultured in basal media supplemented with IGF, activin-A, Wnt3A, and GSK inhibitor IX at the concentrations indicated at 24 h (panel a), 48 h (panel b), and 96 h (panel c).

DETAILED DESCRIPTION

[0085] For clarity of disclosure, and not by way of limitation, the detailed description of the invention is divided into the following subsections that describe or illustrate certain features, embodiments, or applications of the present invention.

Definitions

[0086] Stem cells are undifferentiated cells defined by their ability at the single cell level to both self-renew and differentiate to produce progeny cells, including self renewing progenitors, non-renewing progenitors, and terminally differentiated cells. Stem cells are also characterized by their ability to differentiate *in vitro* into functional cells of various cell lineages from multiple germ layers (endoderm, mesoderm and ectoderm), as well as to give rise to tissues of multiple germ layers following transplantation and to contribute substantially to most, if not all, tissues following injection into blastocysts.

[0087] Stem cells are classified by their developmental potential as: (1) totipotent, meaning able to give rise to all embryonic and extraembryonic cell types; (2) pluripotent,

meaning able to give rise to all embryonic cell types; (3) multipotent, meaning able to give rise to a subset of cell lineages, but all within a particular tissue, organ, or physiological system (for example, hematopoietic stem cells (HSC) can produce progeny that include HSC (self- renewal), blood cell restricted oligopotent progenitors and all cell types and elements (e.g., platelets) that are normal components of the blood); (4) oligopotent, meaning able to give rise to a more restricted subset of cell lineages than multipotent stem cells; and (5) unipotent, meaning able to give rise to a single cell lineage (e.g. , spermatogenic stem cells).

[0088] Differentiation is the process by which an unspecialized ("uncommitted") or less specialized cell acquires the features of a specialized cell such as, for example, a nerve cell or a muscle cell. A differentiated or differentiation-induced cell is one that has taken on a more specialized ("committed") position within the lineage of a cell. The term “committed”, when applied to the process of differentiation, refers to a cell that has proceeded in the differentiation pathway to a point where, under normal circumstances, it will continue to differentiate into a specific cell type or subset of cell types, and cannot, under normal circumstances, differentiate into a different cell type or revert to a less differentiated cell type. De-differentiation refers to the process by which a cell reverts to a less specialized (or committed) position within the lineage of a cell. As used herein, the lineage of a cell defines the heredity of the cell, i.e., which cells it came from and what cells it can give rise to. The lineage of a cell places the cell within a hereditary scheme of development and differentiation. A lineage-specific marker refers to a characteristic specifically associated with the phenotype of cells of a lineage of interest and can be used to assess the differentiation of an uncommitted cell to the lineage of interest.

[0089] “AFP” or “alpha-fetoprotein protein” as used herein, refers to an antigen produced at the onset of liver development. AFP may also be expressed in extraembryonic cells.

[0090] “Albumin” is a soluble monomeric protein that makes up about half of all serum proteins in adults.

[0091] "β-cell lineage" refer to cells with positive gene expression for the transcription factor PDX-1 and at least one of the following transcription factors: NGN-3, Nkx2.2,

Nkx6.1, NeuroD, Isl-1, HNF-3 beta, MAFA, Pax4, and Pax6. Cells expressing markers characteristic of the β cell lineage include β cells.

[0092] "Brachyury", as used herein, is a T-box gene family member. It is the marker for primitive streak and mesoderm cells.

[0093] "Cells expressing markers characteristic of the definitive endoderm lineage" as used herein refer to cells expressing at least one of the following markers: SOX-17, GATA-4, HNF-3 beta, GSC, Cer1, Nodal, FGF8, Brachyury, Mix-like homeobox protein, FGF4 CD48, eomesodermin (EOMES), DKK4, FGF17, GATA-6, CXCR4, C-Kit, CD99, or OTX2. Cells expressing markers characteristic of the definitive endoderm lineage include primitive streak precursor cells, primitive streak cells, mesendoderm cells and definitive endoderm cells.

[0094] "c-Kit" and "CD117" both refer to a cell surface receptor tyrosine kinase having a sequence disclosed in Genbank Accession No. X06182, or a naturally occurring variant sequence thereof (e.g., allelic variant).

[0095] "CD99" as used herein refers to the protein encoded by the gene wit the accession number NM_002414.

[0096] "Cells expressing markers characteristic of the pancreatic endoderm lineage" as used herein refer to cells expressing at least one of the following markers: PDX-1, HNF-1beta, PTF-1 alpha, HNF-6, or HB9. Cells expressing markers characteristic of the pancreatic endoderm lineage include pancreatic endoderm cells.

[0097] "Cells expressing markers characteristic of the pancreatic endocrine lineage" as used herein refer to cells expressing at least one of the following markers: NGN-3, NeuroD, Islet-1, PDX-1, NKX6.1, Pax-4, Ngn-3, or PTF-1 alpha. Cells expressing markers characteristic of the pancreatic endocrine lineage include pancreatic endocrine cells, pancreatic hormone expressing cells, and pancreatic hormone secreting cells, and cells of the β-cell lineage.

[0098] "Cer1" or "Cerebrus" as used herein is a member of the cysteine knot superfamily of proteins.

[0099] "CXCR4" as used herein refers to the stromal cell-derived factor 1 (SDF-1) receptor, also known as "LESTR" or "fusin". In the gastrulating mouse embryo, CXCR4 is expressed in the definitive endoderm and mesoderm but not in extraembryonic endoderm.

[0100] "Definitive endoderm" as used herein refers to cells which bear the characteristics of cells arising from the epiblast during gastrulation and which form the gastrointestinal tract and its derivatives. Definitive endoderm cells express the following markers: HNF-3 beta, GATA-4, SOX-17, Cerberus, OTX2, goosecoid, C-Kit, CD99, and Mixl1.

[0101] "Extraembryonic endoderm" as used herein refers to a population of cells expressing at least one of the following markers: SOX-7, AFP, and SPARC.

[0102] "FGF-2", "FGF-4" "FGF-8" "FGF-10", and "FGF-17" as used herein, are members of the fibroblast growth factor family.

[0103] "GATA-4" and "GATA-6" are members of the GATA transcription factor family. This family of transcription factors is induced by TGF-β signaling, and contribute to the maintenance of early endoderm markers.

[0104] "GLUT-2", as used herein, refers to the glucose transporter molecule that is expressed in numerous fetal and adult tissues, including pancreas, liver, intestine, brain, and kidney.

[0105] "Goosecoid" or "GSC" as used herein, refers to a homeodomain transcription factor expressed in the dorsal lip of the blastopore.

[0106] "HB9" as used herein, refers to the homeobox gene 9.

[0107] "HNF-1 alpha", "HNF-1 beta", "HNF-3 beta", and "HNF-6" belong to the hepatic nuclear factor family of transcription factors, which is characterized by a highly conserved DNA binding domain and two short carboxy-terminal domains.

[0108] "Islet-1" or "Isl-1" as used herein is a member of the LIM/homeodomain family of transcription factors, and is expressed in the developing pancreas.

[0109] "MafA" as used herein is a transcription factor expressed in the pancreas, and controls the expression of genes involved in insulin biosynthesis and secretion.

[0110] "Markers" as used herein, are nucleic acid or polypeptide molecules that are differentially expressed in a cell of interest. In this context, differential expression means an increased level for a positive marker and a decreased level for a negative marker. The detectable level of the marker nucleic acid or polypeptide is sufficiently higher or lower in the cells of interest compared to other cells, such that the cell of interest can be identified and distinguished from other cells using any of a variety of methods known in the art.

[0111] "Mesendoderm cell" as used herein refers to a cell expressing at least one of the following markers: CD48, eomesodermin (EOMES), SOX-17, DKK4, HNF-3 beta, GSC, FGF17, GATA-6.

[0112] "Mixl1" as used herein refers to a homeobox gene, which is marker for the cells in the primitive streak, mesoderm, and endoderm.

[0113] "NeuroD" as used herein is basic helix-loop-helix (bHLH) transcription factor implicated in neurogenesis.

[0114] "NGN-3" as used herein, is a member of the neurogenin family of basic loophelix-loop transcription factors.

[0115] "Nkx-2.2" and "Nkx-6.1" as used herein are members of the Nkx transcription factor family.

[0116] "Nodal" as used herein, is a member of the TGF beta superfamily of proteins.

[0117] "Oct-4" is a member of the POU-domain transcription factor and is widely regarded as a hallmark of pluripotent stem cells. The relationship of Oct-4 to pluripotent stem cells is indicated by its tightly restricted expression to undifferentiated pluripotent stem cells. Upon differentiation to somatic lineages, the expression of Oct-4 disappears rapidly.

[0118] "Pancreatic endocrine cell", or "pancreatic hormone expressing cell" as used herein refers to a cell capable of expressing at least one of the following hormones: insulin, glucagon, somatostatin, and pancreatic polypeptide.

[0119] "Pancreatic hormone secreting cell" as used herein refers to a cell capable of secreting at least one of the following hormones: insulin, glucagon, somatostatin, and pancreatic polypeptide.

[0120] "Pax-4" and "Pax-6" as used herein are pancreatic β cell specific transcription factors that are implicated in islet development.

[0121] "PDX-1" as used herein refers to a homeodomain transcription factor implicated in pancreas development.

[0122] "Pre-primitive streak cell" as used herein refers to a cell expressing at least one of the following markers: Nodal, or FGF8

[0123] "Primitive streak cell" as used herein refers to a cell expressing at least one of the following markers: Brachyury, Mix-like homeobox protein, or FGF4.

[0124] "PTF-1 alpha" as used herein refers to a basic helix-loop-helix protein of 48 kD that is a sequence-specific DNA-binding subunit of the trimeric pancreas transcription factor-1 (PTF1).

[0125] "SOX-1", "SOX-2", "SOX-7", and "SOX-17"as used herein, are a members of the SOX transcription factor family, and are implicated in embryogenesis.

[0126] "SPARC" as used herein is also known as "secreted protein acidic and rich in cysteine".

[0127] "SSEA-1" (Stage Specific Embryonic Antigen-1) is a glycolipid surface antigen present on the surface of murine teratocarcinoma stem cells (EC), murine and human embryonic germ cells (EG), and murine embryonic stem cells (ES).

[0128] "SSEA-3" (Stage Specific Embryonic Antigen-3) is a glycolipid surface antigen present on the surface of human teratocarcinoma stem cells (EC), human embryonic germ cells (EG), and human embryonic stem cells (ES).

[0129] "SSEA-4" (Stage Specific Embryonic Antigen-4) is a glycolipid surface antigen present on the surface of human teratocarcinoma stem cells (EC), human embryonic germ cells (EG), and human embryonic stem cells (ES).

[0130] "TRA1-60" is a keratin sulfate related antigen that is expressed on the surface of human teratocarcinoma stem cells (EC), human embryonic germ cells (EG), and human embryonic stem cells (ES).

[0131] "TRA1-81" is a keratin sulfate related antigen that is expressed on the surface of human teratocarcinoma stem cells (EC), human embryonic germ cells (EG), and human embryonic stem cells (ES).

[0132] "TRA2-49" is an alkaline phosphatase isozyme expressed on the surface of human teratocarcinoma stem cells (EC) and human embryonic stem cells (ES).

[0133] "UTF-1" as used herein, refers a transcriptional co-activator expressed in pluripotent embryonic stem cells and extra-embryonic cells.

[0134] "Zic1" as used herein is a member of the Zic transcription factor family. Zic1 regulates the expression of neural and neural crest-specific genes and is expressed in the cells of the dorsal neural tube and the premigratory neural crest.

Method to derive cells expressing pluripotency markers

[0135] The present invention provides a cell population with characteristics of human embryonic stem cells, that can be readily expanded in culture, in low serum, that requires no feeder cell line or a coating of complex matrix proteins, can be passaged in single cell suspension, can be transfected with a very high efficiency, and cultured under hypoxic conditions. This combination of unique attributes separates the cells described in the present invention from the prior art.

[0136] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Obtaining cells, and

b. Culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

[0137] The cells may be human embryonic stem cells, or they may be cells expressing markers characteristic of the definitive endoderm lineage. The human embryonic stem cells may be cultured in normoxic conditions prior to culturing the cells on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix. Alternatively, the human embryonic stem cells may be cultured in hypoxic conditions.

[0138] The cells expressing markers characteristic of the definitive endoderm lineage may be cultured in normoxic conditions prior to culturing the cells on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix. Alternatively, the cells expressing markers characteristic of the definitive endoderm lineage may be cultured in hypoxic conditions.

[0139] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Culturing human embryonic stem cells,

b. Differentiating the human embryonic stem cells into cells expressing markers characteristic of definitive endoderm cells, and

c. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

[0140] In one embodiment, the present invention provides a method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Culturing human embryonic stem cells, and

b. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

Cell culture under hypoxic conditions on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix

[0141] In one embodiment, the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not coated with an extracellular matrix for about 1 to about 20 days. In an alternate embodiment, the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not coated with an extracellular matrix for about 5 to about 20 days. In an alternate embodiment, the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not coated with an extracellular matrix for about 15 days.

[0142] In one embodiment, the hypoxic condition is about 1% O_2 to about 20% O_2. In an alternate embodiment, the hypoxic condition is about 2% O_2 to about 10% O_2. In an alternate embodiment, the hypoxic condition is about 3% O_2.

[0143] The cells may be cultured, under hypoxic conditions on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum, activin-A, and a Wnt ligand. Alternatively, the medium may also contain IGF-1.

[0144] The culture medium may have a serum concentration in the range of about 2% to about 5%. In an alternate embodiment, the serum concentration may be about 2%.

[0145] Activin-A may be used at a concentration from about 1pg/ml to about 100μg/ml. In an alternate embodiment, the concentration may be about 1pg/ml to about 1μg/ml. In another alternate embodiment, the concentration may be about 1pg/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 50ng/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 100ng/ml.

[0146] The Wnt ligand may be selected from the group consisting of Wnt-1, Wnt-3a, Wnt-5a and Wnt-7a. In one embodiment, the Wnt ligand is Wnt-1. In an alternate embodiment, the Wnt ligand is Wnt-3a.

[0147] The Wnt ligand may be used at a concentration of about 1ng/ml to about 1000ng/ml. In an alternate embodiment, the Wnt ligand may be used at a concentration of about 10ng/ml to about 100ng/ml. In one embodiment, the concentration of the Wnt ligand is about 20ng/ml.

[0148] IGF-1 may be used at a concentration of about 1ng/ml to about 100ng/ml. In an alternate embodiment, the IGF-1may be used at a concentration of about 10ng/ml to about 100ng/ml. In one embodiment, the concentration of IGF-1 is about 50ng/ml.

[0149] The cells expressing pluripotency markers derived by the methods of the present invention are capable of expansion in culture under hypoxic conditions, on tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

[0150] The cells expressing pluripotency markers derived by the methods of the present invention express at least one of the following pluripotency markers selected from the group consisting of: ABCG2, cripto, FoxD3, Connexin43, Connexin45, Oct4, SOX-2, Nanog, hTERT, UTF-1, ZFP42, SSEA-3, SSEA-4, Tra1-60, and Tra1-81.

[0151] In one embodiment, the cells expressing pluripotency markers derived by the methods of the present invention are capable of expressing markers characteristic of pre-primitive streak cells.

[0152] In one embodiment, the cells expressing pluripotency markers derived by the methods of the present invention are capable of expressing markers characteristic of primitive streak cells.

[0153] In one embodiment, the cells expressing pluripotency markers derived by the methods of the present invention are capable of expressing markers characteristic of mesendoderm cells.

[0154] In one embodiment, the cells expressing pluripotency markers derived by the methods of the present invention are capable of expressing markers characteristic of definitive endoderm cells.

Further differentiation of cells expressing pluripotency markers derived by the methods of the present invention

[0155] Cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage by any method in the art.

[0156] For example, cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in D'Amour *et al*, Nature Biotechnology 23, 1534 - 1541 (2005).

[0157] For example, cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in Shinozaki *et al*, Development 131, 1651 - 1662 (2004).

[0158] For example, cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in McLean *et al*, Stem Cells 25, 29 - 38 (2007).

[0159] For example, cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in D'Amour *et al*, Nature Biotechnology 24, 1392 - 1401 (2006).

[0160] For example, cells expressing pluripotency markers derived by the methods of the present invention may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage by culturing the pluripotent stem cells in medium containing activin-A in the absence of serum, then culturing the cells with activin-A and serum, and then culturing the cells with activin-A and serum of a different concentration. An example of this method is disclosed in D'Amour *et al*, Nature Biotechnology, 23, 1534-1541, 2005.

Further differentiation of cells expressing markers characteristic of the definitive endoderm lineage

[0161] Cells expressing markers characteristic of the definitive endoderm lineage may be differentiated into cells expressing markers characteristic of the pancreatic endoderm lineage by any method in the art.

[0162] For example, cells expressing markers characteristic of the definitive endoderm lineage may be differentiated into cells expressing markers characteristic of the pancreatic endoderm lineage according to the methods disclosed in D'Amour *et al*, Nature Biotechnology 24, 1392 - 1401 (2006).

[0163] For example, cells expressing markers characteristic of the definitive endoderm lineage are further differentiated into cells expressing markers characteristic of the pancreatic endoderm lineage, by treating the cells expressing markers characteristic of the definitive endoderm lineage with a fibroblast growth factor and KAAD-cyclopamine, then removing the medium containing the fibroblast growth factor and KAAD-cyclopamine and subsequently culturing the cells in medium containing retinoic acid, a fibroblast growth factor and KAAD-cyclopamine. An example of this method is disclosed in D' Amour *et al*, Nature Biotechnology, 24: 1392-1401, (2006).

Further differentiation of cells expressing markers characteristic of the pancreatic endoderm lineage

[0164] Cells expressing markers characteristic of the pancreatic endoderm lineage may be differentiated into cells expressing markers characteristic of the pancreatic endocrine lineage by any method in the art.

[0165] For example, cells expressing markers characteristic of the pancreatic endoderm lineage may be differentiated into cells expressing markers characteristic of the pancreatic endocrine lineage according to the methods disclosed in D'Amour *et al*, Nature Biotechnology 24, 1392 - 1401 (2006).

[0166] Without being subject to limitation, the following sections contain examples of methods to obtain cells that are suitable starting materials for forming cells expressing pluripotency markers and markers characteristic of the definitive endoderm lineage according to the methods of the present invention.

Isolation, expansion and culture of human embryonic stem cells

[0167] *Characterization of human embryonic stem cells*: Human embryonic stem cells may express one or more of the stage-specific embryonic antigens (SSEA) 3 and 4, and markers detectable using antibodies designated Tra-1-60 and Tra-1-81 (Thomson *et al.*,

Science 282:1145, 1998). Differentiation of human embryonic stem cells *in vitro* results in the loss of SSEA-4, Tra- 1-60, and Tra-1-81 expression (if present) and increased expression of SSEA-1. Undifferentiated human embryonic stem cells typically have alkaline phosphatase activity, which can be detected by fixing the cells with 4% paraformaldehyde, and then developing with Vector Red as a substrate, as described by the manufacturer (Vector Laboratories, Burlingame Calif.). Undifferentiated pluripotent stem cells also typically express Oct-4 and TERT, as detected by RT-PCR.

[0168] Another desirable phenotype of propagated human embryonic stem cells is a potential to differentiate into cells of all three germinal layers: endoderm, mesoderm, and ectoderm tissues. Pluripotency of human embryonic stem cells can be confirmed, for example, by injecting cells into SCID mice, fixing the teratomas that form using 4% paraformaldehyde, and then examining them histologically for evidence of cell types from the three germ layers. Alternatively, pluripotency may be determined by the creation of embryoid bodies and assessing the embryoid bodies for the presence of markers associated with the three germinal layers.

[0169] Propagated human embryonic stem cell lines may be karyotyped using a standard G-banding technique and compared to published karyotypes of the corresponding primate species. It is desirable to obtain cells that have a "normal karyotype", which means that the cells are euploid, wherein all human chromosomes are present and not noticeably altered.

[0170] *Sources of human embryonic stem cells*: Types of human embryonic stem cells that may be used include established lines of human embryonic cells derived from tissue formed after gestation, including pre-embryonic tissue (such as, for example, a blastocyst), embryonic tissue, or fetal tissue taken any time during gestation, typically but not necessarily before approximately 10-12 weeks gestation. Non-limiting examples are established lines of human embryonic stem cells or human embryonic germ cells, such as, for example the human embryonic stem cell lines H1, H7, and H9 (WiCell). Also contemplated is use of the compositions of this disclosure during the initial establishment or stabilization of such cells, in which case the source cells would be primary pluripotent cells taken directly from the source tissues. Also suitable are

cells taken from a pluripotent stem cell population already cultured in the absence of feeder cells. Also suitable are mutant human embryonic stem cell lines, such as, for example, BG01v (BresaGen, Athens, GA).

[0171] In one embodiment, Human embryonic stem cells are prepared as described by Thomson *et al.* (U.S. Pat. No. 5,843,780; Science 282:1145, 1998; Curr. Top. Dev. Biol. 38:133 ff., 1998; Proc. Natl. Acad. Sci. U.S.A. 92:7844, 1995).

[0172] *Culture of human embryonic stem cells*: In one embodiment, human embryonic stem cells are cultured in a culture system that is essentially free of feeder cells, but nonetheless supports proliferation of human embryonic stem cells without undergoing substantial differentiation. The growth of human embryonic stem cells in feeder-free culture without differentiation is supported using a medium conditioned by culturing previously with another cell type. Alternatively, the growth of human embryonic stem cells in feeder-free culture without differentiation is supported using a chemically defined medium.

[0173] In an alternate embodiment, human embryonic stem cells are initially cultured layer of feeder cells that support the human embryonic stem cells in various ways. The human embryonic are then transferred to a culture system that is essentially free of feeder cells, but nonetheless supports proliferation of human embryonic stem cells without undergoing substantial differentiation.

[0174] Examples of conditioned media suitable for use in the present invention are disclosed in US20020072117, US6642048, WO2005014799, and Xu *et al* (Stem Cells 22: 972-980, 2004).

[0175] An example of a chemically defined medium suitable for use in the present invention may be found in US20070010011.

[0176] Suitable culture media may be made from the following components, such as, for example, Dulbecco's modified Eagle's medium (DMEM), Gibco # 11965-092; Knockout Dulbecco's modified Eagle's medium (KO DMEM), Gibco # 10829-018; Ham's F12/50% DMEM basal medium; 200 mM L-glutamine, Gibco #15039-027; non-essential amino acid solution, Gibco 11140-050; β- mercaptoethanol, Sigma # M7522; human recombinant basic fibroblast growth factor (bFGF), Gibco # 13256-029.

[0177] In one embodiment, the human embryonic stem cells are plated onto a suitable culture substrate that is treated prior to treatment according to the methods of the present invention. In one embodiment, the treatment is an extracellular matrix component, such as, for example, those derived from basement membrane or that may form part of adhesion molecule receptor-ligand couplings. In one embodiment, the suitable culture substrate is MATRIGEL (Becton Dickenson). MATRIGEL is a soluble preparation from Engelbreth-Holm-Swarm tumor cells that gels at room temperature to form a reconstituted basement membrane.

[0178] Other extracellular matrix components and component mixtures are suitable as an alternative. This may include laminin, fibronectin, proteoglycan, entactin, heparan sulfate, and the like, alone or in various combinations.

[0179] The human embryonic stem cells are plated onto the substrate in a suitable distribution and in the presence of a medium that promotes cell survival, propagation, and retention of the desirable characteristics. All these characteristics benefit from careful attention to the seeding distribution and can readily be determined by one of skill in the art.

[0180] The human embryonic stem cells are then removed from the treated tissue culture substrate and plated onto a non-treated tissue culture substrate, prior to treatment according to the methods of the present invention to form cells expressing pluripotency markers and markers characteristic of the definitive endoderm lineage.

Differentiation of human embryonic stem cells into cells expressing markers characteristic of the definitive endoderm lineage

[0181] Human embryonic stem cells may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage by any method in the art. The cells expressing markers characteristic of the definitive endoderm lineage are suitable for treating according to the methods of the present invention.

[0182] For example, human embryonic stem cells may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in D'Amour *et al*, Nature Biotechnology 23, 1534 – 1541 (2005).

[0183] For example, human embryonic stem cells may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in Shinozaki *et al*, Development 131, 1651 - 1662 (2004).

[0184] For example, human embryonic stem cells may be differentiated into cells expressing markers characteristic of the definitive endoderm lineage according to the methods disclosed in McLean *et al*, Stem Cells 25, 29 - 38 (2007).

Differentiation of human embryonic stem cells cultured on an extracellular matrix into cells expressing markers characteristic of the definitive endoderm lineage

[0185] In one embodiment, the present invention provides a method for differentiating human embryonic stem cells expressing markers characteristic of the definitive endoderm lineage, comprising the steps of:

a. Plating the human embryonic stem cells on a tissue culture substrate coated with an extracellular matrix, and

b. Culturing the human embryonic stem cells with activin-A and a Wnt ligand.

[0186] The cells expressing markers characteristic of the definitive endoderm lineage are then subsequently treated by the methods of the present invention to form cells expressing pluripotency markers and markers characteristic of the definitive endoderm lineage.

[0187] Culturing the human embryonic stem cells with activin-A and a Wnt ligand may be performed in a single culture medium. Alternatively, culturing the human embryonic stem cells with activin-A and a Wnt ligand may be performed in more than one culture media. In one embodiment, culturing the human embryonic stem cells with activin-A and a Wnt ligand is performed in two culture media.

[0188] *Extracellular Matrix*: In one aspect of the present invention, the human embryonic stem cells are cultured and differentiated on a tissue culture substrate coated with an extracellular matrix. The extracellular matrix may be a solubilized basement membrane preparation extracted from mouse sarcoma cells (which is sold by BD Biosciences under the trade name MATRIGEL). Alternatively, the extracellular matrix may be growth factor-reduced MATRIGEL. Alternatively, the extracellular matrix

may fibronectin. In an alternate embodiment, the human embryonic stem cells are cultured and differentiated on tissue culture substrate coated with human serum.

[0189] The extracellular matrix may be diluted prior to coating the tissue culture substrate. Examples of suitable methods for diluting the extracellular matrix and for coating the tissue culture substrate may be found in Kleinman, H.K., *et al*., Biochemistry 25:312 (1986), and Hadley, M.A., *et al.*, J.Cell.Biol. 101:1511 (1985).

[0190] In one embodiment, the extracellular matrix is MATRIGEL. In one embodiment, the tissue culture substrate is coated with MATRIGEL at a 1:10 dilution. In an alternate embodiment, the tissue culture substrate is coated with MATRIGEL at a 1:15 dilution. In an alternate embodiment, the tissue culture substrate is coated with MATRIGEL at a 1:30 dilution. In an alternate embodiment, the tissue culture substrate is coated with MATRIGEL at a 1:60 dilution.

[0191] In one embodiment, the extracellular matrix is growth factor-reduced MATRIGEL. In one embodiment, the tissue culture substrate is coated with growth factor-reduced MATRIGEL at a 1:10 dilution. In an alternate embodiment, the tissue culture substrate is coated with growth factor-reduced MATRIGEL at a 1:15 dilution. In an alternate embodiment, the tissue culture substrate is coated with growth factor-reduced MATRIGEL at a 1:30 dilution. In an alternate embodiment, the tissue culture substrate is coated with growth factor reduced MATRIGEL at a 1:60 dilution.

[0192] Differentiation of human embryonic stem cells into cells expressing markers characteristic of the definitive endoderm lineage on an extracellular matrix, using a single culture medium: In one embodiment, the present invention provides a method for differentiating human embryonic stem cells expressing markers characteristic of the definitive endoderm lineage, comprising the steps of:

a. Plating the human embryonic stem cells on a tissue culture substrate coated with an extracellular matrix, and

b. Culturing the human embryonic stem cells with activin-A and a Wnt ligand.

[0193] The culture medium should contain sufficiently low concentrations of certain factors to allow the differentiation of human embryonic stem cells to definitive endoderm, such

as, for example insulin and IGF (as disclosed in WO2006020919). This may be achieved by lowing the serum concentration, or alternatively, by using chemically defined media that lacks insulin and IGF. Examples of chemically defined media are disclosed in Wiles *et al* (Exp Cell Res. 1999 Feb 25; 247(1): 241-8.).

[0194] The culture medium may have a serum concentration in the range of about 0% to about 10%. In an alternate embodiment, the concentration may be in the range of about 0% to about 5%. In an alternate embodiment, the concentration may be in the range of about 0% to about 2%. In an alternate embodiment, the concentration may be about 2%.

[0195] The time of culturing with activin-A and a Wnt ligand may range from about 1 day to about 7 days. In an alternate embodiment, the time of culturing may range from about 1 day to about 3 days. In an alternate embodiment, the time of culturing may be about 3 days.

[0196] Activin-A may be used at any concentration suitable to cause differentiation of the human embryonic stem cells. The concentration maybe from about 1pg/ml to about 100μg/ml. In an alternate embodiment, the concentration may be about 1pg/ml to about 1μg/ml. In another alternate embodiment, the concentration may be about 1pg/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 50ng/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 100ng/ml.

[0197] The choice of the Wnt ligand may be optimized to improve the efficiency of the differentiation process. The Wnt ligand may be selected from the group consisting of Wnt-1, Wnt-3a, Wnt-5a and Wnt-7a. In one embodiment, the Wnt ligand is Wnt-1. In an alternate embodiment, the Wnt ligand is Wnt-3a.

[0198] The Wnt ligand may be at a concentration of about 1ng/ml to about 1000ng/ml. In an alternate embodiment, the concentration may be about 10ng/ml to about 100ng/ml.

[0199] The single culture medium may also contain a GSK-3B inhibitor. The GSK-3B inhibitor may be selected from the group consisting of GSK-3B inhibitor IX and GSK-3B inhibitor XI. In one embodiment, the GSK-3B inhibitor is GSK-3B inhibitor IX.

[0200] When culturing human embryonic stem cells with a GSK-3B inhibitor, the concentration of the GSK-3B inhibitor may be from about 1nM to about 1000nM. In an alternate embodiment, the human embryonic stem cells are cultured with the GSK-3B inhibitor at a concentration of about 10nM to about 100nM.

[0201] The single culture medium may also contain at least one other additional factor that may enhance the formation of cells expressing markers characteristic of the definitive endoderm lineage from human embryonic stem cells. Alternatively, the at least one other additional factor may enhance the proliferation of the ells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention. Further, the at least one other additional factor may enhance the ability of the cells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention to form other cell types, or improve the efficiency of any other additional differentiation steps.

[0202] The at least one additional factor may be, for example, nicotinamide, members of TGF-β family, including TGF-β1, 2, and 3, serum albumin, members of the fibroblast growth factor family, platelet-derived growth factor-AA, and –BB, platelet rich plasma, insulin growth factor (IGF-I, II), growth differentiation factor (GDF-5, -6, -8, -10, 11), glucagon like peptide-I and II (GLP-I and II), GLP-1 and GLP-2 mimetobody, Exendin-4, retinoic acid, parathyroid hormone, insulin, progesterone, aprotinin, hydrocortisone, ethanolamine, beta mercaptoethanol, epidermal growth factor (EGF), gastrin I and II, copper chelators such as, for example, triethylene pentamine, forskolin, Na-Butyrate, activin, betacellulin, ITS, noggin, neurite growth factor, nodal, valporic acid, trichostatin A, sodium butyrate, hepatocyte growth factor (HGF), sphingosine 1, VEGF, MG132 (EMD, CA), N2 and B27 supplements (Gibco, CA), steroid alkaloid such as, for example, cyclopamine (EMD, CA), keratinocyte growth factor (KGF), Dickkopf protein family, bovine pituitary extract, islet neogenesis-associated protein (INGAP), Indian hedgehog, sonic hedgehog, proteasome inhibitors, notch pathway inhibitors, sonic hedgehog inhibitors, or combinations thereof.

[0203] The at least one other additional factor may be supplied by conditioned media obtained from pancreatic cells lines such as, for example, PANC-1 (ATCC No: CRL-1469), CAPAN-1 (ATCC No: HTB-79), BxPC-3 (ATCC No: CRL-1687), HPAF-II (ATCC

No: CRL-1997), hepatic cell lines such as, for example, HepG2 (ATCC No: HTB-8065), and intestinal cell lines such as, for example, FHs 74 (ATCC No: CCL-241).

[0204] Differentiation of human embryonic stem cells into cells expressing markers characteristic of the definitive endoderm lineage on an extracellular matrix, using two culture media: Differentiation of human embryonic stem cells into cells of a definitive endoderm lineage may be accomplished by culturing the human embryonic stem cells with activin-A and a Wnt ligand using two culture media. Thus, the differentiation of the human embryonic stem cells may be accomplished as follows:

a. Plating the human embryonic stem cells on a tissue culture substrate coated with an extracellular matrix,

b. Culturing the human embryonic stem cells with activin-A and a Wnt ligand in a first culture medium, and

c. Culturing the human embryonic stem cells with activin-A in a second culture medium.

[0205] The first culture medium may contain serum at a low concentration, and the second culture medium may contain serum at a higher concentration than the first culture medium.

[0206] The second culture medium may contain a Wnt ligand.

[0207] First Culture Medium: The first culture medium should contain sufficiently low concentrations of certain factors to allow the differentiation of human embryonic stem cells into cells expressing markers characteristic of the definitive endoderm lineage, such as, for example insulin and IGF (as disclosed in WO2006020919). This may be achieved by lowing the serum concentration, or alternatively, by using chemically defined media that lacks insulin and IGF. Examples of chemically defined media are disclosed in Wiles *et al* (Exp Cell Res. 1999 Feb 25; 247(1):241-8.).

[0208] In the first culture medium there may be a lower concentration of serum, relative to the second culture medium. Increasing the serum concentration in the second culture medium increases the survival of the cells, or, alternatively, may enhance the

proliferation of the cells. The serum concentration of the first medium may be in the range of about 0% to about 10%. Alternatively, the serum concentration of the first medium may be in the range of about 0% to about 2%. Alternatively, the serum concentration of the first medium may be in the range of about 0% to about 1%. Alternatively, the serum concentration of the first medium may be about 0.5%.

[0209] When culturing the human embryonic stem cells with activin-A and a Wnt ligand using at least two culture media, the time of culturing in the first culture medium may range from about 1 day to about 3 days.

[0210] Activin-A may be used at any concentration suitable to cause differentiation of the human embryonic stem cells. The concentration maybe from about 1pg/ml to about 100μg/ml. In an alternate embodiment, the concentration may be about 1pg/ml to about 1μg/ml. In another alternate embodiment, the concentration may be about 1pg/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 50ng/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 100ng/ml.

[0211] The choice of the Wnt ligand may be optimized to improve the efficiency of the differentiation process. The Wnt ligand may be selected from the group consisting of Wnt-1, Wnt-3a, Wnt-5a and Wnt-7a. In one embodiment, the Wnt ligand is Wnt-1. In an alternate embodiment, the Wnt ligand is Wnt-3a.

[0212] The Wnt ligand may be at a concentration of about 1ng/ml to about 1000ng/ml. In an alternate embodiment, the concentration may be about 10ng/ml to about 100ng/ml.

[0213] The first culture medium may also contain a GSK-3B inhibitor. The GSK-3B inhibitor may be added to the first culture medium, to the second culture medium, or to both the first and second culture media.

[0214] The GSK-3B inhibitor may be selected from the group consisting of GSK-3B inhibitor IX and GSK-3B inhibitor XI. In one embodiment, the GSK-3B inhibitor is GSK-3B inhibitor IX.

[0215] When culturing human embryonic stem cells with a GSK-3B inhibitor, the concentration of the GSK-3B inhibitor may be from about 1nM to about 1000nM. In

an alternate embodiment, the human embryonic stem cells are cultured with the GSK-3B inhibitor at a concentration of about 10nM to about 100nM.

[0216] The first culture medium may also contain at least one other additional factor that may enhance the formation of cells expressing markers characteristic of the definitive endoderm lineage from human embryonic stem cells. Alternatively, the at least one other additional factor may enhance the proliferation of the cells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention. Further, the at least one other additional factor may enhance the ability of the cells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention to form other cell types, or improve the efficiency of any other additional differentiation steps.

[0217] The at least one additional factor may be, for example, nicotinamide, members of the TGF-β family, including TGF-β1, 2, and 3, serum albumin, members of the fibroblast growth factor family, platelet-derived growth factor-AA, and –BB, platelet rich plasma, insulin growth factor (IGF-I, II), growth differentiation factor (GDF-5, -6, -8, -10, 11), glucagon like peptide-I and II (GLP-I and II), GLP-1 and GLP-2 mimetobody, Exendin-4, retinoic acid, parathyroid hormone, insulin, progesterone, aprotinin, hydrocortisone, ethanolamine, beta mercaptoethanol, epidermal growth factor (EGF), gastrin I and II, copper chelators such as, for example, triethylene pentamine, forskolin, Na-Butyrate, activin, betacellulin, ITS, noggin, neurite growth factor, nodal, valporic acid, trichostatin A, sodium butyrate, hepatocyte growth factor (HGF), sphingosine-1, VEGF, MG132 (EMD, CA), N2 and B27 supplements (Gibco, CA), steroid alkaloid such as, for example, cyclopamine (EMD, CA), keratinocyte growth factor (KGF), Dickkopf protein family, bovine pituitary extract, islet neogenesis-associated protein (INGAP), Indian hedgehog, sonic hedgehog, proteasome inhibitors, notch pathway inhibitors, sonic hedgehog inhibitors, or combinations thereof.

[0218] The at least one other additional factor may be supplied by conditioned media obtained from pancreatic cells lines such as, for example, PANC-1 (ATCC No: CRL-1469), CAPAN-1 (ATCC No: HTB-79), BxPC-3 (ATCC No: CRL-1687), HPAF-II (ATCC No: CRL-1997), hepatic cell lines such as, for example, HepG2 (ATCC No: HTB-8065), and intestinal cell lines such as, for example, FHs 74 (ATCC No: CCL-241).

[0219] Second Culture Medium: The second culture medium should contain certain factors, such as, for example, insulin and IGF (as disclosed in WO2006020919), at a sufficient concentration to promote the survival of the cultured cells. This may be achieved by increasing the serum concentration, or, alternatively, by using chemically defined media where the concentrations of insulin and IGF are increased relative to the first culture medium. Examples of chemically defined media are disclosed in Wiles *et al* (Exp Cell Res. 1999 Feb 25; 247(1): 241-8.).

[0220] In a second culture medium having higher concentrations of serum, the serum concentration of the second culture medium may be in the range about 0.5% to about 10%. Alternatively, the serum concentration of the second culture medium may be in the range of about 0.5% to about 5%. Alternatively, the serum concentration of the second culture medium may be in the range of about 0.5% to about 2%. Alternatively, the serum concentration of the second culture medium may be about 2%. When culturing human embryonic stem cells with the second culture medium, the time of culturing may range from about 1 day to about 4 days.

[0221] Similar to the first culture medium, Activin-A may be used at any concentration suitable to cause differentiation of the human embryonic stem cells. The concentration maybe from about 1pg/ml to about 100μg/ml. In an alternate embodiment, the concentration may be about 1pg/ml to about 1μg/ml. In another alternate embodiment, the concentration may be about 1pg/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 50ng/ml to about 100ng/ml. In another alternate embodiment, the concentration may be about 100ng/ml.

[0222] The Wnt ligand may be at a concentration of about 1ng/ml to about 1000ng/ml. In an alternate embodiment, the concentration may be about 10ng/ml to about 100ng/ml.

[0223] The Wnt ligand may be selected from the group consisting of Wnt-1, Wnt-3a, Wnt-5a and Wnt-7a. In one embodiment, the Wnt ligand is Wnt-1. In an alternate embodiment, the Wnt ligand is Wnt-3a.

[0224] The second culture medium may also contain a GSK-3B inhibitor. The GSK-3B inhibitor may be added to the first culture medium, to the second culture medium, or to both the first and second culture media.

[0225] The GSK-3B inhibitor may be selected from the group consisting of GSK-3B inhibitor IX and GSK-3B inhibitor XI. In one embodiment, the GSK-3B inhibitor is GSK-3B inhibitor IX.

[0226] When culturing human embryonic stem cells with a GSK-3B inhibitor, the concentration of the GSK-3B inhibitor may be from about 1nM to about 1000nM. In an alternate embodiment, the human embryonic stem cells are cultured with the GSK-3B inhibitor at a concentration of about 10nM to about 100nM.

[0227] Similar to the first culture medium, the second culture medium may also contain at least one other additional factor that may enhance the formation of cells expressing markers characteristic of the definitive endoderm lineage from human embryonic stem cells. Alternatively, the at least one other additional factor may enhance the proliferation of the cells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention. Further, the at least one other additional factor may enhance the ability of the cells expressing markers characteristic of the definitive endoderm lineage formed by the methods of the present invention to form other cell types, or improve the efficiency of any other additional differentiation steps.

[0228] The at least one additional factor may be, for example, nicotinamide, members of the TGF-β family, including TGF-β1, 2, and 3, serum albumin, members of the fibroblast growth factor family, platelet-derived growth factor-AA, and –BB, platelet rich plasma, insulin growth factor (IGF-I, II), growth differentiation factor (GDF-5, -6, -8, -10, 11), glucagon like peptide-I and II (GLP-I and II), GLP-1 and GLP-2 mimetobody, Exendin-4, retinoic acid, parathyroid hormone, insulin, progesterone, aprotinin, hydrocortisone, ethanolamine, beta mercaptoethanol, epidermal growth factor (EGF), gastrin I and II, copper chelators such as, for example, triethylene pentamine, forskolin, Na-Butyrate, activin, betacellulin, ITS, noggin, neurite growth factor, nodal, valporic acid, trichostatin A, sodium butyrate, hepatocyte growth factor (HGF), sphingosine-1, VEGF, MG132 (EMD, CA), N2 and B27 supplements (Gibco, CA), steroid alkaloid such as, for example, cyclopamine (EMD, CA), keratinocyte growth factor (KGF), Dickkopf protein family, bovine pituitary extract, islet neogenesis-associated protein

(INGAP), Indian hedgehog, sonic hedgehog, proteasome inhibitors, notch pathway inhibitors, sonic hedgehog inhibitors, or combinations thereof.

[0229] The at least one other additional factor may be supplied by conditioned media obtained from pancreatic cells lines such as, for example, PANC-1 (ATCC No: CRL-1469), CAPAN-1 (ATCC No: HTB-79), BxPC-3 (ATCC No: CRL-1687), HPAF-II (ATCC No: CRL-1997), hepatic cell lines such as, for example, HepG2 (ATCC No: HTB-8065), and intestinal cell lines such as, for example, FHs 74 (ATCC No: CCL-241).

[0230] The present invention is further illustrated, but not limited by, the following examples.

Example 1

Human Embryonic Stem Cell Culture

[0231] Stem cells are undifferentiated cells defined by their ability at the single cell level to both self-renew and differentiate to produce progeny cells, including self renewing progenitors, non-renewing progenitors, and terminally differentiated cells. Stem cells are also characterized by their ability to differentiate *in vitro* into functional cells of various cell lineages from multiple germ layers (endoderm, mesoderm and ectoderm), as well as to give rise to tissues of multiple germ layers following transplantation and to contribute substantially to most, if not all, tissues following injection into blastocysts.

[0232] The human embryonic stem cell lines H1, H7 and H9 were obtained from WiCell Research Institute, Inc., (Madison, WI) and cultured according to instructions provided by the source institute. Briefly, cells were cultured on mouse embryonic fibroblast (MEF) feeder cells in ES cell medium consisting of DMEM/F12 (Invitrogen/GIBCO) supplemented with 20% knockout serum replacement, 100 nM MEM nonessential amino acids, 0.5 mM beta-mercaptoethanol, 2mM L-glutamine with 4ng/ml human basic fibroblast growth factor (bFGF) (all from Invitrogen/GIBCO). MEF cells, derived from E13 to 13.5 mouse embryos, were purchased from Charles River. MEF cells were expanded in DMEM medium supplemented with 10% FBS (Hyclone), 2mM glutamine, and 100 mM MEM nonessential amino acids. Sub-confluent MEF cell cultures were treated with 10μg/ml mitomycin C (Sigma, St. Louis, MO) for 3h to arrest cell division, then trypsinized and plated at 2x104/cm2 on 0.1% bovine gelatin-coated dishes. MEF cells from passage two through four were used as feeder layers.

Human embryonic stem cells plated on MEF cell feeder layers were cultured at 37°C in an atmosphere of 5% CO_2 within a humidified tissue culture incubator. When confluent (approximately 5-7 days after plating), human embryonic stem cells were treated with 1mg/ml collagenase type IV (Invitrogen/GIBCO) for 5-10 min and then gently scraped off the surface using a 5-ml pipette. Cells were centrifuged at 900 rpm for 5 min, and the pellet was resuspended and re-plated at a 1:3 to 1:4 ratio of cells in fresh culture medium.

[0233] In parallel, H1, H7, and H9 human embryonic stem cells were also seeded on plates coated with a 1:30 dilution of growth factor reduced MATRIGEL (BD Biosciences) and cultured in MEF-conditioned media supplemented with 8 ng/ml bFGF. The cells cultured on MATRIGEL were routinely passaged with collagenase IV (Invitrogen/GIBCO), Dispase (BD Biosciences) or LIBERASE enzyme . Some of the human embryonic stem cell cultures were incubated under hypoxic conditions (approximately 3% O_2).

Example 2

Fluorescence-Activated Cell Sorting (FACS) Analysis

[0234] Adhered human embryonic stem cells were removed from culture plates by a five-minute incubation with TrypLE™ Express solution (Invitrogen, CA). Released cells were resuspended in human embryonic stem cell culture medium and recovered by centrifugation, followed by washing and resuspending the cells in a staining buffer consisting of 2% BSA, 0.05% sodium azide in PBS (Sigma, MO). As appropriate, the cells were Fc-receptor blocked for 15 minutes using a 0.1% γ−globulin (Sigma) solution. Aliquots (approximately $1x10^5$ cells) were incubated with either phycoerythirin (PE) or allophycocyanin (APC) conjugated monoclonal antibodies (5 µl antibody per $1x10^6$ cells), as indicated in **Table IA**, or with an unconjugated primary antibody. Controls included appropriate isotype matched antibodies, unstained cells, and cells stained only with secondary conjugated antibody. All incubations with antibodies were performed for 30 mins at 4°C, after which the cells were washed with the staining buffer. Samples that were stained with unconjugated primary antibodies were incubated for an additional 30 mins at 4°C with secondary conjugated PE or –APC labeled antibodies. See **Table IB** for a list of secondary antibodies used. Washed

cells were pelleted and resuspended in the staining buffer, and the cell surface molecules were identified using a FACS Array (BD Biosciences) instrument, collecting at least 10,000 events.

Example 3

Immunocytochemistry

[0235] Adhered cells were fixed with 4% paraformaldheyde for 20 min at room temperature. Fixed cells were blocked for 1 h at room temperature with PBS/0.1%BSA/10% normal chick serum /0.5% Triton X-100 and then incubated overnight with primary antibodies in PBS/0.1%BSA/10% normal chick serum at 4°C. The list of primary antibodies and their working dilutions are shown in **Table IA**. After three washes in PBS/0.1% BSA, fluorescent secondary antibodies (**Table IB**) at a 1:100 dilution in PBS were incubated with cells for 1 h at room temperature to allow binding. Control samples included reactions where the primary antibody was omitted or where the primary antibody was replaced with corresponding matched negative control immunoglobulins at the same concentration as the primary antibodies. Stained samples were rinsed; a drop of PROLONG® (Invitrogen, CA) containing diamidino-2-phenylindole, dihydrochloride (DAPI) was added to each sample to counter-stain the nucleus and to function as an anti-fade reagent. Images were acquired using a Nikon Confocal Eclipse C-1 inverted microscope (Nikon, Japan) and a 10-60X objective.

Example 4

PCR Analysis of ES Derived-Cells

[0236] *RNA extraction, purification, and cDNA synthesis*: RNA samples were purified by binding to a silica-gel membrane (Rneasy Mini Kit, Qiagen, CA) in the presence of an ethanol-containing, high-salt buffer followed by washing to remove contaminants. The RNA was further purified using a TURBO DNA-free kit (Ambion, INC), and high-quality RNA was then eluted in water. Yield and purity were assessed by A260 and A280 readings on a spectrophotometer. CDNA copies were made from purified RNA using an ABI (ABI, CA) high capacity cDNA archive kit.

[0237] *Real-time PCR amplification and quantitative analysis*: Unless otherwise stated, all reagents were purchased from Applied Biosystems. Real-time PCR reactions were performed using the ABI PRISM® 7900 Sequence Detection System. TAQMAN® UNIVERSAL PCR MASTER MIX® (ABI, CA) was used with 20 ng of reverse transcribed RNA in a total reaction volume of 20 µl. Each cDNA sample was run in duplicate to correct for pipetting errors. Primers and FAM-labeled TAQMAN®probes were used at concentrations of 200 nM. The level of expression for each target gene was normalized using a human glyceraldehyde-3-phosphate dehydrogenase (GAPDH) endogenous control previously developed by Applied Biosystems. Primer and probe sets are listed in **Table II**. SOX-17 primers were designed using the PRIMERS program (ABI, CA) and were the following sequences: SOX-17: TGGCGCAGCAGATACCA, AGCGCCTTCCACGACTTG, and CCAGCATCTTGCTCAACTCGGCG. After an initial incubation at 50°C for 2 min followed by 95°C for 10 min, samples were cycled 40 times in two stages - a denaturation step at 95°C for 15 sec followed by an annealing/extension step at 60°C for 1 min. Data analysis was carried out using GENEAMP®7000 Sequence Detection System software. For each primer/probe set, a Ct value was determined as the cycle number at which the fluorescence intensity reached a specific value in the middle of the exponential region of amplification. Relative gene expression levels were calculated using the comparative Ct method. Briefly, for each cDNA sample, the endogenous control Ct value was subtracted from the gene of interest Ct to give the delta Ct value (ΔCt). The normalized amount of target was calculated as 2-ΔCt, assuming amplification to be 100% efficiency. Final data were expressed relative to a calibrator sample.

Example 5

Differentiation of Human Embryonic Stem Cells Cultured on Tissue Culture Substrate Coated with MATRIGEL to Definitive Endoderm (DE)

[0238] Cells from the human embryonic stem cell line H9 at passage 54 were cultured under hypoxic conditions (approximately 3% O_2) and plated on MATRIGEL (1:30 dilution) coated dishes were exposed to DMEM/F12 medium supplemented with 0.5% FBS, 20 ng/ml WNT-3a (Catalog# 1324-WN-002, R&D Systems, MN), and 100 ng/ml Activin-

A (R&D Systems, MN) for two days followed by treatment with DMEM/F12 media supplemented with 2% FBS and 100 ng/ml Activin-A (AA) for an additional 3-4 days. **Figure 1** depicts the expression of CXCR4 by FACS at day 4. **Figure 2** displays the real-time PCR data for cultures of cells from the human embryonic stem cell line H9 treated with low serum + AA + WNT3A at days 4 and 6. This protocol resulted in significant upregulation of definitive endoderm markers. This procedure will be further referred to as the DE (Definite Endoderm) protocol.

Example 6

Isolation and Expansion of Human Embryonic Stem Cell Derived Cells Differentiated to the Definitive Endoderm Stage

[0239] Cells from the human embryonic stem cell lines H1 and H9 various passages (Passage 30-54) were cultured under hypoxic conditions (approximately 3% O_2) for at least three passages. The cells were cultured in MEF-CM supplemented with 8 ng/ml of bFGF and plated on MATRIGEL coated plates according to **Example 1**. The cells were exposed to the DE protocol outlined in **Example 5**. At days 3-6, the cultures were exposed to TrypLE™ Express solution (Invitrogen, CA) for 5 mins. Released cells were resuspended in DMEM-F12 + 2% FBS medium, recovered by centrifugation, and counted using a hemocytometer. The released cells were seeded at 1000-10,000 cells/cm^2 on tissue culture polystyrene (TCPS) treated flasks and cultured in DMEM-F12 + 2% FBS + 100 ng/ml activin-A + 20 ng/ml WNT-3A under hypoxic conditions (approximately 3% O_2) at 37 °C in standard tissue culture incubator. The TCPS flaks were not coated with MATRIGEL or other extracellular matrix proteins. The media was changed daily. In some cultures, the media was further supplemented with 10-50 ng/ml of IGF-I (insulin growth factor-I from R&D Systems, MN) or 1X ITS (Insulin, transferrin, and selenium from Invitrogen, Ca). In some of the culture conditions the basal media (DM-F12 + 2% FBS) was further supplemented with 0.1 mM mercaptoethanol (Invitrogen, CA) and non-essential amino acids (1X, NEAA from Invitrogen, CA). The first passage cells are referred to as P1. In parallel, similar cultures were established under normoxic conditions (approximately 21% O_2). The outline of this isolation procedure is depicted in **Figure 3**.

[0240] Following 5-15 days of culturing, distinct cell colonies appeared surrounded by a large number of enlarged cells that appear to be in senescence (**Figure 4a-b**). At approximately 50-60% confluency, the cultures were passaged by exposure to TrypLE™ Express solution for 5 mins at room temperature. The released cells were resuspended in DMEM-F12 + 2% FBS medium, recovered by centrifugation, and seeded at 10,000 cells/cm^2 on tissue culture polystyrene (TCPS) treated flasks in DMEM-F12 + 2%FBS + 100 ng/ml activin-A + 20 ng/ml WNT-3A +/- 50 ng/ml of IGF-I. This media will be further referred to as the "growth media". **Figure 4 c** depicts the morphology of cells at passage 3 seeded at 10,000 cells/cm^2. At passage 3 (**panel c**) following the initial isolation, the cells appeared to have a uniform epithelial-like morphology with a large nucleus to cytoplasm ratio.

[0241] In some cultures the growth media was further supplemented with 1X NEAA plus 0.1 mM mercaptoethanol. Following three to four passages, the attached cells appeared to have a uniform morphology with a large nucleus to cytoplasm ratio. Parallel cultures established under normoxic conditions failed to show robust colony formation by attached cells. Following 2-3 passages, the cultures established under normoxic conditions were abandoned due to poor growth rate.

Example 7

Role of activin-A, WNT3A, and IGF-I in Expansion and Maintenance of DE Markers Following Multiple Passages

[0242] Cultures derived from the parental human embryonic stem cell line H9 according to the methods described in **Example 6** were passaged every 4-7 days. **Figure 5** depicts real-time PCR results for the expanded cells cultured in 2% FBS + DMEM-F12 + 100 ng/ml of activin-A + 20 of WNT3A for three passages. This data is for a line isolated at day6 of the DE protocol outlined in **Example 5**. There is a clear decrease in DE markers, such as SOX-17 and HNF-3 beta following each passage. As shown in **Figure 6**, addition of WNT3A to the growth media containing activin-A led to a significant boost in the expression of DE markers. However, addition of 50 ng/ml of IGF-I and withdrawal of Activin-A and WNT-3A (**Figure 7 a-c**) led to a precipitous drop in the expression of DE markers along with OCT-4 and an increase in expression of visceral endoderm markers, such as SOX-7 and AFP. **Figure 8 a-c** depicts the morphology of

expanded cells derived from H9p54 at passage 5 cultured in a) 2% FBS + DMF12 + 100 ng/ml of activin-A + 20 ng/ml of WNT-3A, b) 2% FBS + DM-F12 + 100 ng/ml of activin-A, c) 2% FBS + DM-F12 + 50 ng/ml of IGF-I. Morphology of cells cultured in the presence of activin-A or activin-A + WNT3A were very similar and distinct from morphology of cells cultured in 2% FBS + IGF-I.

Example 8

Expansion Potential of Human Embryonic Stem Cell Derived Cells Differentiated to the Definitive Endoderm stage

[0243] Cultures established from the parental human embryonic stem cell line H9 according to the methods described in **Example 6** were passaged every 4-5 days when the growth media contained 50 ng/ml of IGF-I or ITS. However, cultures fed with growth media lacking the IGF or ITS supplements showed slower growth rate and were passaged every 5-7 days. The population doubling time of cells fed with growth media + 50 ng/ml of IGF-I was approximately 55 hrs where as the population doubling time of cultures fed only with the growth media was approximately 75 hrs. The cell population expanded according to **Example 6** will be referred to as EXPRES cells (EXpandable PRE-primitive Streak cells). **Table III** lists various EXPRES cells established according to methods outlined in **Example 6**. The expansion potential of two cell lines (EXPRES 01 and 02) is depicted in **Figure 9**.

Example 9

Derivation of EXPRES Cells from Suspensions of Single Human Embryonic Stem Cells

[0244] Cells from the human embryonic stem cell lines H1 P33 and H9 P45 were cultured under hypoxic conditions (approximately 3% O_2) for at least three passages. The cells were cultured in MEF-CM supplemented with 8 ng/ml of bFGF and plated on MATRIGEL coated plates according to **Example 1**. At approximately 60% confluency, the cultures were exposed to TrypLE™ Express solution (Invitrogen, CA) for 5 mins. Released cells were resuspended in DMEM-F12 + 2% FBS medium, recovered by centrifugation, and counted using a hemocytometer. The released cells were seeded at 1000 to 10,000 cells/cm^2 on tissue culture polystyrene (TCPS) treated

flasks and cultured in DM-F12 + 2% FBS + 100 ng/ml activin-A + 20 ng/ml WNT-3A + 50 ng/ml of IGF-I + 0.1 mM mercaptoethanol (Invitrogen, CA) and non-essential amino acids (1X, NEAA from Invitrogen, CA) under hypoxic conditions (approximately 3% O_2) at 37 °C in a standard tissue culture incubator. The TCPS flasks were not coated with MATRIGEL or other extarcellular matrix proteins. The media was changed daily. The first passage cells are referred to as P1. In parallel, similar cultures were established under normoxic conditions (approximately 21% O_2). Cultures established under atmospheric conditions did not result in colony formation and there was poor cell proliferation. However, cultures established under hypoxic conditions resulted in formation of many colonies (**Figure 10**) resembling embryonic stem cell colonies cultured on MATRIGEL or on MEF feeders. These cultures closely resemble the properties of EXPRES cells isolated during ES to DE differentiation.

Example 10

Expression of Cell Surface Proteins by EXPRES Cells

[0245] The cell lines EXPRES 01 and EXPRES 02 were evaluated for expression of various cell-surface markers including markers associated with pluripotency. Cells from EXPRES 01 were evaluated at passages 9 to 24. Cells from EXPRES 02 were evaluated at passages 7 to 20. Both lines exhibited strong expression of pluripotency markers typically assigned to undifferentiated human embryonic stem cells. However, the EXPRES 02 line showed a higher percentage of expression of differentiation markers, such as CXCR4, LIF receptor, and NCAM as compared to the EXPRES 01 line. Representative FACS plots are depicted in **Figure 11** for EXPRES 01 P24 and in **Figure 12** for EXPRES 02 P21 line. **Table IV** lists the mean expression levels along with the ranges (in brackets) of the evaluated cell surface markers from three different experiments.

Example 11

Expression of Pluripotency Associated Markers by EXPRES Cells- Immuno fluorescent (IF) Staining

[0246] EXPRES 01 and 02 cells maintained in their respective growth media were stained for pluripotency-associated markers using methods outlined in **Example 3**. **Figure 13**

depicts IF images for OCT-4, Nanog, SOX-2, and HNF-3 beta for EXPRES 01 P10 cells cultured in 2% FBS + DM-F12 + 100 ng/ml activin-A + 20 ng/ml WNT3A + 50 ng/ml IGF-I. **Figure 14** depicts IF images for OCT-4, Nanog, SOX-2, and HNF-3 beta for EXPRES 02 passage 9 cells cultured in 2% FBS + DM-F12 + 100 ng/ml activin-A + 20 ng/ml WNT3A. EXPRES 01 cells strongly stain positive for OCT-4, Nanog, and SOX-2 and weakly for HNF-3 beta. However, EXPRES 02 cells show stronger expression for HNF-3 beta and weaker expression of OCT-4, NANOG, and SOX-2.

Example 12

Expression of Definitive Endoderm and Undifferentiated Embryonic Stem Cell Markers by Real Time PCR

[0247] Real-time PCR analysis of embryonic markers (POU5F1, SOX-2, UTF1, ZFP42, Connexin43, Connexin45, FOXD3), extraembryonic markers (AFP, KRT15), ectoderm markers (SOX-1, TUBB3, NESTIN), endoderm markers (FOXA2, IPF1, KRT15, GATA-4), and mesoderm markers (GATA-4, GATA-2, MYOD, MSX1, CFC1, ABCG2) expressed by EXPRES 01 passage 11 and EXPRES 02passage 7 lines cultured in their respective growth media is depicted in **Figure 15 a-h**. All of the data is normalized to fold change with respect to undifferentiated cells from the human embryonic stem cell line H9, cultured in MEF-CM on MATRIGEL coated plates. As a control, EB bodies were formed from H9 cells using standard methods of collagenase digestion and seeding on non-treated surfaces in DMEM-F12 + 20 % FBS for approximately 10 days. Gene expression of various germ layers was upregulated by EB bodies as compared to undifferentiated ES cells. Another reference RNA was collected from undifferentiated SA002 line (Cellartis, Sweden) cultured on MATRIGEL in MEF-CM. As expected gene expression of various germ layers was strongly upregulated by EB bodies as compared to EXPRES 01, EXPRES 02, SA002, and H9 lines. Both EXPRES 01 and 02 lines showed expression of FOXA2 as compared to undifferentiated SA002 and H9 lines. Neither of the EXPRES lines exhibited strong expression of extra embryonic, mesoderm or ectoderm markers. Furthermore, expression of embryonic markers by EXPRES cells was similar to the SA002 and H9 reference cell lines.

Example 13

Various Growth Media Useful for Expansion of EXPRES Cells

[0248] EXPRES cells have been successfully cultured in the following media compositions for at least 2-30 passages:

1. DM-F12 + 2% FBS + 100 ng/ml AA + 20 ng/ml WNT-3A
2. DM-F12 + 2% FBS + 100 ng/ml AA + 20 ng/ml WNT-3A + 50 ng/ml IGF-I
3. DM-F12 + 2% FBS + 100 ng/ml AA + 20 ng/ml WNT-3A + 10 ng/ml IGF-I
4. DM-F12 + 2% FBS + 50 ng/ml AA + 20 ng/ml WNT-3A + 50 ng/ml IGF-I
5. DM-F12 + 2% FBS + 50 ng/ml AA + 10 ng/ml WNT-3A + 50 ng/ml IGF-I
6. DM-F12 + 2% FBS + 50 ng/ml AA + 20 ng/ml WNT-3A + 10 ng/ml IGF-I
7. DM-F12 + 2% FBS + 100 ng/ml AA + 10 ng/ml WNT-3A + 10 ng/ml IGF-I
8. HEScGRO defined media (Chemicon, CA)

The basal component of the above listed media may be replaced with similar media such as, RPMI, DMEM, CRML, Knockout ™DMEM, and F12.

Example 14

Differentiation of EXPRES Cells Cultured on Tissue Culture Substrate to Definitive Endoderm (DE) cells

[0249] EXPRES 01 cells at passage 5 and EXPRES 02 cells at passage 4, cultured on TCPS in their respective media were exposed to DMEM/F12 medium supplemented with 0.5% FBS, 20 ng/ml WNT-3a, and 100 ng/ml activin-A (R&D Systems, MN) for two days followed by treatment with DMEM/F12 media supplemented with 2% FBS and 100 ng/ml activin-A (AA) for an additional 3-5 days. **Figure 16** depicts the expression of CXCR4 by FACS at days 4 for EXPRES 01 cells (**Figure 16 a**, approximately 17% CXCR4 positive) and EXPRES 02 cells (**Figure 16b**, approximately 40% CXCR4 positive). **Figure 17** displays the real-time PCR data for EXPRES 01 cell (**Figure 17a**) and EXPRES 02 cell (**Figure 17b**) cultures treated with low serum + AA + WNT3A at

days 2-5. **Figures 18** and **19** depict immunofluoresence images of EXPRES 01 and 02 cells, respectively, treated with the same treatment mentioned above for 4 days. Overall EXPRES 02 cells appear to show a stronger expression of DE markers as compared to EXPRES 01 cells. As evident by FACS, immuno staining, and PCR data, lowering of serum concentration and removal of IGF did enhance the expression of DE markers. However, the overall expression level of DE markers such as CXCR4 and HNF-3 beta was lower than what we have routinely observed in undifferentiated human ES cultures differentiated to the DE stage.

[0250] In order to enhance expression of DE markers, the DE differentiation protocol was changed to the following: EXPRES 01 cells at passage 19 and EXPRES 02 cells at passage 14 cultured on TCPS in their respective media were exposed to DMEM/F12 medium supplemented with 0.5% FBS, 20 ng/ml WNT-3a, 100 ng/ml activin-A, and 100 nM GSK-3B inhibitor IX (Catalog# 361550, Calbiochem, CA) for 4 to 5 days. **Figure 20** depicts the expression of CXCR4 by FACS at days 4 for EXPRES 01 (**Figure 20 a**, approximately 57% CXCR4 positive) and EXPRES 02 (**Figure 20b**, approximately 86% CXCR4 positive). **Figure 21** depicts the corresponding immuno fluorescent images at day 5 for EXPRES 01 cells (**panels a-f**) and EXPRES 02 cells (**panels g-l**) cells differentiated to the DE stage. **Figure 22** displays the real-time PCR data for EXPRES 01 (**Figure 22a**) and EXPRES 02 (**Figure 22b**).

Example 15

Effect of Seeding Density on the Differentiation of EXPRES 01 Cells to DE

[0251] EXPRES 01 P31 cells were seeded at 5000, 10000, 20000, or 40000 cells/cm^2 on TCPS plates in DM-F12 + 2% FBS + 0.1 mM mercaptoethanol + 1X, NEAA + 100 ng/ml activin-A + 20 ng/ml WNT3A under hypoxic conditions (approximately 3% O_2) at 37 °C in standard tissue culture incubator. Following two days post seeding, the media was switched to DMEM-F12 + 0.5% FBS + 100 ng/ml activin-A + 20 ng/ml WNT3A + 100 nM GSK-3B inhibitor IX for four days under hypoxic conditions (approximately 3% O_2) at 37 °C in standard tissue culture incubator. **Figure 23** depicts the real-time PCR analysis of definitive endoderm markers at day 4 of differentiation. It appears that a seeding density of at least 10000-20000 cells/cm^2 is required for the robust formation of definitive endoderm.

Example 16

Telomere Length of EXPRES Cells

[0252] The telomere length of two EXPRES lines isolated according to **Example 5** along with undifferentiated cells from the human embryonic stem cell line H1 was analyzed by using the *Telo TAGGG* Telomere Length Assay (Roche, IN) and following the manufacturer's instruction. **Figure 24** depicts the telomere length for EXPRES 01 cells at P24, EXPRES 02 cells at P17, H1 cells at P40, high and low telomere controls provided by the kit, along with the scale marker. Both lines appear to have shorter telomere length than undifferentiated ES cells.

Example 17

Further Differentiation of EXPRES Cells Cultured on Tissue Culture Substrate to Pancreatic Endoderm

[0253] EXPRES 01 cells at passage 21 underwent a 5 day differentiation by treatment with 100ng/ml activin-A, 10ng/ml of Wnt3a, and 100 nM GSK3beta inhibitor IX in 0.5% FBS, DMEM:F12 media. Cells were analyzed by FACS and showed 80% of the cells were positive for CXCR4. The cells were then treated for 3 days in each of the following steps: 2%FBS DMEM:F12 containing 50ng/ml FGF-10, and 0.25μM KAAD-Cyclopamine (Calbiochem, CA); followed by, 1%B27 DMEM, low glucose containing 50 ng/ml FGF-10, 0.25μM KAAD-Cyclopamine and 1μM Retinoic Acid (Sigma, MO); followed by, 1%B27 DMEM, low glucose containing 1μM DAPT (Calbiochem, CA) plus 50 ng/ml Exendin4 (Sigma, MO); and lastly followed by, 1% B27 DMEM CMRL containing 50ng/ml each of IGF, HGF and Exendin4. Samples were taken at the end of each step, and RNA was extracted for the cells. Q-RT PCR was conducted for the markers shown. As depicted in **Figure 25**, Insulin levels were increased 100 fold over untreated cells and PDX-1 levels were also increased over 1000 fold.

Example 18

Further Differentiation of EXPRES Cells Cultured on Tissue Culture Substrate to Foregut Endoderm

[0254] EXPRES01 cells at passage 35 underwent a 5 day differentiation by treatment with 100ng/ml activin-A, 20ng/ml of Wnt3a, and 100 nM GSK3beta inhibitor IX in 0.5% FBS, DMEM:F12 media. Cells were analyzed by FACS and showed approximately 70% of the cells were positive for CXCR4. The cells were then treated for in each of the following steps: 2%FBS DMEM:F12 containing 50ng/ml FGF-10, and 0.25μM KAAD-Cyclopamine (Calbiochem, CA) for 3 days; Step3, 1%B27 DMEM, low glucose containing 50 ng/ml FGF-10, 0.25μM KAAD-Cyclopamine and 1μM Retinoic Acid (Sigma, MO) for 4 days; and Step 4, 1%B27 DMEM, low glucose containing 1μM DAPT (Calbiochem, CA) plus 50 ng/ml Exendin4 (Sigma, MO) for 4 days.. This protocol is based on a prior publication by D'Amour *et al* (Nature Biotech, 24, 1392, 2006). Cells were fixed at end of stage 4 and stained for PDX-1, HNF-3 beta, SOX-17, Albumin, anti-trypsin, and CDX-2. As depicted in **Figure 26**, EXPRES cells can be readily differentiated to foregut endoderm as measured by expression of PDX-1 (approximately 20% of culture stained positive), HNF-3 beta (approximately 90% positive), albumin (approximately 5% positive), anti-1- Trypsin (approximately 70% positive), SOX-17 (approximately 70%), and CDX-2 (approximately 5% positive).

Example 19

Microarray Analysis of EXPRES Cells Versus Undifferentiated Human Embryonic Stem Cells

[0255] Total RNA was isolated from cultures of the human embryonic stem cell line H9,at passage 44, EXPRES 01 P11 and EXPRES 02 P7 using an RNeasy mini kit (Qiagen): All groups contained three biological replicates and each biological replicate was repeated on two separate gene chips. Sample preparation, hybridization, and image analysis were performed according to the Affymetrix Human Genome U133 Plus 2.0 Array. Following normalization and a log transformation, data analysis was performed using OmniViz® software (MA) and GENESIFTER (VizXLabs, WA). Significant differences in gene expression between the samples were evaluated using analysis of variance and an F-test with adjusted P-value (Benjamini and Hochberg correction) of less than or equal to 0.05. Only genes with a present call in at least one group were included in the analysis. **Table V** lists the mean normalized log-transformed signal intensity of genes showing at least 5-fold difference between groups (undifferentiated

ES, EXPRES 01 and EXPRES 02 cells) along with the adjusted P-value for each gene. Genes representing primitive streak or definite endoderm are highlighted in bold. Only the top 200 genes that are upregulated or down regulated are shown in **Table V**.

Example 20

Microarray Analysis of EXPRES Cells Differentiated to the DE Stage Versus Human Embryonic Stem Cells Differentiated to the DE Stage

[0256] Total RNA was isolated from the following cultures using an RNeasy mini kit (Qiagen): **A)** H9P33 cells cultured on MATRIGEL-coated plates (1:30 dilution) and exposed to DMEM/F12 medium supplemented with 0.5% FBS and 100 ng/ml Activin-A and 20 ng/ml of wnt3A for two days followed by treatment with DMEM/F12 medium supplemented with 2% FBS and 100 ng/ml Activin-A (AA) for an additional three days; **B)** EXPRES 01 P24 cells cultured on TCPS and exposed to DMEM/F12 medium supplemented with 0.5% FBS, 100 ng/ml Activin-A, 20 ng/ml of WNT3A, and 100 nm GSK-3B IX inhibitor (Catalog# 361550, Calbiochem, CA) for five days **C)** EXPRES02 P17 cells cultured on TCPS and exposed to DMEM/F12 medium supplemented with 0.5% FBS, 100 ng/ml Activin-A, 20 ng/ml of WNT3A, and 100 nm GSK-3B IX inhibitor (Catalog# 361550, Calbiochem, CA) for five days, **D)** H9P39 cells cultured on MATRIGEL-coated plates (1:30 dilution) and exposed to DMEM/F12 medium supplemented with 0.5% FBS and 100 ng/ml Activin-A and 20 ng/ml of wnt3A for two days followed by treatment with DMEM/F12 medium supplemented with 2% FBS and 100 ng/ml Activin-A (AA) for an additional two days RNA samples were collected from group **D** at 2hrs, 6hrs, 24 hrs, 30 hrs, 48 hrs, 72 hrs, and 96 hrs. EXPRES 01 and 02 cultured in their respective growth media were also included as controls. All groups contained three biological replicates and each biological replicate was repeated on two separate gene chips.

[0257] Sample preparation, hybridization, and image analysis were performed according to the Affymetrix Human Genome U133 Plus 2.0 Array. Following normalization and a log transformation, data analysis was performed using OmniViz® software (MA) and GENESIFTER (VizXLabs, WA). Significant differences in gene expression between the samples were evaluated using analysis of variance and an F-test with adjusted P-value (Benjamini and Hochberg correction) of less than or equal to 0.05. Only genes

with a present call in at least one group were included in the analysis. **Table VI** lists the mean normalized log-transformed signal intensity of genes showing at least 5-fold between group A, group B, group C, and group D at various time points along with the adjusted P-value for each gene. Only the top 200 genes that are upregulated or down regulated are shown in **Table VI**. Genes representing primitive streak or definite endoderm are highlighted in bold**. Table VII** lists the correlation coefficient for each comparison group. Scatter plots corresponding to the correlation coefficients are depicted in **Figure 27**. The global expression profile of EXPRES 01 cells appear to resemble the expression profile of samples at 30 hrs or less of the DE stage, whereas the EXPRES 02 cells appear to resemble the expression profile of samples at greater than 48 hrs of the DE stage.

Example 21

Formation of Embryoid Bodies and Differentiation to Various Lineages

[0258] EXPRES 01 passage 27 cultures were removed as single cells using TrypLE™ Express solution, spun at 200g for 4 mins, and resuspended in DMEM-F12 + 20% FBS. The cell suspension was seeded on low adhesion Petri dishes. 3-4 days post seeding, embryoid body (EB) like structures were formed (**Figure 28**). Treatment of the cultures with DMEM-F12 + 2% FBS + 1 micro molar retinoic acid induced expression of ectoderm markers, such as NeuroD.

Example 22

Formation of Teratomas in the Kidney Capsules of NOD-SCID Mice

[0259] Undifferentiated cells from the human embryonic stem cell line H9 at passage 42, EXSPRES 01 Passage 30, and EXPRES 02 P22 cells were released from cultures using TRYPLE, washed in basal media, and then suspended in DMEM-F12 basal media. Approximately $1x10^6$ undifferentiated H9 P42, 1.5 million EXPRES 01 and 02 cells were injected into the kidney capsule of six week old NOD-SCID mice. Five weeks following transplantation, the animals were sacrificed; kidneys were excised and fixed in formalin or placed in lysis buffer to collect RNA for subsequent PCR analysis. **Figure 29** depicts expression of markers characteristic of mesoderm, ectoderm, endoderm, extraembryonic visceral endoderm, and pluripotency markers for collected

samples. Similar to H9 line, both EXPRES lines show strong expression of all germ layers along with extra embryonic endoderm.

Example 23

Proliferation And Cell Cycle Analysis of EXPRES 03 cells

[0260] Human embryonic stem cells have a unique cell cycle status that is distinguishable from other somatic cells, characterized by high proportion of cells in S-Phase, and shortened or truncated Gap phases (G1 and G2). The cell cycle control mechanisms in hES cells may be functionally linked to their self-renewal and pluripotency capacity of these cells, and may be different from control mechanism in their differentiated/committed counterparts. These experiments were designed to determine the cells cycle nature of EXPRES cells that have been shown to express many of the markers of pluripotency hES cells.

[0261] *Methods:* Cells were seeded at 5,000-10,000 cells /cm^2 in Cell Bind tissue culture flasks (Corning) and cultured for 2-4 days. EXPRES 03 cells were cultured either in growth medium containing 2% FBS inDMEM/F12 and Activin-A (100 ng/ml), wnt3a (10-20 ng/ml) and IGF (50 ng/ml). For comparative proliferation analysis, IGF was sometimes omitted from the growth factor cocktail. Cell proliferation was analyzed using the APC BRDU Flow kit according to the Manufacturer's recommendations (BD Biosciences, San Diego, CA). Briefly, cells were pulsed with BRDU for 1-2 hrs at the end of culture period, released using Tryple E Express and counted. Cells were fixed in BD Cytofix/Cytosperm Buffer, incubated for 30 min, followed by incubation with BD Cytoperm buffer for 10 minutes on ice. Cells were then treated with DNAse for 1 hr at 37^0 C to expose incorporated BRDU, followed by staining with APC conjugated anti-BRDU antibody. For cell cycle analysis, cells were stained with 7AAD, and analyzed on FACS Array.

[0262] *Results*: Similar to the highly hES cells, EXPRES 03 cells retained a highly proliferation rate, as shown by the high percentage of cells that in S-phase determined by their capacity to incorporate BRDU in culture. The frequency of cells in S-Phase was typically greater than 45% (range 40-60%), similar to hES cells (**Figure 30 a-c**). Although the number of EXPRES 03 cells grown in the presence of IGF were 2-3 times

the number of cells grown in absence of IGF after 3-4 days, there was only marginal differences in frequency of cells in S-phase when cell were exposed to BRDU for 1 hour or more (**Figure 30 f**). This high frequency of cell in S-phase and cell cycle structure is unlike that observed in somatic cells, as shown here for human amniotic fluid cells (AFDX002) (**Figure 30 d**). Furthermore, mitomycin treated cells Mouse Embryo Fibroblast (MEF, **Figure 30 e**) do not proceed into S-phase but show apparent accumulation in the G2/M phase (64%), which may be related to the inability of mitomycin treated cells to separate the DNA strands at mitosis.

Example 24

Transfection Efficiency of ES cells vs EXPRES cells

[0263] A major limitation of genetic manipulation of hES is their relative resistance to conventional methods of transfection and viral transduction. In addition to their highly proliferative rates, EXPRES cells are easy to transfect *in vitro*. To compare transfection efficiency, in EXPRES and hES cells were transfected in culture with EGFP and analyzed by fluorescence microscopy and flow cytometric methods.

[0264] *Methods*: EXPRES 01 cells were seeded on human fibronectin coated (10ug/ml) 6 well tissue culture plates in growth medium comprising 2% FBS in DMEM/F12, Activin-A (100 ng/ml), wnt3a (10-20 ng/ml) and IGF (50 ng/ml). For cell clusters hES cell were passaged by routine methods using collagenase into MATRIGEL coated 6 well culture plates, and grown in MEF conditioned hES medium. For single cells, hES cells were passaged by exposing cells to TRYPLE for 3 minutes at 37° C, followed by plating onto MATRIGEL coated 6 well culture plates. When cells achieved desired confluency (70-80%), cells were transfected with Lipofectamine 2000 according to the manufacturer's recommendations (Invitrogen, Carlsbad, CA). Briefly, 4 μg of DNA was diluted into 250 μl Opti-MEM I Reduced serum medium. Five microliters of Lipofectamine 200 was mixed into total of 250 μl Opti-MEM I medium for 5 minutes and gently mixed with diluted DNA. The DNA/Lipofectamine complexes were allowed to form at room temperature for 20 minutes, and then added to the respective wells with gentle swirling motions o f the plates for gentle mixing. Cells were incubated in presence of complexes for another 24 hrs followed by complete change of

medium. Cells were analyzed by fluorescence microscopy and flow cytometry 48 hrs following transfection.

[0265] *Results*: The uptake and expression of eGFP was compared by transfection of EXPRES 01 cells and hES cells plated as single cell dispersion or cell clusters, and analyzed 48 hrs later. EXPRES 01 cell showed the highest level of eGFP protein expression, with 75% of cell expressing eGFP by flow cytometric analysis (**Figure 31**). In contrast, hES were more resistant to transfection, with only 3% of cell expressing eGFP protein by FACS when cell clusters were used. Preparing a single cell dispersion of hES enhanced the level of DNA uptake and eGFP expression to about 20 %, but which is still by about three fold less the expression in EXPRES 01 cells.

Example 25

EXPRES Cells as a Versatile Tool for Screening

[0266] EXPRES cells were grown in DMEM:F12 medium containing 2% FBS, 100ng/ml recombinant human Activin-A (R&D Systems), and 20ng/ml recombinant mouse Wnt3a (R&D Systems). Growth medium for EXPRES 01 cells also contained 50ng/ml recombinant human IGF-1 (R&D Systems). Both cell lines were routinely grown at 37°C in an atmosphere of low oxygen (3%) and 5% CO_2. EXPRES 01 and EXPRES 02 cells were released from culture as a single cell suspension using TrypLE enzymatic digestion (Invitrogen, CA) then washed and counted to determine accurate cell numbers and viability (>95%). Aliquots ranging from 1,250 to 80,000 cells were distributed into human fibronectin-coated wells of a 96-well plate (Corning-Costar) in a final volume of 100 µl culture medium. Control wells were also fibronectin-coated and contained an equivalent volume of culture medium without cells. Plates were allowed to equilibrate overnight in a humidified chamber incubated under standard low oxygen, 5% CO_2 at 37°C. During this time, the cells attached as monolayer cultures with varying degrees of confluency dependent upon the initial seeding density. After overnight culture, 20µl of MTS reagent (CellTiter 96 Aqueous Assay; Promega) was added to each well. MTS is reduced to formazan and can be used as a measure of dehydrogenase enzyme activity directly proportional to the number of live cells. One plate was returned to low oxygen culture while an identical parallel plate was incubated in normal oxygen (20%). After 4 hours, absorbance was read at 490nm on a spectrophormetric plate reader (Molecular

Devices). Statistical calculations for mean OD, standard deviation, and percent coefficient of variation (CV) were determined for replicate sample sets within each plate and then compared to similar wells between both plates.

[0267] Standard deviation and percent coefficient of variation values demonstrate that EXPRES cells can be evenly distributed between wells for high plating efficiency and good well-to-well reproducibility (**Table VIII a-f**). As seen with average OD_{490} readings for equivalent numbers of cells, the EXPRES 01 line has a higher metabolic activity than the EXPRES 02 line. For each EXPRES line, percent CV values between the two plates suggest there are no differences in metabolic activity for parallel conditions regardless of atmospheric oxygen levels in this short-term assay. Optimal cell numbers per well within the linear range for this assay were determined by graphing average OD readings (**Figure 32**): less than 20,000 cells/well for EXPRES 01 and less than 40,000 cells/well for EXPRES 02. Again, atmospheric differences in oxygen levels did not affect optimal cell number results in this short-term assay. These results suggest that EXPRES cells are amenable to screening protocols that can measure toxicological effects of various agents on cell proliferation and/or metabolic rate.

Example 26

Expansion of DE-like Cells Derived from EXPRES Cells

[0268] Previous examples establish that EXPRES cells can be derived from embryonic stem cells and can be readily expanded on TCPS in various growth media. Most of these media formulation contain IGF as a supplement or insulin/IGF in 2% FBS used in the growth media. These factors have been shown to inhibit DE related genes through the PI-3 kinase pathway (Stem cells, 25:29–38, 2007). An alternative media was formulated based on DM-F12 + 0.5% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 100 nM GSK-3B inhibitor IX (further referred to as "growth media for DE cells"). EXPRES 01 at passage 27 cells cultured in the above media were able to propagate at the same rate as cells cultured in DM-F12 + 2% FBS + 100 ng/ml AA + 20 ng/ml WNT3A + 50 ng/ml IGF-I. Furthermore, cells cultured in the growth media for DE cells expressed strong DE markers by real-time PCR (**Figure 33**) through three passages. Approximately 72% of cells expressed CXCR4 (**Figure 34**).

Example 27

siRNA Knockdown of Target Genes in EXPRES cells

[0269] Efficient knockdown of target genes in human embryonic stem cells using siRNA is severely limited by the ability to achieve high levels of transfection in human embryonic stem cells grown as cluster colonies. EXPRES cells are easily transfected with siRNA using conventional methods, and thus offer a valuable system to screen siRNA oligo sequences, as well as evaluate the role played by targeted genes.

[0270] *Methods*: EXPRES 03 cells were seeded on fibronectin coated (10μg/ml) 6 well tissue culture plates in growth medium comprising 2% FBS in DMEM/F12, Activin-A (100 ng/ml), wnt3a (10-20 ng/ml) and IGF (50 ng/ml). For 6 well plates, 200,000 cells were seeded 24 hrs prior to transfection with the siRNA oligo sequences.

[0271] To evaluate target gene knockdown, cells at 70-80% confluency cells were transfected using Lipofectamine 2000 according to the manufacturer's recommendations (Ambion (Applied Biosystems), Foster City, CA). Briefly, the appropriate amount of siRNA was diluted into 250 μl Opti-MEM I Reduced serum medium to achieve a final concentration of 100 nmol. Five microlitres of Lipofectamine 2000 was diluted in 250 μl Opti-MEM I medium and incubated for 5 minutes. The complexes were incubated for 15-20 min at room temperature, and then added to the cells with gentle swirling motions of the plates for gentle mixing. Cells were incubated in presence of siRNA for another 24 hrs followed by complete change of medium. Cells were visualized with fluorescence microscopy 24-48 hrs following transfection, and RNA harvested for analysis of target gene knockdown by quantitative RT-PCR methods. The following pre-validated siRNA oligo sequences, purchased from Ambion were tested: Beta-catenin (Id. No. 42816) and GSK3b (Id. No. 42839).

[0272] *Results*: Fluorescence microscopy revealed a very high level of siRNA uptake by EXPRES cells (>80%) when using fluorescently labeled siRNA (**Figure 35**). RNA harvested from the cells was analyzed by PCR for target gene knockdown, and compared with control siRNA oligo transfected cells. Beta-catenin and GSK3b siRNA oligos achieved very high levels of gene knockdown in EXPRES cells, with greater than 93% gene knockdown. Other non-validated oligo sequences to other gene targets

eg Hes-1, Oct-4 achieved lower and variable levels of target gene knockdown.. Specificity of oligo sequences was verified by analysis of other gene transcripts, which did not show any appreciable knockdown.

Example 28

Cytokine Antibody Array analysis for EXPRES 01 and 02 lines

[0273] EXPRES 01 and 02 lines at passage 22 and 23, respectively, were grown to approximately 70% confluency in their respective media and then cell lystaes was collected using mammalian cell lysis kit (Sigma-Aldrich, MO). Cytokine array analysis was completed using Cytokine Array panels provided by RayBiotech, GA (http://www.raybiotech.com/). **Table IX a-c** lists cytokine, cytokine and growth factor receptor expression following normalization of the data and background subtraction. For each panel, positive and negative controls are also included. The panels were run for two different samples per cell type.

Example 29

Karyotype Analysis

The karyotype of EXPRES 01 cells at passage 20 and EXPRES 02 cells at passage 15 was determined by G-band analysis. Cytogenetic analysis was performed on twenty-one G-banded cells from EXPRES 01 and on twenty G-banded cells from EXPRES 02. Half of the G-banded EXPRES 01 cells showed a normal 46XX karyotype while the rest showed abnormal karyotype such as trisomy 17. The EXPRES 02 line also showed a chromosome rearrangement with a duplication of almost all of the chromosome 1 short-arm.

Example 30

Derivation of EXPRES Cells from a Suspension of Single Human Embryonic Stem Cells in the Presence of a Rho-Kinase (ROCK) Inhibitor

[0274] Cells from the human embryonic stem cell line H9 at passage 35 lines were cultured under hypoxic conditions (approximately 3% O_2) for at least three passages. The cells were cultured in MEF-CM supplemented with 8 ng/ml of bFGF and plated on

MATRIGEL coated plates according to **Example 1.** At approximately 60% confluency, the cultures were exposed to TrypLE™ Express solution (Invitrogen, CA) for 5 mins. Released cells were resuspended in DM-F12 + 2% FBS medium, recovered by centrifugation, and counted using a hemocytometer. The released cells were seeded at 1000-10,000 cells/cm^2 on tissue culture polystyrene (TCPS) flasks and cultured in DM-F12 + 2% FBS + 100 ng/ml activin-A + 20 ng/ml WNT-3A + 50 ng/ml of IGF-I + 0.1 mM mercaptoethanol (Invitrogen, CA), non-essential amino acids (1X, NEAA from Invitrogen, CA) +/- 10 μm ROCK inhibitor (Y-27632, Calbiochem, CA) under hypoxic conditions (approximately 3% 0_2) at 37 °C in a standard tissue culture incubator. The TCPS flaks were not coated with MATRIGEL or other extracellular matrix proteins. The media was changed daily. The first passage cells are referred to as P1. As shown in **Figure 37**, 24 hrs after seeding, addition of the ROCK inhibitor resulted in a significantly larger number of attached cells as compared to cultures derived in the absence of the ROCK inhibitor. EXPRES cells derived using the ROCK inhibitor, Y27632 were designated as EXPRES 15.

Example 31

Karyotype Analysis

[0275] The karyotype of EXPRES 15 cells at passage 5 and 12 were determined by G-band analysis. Cytogenetic analysis was performed on twenty-one G-banded cells from EXPRES 15 all of the cells showed a normal 46XX karyotype (**Figure 38**). FISH analysis of chromosomes 12 and 17 also showed that all cells demonstrated a normal signal pattern for the ETV6 BAP (TEL) gene located on chromosome 12 and all cells demonstrated a normal signal pattern for the Her2/neu gene and 17 centromere on chromosome 17.

Example 32

EXPRES Cells can be Maintained in Media Containing a Range of Concentrations of IGF, WNT3A, activin-A, and GSK-3B inhibitors

[0276] EXPRES 11 cells were grown in DMEM/F12 (Invitrogen) containing 2% FBS, 100ng/ml activin-A, 20ng/ml Wnt3a and 50ng/ml IGF. At 80% confluency, cells were

passed using TrypLE Express (Invitrogen) into 96-well plates at a density of 4000 cells/well in DMEM/F12 containing 2% FBS. Cells were allowed to adhere to the substrate for 1 hour in a humidified incubator held at 37°C with 5% CO2, prior to the addition of activin-A ranging from 50 to 100ng/ml, Wnt3a ranging from 10 to 20ng/ml, IGF ranging from 10 to 50ng/ml, and 50 to 100 nM GSK-3B inhibitor (IX). At 24, 48 and 96 hours, cell viability was determined using the CellTiter® 96 AQueous One Solution Cell Proliferation Assay (Promega). Briefly, MTS reagent was added to the 96-well plates and allowed to incubate with the cells for 1-4 hours and then reading the absorbance at 490nm on a plate reader. The absorbance reading was directly proportional to the number of living cells. **Figure 39 a-c** shows the absorbance readings at a) 24 hrs, b) 48 hrs, and c) 96 hrs post seeding.

[0277] Publications cited throughout this document are hereby incorporated by reference in their entirety. Although the various aspects of the invention have been illustrated above by reference to examples and preferred embodiments, it will be appreciated that the scope of the invention is defined not by the foregoing description but by the following claims properly construed under principles of patent law.

Table IA: List of primary antibodies used for FACS and immuno staining analysis.

Antibody	Supplier	Isotype	Catalog#
SSEA-1	Chemicon (CA)	Mouse IgM	MAB4301
SSEA-3	Chemicon (CA)	Mouse IgG3	MAB4303
SSEA-4	Chemicon (CA)	Rat IgM	MAB1435
TRA 1-60	Chemicon (CA)	Mouse IgM	MAB4360
TRA 1-81	Chemicon (CA)	Mouse IgM	MAB4381
TRA 1-85	Chemicon (CA)	Mouse IgG1	MAB4385
AP	R&D Systems (MN)	Mouse IgG1	FAB1448A
HNF3β	R&D Systems	Goat IgG	AF2400
PDX1	Santa Cruz Biotechnology, INC (CA)	Goat IgG	sc-14664
GATA4	R&D Systems	Goat IgG	AF2606
Sox 17	R&D Systems	Goat IgG	AF1924
CD 9	BD Bioscience (CA)	Mouse IgG1	341647
CXCR4	R&D Systems	Mouse IgG2A	FAB170A
SOX2	R&D Systems	Goat IgG	AF2018
Nanog	R&D Systems	Goat IgG	AF1997
OCT4	R&D Systems	Goat IgG	AF1759
Gata6	R&D Systems	Goat IgG	AF1700
Ecad	R&D Systems	Mouse IgG	MAB1838
Ncam	R&D Systems	Mouse IgG	MAB777
HNF1b	R&D Systems	Goat IgG	AF3330
b-catenin	R&D Systems	Mouse IgG	MAB13291
HNF1a	BD Bioscience	Mouse IgG	610902
CD99	Invitrogen (CA)	Mouse IgG	18-0235
Cerebus	Santa Cruz Biotechnology, INC	Goat IgG	SC15131

Hex	Santa Cruz Biotechnology, INC	Goat IgG	SC15129
AFP	R&D Systems	Mouse IgG	MAB1269
Antitrypsin	DAKO (CA)	Rabbit	A0012
islet 1	R&D Systems	Goat IgG	AF1837

Table IB: List of secondary conjugated antibodies used for FACS and immuno staining analysis.

Secondary Conjugated Antibody	Supplier	Dilution
Goat Anti-Mouse IgG APC conjugated	Jackson ImmunoResearch (PA)	1:200
Goat Anti-Mouse IgG PE conjugated	Jackson ImmunoResearch (PA)	1:200
Donkey anti-rabbit PE or – APC conjugated	Jackson ImmunoResearch (PA)	1:200
Donkey anti-goat PE or – APC conjugated	Jackson ImmunoResearch (PA)	1:200
Goat anti-mouse IgM PE	SouthernBiotech (AL)	1:200
Goat anti-Rat IgM PE	SouthernBiotech (AL)	1:200
Goat anti-mouse IgG3 PE	SouthernBiotech (AL)	1:200

Table II List of primers used for real-time PCR analysis using TAQMAN®probes

Primer/Probe	Catelog Number
18s	4310893E
ABCG2	Hs00184979_m1
AchE	Hs00241307_m1
AFP	Hs00173490_m1
ALB	Hs00609411_m1
alpha-antitrypsin	Hs02384981_m1
Amylase	Hs00420710_g1
AP	Hs00240993_m1
Atoh1	Hs00944192_s1
B_2MG	4310886E
B3Tubulin	Hs00964962_g1
B-Catenin	Hs99999168_m1
Barx1	Hs00222053_m1
Brachyury (T)	Hs00610080_m1
CCK	Hs00174937_m1
Cdx1	Hs00156451_m1
Cdx2	Hs00230919_m1
CEBPa	Hs00269972_s1
CEBPb	Hs00942496_s1
Cerberus	Hs00193796_m1
CFC1 (Cripto)	Hs00414425_m1
CGA	Hs00174938_m1
CK19 (KRT19)	Hs00761767_s1
CLDN4 (claudin4)	Hs00533616_s1
C-Myc Binding Protein	Hs00429315_g1
Connexin32 (GJB-1)	Hs00939759_s1
Connexin45	Hs00271416_s1
CTNNβ1	Hs00170025_m1
CXCR4	Hs00237052_m1
Cylcin-D1	Hs00277039_m1
Dapper1 (DACT-1)	Hs00420410_m1
DKK1	Hs00183740_m1
DKK4	Hs00205290_m1
Endoglin	Hs00164438_m1
Exo1	Hs00243513_m1
F3	Hs00175225_m1
FAH	Hs00164611_m1
FGF4	Hs00173564_m1
FGF10	Hs00610298_m1
FGFR1	Hs00241111_m1
FGFR3	Hs00179839_m1
FGFR4	Hs00242558_m1
Flk1	Hs00911705_g1
FOXA1	Hs00270129_m1
FOXA3	Hs00270130_m1
FOXD3	Hs00255287_s1
FOXF1	Hs00230962_m1
GAPDH (human)	4310884E
Gastrin	Hs00174945_m1
GATA1	Hs00231112_m1
GATA4	Hs00171403_m1
GATA5	Hs00388359_m1

GATA6	Hs00232018_m1
GCK	Hs00175951_m1
GFAP	Hs00157674_m1
GIP	Hs00175030_m1
Gli	Hs01110766_m1
Glucagon	Hs00174967_m1
Glut-2	Hs00165775_m1
Goosecoid	Hs00418279_m1
GS	Hs00374213_m1
Handy1	Hs00231848_m1
HB9	Hs00232128_m1
Hes1	Hs00172878_m1
Hex1	Hs00172696_m1
HEYL	Hs00232718_m1
HHIP (hedgehog interacting protein)	Hs01011009_m1
hHIF1α	Hs00153153_m1
HNF1	Hs00167041_m1
HNF1α	Hs00167041_m1
HNF1β	Hs00172123_m1
HNF3β	Hs00232764_m1
HNF4α	Hs00230853_m1
HNF6 (onecut)	Hs00413554_m1
HoxB1	Hs00157973_m1
IBSP	Hs00173720_m1
Insulin II	Hs00355773_m1
Islet-1	Hs00158126_m1
Jagged-1 (JAG1)	Hs00164982_m1
KDR	Hs00176676_m1
KRT15	Hs00267035_m1
MafA	Hs00999118_m1
MAML1	Hs00207373_m1
Map2	Hs00159041_m1
MapK14	Hs00176247_m1
MapK8	Hs00177083_m1
MBP (myelin basic protein)	Hs00921945_m1
Mixl1	Hs00430824_g1
MMP1 (matrix metalloprotease1)	Hs00233958_m1
MOX1	Hs00793059_m1
MSX1	Hs00427183_m1
Mucin1	Hs00904328_m1
Mucin2	Hs00159374_m1
Myf5	Hs00271574_m1
MyoD1	Hs00159528_m1
N-Cadherin (CDH2)	Hs00169953_m1
N-Cam1	Hs00169851_m1
NEFH	Hs00606024_m1
NEFL	Hs00196245_m1
Nestin	Hs00707120_s1
NeuroD1	Hs00159598_m1
Ngn3	Hs00360700_q1
Nkx2.1	Hs00163037_m1
Nkx2.2	Hs00159616_m1
Nkx6.1	Hs00232355_m1
Notch1	Hs01062014_m1
NTS	Hs00175048_m1

O_2	Hs00377820_m1
Oct3/4	Hs00742896_s1
OTX2	Hs00222238_m1
Pax3	Hs00240950_m1
Pax4	Hs00173014_m1
Pax6	Hs00240871_m1
Pax8	Hs00247586_m1
Pax9	Hs00196354_m1
PDX-1 (IPF1)	Hs00236830_m1
Ptch (Patched)	Hs00970985_m1
PTF1a	Hs00603586_q1
PYY	Hs01062281_m1
RA receptor alpha	Hs00230907_m1
RALDH	Hs01125173_m1
RBPSUH	Hs00794653_m1
Rex1 (ZFP42)	Hs00399279_m1
SCGB1	Hs00171092_m1
Secretin	Hs00360814_q1
sFRP	Hs00610060_m1
sFRP5	Hs00169366_m1
SHH	Hs00179843_m1
SLC5A8	Hs01068911_m1
Snai1	Hs00195591_m1
Snai2	Hs00161904_m1
Somatostatin	Hs00174949_m1
Sox1	Hs00534426_s1
Sox10	Hs00366918_m1
Sox17	see "Sox17" tab
Sox2	Hs00602736_s1
Sox3	Hs00271627_s1
Sox7	Hs00846731_s1
Sox9	Hs00165814_m1
Sparc	Hs00234160_m1
SP-C	Hs00161628_m1
TBX6	Hs00365539_m1
Tert	Hs00162669_m1
THBD	Hs00264920_s1
Twist1	Hs00361186_m1
UtF1	Hs00747497_q1
Vim	Hs00185584_m1
Wnt3a (human)	Hs01055707_m1
Wnt3a (mouse)	Mm00437337_m1
WT1	Hs01103754_m1
Zic1	Hs00604749_m1
Zic2	Hs00600845_m1

Table III List of EXPRES lines generated from H1 & H9 parent lines

ID#	ES Parent line, Passage number	Day of derivation during DE differentiation	Media used to propagate cells

EXPRES 01	H9P54	Day 4	Growth media + 50 ng/ml IGF-I
EXPRES 02	H9P54	Day 6	DM-F12-+ 2% FBS +100 ng/ml AA +20 ng/ml WNT-3A (growth media)
EXPRES 03	H9P39	Day 3	Growth media + 50 ng/ml IGF-I
EXPRES 04	H9P39	Day 4	Growth media + 50 ng/ml IGF-I
EXPRES 05	H9P39	Day 5	Growth media + 50 ng/ml IGF-I
EXPRES 06	H9P49	Day 5	Growth media
EXPRES 07	H1P50	Day 5	Growth media
EXPRES 08	H1P39	Day 4	Growth media + 50 ng/ml IGF-I + 0.1mM mercaptoethanol
EXPRES 09	H1P39	Day 6	Growth media + 50 ng/ml IGF-I + 0.1mM mercaptoethanol
EXPRES 10	H1P49	Day 4	Growth media
EXPRES 11	H9P30	Day 4	Growth media + 50 ng/ml IGF-I + 0.1mM mercaptoethanol
EXPRES 12	H9P30	Day 6	Growth media + 50 ng/ml IGF-I + 0.1mM mercaptoethanol

Table IV Expression of cell surface markers by EXPRES 01 and 02 lines

Marker	EXPRES 01- % Expression	EXPRES 02- % Expression
TRA 1-60	100	100
TRA1-81	100	100
SSEA-3	100	86 (85-88)
SSEA-4	100	87 (83-88)
CD56 (NCAM)	<1	38 (35-40)
CXCR4	<1	20 (10-25)
SSEA-1	<1	26 (9-32)
E-cadherin	90 (85-95)	75 (72-79)
CD9	99	66 (62-68)
CD30	97 (96-98)	43 (40-46)
LIF-receptor	<1	20 (15-21)
CD117	92 (90-95)	73 (67-75)

Table V DIFFERENTIAL EXPRESSION OF GENES BETWEEN UNDIFFERENTIATED EMBRYONIC STEM CELLS CULTURED ON MATRIGEL™ AND EXPRES 01 (A) AND 02 (B) CELLS CULTURED ON TCPS

A) ES vs EXPRES 01- Intensity values are in Log2 format.

ES	EXPRES 01	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-5.03662	3.037629	269.52	Up	8.34E-05	BG099432	ESTs
-2.82645	3.094183	60.57	Up	3.88E-03	NM_013445	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
-4.71714	0.961816	51.23	Up	6.59E-05	AI796169	GATA-binding protein 3 /FL=gb:NM_002051.1 gb:M69106.1 gb:BC003070.1
-1.57973	4.092731	51	Up	6.13E-03	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
-2.24566	3.409815	50.4	Up	1.19E-03	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
-0.66473	4.897427	47.25	Up	1.97E-04	R06655	ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
-2.96204	2.589425	46.9	Up	1.79E-03	NM_001311	Homo sapiens cysteine-rich protein 1 (intestinal) (CRIP1), mRNA. /PROD=cysteine-rich protein 1 (intestinal) /FL=gb:U58630.1 gb:BC002738.1 gb:NM_001311.1 gb:U09770.1
-0.08298	5.388254	44.36	Up	2.48E-04	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1

-4.21525	1.240929	43.9 Up	4.36E-04	NM_006119	Homo sapiens fibroblast growth factor 8 (androgen-induced) (FGF8), mRNA. /PROD=fibroblast growth factor 8 (androgen-induced) /FL=gb:U36223.1 gb:U46212.1 gb:NM_006119.1
-3.11273	2.306225	42.78 Up	5.07E-03	AW444761	ESTs
-4.05111	1.075159	34.93 Up	1.19E-03	J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
-1.81534	3.025351	28.65 Up	7.00E-04	AW590925	ESTs
-2.36335	2.448218	28.08 Up	1.62E-02	AI189359	mevalonate (diphospho) decarboxylase /FL=gb:NM_002461.1 gb:BC000011.1 gb:U49260.1
-3.00328	1.794842	27.82 Up	7.77E-03	AI571798	Rho GDP dissociation inhibitor (GDI) alpha
-4.17258	0.510307	25.69 Up	2.29E-04	AI040887	ESTs
-0.11332	4.420733	23.17 Up	8.78E-05	NM_003670	Homo sapiens basic helix-loop-helix domain containing, class B, 2 (BHLHB2), mRNA. /PROD=differentiated embryo chondrocyte expressed gene1 /FL=gb:AB004066.1 gb:NM_003670.1
-1.94	2.590871	23.12 Up	3.90E-03	NM_016569	Homo sapiens TBX3-iso protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
-2.18113	2.33099	22.82 Up	1.12E-02	NM_004041	Homo sapiens arrestin, beta 1 (ARRB1), transcript variant 1, mRNA. /PROD=arrestin beta 1, isoform A /FL=gb:BC003636.1 gb:AF084040.1 gb:NM_004041.2
-2.85963	1.609384	22.15 Up	6.37E-03	BC005961	Homo sapiens, parathyroid hormone-like hormone, clone MGC:14611, mRNA, complete cds. /PROD=parathyroid hormone-like hormone /FL=gb:BC005961.1

0.044298	4.505436	22.03 Up	4.17E-05	W57613	ESTs
-3.65051	0.757197	21.23 Up	7.11E-04	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
-1.25226	2.990178	18.93 Up	2.70E-04	NM_013445	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
-0.63516	3.41866	16.61 Up	1.05E-03	AA149250	ESTs, Weakly similar to WDNM RAT WDNM1 PROTEIN PRECURSOR (R.norvegicus)
-0.14916	3.880272	16.33 Up	8.45E-04	NM_002521	Homo sapiens natriuretic peptide precursor B (NPPB), mRNA. /PROD=natriuretic peptide precursor B /FL=gb:NM_002521.1 gb:M25296.1
-2.88485	1.143234	16.31 Up	2.83E-03	BF437711	ESTs
-2.7136	1.194285	15.01 Up	2.14E-02	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
-0.07353	3.816817	14.83 Up	1.62E-02	AF116616	Homo sapiens PRO0998 mRNA, complete cds. /PROD=PRO0998 /FL=gb:AF116616.1
-1.44577	2.422113	14.6 Up	1.34E-02	AL544576	ESTs
2.301255	6.091008	13.83 Up	6.50E-05	BC020935	Homo sapiens, Similar to otoconin 90, clone IMAGE:4277593, mRNA.
3.006559	6.79047	13.77 Up	8.80E-05	AI263909	ras homolog gene family, member B /FL=gb:NM_004040.1
-0.512	3.268087	13.74 Up	2.96E-03	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14 /FL=gb:AF345910.1
3.484047	7.24746	13.58 Up	4.12E-04	NM_003564	Homo sapiens transgelin 2 (TAGLN2), mRNA. /PROD=transgelin 2 /FL=gb:D21261.1 gb:NM_003564.1
2.623145	6.382732	13.54 Up	7.32E-05	AI050866	nodal, mouse, homolog
2.91184	6.66195	13.46 Up	1.44E-04	BC002616	Homo sapiens, transgelin

					2, clone MGC:2989, mRNA, complete cds. /PROD=transgelin 2 /FL=gb:BC002616.1
-1.18027	2.546953	13.24 Up	1.42E-02	AI123555	ESTs
-0.92213	2.770179	12.93 Up	1.08E-04	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
-1.85154	1.840613	12.93 Up	6.40E-03	AI949760	ESTs, Weakly similar to unnamed protein product (H.sapiens)
0.899321	4.507212	12.19 Up	1.08E-04	AW196940	ESTs
1.651788	5.252439	12.13 Up	5.58E-05	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
-1.20347	2.387268	12.05 Up	2.76E-02	BF063186	ESTs
3.669215	7.251816	11.98 Up	2.01E-05	NM_000700	Homo sapiens annexin A1 (ANXA1), mRNA. /PROD=annexin I /FL=gb:BC001275.1 gb:NM_000700.1
-3.52039	0.041471	11.81 Up	1.58E-02	AW162210	Homo sapiens cDNA FLJ11490 fis, clone HEMBA1001918
3.006317	6.564471	11.78 Up	2.04E-04	NM_006183	Homo sapiens neurotensin (NTS), mRNA. /PROD=neurotensin precursor /FL=gb:NM_006183.2 gb:U91618.1
3.227575	6.777916	11.72 Up	2.01E-05	U15174	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
1.869893	5.411751	11.65 Up	2.01E-05	NM_001854	Homo sapiens collagen, type XI, alpha 1 (COL11A1), mRNA. /PROD=collagen, type XI, alpha 1 /FL=gb:J04177.1 gb:NM_001854.1
2.851479	6.371229	11.47 Up	3.61E-05	AI950472	ESTs
-0.1081	3.393761	11.33 Up	1.39E-03	BG028597	ESTs
0.41954	3.911282	11.25 Up	1.42E-04	AI670948	ESTs
-1.71451	1.771584	11.21 Up	7.77E-03	BI254089	Homo sapiens full length

					insert cDNA clone ZD50E03
-1.66293	1.80547	11.07 Up	2.68E-02	NM_000817	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD67, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD67 /FL=gb:NM_000817.1 gb:M81883.1 gb:L16888.1
0.451086	3.904705	10.96 Up	5.45E-04	NM_007038	Homo sapiens a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2) (ADAMTS5), mRNA. /PROD=a disintegrin and metalloprotease withthrombospondin motifs-5 preproprotein /FL=gb:NM_007038.1 gb:AF14209
-1.44798	1.988376	10.83 Up	1.07E-02	AW376860	ESTs
1.19822	4.633038	10.81 Up	1.22E-04	NM_016931	Homo sapiens NADPH oxidase 4 (NOX4), mRNA. /PROD=NADPH oxidase 4 /FL=gb:AF261943.1 gb:NM_016931.1 gb:AF254621.1 gb:AB041035.1
1.552808	4.981033	10.76 Up	3.24E-04	NM_000602	Homo sapiens serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 (SERPINE1), mRNA. /PROD=serine (or cysteine) proteinase inhibitor, cladeE (nexin, plasminogen activator inhibitor type 1), membe
-0.62725	2.792215	10.7 Up	3.24E-04	BC017942	Homo sapiens, Similar to otoconin 90, clone IMAGE:4285317, mRNA.
-1.22834	2.18828	10.68 Up	2.50E-02	BG402859	ESTs
-0.85366	2.55067	10.59 Up	3.53E-04	N36408	hypothetical protein FLJ23306 /FL=gb:NM_024530.1
1.55625	4.952105	10.53 Up	1.52E-03	BG164365	microtubule-associated protein 1B /FL=gb:NM_005909.1
0.93094	4.285883	10.23 Up	4.17E-05	AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
-3.33551	0.008356	10.15 Up	9.88E-03	BF221850	ESTs

-1.97569	1.35098	10.03 Up	2.12E-02	NM_002149	Homo sapiens hippocalcin-like 1 (HPCAL1), mRNA. /PROD=hippocalcin-like 1 /FL=gb:NM_002149.1 gb:D16227.1
0.624024	3.934756	9.92 Up	2.01E-05	AF154054	Homo sapiens DRM (DRM) mRNA, complete cds. /PROD=DRM /FL=gb:NM_013372.1 gb:AF110137.2 gb:AF045800.1 gb:AF154054.1
-2.37515	0.931587	9.9 Up	2.83E-02	NM_025136	Homo sapiens hypothetical protein FLJ22187 (FLJ22187), mRNA. /PROD=hypothetical protein FLJ22187 /FL=gb:BC005059.1 gb:NM_025136.1
0.906004	4.154799	9.51 Up	1.45E-04	NM_013372	Homo sapiens cysteine knot superfamily 1, BMP antagonist 1 (CKTSF1B1), mRNA. /PROD=cysteine knot superfamily 1, BMP antagonist 1 /FL=gb:NM_013372.1 gb:AF110137.2 gb:AF045800.1 gb:AF154054.1
1.423659	4.64236	9.31 Up	2.01E-05	AB019695	Homo sapiens mRNA for thioredoxin reductase II beta, complete cds. /PROD=thioredoxin reductase II beta /FL=gb:AB019695.1
0.620478	3.822765	9.2 Up	6.53E-05	AL567376	G protein-coupled receptor 39
2.317589	5.509474	9.14 Up	1.02E-05	J04177	Cluster Incl. J04177:Human alpha-1 type XI collagen (COL11A1) mRNA, complete cds /cds=(161,5581) /gb=J04177 /gi=179729 /ug=Hs.82772 /len=6158
-0.01596	3.175621	9.14 Up	9.88E-03	L37033	Cluster Incl. L37033:Human FK-506 binding protein homologue (FKBP38) mRNA, complete cds /cds=(140,1207) /gb=L37033 /gi=965469 /ug=Hs.173464 /len=1613
3.119777	6.302535	9.08 Up	5.07E-03	AI954041	F-box only protein 9 /FL=gb:NM_012347.1
0.891337	4.058968	8.99 Up	1.66E-04	NM_000325	Homo sapiens paired-like homeodomain

						transcription factor 2 (PITX2), mRNA. /PROD=paired-like homeodomain transcription factor 2 /FL=gb:NM_000325.1 gb:U69961.1 gb:AF048720.1
2.106895	5.247359	8.82	Up	2.13E-04	NM_001458	Homo sapiens filamin C, gamma (actin-binding protein-280) (FLNC), mRNA. /PROD=gamma filamin /FL=gb:AF089841.1 gb:NM_001458.1
-1.42687	1.693258	8.69	Up	2.43E-02	AF243424	Homo sapiens SG2NA beta isoform mRNA, partial cds. /PROD=SG2NA beta isoform
0.657996	3.771559	8.66	Up	2.06E-02	AU158380	Homo sapiens cDNA FLJ13698 fis, clone PLACE2000176
0.23287	3.334996	8.59	Up	2.01E-05	R40917	phosphodiesterase 4D, cAMP-specific (dunce (Drosophila)-homolog phosphodiesterase E3) /FL=gb:L20969.1 gb:NM_006203.1 gb:U02882.1
-0.06159	3.027095	8.51	Up	3.60E-04	U16797	Human LERK-5 (EPLG5) mRNA, complete cds. /PROD=LERK-5 /FL=gb:U16797.1 gb:NM_004093.1 gb:L38734.1 gb:U81262.1
4.07051	7.149479	8.45	Up	4.86E-05	M10943	Human metallothionein-If gene (hMT-If)
-0.35204	2.705807	8.33	Up	1.09E-03	BC004490	Homo sapiens, v-fos FBJ murine osteosarcoma viral oncogene homolog, clone MGC:11074, mRNA, complete cds. /PROD=v-fos FBJ murine osteosarcoma viral oncogenehomolog /FL=gb:NM_005252.2 gb:BC004490.1
-2.0132	1.043139	8.32	Up	3.61E-02	BE328496	hypothetical protein PRO2032 /FL=gb:AF116683.1 gb:NM_018615.1
-0.68954	2.36447	8.31	Up	8.94E-04	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2

-0.00953	3.031935	8.23 Up	9.88E-03	AA831438	Mad4 homolog
3.079271	6.1137	8.19 Up	4.17E-05	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
0.788995	3.806044	8.1 Up	6.41E-05	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
0.9926	4.004698	8.07 Up	8.48E-05	AI202327	ESTs
0.051719	3.059444	8.04 Up	6.98E-04	NM_007350	Homo sapiens pleckstrin homology-like domain, family A, member 1 (PHLDA1), mRNA. /PROD=pleckstrin homology-like domain, family A,member 1 /FL=gb:NM_007350.1
-1.69103	1.312148	8.02 Up	1.82E-03	U32500	Human type 2 neuropeptide Y receptor mRNA, complete cds. /PROD=type 2 neuropeptide Y receptor /FL=gb:U42766.1 gb:U36269.1 gb:U32500.1
-0.93931	2.060071	8 Up	6.51E-03	AA004300	hypothetical protein DKFZp566I133
1.164666	4.161028	7.98 Up	2.51E-03	BC005807	Homo sapiens, clone MGC:10264, mRNA, complete cds. /PROD=Unknown (protein for MGC:10264) /FL=gb:BC005807.1
2.462987	5.441963	7.88 Up	1.45E-04	NM_016651	Homo sapiens heptacellular carcinoma novel gene-3 protein (LOC51339), mRNA. /PROD=heptacellular carcinoma novel gene-3 protein /FL=gb:NM_016651.2 gb:AF251079.2
0.581498	3.560033	7.88 Up	1.07E-04	U38945	Human hypothetical 18.1 kDa protein (CDKN2A) mRNA, complete cds. /FL=gb:U38945.1 gb:U26727.1
0.470814	3.417829	7.71 Up	8.26E-03	AF176039	Homo sapiens high mobility group protein-R mRNA, complete cds. /PROD=high mobility group protein-R /FL=gb:AF176039.1
-1.50663	1.438639	7.7 Up	7.38E-04	BF223214	ESTs
-2.43082	0.495104	7.6 Up	1.71E-02	BF508288	ESTs
1.084464	4.009912	7.6 Up	1.16E-03	BC004865	Homo sapiens, cleft lip

					and palate associated transmembrane protein 1, clone MGC:10593, mRNA, complete cds. /PROD=cleft lip and palate associated transmembraneprotein 1 /FL=gb:BC004865.1
4.232374	7.152167	7.57 Up	1.54E-03	BF971587	tubulin, beta polypeptide /FL=gb:BC001352.1
0.129315	3.042634	7.53 Up	2.17E-04	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
-0.20075	2.710846	7.52 Up	2.58E-02	NM_003377	Homo sapiens vascular endothelial growth factor B (VEGFB), mRNA. /PROD=vascular endothelial growth factor B /FL=gb:NM_003377.1 gb:U43368.1 gb:U52819.1
-0.45681	2.439084	7.44 Up	7.82E-03	AI417362	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.155309	3.037724	7.37 Up	8.78E-04	NM_007061	Homo sapiens serum constituent protein (MSE55), mRNA. /PROD=serum constituent protein /FL=gb:M88338.1 gb:NM_007061.1
1.506057	4.362244	7.24 Up	7.30E-05	NM_001425	Homo sapiens epithelial membrane protein 3 (EMP3), mRNA. /PROD=epithelial membrane protein 3 /FL=gb:U52101.1 gb:NM_001425.1 gb:U87947.1
-1.75194	1.091177	7.18 Up	3.15E-02	NM_021570	Homo sapiens BarH-like homeobox 1 (BARX1), mRNA. /PROD=BarH-like homeobox 1 /FL=gb:NM_021570.2 gb:AF213356.1
2.455614	5.294065	7.15 Up	9.88E-03	AF279899	Homo sapiens PNAS-145 mRNA, complete cds. /PROD=PNAS-145 /FL=gb:U03105.1 gb:NM_006813.1

					gb:AF279899.1
1.422626	4.257559	7.14 Up	2.01E-05	NM_006365	Homo sapiens transcriptional activator of the c-fos promoter (CROC4), mRNA. /PROD=transcriptional activator of the c-fos promoter /FL=gb:NM_006365.1 gb:U49857.1
-2.40588	0.424388	7.11 Up	1.64E-02	NM_002433	Homo sapiens myelin oligodendrocyte glycoprotein (MOG), mRNA. /PROD=myelin oligodendrocyte glycoprotein /FL=gb:U18798.1 gb:U64564.1 gb:NM_002433.1
-1.86904	0.959227	7.1 Up	4.35E-02	AB033831	Homo sapiens hSCDGF mRNA for spinal cord-derived growth factor, complete cds. /PROD=spinal cord-derived growth factor /FL=gb:NM_016205.1 gb:AB033831.1 gb:AF091434.1 gb:AF244813.1
1.811736	4.639749	7.1 Up	1.09E-03	M27830	Human 28S ribosomal RNA gene, complete cds.
-0.54131	2.28595	7.1 Up	3.63E-03	BE504838	ESTs
4.065536	6.887587	7.07 Up	4.08E-04	NM_005796	Homo sapiens nuclear transport factor 2 (placental protein 15) (PP15), mRNA. /PROD=nuclear transport factor 2 (placental protein15) /FL=gb:BC002348.1 gb:NM_005796.1 gb:U43939.1
-0.4348	2.379408	7.03 Up	4.24E-03	BF686824	death-associated protein kinase 3 /FL=gb:AB007144.1 gb:AB022341.1 gb:NM_001348.1
1.448288	4.255531	7 Up	2.01E-05	AF096296	Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor /FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
3.504052	6.307554	6.98 Up	4.05E-05	NM_0066	Homo sapiens serum-

				22	inducible kinase (SNK), mRNA. /PROD=serum-inducible kinase /FL=gb:AF059617.1 gb:NM_006622.1 gb:AF223574.1
2.124541	4.927935	6.98 Up	8.80E-05	J05008	Homo sapiens endothelin-1 (EDN1) gene, complete cds /FL=gb:NM_001955.1
1.872394	4.674078	6.97 Up	1.02E-05	AK022852	Homo sapiens cDNA FLJ12790 fis, clone NT2RP2001985, weakly similar to Homo sapiens high-risk human papilloma viruses E6 oncoproteins targeted protein E6TP1 alpha mRNA.
1.764338	4.563535	6.96 Up	1.43E-04	AA909044	tryptase, alpha
1.401293	4.178686	6.86 Up	1.66E-04	NM_003256	Homo sapiens tissue inhibitor of metalloproteinase 4 (TIMP4), mRNA. /PROD=tissue inhibitor of metalloproteinase 4precursor /FL=gb:NM_003256.1 gb:U76456.1
0.767075	3.54446	6.86 Up	1.88E-03	AY029208	Homo sapiens type VI collagen alpha 2 chain precursor (COL6A2) mRNA, complete cds, alternatively spliced. /PROD=type VI collagen alpha 2 chain precursor /FL=gb:AY029208.1
-1.94468	0.831091	6.85 Up	1.92E-02	NM_153036	Homo sapiens hypothetical protein FLJ32239 (FLJ32239), mRNA. /FL=gb:NM_153036.1
0.586923	3.359675	6.83 Up	4.17E-05	NM_000047	Homo sapiens arylsulfatase E (chondrodysplasia punctata 1) (ARSE), mRNA. /PROD=arylsulfatase E precursor /FL=gb:X83573.1 gb:NM_000047.1
1.064878	3.834572	6.82 Up	2.41E-04	NM_002610	Homo sapiens pyruvate dehydrogenase kinase, isoenzyme 1 (PDK1), nuclear gene encoding mitochondrial protein, mRNA. /PROD=pyruvate dehydrogenase kinase, isoenzyme 1 /FL=gb:NM_002610.2 gb:L42450.1

-0.11882	2.64743	6.8 Up	6.88E-04	AI702438	ESTs
-0.34208	2.418198	6.78 Up	2.31E-04	AI860150	ESTs, Weakly similar to A49134 Ig kappa chain V-I region (H.sapiens)
4.156522	6.9125	6.76 Up	6.48E-05	NM_003240	Homo sapiens endometrial bleeding associated factor (left-right determination, factor A; transforming growth factor beta superfamily) (EBAF), mRNA. /PROD=transforming growth factor, beta 4 /FL=gb:U81523.1 gb:NM_003240.1 gb:AF081513.1
-1.8911	0.860193	6.73 Up	2.83E-03	NM_001191	Homo sapiens BCL2-like 1 (BCL2L1), mRNA. /PROD=BCL2-like 1 /FL=gb:NM_001191.1
-0.53771	2.208449	6.71 Up	1.41E-02	AI806338	T-box 3 (ulnar mammary syndrome) /FL=gb:AF170708.2 gb:NM_005996.1
3.824397	6.568635	6.7 Up	1.66E-04	AL031602	Human DNA sequence from clone RP5-1174N9 on chromosome 1p34.1-35.3. Contains the gene for a novel protein with IBR domain, a (pseudo?) gene for a novel protein similar to MT1E (metallothionein 1E (functional)), ESTs, STSs, GSSs and two putative Cp...
0.001822	2.741586	6.68 Up	4.44E-05	NM_004904	Homo sapiens cAMP response element-binding protein CRE-BPa (H_GS165L15.1), mRNA. /PROD=cAMP response element-binding protein CRE-BPa /FL=gb:NM_004904.1 gb:L05911.1
0.301216	3.030236	6.63 Up	4.76E-04	AA812232	upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
4.63387	7.360687	6.62 Up	4.17E-05	BF217861	metallothionein 1E (functional)
0.413191	3.124723	6.55 Up	5.00E-02	AL136925	Homo sapiens mRNA; cDNA DKFZp586H1320 (from clone DKFZp586H1320); complete cds. /PROD=hypothetical protein /FL=gb:AL136925.1

-0.28056	2.427947	6.54 Up	1.39E-03	AW090187	dihydropyrimidinase-like 4 /FL=gb:NM_006426.1 gb:AB006713.1
1.095892	3.804014	6.53 Up	2.43E-04	NM_001146	Homo sapiens angiopoietin 1 (ANGPT1), mRNA. /PROD=angiopoietin 1 /FL=gb:NM_001146.1 gb:D13628.1 gb:U83508.1
-0.0845	2.62025	6.52 Up	2.59E-04	AA625683	ESTs
2.13274	4.835771	6.51 Up	2.01E-04	AL574210	serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 /FL=gb:NM_000602.1 gb:M16006.1
-0.64252	2.055951	6.49 Up	2.10E-04	NM_001035	Homo sapiens ryanodine receptor 2 (cardiac) (RYR2), mRNA. /PROD=ryanodine receptor 2 (cardiac) /FL=gb:NM_001035.1
4.450364	7.144308	6.47 Up	3.61E-05	BF246115	RNA helicase-related protein
0.405368	3.094055	6.45 Up	6.25E-05	AW188198	tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
-0.34351	2.332751	6.39 Up	5.54E-05	NM_000077	Homo sapiens cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), mRNA. /PROD=cyclin-dependent kinase inhibitor 2A (melanoma,p16, inhibits CDK4) /FL=gb:NM_000077.1 gb:L27211.1
-0.88122	1.790331	6.37 Up	1.37E-03	AA775681	hypothetical protein FLJ23091
3.508565	6.179917	6.37 Up	8.80E-05	NM_000158	Homo sapiens glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme, Andersen disease, glycogen storage disease type IV) (GBE1), mRNA. /PROD=glucan (1,4-alpha-), branching enzyme 1(glycogen branching enzyme) /FL=gb:L07956.1 gb:NM_000158.1
-1.84589	0.82486	6.37 Up	3.13E-03	AV705309	ESTs
-0.18263	2.487276	6.36 Up	1.49E-02	AC006942	Homo sapiens chromosome 19, cosmid R31181
3.759854	6.426778	6.35 Up	2.01E-05	AF313413	Homo sapiens putative small membrane protein NID67 mRNA, complete

					cds. /PROD=putative small membrane protein NID67 /FL=gb:AF313413.1
2.4094	5.066795	6.31 Up	3.61E-05	AI809870	HSKM-B protein
-2.08089	0.570296	6.28 Up	7.70E-03	BC016043	Homo sapiens, hypothetical protein MGC2865, clone MGC:20246 IMAGE:4635389, mRNA, complete cds. /FL=gb:BC016043.1
1.37641	4.004952	6.18 Up	1.20E-04	AU148611	Human pTR7 mRNA for repetitive sequence
1.384716	4.012773	6.18 Up	4.52E-04	NM_006275	Homo sapiens splicing factor, arginineserine-rich 6 (SFRS6), mRNA. /PROD=splicing factor, arginineserine-rich 6 /FL=gb:U30883.1 gb:NM_006275.1
2.979212	5.604053	6.17 Up	1.52E-04	M27830	Human 28S ribosomal RNA gene, complete cds.
0.310893	2.921559	6.11 Up	3.42E-04	NM_007279	Homo sapiens U2 small nuclear ribonucleoprotein auxiliary factor (65kD) (U2AF65), mRNA. /PROD=U2 small nuclear ribonucleoprotein auxiliaryfactor (65kD) /FL=gb:NM_007279.1
0.65284	3.256353	6.08 Up	2.49E-04	AI819043	ESTs
1.609773	4.213168	6.08 Up	1.35E-04	M29277	Human isolate JuSo MUC18 glycoprotein mRNA (3 variant), complete cds. /PROD=MUC18 glycoprotein /FL=gb:M29277.1
-0.62167	1.968272	6.02 Up	4.11E-04	AI963304	ESTs
4.459837	7.047717	6.01 Up	1.02E-04	NM_004052	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3), nuclear gene encoding mitochondrial protein, mRNA. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
3.178404	5.762898	6 Up	1.27E-04	AB037810	Homo sapiens mRNA for KIAA1389 protein, partial cds. /PROD=KIAA1389 protein
-1.08931	1.494664	6 Up	2.35E-03	AB020683	Homo sapiens mRNA for KIAA0876 protein, partial cds. /PROD=KIAA0876

					protein
1.9194	4.501184	5.99 Up	3.61E-05	AK000162	Homo sapiens cDNA FLJ20155 fis, clone COL08754, highly similar to ACSA_ECOLI ACETYL-COENZYME A SYNTHETASE.
0.671205	3.243641	5.95 Up	2.48E-04	AA463626	ESTs
0.091029	2.660133	5.93 Up	9.55E-04	AF277174	Homo sapiens PNAS-137 mRNA, complete cds. /PROD=PNAS-137 /FL=gb:AF277174.1
1.479222	4.042679	5.91 Up	6.34E-05	NM_005454	Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
-0.29455	2.259676	5.87 Up	2.79E-03	AF312393	Homo sapiens leucine-zipper protein FKSG13 (FKSG13) mRNA, complete cds. /PROD=leucine-zipper protein FKSG13 /FL=gb:AF312393.1
-0.81321	1.740607	5.87 Up	3.72E-02	NM_002160	Homo sapiens hexabrachion (tenascin C, cytotactin) (HXB), mRNA. /PROD=hexabrachion (tenascin C, cytotactin) /FL=gb:M55618.1 gb:NM_002160.1
0.167058	2.720179	5.87 Up	1.02E-04	NM_021223	Homo sapiens myosin light chain 2a (LOC58498), mRNA. /PROD=myosin light chain 2a /FL=gb:NM_021223.1
0.901323	3.451092	5.86 Up	3.05E-05	NM_005767	Homo sapiens purinergic receptor (family A group 5) (P2Y5), mRNA. /PROD=purinergic receptor (family A group 5) /FL=gb:AF000546.1 gb:NM_005767.1
1.007578	3.543738	5.8 Up	2.13E-04	NM_001955	Homo sapiens endothelin 1 (EDN1), mRNA. /PROD=endothelin 1 /FL=gb:NM_001955.1
1.327779	3.862686	5.8 Up	1.51E-04	NM_007115	Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
-0.2077	2.32716	5.8 Up	1.52E-04	AA211909	ESTs
1.304257	3.835269	5.78 Up	3.02E-04	NM_005451	Homo sapiens enigma (LIM domain protein)

					(ENIGMA), mRNA. /PROD=enigma protein /FL=gb:BC001093.1 gb:NM_005451.2 gb:AF265209.1
-0.30113	2.227329	5.77 Up	4.58E-03	BE968750	Homo sapiens ryanodine receptor 2 (cardiac) (RYR2), mRNA
1.678635	4.204607	5.76 Up	9.75E-05	AA086229	enigma (LIM domain protein)
1.411335	3.932627	5.74 Up	1.58E-02	NM_003370	Homo sapiens vasodilator-stimulated phosphoprotein (VASP), mRNA. /PROD=vasodilator-stimulated phosphoprotein /FL=gb:NM_003370.1
-1.32153	1.183922	5.68 Up	2.72E-02	AF217536	Homo sapiens truncated mevalonate kinase mRNA, partial cds, alternatively spliced. /PROD=truncated mevalonate kinase
1.058988	3.560886	5.66 Up	3.56E-03	H05812	insulin-like growth factor 1 receptor /FL=gb:NM_000875.2
4.435207	6.93459	5.65 Up	3.61E-05	AF078844	Homo sapiens hqp0376 protein mRNA, complete cds. /PROD=hqp0376 protein /FL=gb:AF078844.1
2.418835	4.908301	5.62 Up	3.47E-03	NM_012268	Homo sapiens similar to vaccinia virus HindIII K4L ORF (HU-K4), mRNA. /PROD=similar to vaccinia virus HindIII K4L ORF /FL=gb:U60644.1 gb:BC000553.1 gb:NM_012268.1
-0.56112	1.927121	5.61 Up	6.37E-03	AL041124	hypothetical protein PP1665
-1.63462	0.844727	5.58 Up	4.98E-03	AI831874	ESTs
-0.34446	2.130828	5.56 Up	3.75E-05	NM_006379	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3C (SEMA3C), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3C /FL=gb:NM_006379.1 gb:AB000220.1
4.143258	6.618477	5.56 Up	1.18E-05	AU146532	pyruvate dehydrogenase kinase, isoenzyme 1
-0.52233	1.950739	5.55 Up	1.54E-03	AI091047	solute carrier family 2 (facilitated glucose transporter), member 1 /FL=gb:K03195.1 gb:NM_006516.1

0.690529	3.155168	5.52 Up	9.91E-04	BC033088	Homo sapiens, Similar to lamin AC, clone MGC:45654 IMAGE:3623265, mRNA, complete cds. /PROD=Similar to lamin AC /FL=gb:BC033088.1
-0.00098	2.454314	5.48 Up	2.48E-04	NM_013281	Homo sapiens fibronectin leucine rich transmembrane protein 3 (FLRT3), mRNA. /PROD=fibronectin leucine rich transmembrane protein3 /FL=gb:AF169677.1 gb:NM_013281.1
-0.87622	1.577138	5.48 Up	1.84E-02	M15329	Human interleukin 1-alpha (IL1A) mRNA, complete cds. /PROD=interleukin 1-alpha /FL=gb:M15329.1
5.117294	7.564809	5.45 Up	6.25E-05	M83248	Human nephropontin mRNA, complete cds. /PROD=nephropontin /FL=gb:M83248.1
2.352834	4.796495	5.44 Up	4.17E-05	AI653107	ESTs
3.27933	5.719116	5.43 Up	3.24E-04	NM_016639	Homo sapiens type I transmembrane protein Fn14 (FN14), mRNA. /PROD=type I transmembrane protein Fn14 /FL=gb:NM_016639.1 gb:BC002718.1 gb:AB035480.1 gb:AF191148.1
-2.06232	0.368788	5.39 Up	6.40E-03	AA148534	pregnancy-associated plasma protein A /FL=gb:NM_002581.1 gb:U28727.1
3.982825	6.413408	5.39 Up	7.48E-05	AA678241	stearoyl-CoA desaturase (delta-9-desaturase) /FL=gb:AB032261.1 gb:AF097514.1 gb:NM_005063.1
0.399566	2.809822	5.32 Up	7.81E-04	AF144103	Homo sapiens NJAC protein (NJAC) mRNA, complete cds. /PROD=NJAC protein /FL=gb:AF144103.1 gb:AF106911.1 gb:AF073957.1 gb:BC003513.1 gb:NM_004887.1
4.15299	6.560926	5.31 Up	6.59E-05	NM_000935	Homo sapiens procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2 (PLOD2), mRNA.

					/PROD=procollagen-lysine, 2-oxoglutarate 5-dioxygenase(lysine hydroxylase) 2 /FL=gb:NM_000935.1 gb:U84573.1
0.319769	2.724257	5.29 Up	8.94E-04	AL552534	Human mRNA for CD44 antigen, 5UTR (sequence from the 5cap to the start codon).
3.347359	5.750515	5.29 Up	5.27E-03	AF047002	Homo sapiens transcriptional coactivator ALY mRNA, partial cds. /PROD=transcriptional coactivator ALY
4.571448	6.973787	5.29 Up	3.53E-04	AI631159	solute carrier family 2 (facilitated glucose transporter), member 3 /FL=gb:NM_006931.1 gb:M20681.1
1.93843	4.333496	5.26 Up	1.21E-04	NM_019886	Homo sapiens carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7 (CHST7), mRNA. /PROD=carbohydrate (N-acetylglucosamine 6-O)sulfotransferase 7 /FL=gb:NM_019886.1 gb:AB037187.1 gb:AB040711.1
-0.3185	2.064012	5.21 Up	1.55E-03	U83508	Human angiopoietin-1 mRNA, complete cds. /PROD=angiopoietin-1 /FL=gb:NM_001146.1 gb:D13628.1 gb:U83508.1
1.484424	3.866551	5.21 Up	3.49E-04	BC000076	Homo sapiens, cyclin D1 (PRAD1: parathyroid adenomatosis 1), clone MGC:2316, mRNA, complete cds. /PROD=cyclin D1 (PRAD1: parathyroid adenomatosis 1) /FL=gb:M73554.1 gb:BC000076.1
4.465458	6.844763	5.2 Up	1.52E-04	AF003114	Homo sapiens CYR61 mRNA, complete cds. /FL=gb:AF003114.1
-1.33756	1.041706	5.2 Up	8.51E-03	BF196010	ESTs
3.747557	6.125638	5.2 Up	4.52E-04	AA554833	neuroendocrine secretory protein 55
-0.24196	2.129273	5.17 Up	2.80E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
2.657439	5.023981	5.16 Up	1.66E-04	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA.

					/PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
1.275689	3.642133	5.16	Up	1.65E-04	BF982289 ESTs, Weakly similar to elastin like protein (D.melanogaster)
2.11271	4.458591	5.08	Up	1.97E-04	H15920 ESTs, Weakly similar to RTA RAT PROBABLE G PROTEIN-COUPLED RECEPTOR RTA (R.norvegicus)
2.624088	4.968498	5.08	Up	1.45E-04	M28882 Human MUC18 glycoprotein mRNA, complete cds. /PROD=MUC18 glycoprotein /FL=gb:M28882.1
4.046173	6.388326	5.07	Up	6.34E-05	NM_015641 Homo sapiens testin (DKFZP586B2022), mRNA. /PROD=testin /FL=gb:BC001451.1 gb:AF245357.1 gb:AF245356.1 gb:NM_015641.1
0.946455	3.284436	5.06	Up	5.46E-04	BM976939 Homo sapiens cDNA FLJ31611 fis, clone NT2RI2002923.
1.389207	3.725552	5.05	Up	1.08E-04	AL136805 Homo sapiens mRNA; cDNA DKFZp434J1521 (from clone DKFZp434J1521); complete cds. /PROD=hypothetical protein /FL=gb:AL136805.1
0.710433	3.041407	5.03	Up	1.08E-03	NM_004472 Homo sapiens forkhead box D1 (FOXD1), mRNA. /PROD=forkhead box D1 /FL=gb:U59832.1 gb:NM_004472.1
2.800881	5.127991	5.02	Up	6.53E-05	NM_017817 Homo sapiens hypothetical protein FLJ20429 (FLJ20429), mRNA. /PROD=hypothetical protein FLJ20429 /FL=gb:NM_017817.1
0.432778	2.759117	5.02	Up	2.50E-03	AI692523 ESTs
-0.94056	1.385676	5.01	Up	4.17E-03	AI927458 Homo sapiens mRNA; cDNA DKFZp434A196 (from clone DKFZp434A196); complete cds
0.224112	2.550074	5.01	Up	4.11E-04	BF060767 ESTs
-0.47823	1.845598	5.01	Up	2.75E-03	AA489100 ESTs
4.590104	-3.36994	249.01	Down	2.26E-04	AA167449 nuclear receptor subfamily 1, group I, member 3
6.024741	-1.32044	162.6	Down	1.79E-03	AF017987 Homo sapiens secreted

						apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
1.940449	-5.04898	127.07	Down	3.05E-05	BE644917	nuclear receptor subfamily 1, group I, member 3
2.68759	-3.61621	79	Down	1.25E-03	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
5.005827	-1.03397	65.79	Down	1.30E-04	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule, neuroendocrine protein 1 (7B2protein) /FL=gb:BC005349.1 gb:NM_003020.1
0.357833	-5.67924	65.67	Down	2.26E-03	BG389789	Human mRNA upregulated during camptothecin-induced apoptosis of U937 cells.
6.500961	0.756526	53.61	Down	4.17E-05	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
2.077151	-3.59883	51.13	Down	3.75E-03	BF223193	nuclear receptor subfamily 1, group I, member 3
3.29779	-2.3376	49.71	Down	3.05E-05	U17496	Human proteasome subunit LMP7 (allele LMP7B) mRNA, complete cds. /PROD=proteasome subunit LMP7 /FL=gb:U17497.1 gb:U17496.1
4.803291	-0.78667	48.17	Down	3.75E-05	AA628440	nuclear receptor subfamily 1, group I, member 3
4.124115	-1.42293	46.75	Down	7.16E-04	AW262311	ESTs
2.437935	-3.10907	46.75	Down	2.41E-04	BE672557	ESTs
4.276201	-1.19736	44.43	Down	9.47E-04	AV699347	nuclear receptor subfamily 1, group I, member 3
1.710253	-3.7619	44.39	Down	8.66E-05	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor potential 4 /FL=gb:NM_016179.1 gb:AF175406.1

2.313549	-3.12747	43.44	Down	5.45E-04	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
2.835599	-2.26295	34.26	Down	2.50E-03	AI735586	ESTs
0.588183	-4.50758	34.2	Down	2.89E-04	AU118882	endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
0.349102	-4.73558	33.93	Down	2.50E-02	BM682352	Homo sapiens cDNA FLJ37204 fis, clone BRALZ2006976.
-0.10303	-5.00884	29.98	Down	1.97E-04	NM_022168	Homo sapiens melanoma differentiation associated protein-5 (MDA5), mRNA. /PROD=melanoma differentiation associated protein-5 /FL=gb:AY017378.1 gb:NM_022168.1 gb:AF095844.1
2.325274	-2.506	28.47	Down	1.35E-04	AW193693	DKFZP566K1924 protein
0.252976	-4.55112	27.94	Down	2.54E-02	NM_018043	Homo sapiens hypothetical protein FLJ10261 (FLJ10261), mRNA. /PROD=hypothetical protein FLJ10261 /FL=gb:NM_018043.1
2.719388	-2.08299	27.9	Down	1.72E-02	NM_002048	Homo sapiens growth arrest-specific 1 (GAS1), mRNA. /PROD=growth arrest-specific 1 /FL=gb:NM_002048.1 gb:L13698.1
3.257726	-1.54343	27.88	Down	6.25E-05	NM_004335	Homo sapiens bone marrow stromal cell antigen 2 (BST2), mRNA. /PROD=bone marrow stromal cell antigen 2 /FL=gb:NM_004335.2 gb:D28137.1
4.353788	-0.41404	27.24	Down	4.72E-04	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
4.387855	-0.27888	25.4	Down	6.82E-05	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
0.027478	-4.62508	25.15	Down	9.89E-03	NM_152647	Homo sapiens hypothetical protein FLJ32800 (FLJ32800), mRNA. /FL=gb:NM_152647.1

1.767203	-2.80617	23.81 Down	4.44E-04	AI742043	ESTs
1.665643	-2.69521	20.55 Down	1.08E-04	AF282250	Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
0.414323	-3.84422	19.14 Down	3.42E-04	AF283777	Homo sapiens clone TCBAP0702 mRNA sequence.
3.779853	-0.4664	18.98 Down	4.72E-04	AV646597	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.995324	-2.233	18.74 Down	1.01E-03	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
1.946332	-2.24096	18.22 Down	2.40E-03	BG166705	small inducible cytokine subfamily B (Cys-X-Cys), member 5 (epithelial-derived neutrophil-activating peptide 78)
1.179963	-2.9904	18.01 Down	2.13E-04	U96136	Homo sapiens delta-catenin mRNA, complete cds. /PROD=delta-catenin /FL=gb:NM_001332.1 gb:U72665.1 gb:AB013805.1 gb:U96136.1 gb:AF035302.1
2.060687	-2.07873	17.62 Down	1.01E-03	AI269290	solute carrier family 18 (vesicular monoamine), member 2 /FL=gb:L14269.1 gb:L23205.1 gb:L09118.1 gb:NM_003054.1
2.480221	-1.64839	17.49 Down	1.22E-03	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
0.971941	-3.12304	17.09 Down	1.07E-02	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
2.263194	-1.81469	16.89 Down	2.69E-03	AF052108	Homo sapiens clone 23687 mRNA sequence.

2.115848	-1.84267	15.55 Down	3.89E-02	AF213678	Homo sapiens HAI-2 related small protein (HAI-2) mRNA, complete cds. /PROD=HAI-2 related small protein /FL=gb:AB038317.1 gb:AF213678.1
2.348373	-1.56046	15.02 Down	7.77E-03	NM_016354	Homo sapiens solute carrier family 21 (organic anion transporter), member 12 (SLC21A12), mRNA. /PROD=organic anion transporter OATP-E /FL=gb:AB031051.1 gb:NM_016354.1 gb:AF205072.1 gb:AF187817.1
1.910263	-1.99418	14.97 Down	3.77E-04	NM_006994	Homo sapiens butyrophilin, subfamily 3, member A3 (BTN3A3), mRNA. /PROD=butyrophilin, subfamily 3, member A3 /FL=gb:U90548.1 gb:NM_006994.2
2.699795	-1.16113	14.53 Down	5.07E-03	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
2.172559	-1.66608	14.31 Down	7.83E-03	BE673445	Homo sapiens chromosome 19, cosmid R28379
0.265765	-3.53873	13.97 Down	2.21E-03	AI675836	Human DNA sequence from clone RP11-446H13 on chromosome 10. Contains the 3 end of the gene for a novel protein similar to KIAA1059 (ortholog of mouse VPS10 domain receptor protein SORCS), an RPL23A (60S ribosmal protein 23A) pseudogene, ESTs, STSs an
5.440506	1.644236	13.89 Down	6.34E-05	M34455	Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds. /FL=gb:NM_002164.1 gb:M34455.1
0.330556	-3.45471	13.79 Down	5.46E-04	BE972639	ESTs
0.437404	-3.31877	13.51 Down	4.52E-04	H05254	ESTs

1.32524	-2.42314	13.44 Down	1.57E-02	H29627	ESTs
1.673028	-2.06656	13.36 Down	5.30E-03	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
1.319614	-2.39234	13.1 Down	1.43E-02	NM_004389	Homo sapiens catenin (cadherin-associated protein), alpha 2 (CTNNA2), mRNA. /PROD=catenin (cadherin-associated protein), alpha 2 /FL=gb:NM_004389.1 gb:M94151.2
1.708627	-1.98647	12.95 Down	1.75E-02	NM_017596	Homo sapiens KIAA0449 protein (KIAA0449), mRNA. /PROD=hypothetical protein DKFZp434J212 /FL=gb:NM_017596.1
2.777148	-0.8902	12.71 Down	4.36E-04	NM_022034	Homo sapiens estrogen regulated gene 1 (ERG-1), mRNA. /PROD=estrogen regulated gene 1 /FL=gb:AF305835.1 gb:NM_022034.1
1.982765	-1.67669	12.64 Down	6.88E-04	BE672659	ESTs
0.457009	-3.18081	12.45 Down	3.30E-04	AW449813	KIAA0918 protein
0.510314	-3.12055	12.39 Down	1.71E-02	AW780006	ESTs
0.536704	-3.05382	12.05 Down	1.92E-02	AL049250	Homo sapiens mRNA; cDNA DKFZp564D113 (from clone DKFZp564D113).
2.294336	-1.27392	11.86 Down	1.66E-02	U11058	Homo sapiens large conductance calcium- and voltage-dependent potassium channel alpha subunit (MaxiK) mRNA, complete cds. /PROD=large conductance calcium- and voltage-dependentpotassium channel alpha subunit /FL=gb:U23767.1 gb:NM_002247.1 gb:AF025999
2.177763	-1.38062	11.78 Down	8.80E-05	NM_002590	Homo sapiens protocadherin 8 (PCDH8), mRNA. /PROD=protocadherin 8 /FL=gb:NM_002590.2 gb:AF061573.2
-0.48821	-4.01809	11.55 Down	2.29E-02	AB040812	Homo sapiens mRNA for protein kinase PAK5, complete cds. /PROD=protein kinase

						PAK5 /FL=gb:AB040812.1
1.785431	-1.74236	11.53	Down	2.18E-03	R15072	ESTs
1.459269	-2.00069	11	Down	3.74E-04	NM_000277	Homo sapiens phenylalanine hydroxylase (PAH), mRNA. /PROD=phenylalanine hydroxylase /FL=gb:U49897.1 gb:NM_000277.1
1.995493	-1.44407	10.85	Down	7.11E-03	U91903	Human Fritz mRNA, complete cds. /PROD=Fritz /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
0.679665	-2.7484	10.76	Down	5.57E-03	BC000568	Homo sapiens, clone MGC:3040, mRNA, complete cds. /PROD=Unknown (protein for MGC:3040) /FL=gb:BC000568.1
1.841888	-1.57619	10.69	Down	1.16E-03	AW072790	contactin 1
-0.42571	-3.8118	10.45	Down	1.58E-02	AK023699	Homo sapiens cDNA FLJ13637 fis, clone PLACE1011165.
1.923237	-1.4606	10.44	Down	4.11E-04	AW072102	Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
0.931661	-2.45074	10.43	Down	1.07E-02	AW149405	neurexin 1 /FL=gb:AB035356.1
0.781816	-2.56699	10.19	Down	2.50E-02	NM_000698	Homo sapiens arachidonate 5-lipoxygenase (ALOX5), mRNA. /PROD=arachidonate 5-lipoxygenase /FL=gb:NM_000698.1 gb:J03600.1 gb:J03571.1
1.939598	-1.40726	10.17	Down	2.29E-03	AB014737	Homo sapiens mRNA for SMAP-2b, complete cds. /PROD=SMAP-2b /FL=gb:AB014737.1
0.874376	-2.46854	10.15	Down	1.59E-02	U82671	Homo sapiens chromosome Xq28 melanoma antigen family A2a (MAGEA2A), melanoma antigen family A12 (MAGEA12), melanoma antigen family A2b (MAGEA2B), melanoma antigen family A3 (MAGEA3), caltractin (CALT), NAD(P)H dehydrogenase-like protein (NSDHL), a...
3.315768	0.011663	9.88	Down	7.33E-04	AK098525	Homo sapiens cDNA

						FLJ25659 fis, clone TST00427, highly similar to Mus musculus hedgehog-interacting protein (Hip) mRNA.
0.121165	-3.1782	9.84	Down	4.65E-03	AI985987	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.686587	-2.59339	9.71	Down	2.72E-02	NM_000439	Homo sapiens proprotein convertase subtilisinkexin type 1 (PCSK1), mRNA. /PROD=proprotein convertase subtilisinkexin type 1 /FL=gb:NM_000439.2 gb:M90753.1
3.113317	-0.0881	9.2	Down	7.30E-05	AL565745	ESTs, Weakly similar to 2108402A carnitine palmitoyltransferase I (H.sapiens)
2.890305	-0.29832	9.12	Down	3.24E-04	NM_015474	Homo sapiens DKFZP564A032 protein (DKFZP564A032), mRNA. /PROD=DKFZP564A032 protein /FL=gb:AF228421.1 gb:AL050267.1 gb:AB013847.1 gb:NM_015474.1
0.447048	-2.73882	9.1	Down	4.19E-02	BE645435	ESTs
3.142124	-0.03564	9.05	Down	3.76E-03	AL832535	Homo sapiens mRNA; cDNA DKFZp547J1816 (from clone DKFZp547J1816).
0.767101	-2.38787	8.91	Down	1.92E-02	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
4.315048	1.168713	8.85	Down	7.92E-04	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-0.47937	-3.61302	8.78	Down	2.49E-02	BE968773	Homo sapiens mRNA; cDNA DKFZp564O1262 (from clone DKFZp564O1262)
3.26376	0.151239	8.65	Down	1.74E-04	BE644809	ESTs
0.384182	-2.72567	8.63	Down	3.02E-02	NM_005825	Homo sapiens RAS guanyl releasing protein 2 (calcium and DAG-regulated) (RASGRP2),

						mRNA. /PROD=RAS guanyl releasing protein 2 (calcium andDAG-regulated) /FL=gb:AF043723.1 gb:NM_005825.1
2.363587	-0.72928	8.53	Down	7.38E-04	NM_024645	Homo sapiens hypothetical protein FLJ13842 (FLJ13842), mRNA. /PROD=hypothetical protein FLJ13842 /FL=gb:NM_024645.1
4.756657	1.668488	8.5	Down	1.30E-04	AV715309	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.995551	-2.07915	8.43	Down	3.01E-02	NM_005386	Homo sapiens neuronatin (NNAT), mRNA. /PROD=neuronatin /FL=gb:NM_005386.1 gb:BC001768.1 gb:AB002392.1 gb:U25033.1
2.380226	-0.68921	8.39	Down	8.34E-05	NM_016546	Homo sapiens complement C1r-like proteinase precursor, (LOC51279), mRNA. /PROD=complement C1r-like proteinase precursor, /FL=gb:AF178985.1 gb:NM_016546.1
2.598916	-0.46577	8.37	Down	6.59E-05	AW051591	ESTs, Moderately similar to unnamed protein product (H.sapiens)
1.045717	-2.01579	8.35	Down	1.44E-02	AI937060	KIAA1151 protein
3.009579	-0.04543	8.31	Down	7.08E-04	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
1.440541	-1.60998	8.29	Down	1.58E-02	BE503640	ESTs
0.4785	-2.56291	8.23	Down	2.46E-02	BG532690	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
5.84374	2.812887	8.17	Down	6.34E-05	BC000069	Homo sapiens, retinoic acid receptor responder (tazarotene induced) 2, clone MGC:1544, mRNA, complete cds. /PROD=retinoic acid receptor responder (tazaroteneinduced) 2 /FL=gb:BC000069.1 gb:NM_002889.2 gb:AB015632.1 gb:U77594.1

1.110683	-1.89628	8.04 Down	8.48E-04	AA557324	ESTs, Weakly similar to fatty acid omega-hydroxylase (H.sapiens)
1.386384	-1.61585	8.01 Down	3.53E-04	AF196571	Homo sapiens Delta-like-1 protein (DLL1) mRNA, complete cds. /PROD=Delta-like-1 protein /FL=gb:NM_005618.2 gb:AF196571.1
5.363884	2.372618	7.95 Down	7.30E-05	NM_007015	Homo sapiens chondromodulin I precursor (CHM-I), mRNA. /PROD=chondromodulin I precursor /FL=gb:NM_007015.1 gb:AB006000.1
1.364581	-1.62447	7.94 Down	2.16E-02	NM_145280	Homo sapiens similar to hepatocellular carcinoma-associated antigen HCA557b (LOC151194), mRNA. /FL=gb:BC009462.1 gb:NM_145280.1
2.628136	-0.35867	7.93 Down	1.22E-04	NM_001957	Homo sapiens endothelin receptor type A (EDNRA), mRNA. /PROD=endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
1.712212	-1.25121	7.8 Down	8.48E-04	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
1.443731	-1.51616	7.78 Down	4.37E-03	AJ272267	Homo sapiens partial mRNA for choline dehydrogenase (chdh gene). /PROD=choline dehydrogenase
3.106596	0.148375	7.77 Down	1.23E-02	NM_002305	Homo sapiens lectin, galactoside-binding, soluble, 1 (galectin 1) (LGALS1), mRNA. /PROD=beta-galactosidase binding lectin precursor /FL=gb:NM_002305.2 gb:BC001693.1 gb:J04456.1
1.961633	-0.98665	7.72 Down	8.93E-03	NM_001463	Homo sapiens frizzled-related protein (FRZB), mRNA. /PROD=frizzled-related protein /FL=gb:U24163.1 gb:U68057.1

					gb:NM_001463.1 gb:U91903.1
2.38092	-0.54428	7.6	Down	6.34E-04	AF053712 Homo sapiens osteoprotegerin ligand mRNA, complete cds. /PROD=osteoprotegerin ligand /FL=gb:AF053712.1 gb:AF019047.1
0.685413	-2.22507	7.52	Down	2.98E-02	NM_018383 Homo sapiens hypothetical protein FLJ11294 (FLJ11294), mRNA. /PROD=hypothetical protein FLJ11294 /FL=gb:NM_018383.1
-0.24717	-3.14972	7.48	Down	3.67E-04	AF429305 Homo sapiens C23up NCRMS mRNA, partial sequence; alternatively spliced.
3.893148	0.997757	7.44	Down	1.29E-04	AU144892 Homo sapiens cDNA FLJ11569 fis, clone HEMBA1003304
0.82553	-2.06523	7.42	Down	4.10E-02	BC041933 Homo sapiens, clone IMAGE:5300703, mRNA.
0.728978	-2.13318	7.27	Down	1.25E-03	AL573058 complement component 1, r subcomponent
1.033324	-1.8148	7.2	Down	5.93E-03	N80918 Novel human gene mapping to chomosome 13
2.858719	0.013383	7.19	Down	4.37E-03	L10374 Human (clone CTG-A4) mRNA sequence.
2.260317	-0.57539	7.14	Down	1.02E-03	AI138603 ESTs
2.003902	-0.82254	7.09	Down	8.00E-03	BF109660 ESTs
3.85985	1.037668	7.07	Down	2.70E-04	R40892 ESTs
3.921983	1.12675	6.94	Down	3.53E-04	AA206141 ESTs
-0.17018	-2.96268	6.93	Down	2.08E-02	AV741130 ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.610685	-1.16078	6.83	Down	9.82E-04	AA886335 Homo sapiens serologically defined breast cancer antigen NY-BR-20 mRNA, partial cds
2.859538	0.089114	6.82	Down	2.22E-03	AW014734 ESTs
3.212409	0.467551	6.7	Down	2.69E-04	BG434174 Homo sapiens cDNA FLJ13555 fis, clone PLACE1007677
2.116702	-0.60252	6.59	Down	3.35E-03	AF107846 Homo sapiens neuroendocrine-specific Golgi protein p55 (XLalphas) gene, exon XL2 and complete cds
3.179908	0.462842	6.58	Down	3.24E-04	U82811 Human homeodomain-containing protein (HANF) mRNA, complete cds.

						/PROD=HANF /FL=gb:U82811.1 gb:NM_003865.1
2.509452	-0.20066	6.54	Down	1.04E-03	NM_0016 09	Homo sapiens acyl-Coenzyme A dehydrogenase, shortbranched chain (ACADSB), nuclear gene encoding mitochondrial protein, mRNA. /PROD=acyl-Coenzyme A dehydrogenase, shortbranchedchain precursor /FL=gb:U12778.1 gb:NM_001609.1
2.596054	-0.10733	6.51	Down	1.39E-03	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
0.559211	-2.13754	6.48	Down	2.20E-02	BF000203	ESTs
4.534853	1.872557	6.33	Down	9.75E-05	R38389	olfactomedin related ER localized protein
2.068166	-0.59258	6.32	Down	1.69E-03	BF698797	ESTs
2.168796	-0.49174	6.32	Down	2.44E-04	NM_0025 22	Homo sapiens neuronal pentraxin I (NPTX1), mRNA. /PROD=neuronal pentraxin I precursor /FL=gb:NM_002522.1 gb:U61849.1
-0.10024	-2.75761	6.31	Down	3.60E-02	BC033812	Homo sapiens, Similar to LOC155399, clone MGC:45477 IMAGE:5181460, mRNA, complete cds. /PROD=Similar to LOC155399 /FL=gb:BC033812.1
0.994947	-1.65385	6.27	Down	7.39E-03	NM_0240 34	Homo sapiens hypothetical protein MGC3129 similar to ganglioside-induced differentiation-associated protein (MGC3129), mRNA. /PROD=hypothetical protein MGC3129 similar toganglioside-induced differentiation-associated protein /FL=gb:NM_024034.1 gb:BC0
3.758058	1.109291	6.27	Down	4.39E-04	NM_0053 56	Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine

					kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
1.553207	-1.09181	6.26 Down	2.54E-02	AI653050	ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)
3.702164	1.060081	6.24 Down	4.08E-04	U26662	Human neuronal pentraxin II (NPTX2) mRNA, partial cds. /PROD=neuronal pentraxin II
4.260791	1.638346	6.16 Down	6.25E-05	AA603344	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
2.172331	-0.44991	6.16 Down	2.44E-04	NM_003839	Homo sapiens tumor necrosis factor receptor superfamily, member 11a, activator of NFKB (TNFRSF11A), mRNA. /PROD=tumor necrosis factor receptor superfamily,member 11a, activator of NFKB /FL=gb:NM_003839.1 gb:AF018253.1
4.981307	2.359848	6.15 Down	4.17E-05	NM_005103	Homo sapiens fasciculation and elongation protein zeta 1 (zygin I) (FEZ1), transcript variant 1, mRNA. /PROD=zygin 1, isoform 1 /FL=gb:U60060.1 gb:U69139.1 gb:NM_005103.2
3.826815	1.207679	6.14 Down	6.48E-05	BG401568	Homo sapiens mRNA; cDNA DKFZp434H1235 (from clone DKFZp434H1235); partial cds
1.027188	-1.59055	6.14 Down	8.40E-03	BG169832	adenylate kinase 5 /FL=gb:NM_012093.1 gb:AF062595.1
2.054962	-0.54704	6.07 Down	2.86E-03	NM_002800	Homo sapiens proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional protease 2) (PSMB9), mRNA. /PROD=proteasome (prosome, macropain) subunit, betatype, 9 (large multifunctional protease 2) /FL=gb:U01025.1 gb:NM_002800.1

5.372736	2.7744	6.06 Down	8.80E-05	AA669799	Cluster Incl. AA669799:ag36c04.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-1118886 /clone_end=3 /gb=AA669799 /gi=2631298 /ug=Hs.6315 /len=679
0.24636	-2.3444	6.02 Down	1.31E-03	AW057589	ESTs
1.145878	-1.44369	6.02 Down	9.46E-03	AI056877	Human DNA sequence from clone RP4-530I15 on chromosome 20. Contains the 3 end of the PTPN1 gene for protein tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48), the gene for a novel protein similar to placental protein DIFF40, an RPL36 (60S Ribos
0.976009	-1.61054	6.01 Down	5.39E-03	AW264204	ESTs
0.497515	-2.08762	6 Down	2.83E-02	AF052117	Homo sapiens clone 23809 mRNA sequence.
0.381933	-2.20139	5.99 Down	8.66E-04	AI913749	ESTs
0.528494	-2.05438	5.99 Down	4.17E-02	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
3.795925	1.232161	5.91 Down	2.20E-04	NM_004688	Homo sapiens N-myc (and STAT) interactor (NMI), mRNA. /PROD=N-myc and STAT interactor /FL=gb:BC001268.1 gb:NM_004688.1 gb:U32849.1
1.934415	-0.62283	5.89 Down	4.93E-04	NM_001351	Homo sapiens deleted in azoospermia-like (DAZL), mRNA. /PROD=deleted in azoospermia-like /FL=gb:U66726.2 gb:NM_001351.1 gb:U65918.1 gb:U66078.1
1.805448	-0.75007	5.88 Down	1.88E-03	AI681917	ESTs, Highly similar to IRX3 MOUSE IROQUOIS-CLASS HOMEODOMAIN PROTEIN IRX-3 (M.musculus)
2.788534	0.237692	5.86 Down	7.40E-03	AW450929	heterogeneous nuclear ribonucleoprotein A1
2.99034	0.457208	5.79 Down	5.23E-04	NM_002993	Homo sapiens small inducible cytokine subfamily B (Cys-X-Cys), member 6 (granulocyte chemotactic protein 2)

						(SCYB6), mRNA. /PROD=small inducible cytokine subfamily B(Cys-X-Cys), member 6 (granulocyte chemotactic protein 2) /FL=gb:U81234.1 gb:NM_00299
0.362564	-2.17012	5.79	Down	1.28E-02	AB018580	Homo sapiens mRNA for hluPGFS, complete cds. /PROD=hluPGFS /FL=gb:NM_003739.2 gb:AF149416.2 gb:AB018580.1 gb:D17793.1
1.673874	-0.85315	5.76	Down	8.93E-03	NM_0059 65	Homo sapiens myosin, light polypeptide kinase (MYLK), mRNA. /PROD=myosin, light polypeptide kinase /FL=gb:AB037663.1 gb:AF069601.2 gb:NM_005965.1
1.858219	-0.66565	5.75	Down	2.13E-04	NM_0050 84	Homo sapiens phospholipase A2, group VII (platelet-activating factor acetylhydrolase, plasma) (PLA2G7), mRNA. /PROD=phospholipase A2, group VII (platelet-activatingfactor acetylhydrolase, plasma) /FL=gb:U20157.1 gb:U24577.1 gb:NM_005084.1
3.016209	0.501482	5.71	Down	6.48E-05	AW02637 9	ESTs
3.692792	1.179422	5.71	Down	1.52E-04	N21096	ESTs
1.28245	-1.23083	5.71	Down	3.20E-04	AF063824	Homo sapiens trp-related protein 4 truncated variant delta mRNA, complete cds. /PROD=trp-related protein 4 truncated variant delta /FL=gb:AF063824.1
3.772564	1.260638	5.7	Down	3.53E-04	AA404269	ESTs
2.016986	-0.49385	5.7	Down	6.37E-03	AI741439	ESTs
2.453774	-0.04433	5.65	Down	1.01E-03	NM_0071 91	Homo sapiens Wnt inhibitory factor-1 (WIF-1), mRNA. /PROD=Wnt inhibitory factor-1 /FL=gb:AF122922.1 gb:NM_007191.1
5.545158	3.061783	5.59	Down	1.71E-04	BF057809	ESTs
5.219258	2.740374	5.57	Down	1.08E-04	AA974416	protein phosphatase 2 (formerly 2A), regulatory subunit B (PR 52), beta isoform
2.913327	0.434686	5.57	Down	2.99E-04	NM_0124	Homo sapiens regulator of

					19	G-protein signalling 17 (RGS17), mRNA. /PROD=regulator of G-protein signalling 17 /FL=gb:AF202257.2 gb:NM_012419.2
1.651332	-0.81962	5.54	Down	1.35E-02	NM_007181	Homo sapiens mitogen-activated protein kinase kinase kinase kinase 1 (MAP4K1), mRNA. /PROD=mitogen-activated protein kinase kinase kinasekinase 1 /FL=gb:U66464.1 gb:NM_007181.1
1.293775	-1.16956	5.51	Down	1.15E-02	BF593660	ESTs
1.417933	-1.04305	5.51	Down	4.93E-04	NM_002738	Homo sapiens protein kinase C, beta 1 (PRKCB1), mRNA. /PROD=protein kinase C, beta 1 /FL=gb:NM_002738.1
3.66812	1.207732	5.5	Down	1.97E-04	NM_133329	Homo sapiens potassium voltage-gated channel, subfamily G, member 3 (KCNG3), transcript variant 1, mRNA. /PROD=potassium voltage-gated channel, subfamily G,member 3 isoform 1 /FL=gb:AF454548.1 gb:AF348982.1 gb:AB070604.1 gb:NM_133329.4
3.002731	0.549124	5.48	Down	4.89E-04	R54042	ESTs
5.276628	2.824048	5.47	Down	6.48E-05	BC005127	Homo sapiens, adipose differentiation-related protein, clone MGC:10598, mRNA, complete cds. /PROD=adipose differentiation-related protein /FL=gb:BC005127.1 gb:NM_001122.1
3.380946	0.937118	5.44	Down	1.22E-04	AU151342	Homo sapiens cDNA FLJ12935 fis, clone NT2RP2004982
2.01577	-0.42783	5.44	Down	1.92E-03	BE220341	casein kinase 2, alpha 1 polypeptide
1.307387	-1.12824	5.41	Down	1.08E-04	AK021452	Homo sapiens cDNA FLJ11390 fis, clone HEMBA1000561, weakly similar to ZINC FINGER PROTEIN 91.
0.36507	-2.02151	5.23	Down	4.98E-03	BF062244	ESTs
0.756663	-1.62346	5.21	Down	1.69E-03	BG533580	ESTs

3.876819	1.518834	5.13	Down	4.76E-04	AI651212	ESTs
0.619594	-1.73795	5.12	Down	1.18E-03	BE467611	ESTs
0.482843	-1.87385	5.12	Down	1.04E-03	BG284890	ESTs
1.048359	-1.30538	5.11	Down	8.93E-03	AA464273	ESTs
3.527039	1.198446	5.02	Down	2.69E-03	BG283790	ESTs
2.522705	0.194248	5.02	Down	3.09E-03	U07236	Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
2.356401	0.028606	5.02	Down	6.23E-04	NM_024893	Homo sapiens hypothetical protein FLJ14220 (FLJ14220), mRNA. /PROD=hypothetical protein FLJ14220 /FL=gb:NM_024893.1
4.587367	2.264046	5	Down	2.70E-04	AL049589	Human DNA sequence from clone 570L12 on chromosome Xq13.1-21.1. Contains the PGK1 gene for phosphoglycerate kinase 1, the gene for a novel protein similar to TAF2G (TATA box binding protein (TBP)-associated factor, RNA polymerase II, G, 32kD) (TAF...

B) ES vs EXPRES 02- Intensity values are in Log2 format.

ES	EXPRES 02	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-2.7136	7.077563	886	Up	9.62E-04	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
-2.3713	6.959692	644.03	Up	6.55E-05	R72286	microfibrillar-associated protein 4
-3.78394	5.172093	496.63	Up	1.06E-04	AW157548	insulin-like growth factor binding protein 5 /FL=gb:M65062.1 gb:M62782.1 gb:NM_000599.1 gb:AF055033.1
-4.79257	3.432794	299.28	Up	1.81E-03	AA352113	ESTs
-5.16453	3.053666	297.8	Up	5.30E-03	NM_002345	Homo sapiens lumican (LUM), mRNA. /PROD=lumican /FL=gb:NM_002345.1

					gb:U18728.1 gb:U21128.1
-2.55753	5.625595	290.65 Up	1.79E-04	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-5.03662	3.030028	268.1 Up	7.79E-05	BG099432	ESTs
-2.97296	4.901727	234.7 Up	5.95E-05	AI821586	ESTs, Moderately similar to JE0284 Mm-1 cell derived transplantability-associated protein 1b (H.sapiens)
-3.06613	4.772945	228.98 Up	2.57E-03	AI422986	ESTs
-4.37538	3.399327	218.99 Up	7.01E-05	AA552969	ESTs
-3.47045	4.200612	203.81 Up	4.26E-03	NM_025140	Homo sapiens hypothetical protein FLJ22471 (FLJ22471), mRNA. /PROD=hypothetical protein FLJ22471 /FL=gb:NM_025140.1
-4.82833	2.813842	199.77 Up	1.40E-04	BF064262	ESTs
-5.1127	2.479359	192.95 Up	1.06E-04	NM_002653	Homo sapiens paired-like homeodomain transcription factor 1 (PITX1), mRNA. /PROD=paired-like homeodomain transcription factor 1 /FL=gb:NM_002653.1
-3.4841	4.092799	190.93 Up	4.34E-04	BM128432	Homo sapiens full length insert cDNA clone YA81B05
-4.64254	2.721466	164.74 Up	2.38E-05	AY177407	Homo sapiens homeobox protein goosecoid mRNA, complete cds. /PROD=homeobox protein goosecoid /FL=gb:AY177407.1 gb:NM_173849.1
-3.40132	3.923976	160.37 Up	1.34E-02	BF589787	ESTs
-1.20324	6.071574	154.86 Up	2.23E-04	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-3.4292	3.808106	150.89 Up	4.62E-04	AB028021	Cluster Incl. AB028021:Homo sapiens HNF-3beta mRNA for hepatocyte

					nuclear factor-3 beta, complete cds /cds=(196,1569) /gb=AB028021 /gi=4958949 /ug=Hs.155651 /len=1944
-4.71714	2.374201	136.37 Up	6.98E-05	AI796169	GATA-binding protein 3 /FL=gb:NM_002051.1 gb:M69106.1 gb:BC003070.1
-2.26798	4.781861	132.5 Up	9.04E-05	NM_001322	Homo sapiens cystatin SA (CST2), mRNA. /PROD=cystatin SA /FL=gb:NM_001322.1
-0.81321	6.174771	126.94 Up	1.57E-03	NM_002160	Homo sapiens hexabrachion (tenascin C, cytotactin) (HXB), mRNA. /PROD=hexabrachion (tenascin C, cytotactin) /FL=gb:M55618.1 gb:NM_002160.1
-2.38522	4.594021	126.17 Up	6.89E-05	AA502609	Homo sapiens ankyrin-like with transmembrane domains 1 (ANKTM1), mRNA
-3.75387	3.204091	124.32 Up	2.13E-04	AI991459	ESTs
-4.21525	2.671776	118.36 Up	1.99E-04	NM_006119	Homo sapiens fibroblast growth factor 8 (androgen-induced) (FGF8), mRNA. /PROD=fibroblast growth factor 8 (androgen-induced) /FL=gb:U36223.1 gb:U46212.1 gb:NM_006119.1
-2.02474	4.768631	110.92 Up	7.31E-03	NM_021827	Homo sapiens hypothetical protein FLJ23514 (FLJ23514), mRNA. /PROD=hypothetical protein FLJ23514 /FL=gb:NM_021827.1
-2.38432	4.381798	108.84 Up	1.01E-03	AL534095	hypothetical protein FLJ23091
-2.25187	4.311095	94.55 Up	7.26E-03	AL136944	Homo sapiens mRNA; cDNA DKFZp586J0624 (from clone DKFZp586J0624); complete cds. /PROD=hypothetical protein /FL=gb:AF215636.1

					gb:NM_014585.1 gb:AF231121.1 gb:AF226614.1 gb:AL136944.1
-1.92189	4.619888	93.17 Up	9.02E-04	AV700724	GATA-binding protein 4 /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
-3.42725	2.997778	85.93 Up	2.95E-03	NM_022469	Homo sapiens hypothetical protein FLJ21195 similar to protein related to DAC and cerberus (FLJ21195), mRNA. /PROD=hypothetical protein FLJ21195 similar to proteinrelated to DAC and cerberus /FL=gb:NM_022469.1
-3.14404	3.270152	85.28 Up	6.55E-05	AB028021	Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds. /PROD=hepatocyte nuclear factor-3 beta /FL=gb:AB028021.1 gb:NM_021784.1
-0.88122	5.526622	84.91 Up	1.25E-04	AA775681	hypothetical protein FLJ23091
-2.96204	3.439168	84.52 Up	1.08E-03	NM_001311	Homo sapiens cysteine-rich protein 1 (intestinal) (CRIP1), mRNA. /PROD=cysteine-rich protein 1 (intestinal) /FL=gb:U58630.1 gb:BC002738.1 gb:NM_001311.1 gb:U09770.1
-3.42819	2.876705	79.06 Up	2.31E-04	AL121722	Human DNA sequence from clone RP4-788L20 on chromosome 20 Contains the HNF3B (hepatocyte nuclear factor 3, beta) gene. a novel gene based on ESTs, ESTs, STSs, GSSs and CpG Islands
-1.01231	5.27686	78.2 Up	1.85E-04	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1

					gb:NM_001643.1 gb:BC005282.1
-2.13331	4.095704	75.01 Up	2.99E-04	NM_003867	Homo sapiens fibroblast growth factor 17 (FGF17), mRNA. /PROD=fibroblast growth factor 17 /FL=gb:NM_003867.1 gb:AB009249.1
-0.14916	6.052967	73.63 Up	2.30E-04	NM_002521	Homo sapiens natriuretic peptide precursor B (NPPB), mRNA. /PROD=natriuretic peptide precursor B /FL=gb:NM_002521.1 gb:M25296.1
-2.9139	3.274181	72.91 Up	9.48E-04	NM_005143	Homo sapiens haptoglobin (HP), mRNA. /PROD=haptoglobin /FL=gb:K00422.1 gb:L29394.1 gb:NM_005143.1
-2.33028	3.85605	72.82 Up	2.04E-04	X02162	Human mRNA for apolipoprotein AI (apo AI)=. /PROD=preproapolipo protein AI
-4.75249	1.427636	72.51 Up	8.97E-04	AJ276395	Homo sapiens mRNA for MSF-FN70 (FN gene). /PROD=migration stimulation factor FN70
-1.50663	4.672617	72.47 Up	9.82E-05	BF223214	ESTs
-4.40099	1.778003	72.45 Up	8.87E-05	AI733179	ESTs
-2.56553	3.594638	71.51 Up	4.24E-04	D31771	Homo sapiens mRNA for MSX-2, complete cds. /PROD=MSX-2 /FL=gb:NM_002449.2 gb:D31771.1
-3.67415	2.447201	69.62 Up	1.97E-02	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
-1.33141	4.770833	68.7 Up	2.36E-04	AI640307	protocadherin 10
-2.41293	3.673615	67.96 Up	8.00E-04	NM_000846	Homo sapiens glutathione S-transferase A2 (GSTA2), mRNA. /PROD=glutathione S-transferase A2 /FL=gb:BC002895.1 gb:M25627.1 gb:M16594.1 gb:M14777.1 gb:M15872.1 gb:M21758.1

					gb:NM_000846.1
-2.95346	3.079949	65.5 Up	7.93E-05	NM_000420	Homo sapiens Kell blood group (KEL), mRNA. /PROD=Kell blood group antigen /FL=gb:BC003135.1 gb:NM_000420.1
-3.41755	2.612638	65.35 Up	1.03E-02	AI808090	ESTs
-4.08201	1.927438	64.42 Up	5.56E-04	AK000680	Homo sapiens cDNA FLJ20673 fis, clone KAIA4464. /FL=gb:AF240634.1 gb:NM_018440.1
-0.1416	5.830942	62.79 Up	6.89E-05	NM_022454	Homo sapiens hypothetical protein FLJ22252 similar to SRY-box containing gene 17 (FLJ22252), mRNA. /PROD=hypothetical protein FLJ22252 similar to SRY-boxcontaining gene 17 /FL=gb:NM_022454.1
-1.79329	4.15609	61.79 Up	7.58E-04	AL575177	noggin /FL=gb:NM_005450.1
-0.88683	5.039046	60.79 Up	8.36E-05	AI821669	ESTs
-3.76697	2.141612	60.07 Up	2.25E-04	NM_001147	Homo sapiens angiopoietin 2 (ANGPT2), mRNA. /PROD=angiopoietin 2 /FL=gb:AB009865.1 gb:AF004327.1 gb:NM_001147.1
0.720535	6.617979	59.61 Up	5.95E-05	AW007532	Human insulin-like growth factor binding protein 5 (IGFBP5) mRNA
-1.03589	4.784337	56.5 Up	2.23E-04	AI242583	Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
-2.28856	3.531402	56.49 Up	4.54E-04	AF211891	Homo sapiens Mix-like homeobox protein 1 (MIXL1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
-2.04403	3.759502	55.85 Up	2.17E-03	NM_000039	Homo sapiens apolipoprotein A-I (APOA1), mRNA. /PROD=apolipoprotein A-I precursor /FL=gb:M27875.1 gb:M11791.1 gb:NM_000039.1 gb:BC005380.1
0.129315	5.920102	55.36 Up	6.89E-05	NM_005442	Homo sapiens eomesodermin

					(Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
-1.57973	4.207564	55.23 Up	5.25E-03	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
-4.11172	1.670966	55.05 Up	4.57E-04	BG256677	interferon, gamma-inducible protein 16 /FL=gb:AF208043.1
-0.28789	5.482347	54.58 Up	6.89E-05	AW772192	Homo sapiens clone 23736 mRNA sequence
-1.44577	4.307421	53.94 Up	3.59E-03	AL544576	ESTs
-3.9513	1.76416	52.54 Up	7.33E-05	NM_016341	Homo sapiens pancreas-enriched phospholipase C (LOC51196), mRNA. /PROD=pancreas-enriched phospholipase C /FL=gb:AF117948.1 gb:NM_016341.1 gb:AF190642.2
0.05538	5.762108	52.23 Up	7.33E-05	AI817041	G protein-coupled receptor
-3.52376	2.14189	50.76 Up	8.23E-05	AW300217	ESTs, Moderately similar to C212_HUMAN 28.3 KD PROTEIN C21ORF2 (H.sapiens)
-3.18877	2.469472	50.5 Up	7.47E-03	AF260333	Homo sapiens AD036 mRNA, complete cds. /PROD=AD036 /FL=gb:AF260333.1
-1.973	3.674867	50.14 Up	1.91E-04	AA772920	ESTs
-2.30094	3.341814	49.96 Up	7.23E-03	AI806174	transcription factor 8 (represses interleukin 2 expression)
-2.25531	3.356433	48.9 Up	6.63E-03	AI380207	ESTs
-2.71676	2.892681	48.82 Up	5.25E-04	AU144167	Homo sapiens cDNA FLJ11428 fis, clone HEMBA1001071, highly similar to PROCOLLAGEN ALPHA 1(III) CHAIN PRECURSOR
-0.16429	5.442379	48.73 Up	6.83E-04	L01639	Human (clone HSY3RR) neuropeptide Y receptor (NPYR) mRNA, complete cds. /PROD=neuropeptide

					Y receptor /FL=gb:L06797.1 gb:NM_003467.1 gb:AF025375.1 gb:AF147204.1 gb:M99293.1 gb:L01639.1
-4.03477	1.563749	48.45 Up	1.19E-02	U12170	Human zinc finger homeodomain protein mRNA, complete cds. /PROD=zinc finger homeodomain protein /FL=gb:U12170.1
-0.08298	5.493663	47.72 Up	2.19E-04	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
-2.99405	2.552238	46.73 Up	4.78E-04	AI767388	Human DNA sequence from clone RP5-1024N4 on chromosome 1p32.1-33. Contains the gene for a novel Sodium:solute symporter family member similar to SLC5A1 (SGLT1), a pseudogene similar to part of butyrophilin family members, a novel gene, ESTs, STSs, GS
-4.61432	0.925434	46.52 Up	2.53E-04	NM_005221	Homo sapiens distal-less homeo box 5 (DLX5), mRNA. /PROD=distal-less homeo box 5 /FL=gb:NM_005221.3
-3.22309	2.302183	46.05 Up	4.60E-03	AW207243	ESTs
-2.82645	2.655384	44.69 Up	4.60E-03	NM_013445	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1

					gb:BC002815.1
0.533443	5.958927	42.98 Up	6.55E-05	NM_001899	Homo sapiens cystatin S (CST4), mRNA. /PROD=cystatin S /FL=gb:NM_001899.1
0.116207	5.518477	42.29 Up	1.27E-04	NM_000599	Homo sapiens insulin-like growth factor binding protein 5 (IGFBP5), mRNA. /PROD=insulin-like growth factor binding protein 5 /FL=gb:M65062.1 gb:M62782.1 gb:NM_000599.1 gb:AF055033.1
-2.1675	3.230235	42.16 Up	1.53E-04	NM_021804	Homo sapiens angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 (ACE2), mRNA. /PROD=angiotensin I converting enzyme(peptidyl-dipeptidase A) 2 /FL=gb:NM_021804.1 gb:AF241254.1 gb:AB046569.1 gb:AF291820.1
-0.61985	4.752547	41.42 Up	3.54E-04	NM_001963	Homo sapiens epidermal growth factor (beta-urogastrone) (EGF), mRNA. /PROD=epidermal growth factor (beta-urogastrone) /FL=gb:NM_001963.2
-1.73746	3.627971	41.22 Up	3.35E-04	NM_014391	Homo sapiens cardiac ankyrin repeat protein (CARP), mRNA. /PROD=cardiac ankyrin repeat protein /FL=gb:NM_014391.1
-3.68848	1.657514	40.67 Up	2.86E-03	NM_018557	Homo sapiens low density lipoprotein-related protein 1B (deleted in tumors) (LRP1B), mRNA. /PROD=low density lipoprotein-related protein 1B(deleted in tumors) /FL=gb:AF176832.1 gb:NM_018557.1
-3.11273	2.220281	40.31 Up	5.02E-03	AW444761	ESTs
-2.78886	2.517881	39.58 Up	7.89E-03	NM_001115	Homo sapiens adenylate cyclase 8

					(brain) (ADCY8), mRNA. /PROD=adenylate cyclase 8 /FL=gb:NM_001115.1
-1.93668	3.348112	38.98 Up	7.23E-03	BE670361	G protein-coupled receptor 72 /FL=gb:NM_016540.1 gb:AF236081.1
-3.65051	1.595241	37.94 Up	3.80E-04	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
0.767075	5.998268	37.56 Up	2.55E-04	AY029208	Homo sapiens type VI collagen alpha 2 chain precursor (COL6A2) mRNA, complete cds, alternatively spliced. /PROD=type VI collagen alpha 2 chain precursor /FL=gb:AY029208.1
-2.34732	2.874499	37.32 Up	6.51E-03	AI240545	glycophorin B (includes Ss blood group)
-2.41622	2.773394	36.49 Up	6.29E-04	NM_001977	Homo sapiens glutamyl aminopeptidase (aminopeptidase A) (ENPEP), mRNA. /PROD=glutamyl aminopeptidase (aminopeptidase A) /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
-1.58875	3.588854	36.19 Up	2.45E-03	NM_152506	Homo sapiens hypothetical protein FLJ32835 (FLJ32835), mRNA. /FL=gb:NM_152506.1
-0.93849	4.238505	36.18 Up	1.38E-02	BE222344	splicing factor, arginineserine-rich 5
1.479222	6.611842	35.08 Up	5.95E-05	NM_005454	Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
-0.46494	4.666106	35.04 Up	2.90E-04	AI141603	collagen, type VI,

					alpha 1
-2.23021	2.897749	34.97 Up	4.92E-04	NM_0017 85	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-3.12836	1.991299	34.77 Up	8.63E-04	NM_0027 70	Homo sapiens protease, serine, 2 (trypsin 2) (PRSS2), mRNA. /PROD=protease, serine, 2 (trypsin 2) /FL=gb:M27602.1 gb:NM_002770.1
-0.98659	4.115782	34.35 Up	1.19E-04	M65062	Human insulin-like growth factor binding protein 5 (IGFBP-5) mRNA, complete cds. /PROD=insulin-like growth factor binding protein 5 /FL=gb:M65062.1 gb:M62782.1 gb:NM_000599.1 gb:AF055033.1
-2.50194	2.569744	33.63 Up	4.84E-03	AJ277914	Homo sapiens partial LHX9 gene for LIM-homeobox 9, 3UTR.
-1.27526	3.792158	33.53 Up	1.12E-03	AI688418	plexin A2
-3.34034	1.708137	33.09 Up	2.46E-03	AA781795	ESTs
1.339655	6.36612	32.59 Up	7.93E-05	AJ224869	Homo sapiens CXCR4 gene encoding receptor CXCR4
-0.6944	4.326307	32.46 Up	7.33E-05	R73554	Human insulin-like growth factor binding protein 5 (IGFBP5) mRNA
-0.67187	4.337831	32.22 Up	7.54E-05	AI692659	heat shock 90kD protein 1, alpha
-0.46298	4.533319	31.92 Up	3.96E-04	S69738	MCP-1=monocyte chemotactic protein (human, aortic endothelial cells, mRNA, 661 nt). /PROD=MCP-1
-2.56712	2.414446	31.59 Up	1.67E-03	AI813758	collagen, type III, alpha 1 (Ehlers-Danlos syndrome type IV, autosomal dominant) /FL=gb:NM_000090.1
-0.31684	4.651259	31.3 Up	7.83E-04	BF130943	ESTs
-2.78124	2.184054	31.24 Up	8.36E-05	NM_0209 95	Homo sapiens haptoglobin-related protein (HPR), mRNA. /PROD=haptoglobin-related protein

					/FL=gb:NM_020995.1
-1.24179	3.719223	31.15 Up	4.92E-04	AL534095	hypothetical protein FLJ23091
-0.35003	4.606618	31.05 Up	6.88E-03	NM_001778	Homo sapiens CD48 antigen (B-cell membrane protein) (CD48), mRNA. /PROD=CD48 antigen (B-cell membrane protein) /FL=gb:NM_001778.1 gb:M37766.1 gb:M59904.1
-1.81534	3.141104	31.05 Up	5.86E-04	AW590925	ESTs
-1.93655	3.000448	30.63 Up	5.42E-03	NM_013369	Homo sapiens DNA (cytosine-5-)-methyltransferase 3-like (DNMT3L), mRNA. /PROD=DNA (cytosine-5-)-methyltransferase 3-like /FL=gb:BC002560.1 gb:NM_013369.1 gb:AF194032.1
1.122063	6.03378	30.1 Up	7.33E-05	X58851	Human MLC1emb gene for embryonic myosin alkaline light chain, promoter and exon 1
-0.4721	4.436335	30.03 Up	7.93E-05	D89377	Homo sapiens mRNA for MSX-2, complete cds. /PROD=MSX-2 /FL=gb:D89377.1
0.044298	4.952379	30.02 Up	6.89E-05	W57613	ESTs
-0.59928	4.305866	29.96 Up	1.03E-03	AF020769	Homo sapiens cardiac ventricular troponin C mRNA, complete cds. /PROD=cardiac ventricular troponin C /FL=gb:NM_003280.1 gb:AF020769.1
-1.04571	3.857701	29.93 Up	4.57E-03	NM_001362	Homo sapiens deiodinase, iodothyronine, type III (DIO3), mRNA. /PROD=thyroxine deiodinase type III /FL=gb:NM_001362.1 gb:S79854.1
-3.24802	1.648226	29.78 Up	1.47E-03	AI694325	ESTs
-2.50665	2.356234	29.1 Up	8.64E-03	BE222668	ESTs
-2.27119	2.568908	28.64 Up	2.53E-03	NM_002608	Homo sapiens platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog) (PDGFB),

					mRNA. /PROD=platelet-derived growth factor beta polypeptide(simian sarcoma viral (v-sis) oncogene homolog) /FL=gb:M12783.1 gb:NM_002
-4.34018	0.485509	28.36 Up	7.34E-05	AU144247	Homo sapiens cDNA FLJ13443 fis, clone PLACE1002853
-1.02297	3.794799	28.2 Up	3.36E-03	AF208043	Homo sapiens IFI16b (IFI16b) mRNA, complete cds. /PROD=IFI16b /FL=gb:AF208043.1
-2.79469	2.013598	28.02 Up	9.94E-05	AI700341	ESTs
-2.73255	2.070789	27.92 Up	1.35E-03	X89271	H.sapiens mRNA for HG11 orphan receptor. /PROD=HG11 orphan receptor /FL=gb:NM_005161.1
-3.05797	1.724772	27.53 Up	3.48E-04	AI801626	ESTs, Moderately similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-2.83953	1.922194	27.13 Up	5.16E-04	BG290193	hypothetical protein FLJ14299 /FL=gb:NM_025069.1
-4.60716	0.149736	27.04 Up	1.22E-02	NM_004696	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 4 (SLC16A4), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 4 /FL=gb:U59185.1 gb:NM_004696.1
-1.57919	3.174205	26.97 Up	5.94E-04	AL524520	G protein-coupled receptor 49
-1.36626	3.37132	26.68 Up	2.16E-03	AI824037	ESTs, Weakly similar to FCE2 MOUSE LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (M.musculus)
0.167058	4.895371	26.51 Up	6.90E-05	NM_021223	Homo sapiens myosin light chain 2a (LOC58498), mRNA. /PROD=myosin light

					chain 2a /FL=gb:NM_021223.1
-1.4009	3.316905	26.31 Up	6.35E-04	BC029835	Homo sapiens, clone IMAGE:5169759, mRNA.
-2.16518	2.549789	26.26 Up	1.77E-03	AI521166	ESTs, Moderately similar to MTR5_HUMAN MYOTUBULARIN-RELATED PROTEIN 5 (H.sapiens)
-3.32235	1.375121	25.95 Up	2.00E-04	BC039433	Homo sapiens, clone IMAGE:5303550, mRNA.
-5.7338	-1.05152	25.67 Up	8.80E-03	NM_020130	Homo sapiens chromosome 8 open reading frame 4 (C8ORF4), mRNA. /PROD=chromosome 8 open reading frame 4 /FL=gb:NM_020130.1 gb:AF268037.1
1.214325	5.878585	25.36 Up	7.93E-05	M36172	Human embryonic myosin alkali light chain (MLC1) mRNA, complete cds. /FL=gb:M36172.1 gb:M24121.1 gb:NM_002476.1
-2.20104	2.461597	25.33 Up	4.67E-03	NM_000939	Homo sapiens proopiomelanocortin (adrenocorticotropin beta-lipotropin alpha-melanocyte stimulating hormone beta-melanocyte stimulating hormone beta-endorphin) (POMC), mRNA. /PROD=proopiomelanocortin (adrenocorticotropinbeta-lipotropin alpha-melanocyt
-0.2674	4.336009	24.31 Up	9.18E-05	N48299	ESTs, Moderately similar to NFY-C (H.sapiens)
1.367677	5.968973	24.27 Up	1.00E-04	AF116676	Homo sapiens PRO1957 mRNA, complete cds. /PROD=PRO1957 /FL=gb:AF116676.1
-0.62697	3.974228	24.27 Up	4.69E-04	NM_005531	Homo sapiens interferon, gamma-inducible protein 16 (IFI16), mRNA. /PROD=interferon, gamma-inducible

					protein 16 /FL=gb:M63838.1 gb:NM_005531.1
-3.90861	0.686447	24.17	Up	3.72E-03	BC022531 Homo sapiens, olfactomedin 3, clone MGC:26675 IMAGE:4812035, mRNA, complete cds. /PROD=olfactomedin 3 /FL=gb:AF397394.1 gb:BC022531.1
-2.75089	1.840723	24.11	Up	2.60E-04	AL365343 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 32539.
-0.6097	3.975428	24	Up	1.05E-04	L12468 Homo sapiens aminopeptidase A mRNA, complete cds. /PROD=aminopeptidase A /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
-3.18285	1.397334	23.92	Up	3.32E-04	BC041441 Homo sapiens, clone IMAGE:5167131, mRNA.
-1.92796	2.645248	23.81	Up	1.20E-02	BE551416 ESTs, Weakly similar to KIAA1330 protein (H.sapiens)
-4.05111	0.51291	23.65	Up	1.05E-03	J03580 Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
-2.79378	1.767388	23.61	Up	3.68E-02	AW291402 ESTs
-2.80173	1.752943	23.5	Up	7.26E-03	AW088232 ESTs
0.422022	4.975085	23.48	Up	1.38E-04	D49958 Homo sapiens mRNA for membrane glycoprotein M6, complete cds. /PROD=membrane glycoprotein M6 /FL=gb:D49958.1
-1.20314	3.343061	23.36	Up	3.63E-04	M60721 Human homeobox gene, complete cds. /FL=gb:M60721.1 gb:NM_021958.1
1.932439	6.477785	23.35	Up	7.33E-05	H92988 tyrosine 3-monooxygenasetryptophan 5-monooxygenase activation protein, eta polypeptide
-3.00328	1.524799	23.07	Up	8.50E-03	AI571798 Rho GDP dissociation inhibitor (GDI) alpha
0.526605	5.052252	23.03	Up	7.01E-05	N71923 fibronectin leucine rich

					transmembrane protein 3 /FL=gb:AF169677.1 gb:NM_013281.1
-1.26047	3.239318	22.62 Up	5.12E-03	NM_007250	Homo sapiens Kruppel-like factor 8 (KLF8), mRNA. /PROD=Kruppel-like factor 8 /FL=gb:U28282.1 gb:NM_007250.1
-1.93118	2.556654	22.44 Up	2.34E-04	L33477	Human (clone 8B1) Br-cadherin mRNA, complete cds. /PROD=Br-cadherin /FL=gb:L34057.1 gb:L33477.1 gb:NM_004061.1
0.005876	4.456564	21.87 Up	6.89E-05	AK023621	Homo sapiens cDNA FLJ13559 fis, clone PLACE1007852, highly similar to Homo sapiens mRNA for KIAA0878 protein.
-1.94	2.509492	21.85 Up	4.29E-03	NM_016569	Homo sapiens TBX3-iso protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
-3.44347	1.001698	21.78 Up	1.61E-02	AF187858	Homo sapiens angiopoietin-2 isoform-1 mRNA, complete cds, alternatively spliced. /PROD=angiopoietin-2 isoform-1 /FL=gb:AF187858.1
0.586923	5.027737	21.72 Up	6.55E-05	NM_000047	Homo sapiens arylsulfatase E (chondrodysplasia punctata 1) (ARSE), mRNA. /PROD=arylsulfatase E precursor /FL=gb:X83573.1 gb:NM_000047.1
1.422626	5.860875	21.68 Up	5.95E-05	NM_006365	Homo sapiens transcriptional activator of the c-fos promoter (CROC4), mRNA. /PROD=transcriptional activator of the c-fos promoter /FL=gb:NM_006365.1 gb:U49857.1
-4.18575	0.241573	21.52 Up	7.54E-03	NM_001736	Homo sapiens complement

					component 5 receptor 1 (C5a ligand) (C5R1), mRNA. /PROD=complement component 5 receptor 1 (C5a ligand) /FL=gb:M62505.1 gb:NM_001736.1
2.301255	6.712959	21.28 Up	7.68E-05	BC020935	Homo sapiens, Similar to otoconin 90, clone IMAGE:4277593, mRNA.
-3.61192	0.788317	21.12 Up	1.71E-03	R37101	ESTs
-0.62474	3.768383	21.01 Up	6.55E-05	NM_000313	Homo sapiens protein S (alpha) (PROS1), mRNA. /PROD=protein S (alpha) /FL=gb:M15036.1 gb:NM_000313.1
-0.62725	3.760374	20.93 Up	1.52E-04	BC017942	Homo sapiens, Similar to otoconin 90, clone IMAGE:4285317, mRNA.
-1.52261	2.858274	20.83 Up	2.98E-03	NM_002614	Homo sapiens PDZ domain containing 1 (PDZK1), mRNA. /PROD=PDZ domain containing 1 /FL=gb:NM_002614.1 gb:AF012281.1
-1.11347	3.25087	20.6 Up	4.26E-03	N69091	ESTs
-0.11332	4.231933	20.33 Up	1.05E-04	NM_003670	Homo sapiens basic helix-loop-helix domain containing, class B, 2 (BHLHB2), mRNA. /PROD=differentiated embryo chondrocyte expressed gene1 /FL=gb:AB004066.1 gb:NM_003670.1
-1.69238	2.643704	20.2 Up	3.73E-03	W05495	ESTs
-2.18113	2.138504	19.97 Up	1.23E-02	NM_004041	Homo sapiens arrestin, beta 1 (ARRB1), transcript variant 1, mRNA. /PROD=arrestin beta 1, isoform A /FL=gb:BC003636.1 gb:AF084040.1 gb:NM_004041.2
1.306329	5.625069	19.96 Up	6.90E-05	NM_001200	Homo sapiens bone morphogenetic protein 2 (BMP2), mRNA. /PROD=bone morphogenetic protein 2 precursor /FL=gb:NM_001200.1
-1.23777	3.066156	19.75 Up	6.27E-04	AI917371	ESTs

-0.00098	4.266076	19.25 Up	9.82E-05	NM_013281	Homo sapiens fibronectin leucine rich transmembrane protein 3 (FLRT3), mRNA. /PROD=fibronectin leucine rich transmembrane protein3 /FL=gb:AF169677.1 gb:NM_013281.1
-2.0132	2.250432	19.21 Up	1.37E-02	BE328496	hypothetical protein PRO2032 /FL=gb:AF116683.1 gb:NM_018615.1
1.758844	6.008618	19.02 Up	6.55E-05	N21138	KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
0.095309	4.341668	18.98 Up	8.55E-04	AA524250	deleted in liver cancer 1
-0.96212	3.265791	18.74 Up	2.04E-04	AY113699	Homo sapiens presenilin stabilization factor b (PSF) mRNA, complete cds; alternatively spliced. /PROD=presenilin stabilization factor b /FL=gb:AY113699.1
0.502339	4.722511	18.64 Up	1.04E-04	AI676059	ESTs
-1.74369	2.474001	18.61 Up	7.33E-05	NM_001882	Homo sapiens corticotropin releasing hormone-binding protein (CRHBP), mRNA. /PROD=corticotropin releasing hormone-binding protein /FL=gb:NM_001882.2
0.70975	4.924051	18.56 Up	1.64E-04	BF939489	glycoprotein M6A /FL=gb:D49958.1
-2.40752	1.7892	18.34 Up	4.46E-03	AI738662	homeo box HB9 /FL=gb:NM_005515.1
-1.34609	2.844235	18.26 Up	7.33E-05	NM_018388	Homo sapiens hypothetical protein FLJ11316 (FLJ11316), mRNA. /PROD=hypothetical protein FLJ11316 /FL=gb:NM_018388.1
-0.74044	3.448679	18.24 Up	7.33E-05	N63706	ESTs
-1.55229	2.611591	17.92 Up	4.34E-04	AU158444	Homo sapiens cDNA FLJ14216 fis, clone NT2RP3003672, weakly similar to T-CELL SURFACE GLYCOPROTEIN E2 PRECURSOR
0.082922	4.230149	17.72 Up	1.63E-04	AI632223	hypothetical protein DKFZp434F2322

-1.66293	2.482886	17.7 Up	1.56E-02	NM_000817	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD67, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD67 /FL=gb:NM_000817.1 gb:M81883.1 gb:L16888.1
-1.82505	2.319685	17.69 Up	7.89E-03	T16257	G protein-coupled receptor 37 (endothelin receptor type B-like) /FL=gb:NM_005302.1 gb:AF017262.1
-3.11387	1.027176	17.64 Up	9.68E-03	U70370	Human hindlimb expressed homeobox protein backfoot (Bft) mRNA, complete cds. /PROD=hindlimb expressed homeobox protein backfoot /FL=gb:U70370.1 gb:BC003685.1
-0.98938	3.143558	17.54 Up	6.04E-03	AF190725	Homo sapiens beta-site APP cleaving enzyme (BACE) mRNA, complete cds. /PROD=beta-site APP cleaving enzyme /FL=gb:AF200343.1 gb:AF204943.1 gb:AF190725.1 gb:AF201468.1 gb:NM_012104.1
-0.74839	3.363245	17.29 Up	5.33E-03	M17955	Human MHC class II HLA-DQ-beta mRNA, complete cds. /FL=gb:M33907.1 gb:M17955.1 gb:M16996.1 gb:M17563.1 gb:M20432.1 gb:M26042.1
2.851479	6.958929	17.24 Up	5.95E-05	AI950472	ESTs
-2.85963	1.242896	17.18 Up	7.55E-03	BC005961	Homo sapiens, parathyroid hormone-like hormone, clone MGC:14611, mRNA, complete cds. /PROD=parathyroid hormone-like hormone /FL=gb:BC005961.1
-1.18027	2.905057	16.97 Up	1.03E-02	AI123555	ESTs
-1.53522	2.547506	16.94 Up	2.58E-03	NM_006456	Homo sapiens sialyltransferase

					(STHM), mRNA. /PROD=sialyltransferase /FL=gb:U14550.1 gb:NM_006456.1
1.620279	5.700292	16.91 Up	1.08E-04	AI583173	major histocompatibility complex, class II, DQ beta 1
1.446234	5.516116	16.79 Up	6.55E-05	AF348491	Homo sapiens chemokine receptor CXCR4 mRNA, complete cds. /PROD=chemokine receptor CXCR4 /FL=gb:AF348491.1
0.880085	4.948285	16.77 Up	6.90E-05	NM_006096	Homo sapiens N-myc downstream regulated (NDRG1), mRNA. /PROD=N-myc downstream regulated /FL=gb:AF004162.1 gb:BC003175.1 gb:D87953.1 gb:NM_006096.1
-1.11823	2.945099	16.72 Up	1.28E-02	NM_002100	Homo sapiens glycophorin B (includes Ss blood group) (GYPB), mRNA. /PROD=glycophorin B precursor /FL=gb:J02982.1 gb:NM_002100.2
-1.68075	2.377232	16.66 Up	4.35E-03	NM_012431	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E (SEMA3E), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3E /FL=gb:NM_012431.1 gb:AB002329.1
0.70158	4.759011	16.65 Up	1.07E-04	U46768	Human stanniocalcin mRNA, complete cds. /PROD=stanniocalcin /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
2.429693	6.487025	16.65 Up	6.89E-05	AA284532	tyrosine 3-monooxygenasetryptophan 5-monooxygenase activation protein, eta

						polypeptide
1.964573	6.018949	16.61	Up	1.18E-04	NM_030781	Homo sapiens scavenger receptor with C-type lectin (SRCL), mRNA. /PROD=scavenger receptor with C-type lectin /FL=gb:NM_030781.1
0.399566	4.451136	16.58	Up	1.57E-04	AF144103	Homo sapiens NJAC protein (NJAC) mRNA, complete cds. /PROD=NJAC protein /FL=gb:AF144103.1 gb:AF106911.1 gb:AF073957.1 gb:BC003513.1 gb:NM_004887.1
4.590104	-3.21322	223.38	Down	7.77E-05	AA167449	nuclear receptor subfamily 1, group I, member 3
1.940449	-5.370717	158.81	Down	8.36E-05	BE644917	nuclear receptor subfamily 1, group I, member 3
3.29779	-3.911445	147.98	Down	2.38E-05	U17496	Human proteasome subunit LMP7 (allele LMP7B) mRNA, complete cds. /PROD=proteasome subunit LMP7 /FL=gb:U17497.1 gb:U17496.1
4.124115	-2.85548	126.2	Down	2.99E-03	AW262311	ESTs
3.702164	-2.970402	102.01	Down	2.53E-03	U26662	Human neuronal pentraxin II (NPTX2) mRNA, partial cds. /PROD=neuronal pentraxin II
1.785431	-4.509786	78.53	Down	1.45E-03	R15072	ESTs
5.545158	-0.710745	76.42	Down	7.01E-05	BF057809	ESTs
1.946332	-3.865792	56.19	Down	7.43E-04	BG166705	small inducible cytokine subfamily B (Cys-X-Cys), member 5 (epithelial-derived neutrophil-activating peptide 78)
1.717184	-3.902593	49.17	Down	1.30E-04	AF237813	Homo sapiens NPD009 mRNA, complete cds. /PROD=NPD009 /FL=gb:NM_020686.1 gb:AF237813.1
3.179908	-2.381796	47.23	Down	9.96E-04	U82811	Human homeodomain-containing protein (HANF) mRNA, complete cds. /PROD=HANF /FL=gb:U82811.1

						gb:NM_003865.1
2.359289	-3.177031	46.41	Down	1.72E-04	NM_006334	Homo sapiens neuroblastoma (nerve tissue) protein (AMY), mRNA. /PROD=neuroblastoma (nerve tissue) protein /FL=gb:NM_006334.1 gb:D82343.1
4.276201	-1.247561	46.01	Down	7.33E-05	AV699347	nuclear receptor subfamily 1, group I, member 3
2.435058	-2.963261	42.18	Down	1.36E-04	BF056204	Homo sapiens, clone IMAGE:3603836, mRNA, partial cds
2.348373	-2.98029	40.19	Down	7.34E-05	NM_016354	Homo sapiens solute carrier family 21 (organic anion transporter), member 12 (SLC21A12), mRNA. /PROD=organic anion transporter OATP-E /FL=gb:AB031051.1 gb:NM_016354.1 gb:AF205072.1 gb:AF187817.1
4.315048	-0.819678	35.13	Down	3.33E-03	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
2.348717	-2.72835	33.76	Down	9.42E-04	NM_001877	Homo sapiens complement component (3dEpstein Barr virus) receptor 2 (CR2), mRNA. /PROD=complement component (3dEpstein Barr virus)receptor 2 /FL=gb:NM_001877.1 gb:M26004.1
3.342331	-1.710595	33.2	Down	6.55E-05	AA876372	Homo sapiens mRNA; cDNA DKFZp667D095 (from clone DKFZp667D095)
1.995324	-3.045119	32.91	Down	4.60E-03	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
2.890305	-2.133881	32.54	Down	1.71E-03	NM_015474	Homo sapiens DKFZP564A032 protein

						(DKFZP564A032), mRNA. /PROD=DKFZP564A032 protein /FL=gb:AF228421.1 gb:AL050267.1 gb:AB013847.1 gb:NM_015474.1
2.443445	-2.518495	31.17	Down	7.43E-03	NM_152332	Homo sapiens chromosome 14 open reading frame 47 (C14orf47), mRNA. /FL=gb:NM_152332.1
3.692792	-1.250743	30.77	Down	8.80E-04	N21096	ESTs
2.266312	-2.653405	30.27	Down	7.22E-03	NM_003026	Homo sapiens SH3-domain GRB2-like 2 (SH3GL2), mRNA. /PROD=SH3-domain GRB2-like 2 /FL=gb:AF036268.1 gb:NM_003026.1
2.453774	-2.402069	28.96	Down	7.93E-05	NM_007191	Homo sapiens Wnt inhibitory factor-1 (WIF-1), mRNA. /PROD=Wnt inhibitory factor-1 /FL=gb:AF122922.1 gb:NM_007191.1
2.325274	-2.512615	28.6	Down	3.19E-05	AW193693	DKFZP566K1924 protein
1.982765	-2.836916	28.24	Down	1.21E-04	BE672659	ESTs
0.997895	-3.793735	27.7	Down	3.97E-03	AW025928	ESTs, Weakly similar to I38588 reverse transcriptase homolog (H.sapiens)
4.756657	0.005012	26.94	Down	6.55E-05	AV715309	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
4.803291	0.085342	26.32	Down	7.34E-05	AA628440	nuclear receptor subfamily 1, group I, member 3
1.124153	-3.582082	26.1	Down	5.42E-03	W52934	ESTs, Weakly similar to similar to serinethreonine kinase (C.elegans)
0.874376	-3.810554	25.72	Down	2.24E-02	U82671	Homo sapiens chromosome Xq28 melanoma antigen family A2a (MAGEA2A), melanoma antigen family A12 (MAGEA12), melanoma antigen family A2b

					(MAGEA2B), melanoma antigen family A3 (MAGEA3), caltractin (CALT), NAD(P)H dehydrogenase-like protein (NSDHL), a...
0.621075	-4.029928	25.12	Down	5.18E-03	BC028721 Homo sapiens, Similar to solute carrier family 1 (high affinity aspartateglutamate transporter), member 6, clone MGC:33092 IMAGE:5269300, mRNA, complete cds. /PROD=Similar to solute carrier family 1 (highaffinity aspartateglutamate transporter), memb
1.49883	-3.130556	24.75	Down	7.87E-04	BF057784 ESTs
2.074855	-2.552806	24.72	Down	1.87E-03	AI420156 ESTs
3.2597	-1.357805	24.55	Down	1.05E-03	NM_017671 Homo sapiens hypothetical protein FLJ20116 (FLJ20116), mRNA. /PROD=hypothetical protein FLJ20116 /FL=gb:NM_017671.1
-0.10303	-4.717227	24.49	Down	7.33E-05	NM_022168 Homo sapiens melanoma differentiation associated protein-5 (MDA5), mRNA. /PROD=melanoma differentiation associated protein-5 /FL=gb:AY017378.1 gb:NM_022168.1 gb:AF095844.1
2.688175	-1.908993	24.2	Down	2.73E-04	NM_014178 Homo sapiens HSPC156 protein (HSPC156), mRNA. /PROD=HSPC156 protein /FL=gb:NM_014178.1 gb:AF161505.1
1.24677	-3.309288	23.52	Down	2.54E-02	BC028359 Homo sapiens, clone IMAGE:4828836, mRNA.
0.686587	-3.862863	23.42	Down	1.28E-03	NM_000439 Homo sapiens proprotein convertase subtilisinkexin type 1 (PCSK1), mRNA. /PROD=proprotein convertase subtilisinkexin type 1 /FL=gb:NM_000439.2 gb:M90753.1

5.363884	0.82261	23.28	Down	7.68E-05	NM_007015	Homo sapiens chondromodulin I precursor (CHM-I), mRNA. /PROD=chondromodulin I precursor /FL=gb:NM_007015.1 gb:AB006000.1
3.962328	-0.577927	23.27	Down	6.90E-05	AL533416	axonal transport of synaptic vesicles
2.086969	-2.410461	22.59	Down	9.65E-03	AL359055	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 2344436.
0.536704	-3.939442	22.26	Down	4.78E-03	AL049250	Homo sapiens mRNA; cDNA DKFZp564D113 (from clone DKFZp564D113).
4.260791	-0.214844	22.25	Down	6.89E-05	AA603344	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.121165	-4.34837	22.15	Down	1.36E-04	AI985987	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.437404	-4.019211	21.96	Down	2.48E-02	H05254	ESTs
2.263194	-2.16575	21.54	Down	7.34E-04	AF052108	Homo sapiens clone 23687 mRNA sequence.
4.055226	-0.3701	21.49	Down	1.16E-04	NM_001307	Homo sapiens claudin 7 (CLDN7), mRNA. /PROD=claudin 7 /FL=gb:BC001055.1 gb:NM_001307.1
5.440506	1.023282	21.37	Down	1.02E-04	M34455	Human interferon-gamma-inducible indoleamine 2,3-dioxygenase (IDO) mRNA, complete cds. /FL=gb:NM_002164.1 gb:M34455.1
2.169025	-2.207268	20.77	Down	3.41E-03	NM_022467	Homo sapiens N-acetylgalactosamine-4-O-sulfotransferase (GALNAC-4-ST1), mRNA. /PROD=N-acetylgalactosamine-4-O-sulfotransferase /FL=gb:NM_022467.1 gb:AF300612.1
0.252976	-4.116368	20.67	Down	3.36E-03	NM_0180	Homo sapiens

					43	hypothetical protein FLJ10261 (FLJ10261), mRNA. /PROD=hypothetical protein FLJ10261 /FL=gb:NM_018043.1
1.353776	-3.010836	20.6	Down	2.85E-02	AF147427	Homo sapiens full length insert cDNA clone YP80A10.
2.437935	-1.918781	20.49	Down	1.70E-03	BE672557	ESTs
2.46341	-1.870689	20.17	Down	4.16E-04	NM_003182	Homo sapiens tachykinin, precursor 1 (substance K, substance P, neurokinin 1, neurokinin 2, neuromedin L, neurokinin alpha, neuropeptide K,neuropeptide gamma) (TAC1), transcript variant beta, mRNA. /PROD=tachykinin 2 precursor, isoform beta /FL=gb:U3
2.294336	-2.028037	20.01	Down	7.10E-03	U11058	Homo sapiens large conductance calcium-and voltage-dependent potassium channel alpha subunit (MaxiK) mRNA, complete cds. /PROD=large conductance calcium-and voltage-dependentpotassium channel alpha subunit /FL=gb:U23767.1 gb:NM_002247.1 gb:AF025999
4.534853	0.221559	19.88	Down	7.68E-05	R38389	olfactomedin related ER localized protein
3.142124	-1.136699	19.41	Down	1.73E-02	AL832535	Homo sapiens mRNA; cDNA DKFZp547J1816 (from clone DKFZp547J1816).
3.85985	-0.410223	19.29	Down	7.34E-05	R40892	ESTs
4.557488	0.304559	19.07	Down	1.43E-04	AK026546	Homo sapiens cDNA: FLJ22893 fis, clone KAT04792.
5.966394	1.719122	18.99	Down	1.99E-04	AL117612	Homo sapiens mRNA; cDNA DKFZp564B1264 (from clone DKFZp564B1264).
1.212373	-3.013161	18.71	Down	5.22E-04	AI564075	ESTs
2.27629	-1.932316	18.49	Down	1.09E-04	BC044830	Homo sapiens, Similar to RIKEN cDNA

					1700011F14 gene, clone MGC:35062 IMAGE:5166167, mRNA, complete cds. /PROD=Similar to RIKEN cDNA 1700011F14 gene /FL=gb:BC044830.1
3.18092	-1.007603	18.23	Down	1.29E-03	AJ011712 Homo sapiens TNNT1 gene, exons 1-11 (and joined CDS)
2.598916	-1.553059	17.78	Down	2.46E-03	AW051591 ESTs, Moderately similar to unnamed protein product (H.sapiens)
2.003902	-2.139208	17.67	Down	4.71E-03	BF109660 ESTs
1.905278	-2.229324	17.56	Down	5.05E-04	NM_018964 Homo sapiens solute carrier family 37 (glycerol-3-phosphate transporter), member 1 (SLC37A1), mRNA. /PROD=solute carrier family 37 (glycerol-3-phosphatetransporter), member 1 /FL=gb:NM_018964.1
0.330556	-3.792993	17.43	Down	3.26E-04	BE972639 ESTs
1.044277	-3.067425	17.29	Down	1.23E-02	AL529104 ESTs
0.733534	-3.349221	16.94	Down	4.39E-03	BF061389 ESTs, Weakly similar to JC1405 6-pyruvoyltetrahydropterin synthase (H.sapiens)
2.684281	-1.394654	16.9	Down	2.91E-04	BF449063 collagen, type XIV, alpha 1 (undulin)
4.572354	0.512428	16.68	Down	5.89E-04	BF437747 ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
2.313549	-1.734907	16.55	Down	6.84E-03	AV726956 ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
0.679665	-3.355919	16.4	Down	1.43E-03	BC000568 Homo sapiens, clone MGC:3040, mRNA, complete cds. /PROD=Unknown (protein for MGC:3040) /FL=gb:BC000568.1
4.099873	0.092088	16.09	Down	6.90E-05	AI057619 ESTs, Highly similar to T42654 hypothetical protein DKFZp434G1115.1 (H.sapiens)
1.459269	-2.519	15.76	Down	6.26E-03	NM_000277 Homo sapiens phenylalanine

						hydroxylase (PAH), mRNA. /PROD=phenylalanine hydroxylase /FL=gb:U49897.1 gb:NM_000277.1
2.220936	-1.733714	15.5	Down	1.34E-04	AF237813	Homo sapiens NPD009 mRNA, complete cds. /PROD=NPD009 /FL=gb:NM_020686.1 gb:AF237813.1
2.81177	-1.140906	15.48	Down	6.89E-05	NM_002593	Homo sapiens procollagen C-endopeptidase enhancer (PCOLCE), mRNA. /PROD=procollagen C-endopeptidase enhancer /FL=gb:BC000574.1 gb:NM_002593.2 gb:AB008549.1 gb:L33799.1
1.529971	-2.399749	15.24	Down	2.29E-02	NM_024789	Homo sapiens hypothetical protein FLJ22529 (FLJ22529), mRNA. /PROD=hypothetical protein FLJ22529 /FL=gb:NM_024789.1
0.255558	-3.655262	15.04	Down	4.26E-03	BC039509	Homo sapiens, clone IMAGE:5578073, mRNA.
0.970967	-2.921559	14.85	Down	4.46E-03	AI144156	ESTs
2.38092	-1.504443	14.78	Down	4.36E-04	AF053712	Homo sapiens osteoprotegerin ligand mRNA, complete cds. /PROD=osteoprotegerin ligand /FL=gb:AF053712.1 gb:AF019047.1
3.779853	-0.095194	14.67	Down	3.22E-04	AV646597	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.651332	-2.189895	14.33	Down	3.45E-03	NM_007181	Homo sapiens mitogen-activated protein kinase kinase kinase kinase 1 (MAP4K1), mRNA. /PROD=mitogen-activated protein kinase kinase kinasekinase 1 /FL=gb:U66464.1

						gb:NM_007181.1
3.786136	-0.030985	14.1	Down	1.49E-04	BF057731	ESTs
3.257726	-0.553697	14.04	Down	4.48E-04	NM_004335	Homo sapiens bone marrow stromal cell antigen 2 (BST2), mRNA. /PROD=bone marrow stromal cell antigen 2 /FL=gb:NM_004335.2 gb:D28137.1
-0.33527	-4.146199	14.03	Down	4.21E-03	BE968806	ESTs, Weakly similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.349102	-3.450633	13.93	Down	1.30E-02	BM682352	Homo sapiens cDNA FLJ37204 fis, clone BRALZ2006976.
2.172559	-1.624126	13.9	Down	2.32E-03	BE673445	Homo sapiens chromosome 19, cosmid R28379
0.381933	-3.390833	13.67	Down	1.84E-02	AI913749	ESTs
1.120467	-2.648498	13.63	Down	1.85E-03	BE672607	ESTs
1.924097	-1.801676	13.23	Down	8.92E-03	AW242920	ESTs
1.491527	-2.224633	13.14	Down	7.01E-05	BG258131	ESTs
2.060687	-1.652733	13.12	Down	5.63E-03	AI269290	solute carrier family 18 (vesicular monoamine), member 2 /FL=gb:L14269.1 gb:L23205.1 gb:L09118.1 gb:NM_003054.1
2.886142	-0.811762	12.98	Down	4.93E-04	U83115	Human non-lens beta gamma-crystallin like protein (AIM1) mRNA, partial cds. /PROD=non-lens beta gamma-crystallin like protein
0.626797	-3.063928	12.91	Down	4.51E-02	AF393369	Homo sapiens sigma 1C adaptin (AP1S3) mRNA, complete cds. /PROD=sigma 1C adaptin /FL=gb:AF393369.1
1.575227	-2.112834	12.89	Down	1.85E-03	BE856544	hypothetical protein FLJ22573
0.4785	-3.197824	12.78	Down	1.72E-04	BG532690	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
1.707178	-1.969084	12.78	Down	1.84E-02	AF043179	Homo sapiens T cell receptor beta chain (TCRBV13S1-TCRBJ2S1) mRNA,

						complete cds. /PROD=T cell receptor beta chain /FL=gb:AF043179.1
0.47298	-3.177323	12.56	Down	8.00E-03	AF311324	Homo sapiens ubiquitin-like fusion protein mRNA, complete cds. /PROD=ubiquitin-like fusion protein /FL=gb:AF311324.1
2.641731	-0.985721	12.36	Down	1.49E-04	AL133653	Homo sapiens mRNA; cDNA DKFZp434M2415 (from clone DKFZp434M2415).
2.913327	-0.707745	12.3	Down	3.70E-03	NM_012419	Homo sapiens regulator of G-protein signalling 17 (RGS17), mRNA. /PROD=regulator of G-protein signalling 17 /FL=gb:AF202257.2 gb:NM_012419.2
2.127724	-1.49095	12.28	Down	1.49E-03	NM_001275	Homo sapiens chromogranin A (parathyroid secretory protein 1) (CHGA), mRNA. /PROD=chromogranin A /FL=gb:BC001059.1 gb:NM_001275.2 gb:J03915.1 gb:J03483.1
0.80034	-2.81487	12.25	Down	4.62E-03	AW003107	ESTs
2.11511	-1.494168	12.2	Down	1.27E-03	NM_000593	Homo sapiens ATP-binding cassette, sub-family B (MDRTAP), member 2 (ABCB2), mRNA. /PROD=ATP-binding cassette, sub-family B, member 2 /FL=gb:NM_000593.2 gb:L21205.1 gb:L21206.1 gb:L21207.1 gb:L21204.1 gb:L21208.1
3.690675	0.086414	12.16	Down	1.85E-03	AW274018	ESTs
1.283746	-2.317044	12.13	Down	4.10E-03	NM_014031	Homo sapiens VLCS-H1 protein (VLCS-H1), mRNA. /PROD=very long-chain acyl-CoA synthetase homolog 1 /FL=gb:AF064254.1 gb:NM_014031.1
0.467003	-3.132847	12.12	Down	4.39E-02	AL117530	Homo sapiens mRNA;

					cDNA DKFZp434B172 (from clone DKFZp434B172); partial cds. /PROD=hypothetical protein
2.6402	-0.955567	12.09	Down	3.80E-02	NM_013267 Homo sapiens breast cell glutaminase (GA), mRNA. /PROD=breast cell glutaminase /FL=gb:AF110331.1 gb:AF110330.1 gb:AF223944.1 gb:NM_013267.1
1.858597	-1.724557	11.98	Down	5.91E-04	AA757457 ESTs
0.945333	-2.635993	11.97	Down	2.41E-03	BC040959 Homo sapiens, clone IMAGE:5242616, mRNA.
3.795925	0.223304	11.9	Down	1.71E-03	NM_004688 Homo sapiens N-myc (and STAT) interactor (NMI), mRNA. /PROD=N-myc and STAT interactor /FL=gb:BC001268.1 gb:NM_004688.1 gb:U32849.1
2.074972	-1.490898	11.84	Down	2.94E-03	NM_017933 Homo sapiens hypothetical protein FLJ20701 (FLJ20701), mRNA. /PROD=hypothetical protein FLJ20701 /FL=gb:NM_017933.1
-0.42571	-3.975429	11.71	Down	1.54E-03	AK023699 Homo sapiens cDNA FLJ13637 fis, clone PLACE1011165.
3.742964	0.195658	11.69	Down	1.19E-04	T62571 microtubule-associated protein 7 /FL=gb:NM_003980.1
1.621518	-1.924672	11.68	Down	2.63E-02	NM_003725 Homo sapiens oxidative 3 alpha hydroxysteroid dehydrogenase; retinol dehydrogenase; 3-hydroxysteroid epimerase (RODH), mRNA. /PROD=oxidative 3 alpha hydroxysteroid dehydrogenase;retinol dehydrogenase; 3-hydroxysteroid epimerase /FL=gb:AF016509.1 gb:A
6.076777	2.566425	11.4	Down	6.90E-05	AF229180 Homo sapiens alpha-aminoadipate semialdehyde synthase mRNA,

					complete cds. /PROD=alpha-aminoadipate semialdehyde synthase /FL=gb:AF229180.1
3.758058	0.25238	11.36	Down	1.89E-04	NM_005356 Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
3.797019	0.297284	11.31	Down	2.69E-04	AI871745 ESTs
2.469508	-1.020673	11.24	Down	9.14E-04	W63754 Homo sapiens mRNA for gycosyltransferase (ORF1)
1.048359	-2.438018	11.21	Down	1.39E-02	AA464273 ESTs
3.146674	-0.339455	11.21	Down	1.26E-04	BF435773 cortactin SH3 domain-binding protein
1.627801	-1.848139	11.13	Down	3.70E-03	L39833 Homo sapiens (clone hKvBeta3) K+ channel beta subunit mRNA, complete cds. /PROD=K+ channel beta-subunit /FL=gb:U16953.1 gb:L39833.1
1.594689	-1.879508	11.11	Down	4.03E-02	AJ236915 Homo sapiens mRNA for pak5 protein. /PROD=pak5 protein /FL=gb:NM_020168.1 gb:AF276893.1
2.806504	-0.6571	11.03	Down	1.21E-04	NM_003645 Homo sapiens fatty-acid-Coenzyme A ligase, very long-chain 1 (FACVL1), mRNA. /PROD=very long-chain fatty-acid-Coenzyme A ligase 1 /FL=gb:AF096290.1 gb:D88308.1 gb:NM_003645.1
3.826815	0.364324	11.02	Down	6.55E-05	BG401568 Homo sapiens mRNA; cDNA DKFZp434H1235 (from clone DKFZp434H1235); partial cds
2.99034	-0.471936	11.02	Down	7.16E-04	NM_002993 Homo sapiens small inducible cytokine subfamily B (Cys-X-Cys), member 6 (granulocyte chemotactic protein 2) (SCYB6), mRNA.

						/PROD=small inducible cytokine subfamily B(Cys-X-Cys), member 6 (granulocyte chemotactic protein 2) /FL=gb:U81234.1 gb:NM_00299
3.788599	0.329467	11	Down	8.58E-05	NM_002252	Homo sapiens potassium voltage-gated channel, delayed-rectifier, subfamily S, member 3 (KCNS3), mRNA. /PROD=potassium voltage-gated channel,delayed-rectifier, subfamily S, member 3 /FL=gb:AF043472.1 gb:NM_002252.1 gb:BC004987.1 gb:BC004148.1
4.397278	0.939176	10.99	Down	1.22E-04	NM_021614	Homo sapiens potassium intermediatesmall conductance calcium-activated channel, subfamily N, member 2 (KCNN2), mRNA. /PROD=potassium intermediatesmall conductancecalcium-activated channel, subfamily N, member 2 /FL=gb:NM_021614.1 gb:AF239613.1
1.027188	-2.423197	10.93	Down	1.22E-03	BG169832	adenylate kinase 5 /FL=gb:NM_012093.1 gb:AF062595.1
1.022495	-2.421211	10.88	Down	2.47E-02	BC002832	Homo sapiens, Similar to butyrophilin, subfamily 3, member A2, clone MGC:3790, mRNA, complete cds. /PROD=Similar to butyrophilin, subfamily 3, member A2 /FL=gb:U90144.1 gb:NM_007047.1 gb:U90546.1 gb:BC002832.1
0.311203	-3.122447	10.81	Down	1.70E-03	AI964053	ESTs
1.673874	-1.728682	10.57	Down	2.25E-03	NM_005965	Homo sapiens myosin, light polypeptide kinase (MYLK), mRNA. /PROD=myosin, light

						polypeptide kinase /FL=gb:AB037663.1 gb:AF069601.2 gb:NM_005965.1
1.443731	-1.955774	10.55	Down	1.43E-03	AJ272267	Homo sapiens partial mRNA for choline dehydrogenase (chdh gene). /PROD=choline dehydrogenase
0.383563	-3.004508	10.47	Down	2.48E-02	AI377688	ESTs
0.995551	-2.39165	10.46	Down	5.14E-03	NM_005386	Homo sapiens neuronatin (NNAT), mRNA. /PROD=neuronatin /FL=gb:NM_005386.1 gb:BC001768.1 gb:AB002392.1 gb:U25033.1
3.45531	0.070626	10.44	Down	1.94E-04	AV733308	integrin, alpha 6
3.527039	0.143408	10.44	Down	5.95E-05	BG283790	ESTs
2.950823	-0.418278	10.33	Down	1.38E-03	NM_003645	Homo sapiens fatty-acid-Coenzyme A ligase, very long-chain 1 (FACVL1), mRNA. /PROD=very long-chain fatty-acid-Coenzyme A ligase 1 /FL=gb:AF096290.1 gb:D88308.1 gb:NM_003645.1
1.55078	-1.80799	10.26	Down	3.70E-03	H28597	thymopoietin
5.005827	1.649812	10.24	Down	1.90E-04	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule, neuroendocrine protein 1 (7B2protein) /FL=gb:BC005349.1 gb:NM_003020.1
0.760646	-2.590248	10.2	Down	2.29E-02	AW589793	ESTs
2.209313	-1.126222	10.09	Down	5.95E-05	AA747379	calcitonin-related polypeptide, beta /FL=gb:NM_000728.1
-0.10418	-3.43217	10.04	Down	4.66E-03	NM_017655	Homo sapiens hypothetical protein FLJ20075 (FLJ20075), mRNA. /PROD=hypothetical protein FLJ20075 /FL=gb:NM_017655.1
2.598488	-0.722855	10	Down	2.03E-03	L08599	Human uvomorulin (E-cadherin) (UVO) mRNA, complete cds. /PROD=uvomorulin

						/FL=gb:NM_004360.1 gb:L08599.1
1.858219	-1.457169	9.95	Down	1.81E-03	NM_005084	Homo sapiens phospholipase A2, group VII (platelet-activating factor acetylhydrolase, plasma) (PLA2G7), mRNA. /PROD=phospholipase A2, group VII (platelet-activatingfactor acetylhydrolase, plasma) /FL=gb:U20157.1 gb:U24577.1 gb:NM_005084.1
1.910263	-1.3945	9.88	Down	1.27E-03	NM_006994	Homo sapiens butyrophilin, subfamily 3, member A3 (BTN3A3), mRNA. /PROD=butyrophilin, subfamily 3, member A3 /FL=gb:U90548.1 gb:NM_006994.2
2.001097	-1.297629	9.84	Down	1.19E-03	BC028721	Homo sapiens, Similar to solute carrier family 1 (high affinity aspartateglutamate transporter), member 6, clone MGC:33092 IMAGE:5269300, mRNA, complete cds. /PROD=Similar to solute carrier family 1 (highaffinity aspartateglutamate transporter), memb
5.020283	1.723791	9.83	Down	1.63E-04	AK025084	Homo sapiens cDNA: FLJ21431 fis, clone COL04214, highly similar to HSU80736 Homo sapiens CAGF9 mRNA.
2.474373	-0.811562	9.75	Down	5.94E-03	NM_013272	Homo sapiens solute carrier family 21 (organic anion transporter), member 11 (SLC21A11), mRNA. /PROD=solute carrier family 21 (organic aniontransporter), member 11 /FL=gb:NM_013272.2 gb:AF205074.1 gb:AB031050.2 gb:AF187816.1
2.116702	-1.16308	9.71	Down	4.40E-02	AF107846	Homo sapiens

						neuroendocrine-specific Golgi protein p55 (XLalphas) gene, exon XL2 and complete cds
2.472358	-0.803312	9.68	Down	2.33E-03	NM_000363	Homo sapiens troponin I, cardiac (TNNI3), mRNA. /PROD=troponin I, cardiac /FL=gb:M64247.1 gb:NM_000363.1
0.384182	-2.880367	9.61	Down	4.26E-03	NM_005825	Homo sapiens RAS guanyl releasing protein 2 (calcium and DAG-regulated) (RASGRP2), mRNA. /PROD=RAS guanyl releasing protein 2 (calcium andDAG-regulated) /FL=gb:AF043723.1 gb:NM_005825.1
2.394742	-0.866876	9.59	Down	1.57E-04	AI733027	ESTs, Weakly similar to RET2_HUMAN RETINOL-BINDING PROTEIN II, CELLULAR (H.sapiens)
1.319792	-1.930717	9.52	Down	5.95E-05	M18767	Human complement subcomponent C1s, alpha- and beta-chains, complete cds. /FL=gb:J04080.1 gb:M18767.1 gb:NM_001734.1
3.859451	0.610002	9.51	Down	5.73E-04	AJ242502	Homo sapiens mRNA for E-MAP-115105 (MAP gene). /PROD=epithelial microtubule-associated protein
3.009579	-0.239729	9.51	Down	5.22E-04	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
2.600702	-0.646217	9.49	Down	1.43E-02	AA740186	biliverdin reductase A /FL=gb:NM_000712.1 gb:U34877.1
0.971941	-2.274152	9.49	Down	7.72E-04	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
0.414323	-2.829854	9.48	Down	6.30E-03	AF283777	Homo sapiens clone TCBAP0702 mRNA

					sequence.
6.139688	2.900659	9.44	Down	4.48E-04	BC036488 Homo sapiens, clone MGC:43145 IMAGE:5261574, mRNA, complete cds. /PROD=Unknown (protein for MGC:43145) /FL=gb:BC036488.1
1.569503	-1.668679	9.44	Down	1.24E-03	BF195118 ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.665643	-1.567308	9.4	Down	8.63E-04	AF282250 Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
4.319584	1.104655	9.29	Down	5.53E-04	AA618420 Homo sapiens cDNA: FLJ23597 fis, clone LNG15281
4.436354	1.227541	9.25	Down	2.94E-04	AI912275 B-cell CLLlymphoma 11A (zinc finger protein) /FL=gb:NM_022893.1 gb:NM_018014.1
1.923237	-1.283751	9.23	Down	3.70E-03	AW072102 Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
2.59299	-0.613677	9.23	Down	1.94E-04	NM_003887 Homo sapiens development and differentiation enhancing factor 2 (DDEF2), mRNA. /PROD=ADP-ribosylation factor(arf)-directed GTPaseactivating protein /FL=gb:AB007860.1 gb:NM_003887.1
3.20248	0.002668	9.19	Down	5.80E-04	AF220153 Homo sapiens four and a half LIM domains 1 protein isoform C (FHL1) mRNA, complete cds, alternatively spliced. /PROD=four and a half LIM domains 1 protein isoform C /FL=gb:AF220153.1
1.689335	-1.505873	9.16	Down	2.46E-03	NM_031272 Homo sapiens testis expressed sequence 14 (TEX14), mRNA. /PROD=testis

					expressed sequence 14 /FL=gb:NM_031272.1
3.026209	-0.167981	9.15	Down	6.90E-05	BC032302 Homo sapiens, similar to UDP-glucose ceramide glucosyltransferase-like 2, clone MGC:40268 IMAGE:5169731, mRNA, complete cds. /PROD=similar to UDP-glucose ceramideglucosyltransferase-like 2 /FL=gb:BC032302.1
3.116245	-0.070826	9.11	Down	7.93E-05	NM_017947 Homo sapiens hypothetical protein FLJ20733 (FLJ20733), mRNA. /PROD=hypothetical protein FLJ20733 /FL=gb:NM_017947.1
2.91664	-0.26326	9.06	Down	1.68E-03	AW003367 Homo sapiens clone 25237 mRNA sequence
4.453662	1.27718	9.04	Down	7.33E-05	AV681807 v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 3
3.454075	0.278604	9.03	Down	1.86E-04	AV691491 Homo sapiens mRNA; cDNA DKFZp564D1462 (from clone DKFZp564D1462)
1.883578	-1.291525	9.03	Down	2.67E-02	BF970287 Human DNA sequence from clone RP1-310O13 on chromosome 20q11.2. Contains (part of) four novel genes, ESTs, STSs, GSSs and four putative CpG islands
2.326737	-0.838174	8.97	Down	2.61E-03	NM_015982 Homo sapiens germ cell specific Y-box binding protein (LOC51087), mRNA. /PROD=germ cell specific Y-box binding protein /FL=gb:NM_015982.1 gb:AF096834.1
0.392456	-2.771428	8.96	Down	2.73E-02	NM_003007 Homo sapiens semenogelin I (SEMG1), mRNA. /PROD=semenogelin I /FL=gb:J04440.1 gb:NM_003007.1
3.116953	-0.041715	8.93	Down	3.90E-04	AA469071 Cluster Incl.

					AA469071:ne17f11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-881517 /clone_end=3 /gb=AA469071 /gi=2195605 /ug=Hs.180479 /len=758
3.113317	-0.040507	8.9	Down	2.36E-03	AL565745 ESTs, Weakly similar to 2108402A carnitine palmitoyltransferase I (H.sapiens)
5.010828	1.86984	8.82	Down	3.28E-04	AK027006 Homo sapiens cDNA: FLJ23353 fis, clone HEP14321, highly similar to HSU80736 Homo sapiens CAGF9 mRNA.
3.249727	0.113464	8.79	Down	2.14E-04	BC001745 Homo sapiens, clone MGC:3328, mRNA, complete cds. /PROD=Unknown (protein for MGC:3328) /FL=gb:BC001745.1 gb:NM_014392.1
1.532208	-1.601117	8.77	Down	3.19E-03	AI796813 advillin
5.063502	1.934512	8.75	Down	1.01E-04	AB018289 Homo sapiens mRNA for KIAA0746 protein, partial cds. /PROD=KIAA0746 protein
1.934415	-1.192238	8.73	Down	3.13E-03	NM_001351 Homo sapiens deleted in azoospermia-like (DAZL), mRNA. /PROD=deleted in azoospermia-like /FL=gb:U66726.2 gb:NM_001351.1 gb:U65918.1 gb:U66078.1
2.522705	-0.592752	8.67	Down	9.13E-03	U07236 Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
3.995648	0.881994	8.66	Down	6.55E-05	AI961231 KIAA0808 gene product /FL=gb:AB018351.1 gb:NM_014729.1
2.077151	-1.020617	8.56	Down	7.33E-05	BF223193 nuclear receptor subfamily 1, group I, member 3

6.650173	3.554864	8.55 Down	8.55E-04	NM_004360	Homo sapiens cadherin 1, type 1, E-cadherin (epithelial) (CDH1), mRNA. /PROD=cadherin 1, type 1, E-cadherin (epithelial) /FL=gb:NM_004360.1 gb:L08599.1
1.440541	-1.650241	8.52 Down	1.11E-03	BE503640	ESTs
1.344522	-1.721548	8.37 Down	1.97E-02	AW071705	dipeptidylpeptidase VI
4.319671	1.253603	8.37 Down	1.05E-04	AF063002	Homo sapiens LIM protein SLIMMER mRNA, complete cds. /PROD=LIM protein SLIMMER /FL=gb:AF063002.1 gb:AF098518.1
2.575606	-0.489298	8.37 Down	1.24E-03	BC016785	Homo sapiens, Similar to hypothetical protein PRO1722, clone IMAGE:4096414, mRNA.
1.070412	-1.992167	8.35 Down	7.29E-04	AF070642	Homo sapiens clone 24488 mRNA sequence.
3.083054	0.021788	8.35 Down	2.33E-03	BC026969	Homo sapiens, clone IMAGE:5116073, mRNA, partial cds.
6.075972	3.015223	8.34 Down	1.35E-04	NM_001449	Homo sapiens four and a half LIM domains 1 (FHL1), mRNA. /PROD=four and a half LIM domains 1 /FL=gb:U60115.1 gb:NM_001449.1 gb:U29538.1
0.779095	-2.27952	8.33 Down	1.58E-02	AF497717	Homo sapiens tissue-type lung unknown mRNA.
4.227241	1.173625	8.3 Down	3.47E-04	AI193252	ESTs, Weakly similar to AF133270 1 SLIT2 (H.sapiens)
1.139113	-1.908335	8.27 Down	1.40E-02	AI741469	ESTs
3.120689	0.079671	8.23 Down	6.27E-04	U01874	Human me20m mRNA, complete cds. /PROD=me20m /FL=gb:NM_006928.1 gb:BC001414.1 gb:U01874.1
3.499377	0.460367	8.22 Down	2.16E-03	NM_024572	Homo sapiens hypothetical protein FLJ12691 (FLJ12691), mRNA. /PROD=hypothetical protein FLJ12691 /FL=gb:NM_024572.1

2.568736	-0.463022	8.18 Down	4.78E-03	AA531287 ESTs

Table VI DIFFERENTIAL EXPRESSION OF GENES BETWEEN UNDIFFERENTIATED EMBRYONIC STEM CELLS CULTURED ON MATRIGEL™ AND EXPRES 01 (A) AND 02 (B) CELLS CULTURED ON TCPS

A) **H9P39 at 2 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	2 HR DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-3.61621	3.301718	120.92	Up	0.001179	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-1.32044	4.320344	49.89	Up	0.005081	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-3.12747	2.331072	43.97	Up	0.000718	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-2.3376	2.787516	34.9	Up	0.000229	U17496	Human proteasome subunit LMP7 (allele LMP7B) mRNA, complete cds. /PROD=proteasome subunit LMP7 /FL=gb:U17497.1 gb:U17496.1
-0.27888	4.715023	31.86	Up	0.000339	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-1.56608	3.343812	30.06	Up	0.009753	NM_000767	Homo sapiens cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (CYP2B6), mRNA. /PROD=cytochrome P450, subfamily IIB(phenobarbital-inducible), polypeptide 6 /FL=gb:NM_000767.2 gb:AF182277.1 gb:M29874.1
0.756526	5.558453	27.89	Up	0.000271	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2

					gb:AF017987.1 gb:AF001900.1
-1.03397	3.688335	26.4 Up	0.000308	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule, neuroendocrine protein 1 (7B2protein) /FL=gb:BC005349.1 gb:NM_003020.1
-1.64839	2.654165	19.73 Up	0.000963	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
-0.41404	3.88291	19.66 Up	0.00068	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-4.55112	-0.49607	16.62 Up	0.040292	NM_018043	Homo sapiens hypothetical protein FLJ10261 (FLJ10261), mRNA. /PROD=hypothetical protein FLJ10261 /FL=gb:NM_018043.1
-2.38787	1.639634	16.31 Up	0.010236	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
-2.506	1.482042	15.87 Up	0.000737	AW193693	DKFZP566K1924 protein
-1.89835	2.076299	15.72 Up	0.000308	AL122010	Human DNA sequence from clone RP5-997D16 on chromosome 1p34.1-35.3 Contains part of the gene for DAP-1 protein, STSs, GSSs and a CpG island
-2.80061	1.027087	14.2 Up	0.005931	NM_014624	Homo sapiens S100 calcium-binding protein A6 (calcyclin) (S100A6), mRNA. /PROD=S100 calcium-binding protein A6 /FL=gb:NM_014624.2 gb:BC001431.1
-1.56046	2.251934	14.05 Up	0.009772	NM_016354	Homo sapiens solute carrier family 21 (organic anion transporter), member 12 (SLC21A12), mRNA. /PROD=organic

					anion transporter OATP-E /FL=gb:AB031051.1 gb:NM_016354.1 gb:AF205072.1 gb:AF187817.1
1.109291	4.853054	13.4 Up	0.000308	NM_005356	Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-2.69521	1.04038	13.32 Up	0.000271	AF282250	Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
1.168713	4.897416	13.26 Up	0.001059	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-3.05488	0.645316	13 Up	0.001719	AI569804	ESTs
-0.10733	3.574485	12.83 Up	0.001042	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-3.12055	0.460578	11.97 Up	0.018849	AW780006	ESTs
-0.8902	2.675714	11.84 Up	0.001172	NM_022034	Homo sapiens estrogen regulated gene 1 (ERG-1), mRNA. /PROD=estrogen regulated gene 1 /FL=gb:AF305835.1 gb:NM_022034.1
-2.233	1.292642	11.52 Up	0.002196	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
-1.16113	2.362911	11.5 Up	0.007894	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
-2.7484	0.710709	11 Up	0.006544	BC000568	Homo sapiens, clone MGC:3040, mRNA,

					complete cds. /PROD=Unknown (protein for MGC:3040) /FL=gb:BC000568.1
-2.89467	0.509405	10.59 Up	0.010729	AW971205	ESTs
-1.66608	1.669381	10.09 Up	0.01208	BE673445	Homo sapiens chromosome 19, cosmid R28379
-1.38062	1.947029	10.04 Up	0.000277	NM_002590	Homo sapiens protocadherin 8 (PCDH8), mRNA. /PROD=protocadherin 8 /FL=gb:NM_002590.2 gb:AF061573.2
1.12675	4.40089	9.67 Up	0.000277	AA206141	ESTs
-0.04543	3.208344	9.54 Up	0.000875	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
-3.12304	0.081126	9.22 Up	0.025215	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
-2.26295	0.940715	9.21 Up	0.013376	AI735586	ESTs
3.061783	6.265115	9.21 Up	0.000149	BF057809	ESTs
-1.57619	1.598447	9.03 Up	0.001707	AW072790	contactin 1
1.260638	4.356898	8.55 Up	0.000408	AA404269	ESTs
-1.79406	1.19242	7.93 Up	0.023768	NM_004731	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 7 (SLC16A7), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 7 /FL=gb:AF058056.1 gb:NM_004731.1
-1.25121	1.703716	7.75 Up	0.000875	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
-2.01579	0.901094	7.55 Up	0.014339	AI937060	KIAA1151 protein
0.194248	3.083487	7.41 Up	0.002413	U07236	Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1

-2.17012	0.714641	7.39 Up	0.011075	AB018580	Homo sapiens mRNA for hluPGFS, complete cds. /PROD=hluPGFS /FL=gb:NM_003739.2 gb:AF149416.2 gb:AB018580.1 gb:D17793.1
1.872557	4.741366	7.3 Up	0.000311	R38389	olfactomedin related ER localized protein
-1.81469	1.042382	7.25 Up	0.007408	AF052108	Homo sapiens clone 23687 mRNA sequence.
-1.51616	1.329372	7.19 Up	0.007084	AJ272267	Homo sapiens partial mRNA for choline dehydrogenase (chdh gene). /PROD=choline dehydrogenase
-0.54428	2.289592	7.13 Up	0.000308	AF053712	Homo sapiens osteoprotegerin ligand mRNA, complete cds. /PROD=osteoprotegerin ligand /FL=gb:AF053712.1 gb:AF019047.1
-3.17826	-0.38807	6.92 Up	0.040995	AI798098	ESTs
-1.88254	0.903098	6.9 Up	0.007894	BF694956	Human DNA sequence from clone RP1-187J11 on chromosome 6q11.1-22.33. Contains the gene for a novel protein similar to S. pombe and S. cerevisiae predicted proteins, the gene for a novel protein similar to protein kinase C inhibitors, the 3 end of the
-1.27392	1.501511	6.85 Up	0.036787	U11058	Homo sapiens large conductance calcium- and voltage-dependent potassium channel alpha subunit (MaxiK) mRNA, complete cds. /PROD=large conductance calcium- and voltage-dependentpotassium channel alpha subunit /FL=gb:U23767.1 gb:NM_002247.1 gb:AF025999
-1.89628	0.858329	6.75 Up	0.001372	AA557324	ESTs, Weakly similar to fatty acid omega-hydroxylase (H.sapiens)
-2.62694	0.10781	6.66 Up	0.017924	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1

-0.69028	2.041376	6.64 Up	0.001589	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1 gb:M81140.1
1.037668	3.763873	6.62 Up	0.00068	R40892	ESTs
-1.4606	1.25243	6.56 Up	0.001042	AW072102	Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
-2.07873	0.629421	6.53 Up	0.006819	AI269290	solute carrier family 18 (vesicular monoamine), member 2 /FL=gb:L14269.1 gb:L23205.1 gb:L09118.1 gb:NM_003054.1
-1.17422	1.532018	6.53 Up	0.009466	AI962169	ESTs
-1.85153	0.844198	6.48 Up	0.022892	AL359062	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 1913076.
-0.32746	2.355449	6.42 Up	0.000657	L39833	Homo sapiens (clone hKvBeta3) K+ channel beta subunit mRNA, complete cds. /PROD=K+ channel beta-subunit /FL=gb:U16953.1 gb:L39833.1
-0.62283	2.054006	6.39 Up	0.000522	NM_001351	Homo sapiens deleted in azoospermia-like (DAZL), mRNA. /PROD=deleted in azoospermia-like /FL=gb:U66726.2 gb:NM_001351.1 gb:U65918.1 gb:U66078.1
-0.04433	2.61928	6.34 Up	0.001042	NM_007191	Homo sapiens Wnt inhibitory factor-1 (WIF-1), mRNA. /PROD=Wnt inhibitory factor-1 /FL=gb:AF122922.1 gb:NM_007191.1
0.462867	3.108247	6.26 Up	0.006847	AI807026	ESTs
1.37261	4.006097	6.21 Up	0.000311	BC040605	Homo sapiens, clone IMAGE:5271039, mRNA.
0.997757	3.610644	6.12 Up	0.000246	AU144892	Homo sapiens cDNA FLJ11569 fis, clone HEMBA1003304
2.214091	4.82397	6.1 Up	0.000277	N98595	ESTs
-0.58317	2.018483	6.07 Up	0.000412	AL563460	GATA-binding protein 2 /FL=gb:M68891.1
-3.21441	-0.62151	6.03 Up	0.033157	NM_021981	Homo sapiens pre-TNK cell associated protein (1D12A), mRNA. /PROD=pre-TNK cell associated protein /FL=gb:L17325.1

					gb:NM_021981.1
-1.61054	0.964359	5.96 Up	0.005872	AW264204	ESTs
-0.46577	2.083834	5.85 Up	0.00021	AW051591	ESTs, Moderately similar to unnamed protein product (H.sapiens)
-1.09181	1.45367	5.84 Up	0.027071	AI653050	ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)
-1.64801	0.893628	5.82 Up	0.000875	AW779917	ESTs
-0.49174	2.041917	5.79 Up	0.005081	NM_002522	Homo sapiens neuronal pentraxin I (NPTX1), mRNA. /PROD=neuronal pentraxin I precursor /FL=gb:NM_002522.1 gb:U61849.1
-0.7841	1.740263	5.75 Up	0.00111	BF672975	lipoprotein lipase /FL=gb:M15856.1 gb:NM_000237.1
-0.75335	1.769582	5.75 Up	0.01551	AK023900	Homo sapiens cDNA FLJ13838 fis, clone THYRO1000756, weakly similar to ALPHA-N-ACETYLGALACTOSAMINIDE ALPHA-2,6-SIALYLTRANSFERASE (EC 2.4.99.-). /FL=gb:NM_013443.1 gb:AB035173.1
1.174608	3.695562	5.74 Up	0.001082	AI659533	ArgAbl-interacting protein ArgBP2
-2.3444	0.162277	5.68 Up	0.00079	AW057589	ESTs
-1.70607	0.798713	5.68 Up	0.006868	BC040321	Homo sapiens, Similar to LIM homeobox protein 8, clone IMAGE:4839343, mRNA.
-1.11642	1.371492	5.61 Up	0.016088	BC000185	Homo sapiens, Similar to carnitine palmitoyltransferase I, liver, clone MGC:1772, mRNA, complete cds. /PROD=Similar to carnitine palmitoyltransferase I,liver /FL=gb:BC000185.1
2.631289	5.118301	5.61 Up	0.002033	AK026546	Homo sapiens cDNA: FLJ22893 fis, clone KAT04792.
-1.99418	0.464132	5.5 Up	0.002048	NM_006994	Homo sapiens butyrophilin, subfamily 3, member A3 (BTN3A3), mRNA. /PROD=butyrophilin, subfamily 3, member A3 /FL=gb:U90548.1

					gb:NM_006994.2
-2.05438	0.400672	5.48 Up	0.047179	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-0.0881	2.345496	5.4 Up	0.001106	AL565745	ESTs, Weakly similar to 2108402A carnitine palmitoyltransferase I (H.sapiens)
-1.67442	0.753821	5.38 Up	0.004073	AW117456	neurotrimin
-0.2823	2.124629	5.3 Up	0.006868	NM_016582	Homo sapiens peptide transporter 3 (LOC51296), mRNA. /PROD=peptide transporter 3 /FL=gb:NM_016582.1 gb:AB020598.1
-0.08433	2.303971	5.24 Up	0.003841	NM_000767	Homo sapiens cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (CYP2B6), mRNA. /PROD=cytochrome P450, subfamily IIB(phenobarbital-inducible), polypeptide 6 /FL=gb:NM_000767.2 gb:AF182277.1 gb:M29874.1
-0.49385	1.890277	5.22 Up	0.005872	AI741439	ESTs
2.372618	4.749882	5.2 Up	0.000339	NM_007015	Homo sapiens chondromodulin I precursor (CHM-I), mRNA. /PROD=chondromodulin I precursor /FL=gb:NM_007015.1 gb:AB006000.1
0.650035	3.011594	5.14 Up	0.011507	NM_004744	Homo sapiens lecithin retinol acyltransferase (phosphatidylcholine--retinol O-acyltransferase) (LRAT), mRNA. /PROD=lecithin retinol acyltransferase(phosphatidylcholine--retinol O-acyltransferase) /FL=gb:NM_004744.1 gb:AF071510.1
-1.60594	0.753467	5.13 Up	0.027018	AL050090	Homo sapiens mRNA; cDNA DKFZp586F1018 (from clone DKFZp586F1018). /PROD=hypothetical protein
4.239108	6.593362	5.11 Up	0.001589	BG542521	pyruvate dehydrogenase phosphatase

					/FL=gb:NM_018444.1 gb:AF155661.1
0.040412	2.375678	5.05	Up	0.00034	AA960844 Homo sapiens, clone IMAGE:4081483, mRNA
1.986226	4.31181	5.01	Up	0.000576	NM_018444 Homo sapiens pyruvate dehydrogenase phosphatase (PDP), mRNA. /PROD=pyruvate dehydrogenase phosphatase /FL=gb:NM_018444.1 gb:AF155661.1
3.409815	-3.01948	86.18	Down	0.000948	NM_016588 Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
5.388254	-0.10197	44.95	Down	0.000308	NM_004207 Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.094183	-2.07205	35.91	Down	0.000277	NM_013445 Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
4.092731	-0.56561	25.25	Down	0.000149	AL513917 solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
2.990178	-1.65945	25.1	Down	0.012588	NM_013445 Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
6.777916	2.398415	20.81	Down	0.000465	U15174 Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus

						E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
2.469646	-1.82868	19.68	Down	0.035416	N76327	ESTs, Highly similar to 1011297A transferrin receptor (H.sapiens)
2.306111	-1.98162	19.53	Down	0.000324	AI632223	hypothetical protein DKFZp434F2322
3.834572	-0.18549	16.22	Down	0.001082	NM_002610	Homo sapiens pyruvate dehydrogenase kinase, isoenzyme 1 (PDK1), nuclear gene encoding mitochondrial protein, mRNA. /PROD=pyruvate dehydrogenase kinase, isoenzyme 1 /FL=gb:NM_002610.2 gb:L42450.1
1.790331	-2.19355	15.82	Down	0.001383	AA775681	hypothetical protein FLJ23091
2.770179	-1.16728	15.32	Down	0.000149	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
3.025351	-0.90644	15.26	Down	0.000718	AW590925	ESTs
4.505436	0.7876	13.16	Down	0.000277	W57613	ESTs
4.749034	1.283923	11.04	Down	0.001992	NM_002130	Homo sapiens 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble) (HMGCS1), mRNA. /PROD=3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1(soluble) /FL=gb:NM_002130.1 gb:L25798.1 gb:BC000297.1
2.792215	-0.63797	10.78	Down	0.000308	BC017942	Homo sapiens, Similar to otoconin 90, clone IMAGE:4285317, mRNA.
1.80547	-1.58337	10.47	Down	0.003516	NM_000817	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD67, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD67 /FL=gb:NM_000817.1 gb:M81883.1 gb:L16888.1
5.095598	1.712881	10.43	Down	0.003841	NM_005542	Homo sapiens insulin induced gene 1 (INSIG1), mRNA. /PROD=insulin induced gene 1 /FL=gb:NM_005542.1
3.268087	-0.094	10.28	Down	0.000308	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14

						/FL=gb:AF345910.1
4.161028	0.812032	10.19	Down	0.01551	BC005807	Homo sapiens, clone MGC:10264, mRNA, complete cds. /PROD=Unknown (protein for MGC:10264) /FL=gb:BC005807.1
2.62025	-0.70119	10	Down	0.002196	AA625683	ESTs
1.840613	-1.45068	9.79	Down	0.004024	AI949760	ESTs, Weakly similar to unnamed protein product (H.sapiens)
1.389794	-1.83973	9.38	Down	0.001383	BG498699	ESTs
1.075159	-2.15236	9.37	Down	0.002413	J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
0.757197	-2.44574	9.21	Down	0.036787	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
0.831091	-2.3635	9.16	Down	0.026606	NM_153036	Homo sapiens hypothetical protein FLJ32239 (FLJ32239), mRNA. /FL=gb:NM_153036.1
4.507212	1.314761	9.14	Down	0.000772	AW196940	ESTs
1.194285	-1.99568	9.13	Down	0.018647	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
3.030236	-0.13469	8.97	Down	0.001421	AA812232	upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
2.422113	-0.73175	8.9	Down	0.012832	AL544576	ESTs
6.091008	2.976341	8.66	Down	0.000149	BC020935	Homo sapiens, Similar to otoconin 90, clone IMAGE:4277593, mRNA.
5.023981	1.92526	8.57	Down	0.000702	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
4.285883	1.193881	8.53	Down	0.000308	AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4

6.371229	3.380355	7.95 Down	0.000277	AI950472	ESTs
3.953402	0.998399	7.75 Down	0.000728	BC005369	Homo sapiens, chromosome 1 open reading frame 12, clone MGC:12484, mRNA, complete cds. /PROD=chromosome 1 open reading frame 12 /FL=gb:AF277176.1 gb:NM_022051.1 gb:AF229245.1 gb:BC005369.1
2.759117	-0.13047	7.41 Down	0.000277	AI692523	ESTs
1.143234	-1.73889	7.37 Down	0.018647	BF437711	ESTs
2.36447	-0.49577	7.26 Down	0.000358	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
2.514693	-0.33184	7.19 Down	0.000412	NM_145032	Homo sapiens hypothetical protein MGC21636 (MGC21636), mRNA. /FL=gb:BC020572.1 gb:NM_145032.2
1.956681	-0.85067	7 Down	0.045693	NM_005242	Homo sapiens coagulation factor II (thrombin) receptor-like 1 (F2RL1), mRNA. /PROD=coagulation factor II (thrombin) receptor-like 1precursor /FL=gb:U34038.1 gb:NM_005242.2
4.103964	1.313863	6.92 Down	0.000149	AA579773	ESTs
4.501184	1.716877	6.89 Down	0.000149	AK000162	Homo sapiens cDNA FLJ20155 fis, clone COL08754, highly similar to ACSA_ECOLI ACETYL-COENZYME A SYNTHETASE.
2.660133	-0.12206	6.88 Down	0.000412	AF277174	Homo sapiens PNAS-137 mRNA, complete cds. /PROD=PNAS-137 /FL=gb:AF277174.1
4.560288	1.812725	6.72 Down	0.049122	BF979497	squalene epoxidase
0.300578	-2.4423	6.69 Down	0.047414	AI110886	prothymosin, alpha (gene sequence 28)
3.816817	1.093203	6.61 Down	0.008646	AF116616	Homo sapiens PRO0998 mRNA, complete cds. /PROD=PRO0998 /FL=gb:AF116616.1
7.047717	4.332472	6.57 Down	6.33E-05	NM_004052	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3), nuclear gene encoding mitochondrial

					protein, mRNA. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
4.897427	2.262649	6.21	Down	0.000149	R06655 ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
4.424942	1.790634	6.21	Down	0.010942	AF493929 Homo sapiens regulator of G protein signalling 5 (RGS5) mRNA, complete cds. /PROD=regulator of G protein signalling 5 /FL=gb:AF493929.1
2.28595	-0.34058	6.18	Down	0.001421	BE504838 ESTs
2.276913	-0.33923	6.13	Down	0.045179	AK025909 Homo sapiens cDNA: FLJ22256 fis, clone HRC02860.
2.33099	-0.27829	6.1	Down	0.020405	NM_004041 Homo sapiens arrestin, beta 1 (ARRB1), transcript variant 1, mRNA. /PROD=arrestin beta 1, isoform A /FL=gb:BC003636.1 gb:AF084040.1 gb:NM_004041.2
5.319714	2.718977	6.07	Down	0.00034	AL117352 Human DNA sequence from clone RP5-876B10 on chromosome 1q42.12-43. Contains the 3 end of the GNPAT gene for glyceronephosphate O-acyltransferase (DHAPAT, DAPAT, dihydroxyacetone phosphate acyltransferase, EC 2.3.1.42), the gene for a novel protei...
6.618477	4.029022	6.02	Down	0.000267	AU146532 pyruvate dehydrogenase kinase, isoenzyme 1
2.658828	0.094296	5.92	Down	0.000277	NM_024603 Homo sapiens hypothetical protein FLJ11588 (FLJ11588), mRNA. /PROD=hypothetical protein FLJ11588 /FL=gb:NM_024603.1
3.806044	1.246883	5.89	Down	0.001383	AV734646 DNA segment on chromosome X (unique) 9928 expressed sequence
4.782763	2.225157	5.89	Down	0.000229	NM_004199 Homo sapiens procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide II (P4HA2), mRNA.

					/PROD=procollagen-proline, 2-oxoglutarate4-dioxygenase (proline 4-hydroxylase), alpha polypeptideII /FL=gb:NM_004199.1 gb:U904
2.350127	-0.15742	5.69	Down	0.001603	AK026106 Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
5.979532	3.475949	5.67	Down	0.038914	U18197 Human ATP:citrate lyase mRNA, complete cds. /PROD=ATP:citrate lyase /FL=gb:U18197.1
2.322104	-0.13595	5.49	Down	0.001082	AW291369 ESTs
2.951696	0.4944	5.49	Down	0.004024	AB019562 Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
2.265595	-0.17155	5.42	Down	0.00303	NM_022144 Homo sapiens myodulin protein (LOC64102), mRNA. /PROD=myodulin protein /FL=gb:AB055421.1 gb:AF191770.1 gb:NM_022144.1 gb:AF234259.1
5.606506	3.176643	5.39	Down	0.000149	NM_013409 Homo sapiens follistatin (FST), transcript variant FST344, mRNA. /PROD=follistatin isoform FST344 precursor /FL=gb:NM_013409.1 gb:BC004107.1
4.03305	1.617698	5.33	Down	0.000512	BE300521 insulin induced gene 1 /FL=gb:NM_005542.1
5.294065	2.87892	5.33	Down	0.01743	AF279899 Homo sapiens PNAS-145 mRNA, complete cds. /PROD=PNAS-145 /FL=gb:U03105.1 gb:NM_006813.1 gb:AF279899.1
5.807319	3.40016	5.3	Down	0.000277	NM_018004 Homo sapiens hypothetical protein FLJ10134 (FLJ10134), mRNA. /PROD=hypothetical protein FLJ10134 /FL=gb:NM_018004.1
2.64743	0.242871	5.29	Down	0.00111	AI702438 ESTs
4.257559	1.873346	5.22	Down	0.00021	NM_006365 Homo sapiens transcriptional activator of the c-fos promoter (CROC4), mRNA. /PROD=transcriptional

						activator of the c-fos promoter /FL=gb:NM_006365.1 gb:U49857.1

B) **H9P39 at 6 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	6 HR DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-3.61621	3.039489	100.82	Up	0.001521	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-1.32044	4.397292	52.63	Up	0.005415	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-3.12747	2.554429	51.34	Up	0.000785	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-1.56608	3.285259	28.87	Up	0.010886	NM_000767	Homo sapiens cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (CYP2B6), mRNA. /PROD=cytochrome P450, subfamily IIB(phenobarbital-inducible), polypeptide 6 /FL=gb:NM_000767.2 gb:AF182277.1 gb:M29874.1
0.756526	5.442022	25.73	Up	0.000181	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.03397	3.570137	24.32	Up	0.000451	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule, neuroendocrine protein 1 (7B2protein) /FL=gb:BC005349.1 gb:NM_003020.1
-0.27888	4.229001	22.75	Up	0.000262	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds.

-0.41404	4.064841	22.3 Up	0.000713	AI332407	/PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1 secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.64839	2.511027	17.87 Up	0.001081	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
-0.10733	3.921888	16.33 Up	0.001963	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-1.89835	2.08573	15.82 Up	0.000268	AL122010	Human DNA sequence from clone RP5-997D16 on chromosome 1p34.1-35.3 Contains part of the gene for DAP-1 protein, STSs, GSSs and a CpG island
-2.38787	1.510394	14.91 Up	0.012419	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
1.168713	4.97383	13.98 Up	0.000908	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
1.109291	4.713388	12.16 Up	0.000639	NM_005356	Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-0.69028	2.890465	11.96 Up	0.001335	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1

					gb:M81140.1
-2.89467	0.604102	11.3 Up	0.009629	AW971205	ESTs
-1.66608	1.816524	11.18 Up	0.011253	BE673445	Homo sapiens chromosome 19, cosmid R28379
3.061783	6.476101	10.66 Up	0.000192	BF057809	ESTs
1.495888	4.907617	10.64 Up	0.000719	NM_002133	Homo sapiens heme oxygenase (decycling) 1 (HMOX1), mRNA. /PROD=heme oxygenase (decyclizing) 1 /FL=gb:NM_002133.1
-3.05488	0.24579	9.85 Up	0.002819	AI569804	ESTs
-2.233	1.058708	9.79 Up	0.002994	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
-3.588	-0.31418	9.67 Up	0.048375	AI743261	ESTs
-2.01579	1.241268	9.56 Up	0.012905	AI937060	KIAA1151 protein
-2.16864	1.08358	9.53 Up	0.053176	NM_001480	Homo sapiens galanin receptor 1 (GALR1), mRNA. /PROD=galanin receptor 1 /FL=gb:NM_001480.2 gb:U23854.1 gb:L34339.1 gb:U53511.1
-1.39784	1.792634	9.13 Up	0.006895	BE222344	splicing factor, arginineserine-rich 5
-1.79406	1.292814	8.5 Up	0.025849	NM_004731	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 7 (SLC16A7), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 7 /FL=gb:AF058056.1 gb:NM_004731.1
-0.04543	3.025604	8.4 Up	0.001481	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
-2.62694	0.426879	8.3 Up	0.015097	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1
-3.17826	-0.15901	8.11 Up	0.032029	AI798098	ESTs
1.875596	4.86264	7.93 Up	0.052512	M10098	Human 18S rRNA gene, complete.
-2.87679	0.053356	7.62 Up	0.045164	AI378647	ESTs
-2.39234	0.513238	7.49 Up	0.032932	NM_004389	Homo sapiens catenin (cadherin-associated

					protein), alpha 2 (CTNNA2), mRNA. /PROD=catenin (cadherin-associated protein), alpha 2 /FL=gb:NM_004389.1 gb:M94151.2
-1.16113	1.724952	7.39 Up	0.016804	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
0.194248	3.078427	7.38 Up	0.002349	U07236	Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-1.57619	1.300336	7.34 Up	0.003836	AW072790	contactin 1
2.284174	5.158015	7.33 Up	0.031092	M10098	Human 18S rRNA gene, complete.
-1.51992	1.341829	7.27 Up	0.008657	AA460960	H.sapiens mRNA (clone ICRFp507L1876)
0.462867	3.324494	7.27 Up	0.005747	AI807026	ESTs
-2.05438	0.78321	7.15 Up	0.031227	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.997757	3.818432	7.06 Up	0.000204	AU144892	Homo sapiens cDNA FLJ11569 fis, clone HEMBA1003304
2.013831	4.834052	7.06 Up	0.044501	M10098	Human 18S rRNA gene, complete.
-2.26295	0.550594	7.03 Up	0.018367	AI735586	ESTs
-1.51616	1.294636	7.02 Up	0.005536	AJ272267	Homo sapiens partial mRNA for choline dehydrogenase (chdh gene). /PROD=choline dehydrogenase
-2.13754	0.667215	6.99 Up	0.022696	BF000203	ESTs
0.466394	3.270039	6.98 Up	0.000736	NM_003121	Homo sapiens Spi-B transcription factor (Spi-1PU.1 related) (SPIB), mRNA. /PROD=Spi-B transcription factor (Spi-1PU.1 related) /FL=gb:NM_003121.1

-2.17012	0.632675	6.98 Up	0.0112	AB018580	Homo sapiens mRNA for hluPGFS, complete cds. /PROD=hluPGFS /FL=gb:NM_003739.2 gb:AF149416.2 gb:AB018580.1 gb:D17793.1
-2.45074	0.326451	6.86 Up	0.021849	AW149405	neurexin 1 /FL=gb:AB035356.1
-0.8902	1.856598	6.71 Up	0.001423	NM_022034	Homo sapiens estrogen regulated gene 1 (ERG-1), mRNA. /PROD=estrogen regulated gene 1 /FL=gb:AF305835.1 gb:NM_022034.1
-1.25121	1.488908	6.68 Up	0.001035	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
-1.42062	1.315517	6.66 Up	0.053176	AI830490	glycerol kinase
-1.85153	0.876867	6.63 Up	0.021533	AL359062	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 1913076.
-3.12055	-0.40125	6.59 Up	0.044501	AW780006	ESTs
1.037668	3.7519	6.56 Up	0.000736	R40892	ESTs
-2.07873	0.630876	6.54 Up	0.00724	AI269290	solute carrier family 18 (vesicular monoamine), member 2 /FL=gb:L14269.1 gb:L23205.1 gb:L09118.1 gb:NM_003054.1
-1.88254	0.821519	6.52 Up	0.006908	BF694956	Human DNA sequence from clone RP1-187J11 on chromosome 6q11.1-22.33. Contains the gene for a novel protein similar to S. pombe and S. cerevisiae predicted proteins, the gene for a novel protein similar to protein kinase C inhibitors, the 3 end of the
-0.5392	2.15739	6.48 Up	0.00126	AA769438	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.872557	4.557858	6.43 Up	0.000315	R38389	olfactomedin related ER localized protein
-2.06656	0.610015	6.39 Up	0.01711	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting

					protein LIP3
-1.4606	1.189801	6.28 Up	0.001394	AW072102	Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
-1.17422	1.42382	6.05 Up	0.007542	AI962169	ESTs
-1.27392	1.293844	5.93 Up	0.042956	U11058	Homo sapiens large conductance calcium- and voltage-dependent potassium channel alpha subunit (MaxiK) mRNA, complete cds. /PROD=large conductance calcium- and voltage-dependentpotassium channel alpha subunit /FL=gb:U23767.1 gb:NM_002247.1 gb:AF025999
-0.04433	2.486339	5.78 Up	0.001511	NM_007191	Homo sapiens Wnt inhibitory factor-1 (WIF-1), mRNA. /PROD=Wnt inhibitory factor-1 /FL=gb:AF122922.1 gb:NM_007191.1
-1.38062	1.126483	5.68 Up	0.003297	NM_002590	Homo sapiens protocadherin 8 (PCDH8), mRNA. /PROD=protocadherin 8 /FL=gb:NM_002590.2 gb:AF061573.2
1.37261	3.87602	5.67 Up	0.000713	BC040605	Homo sapiens, clone IMAGE:5271039, mRNA.
-2.3444	0.156063	5.66 Up	0.002001	AW057589	ESTs
-1.60594	0.882381	5.61 Up	0.016783	AL050090	Homo sapiens mRNA; cDNA DKFZp586F1018 (from clone DKFZp586F1018). /PROD=hypothetical protein
-1.09181	1.384319	5.56 Up	0.030796	AI653050	ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)
-0.32746	2.147256	5.56 Up	0.001039	L39833	Homo sapiens (clone hKvBeta3) K+ channel beta subunit mRNA, complete cds. /PROD=K+ channel beta-subunit /FL=gb:U16953.1 gb:L39833.1
-0.46577	2.00387	5.54 Up	0.000262	AW051591	ESTs, Moderately similar to unnamed protein product (H.sapiens)
-2.19527	0.241495	5.41 Up	0.017156	NM_013333	Homo sapiens EH domain-binding mitotic

					phosphoprotein (EPSIN), mRNA. /PROD=EH domain-binding mitotic phosphoprotein /FL=gb:NM_013333.1 gb:AF073727.1
1.684042	4.109252	5.37 Up	0.000924	BE504979	Wiskott-Aldrich syndrome-like /FL=gb:D88460.1 gb:NM_003941.1
2.7744	5.196982	5.36 Up	0.001859	AA669799	Cluster Incl. AA669799:ag36c04.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-1118886 /clone_end=3 /gb=AA669799 /gi=2631298 /ug=Hs.6315 /len=679
0.623369	3.023579	5.28 Up	0.000791	NM_006334	Homo sapiens neuroblastoma (nerve tissue) protein (AMY), mRNA. /PROD=neuroblastoma (nerve tissue) protein /FL=gb:NM_006334.1 gb:D82343.1
-0.0881	2.307249	5.26 Up	0.000742	AL565745	ESTs, Weakly similar to 2108402A carnitine palmitoyltransferase I (H.sapiens)
0.225505	2.619908	5.26 Up	0.000552	AI968440	ESTs
-1.67442	0.713629	5.23 Up	0.008409	AW117456	neurotrimin
0.040412	2.394979	5.11 Up	0.000552	AA960844	Homo sapiens, clone IMAGE:4081483, mRNA
1.638346	3.992456	5.11 Up	0.000281	AA603344	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.923146	4.275361	5.11 Up	0.000799	BF057731	ESTs
1.398961	3.745146	5.08 Up	0.000972	NM_024036	Homo sapiens hypothetical protein MGC3103 (MGC3103), mRNA. /PROD=hypothetical protein MGC3103 /FL=gb:NM_024036.1 gb:BC000207.1
-0.2823	2.040956	5 Up	0.007542	NM_016582	Homo sapiens peptide transporter 3 (LOC51296), mRNA. /PROD=peptide transporter 3 /FL=gb:NM_016582.1 gb:AB020598.1
3.409815	-2.62843	65.72 Down	0.0112	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin

						/FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
5.388254	0.009545	41.61	Down	0.000281	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.094183	-1.98643	33.84	Down	0.012905	NM_013445	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
3.025351	-1.81749	28.7	Down	0.004056	AW590925	ESTs
4.092731	-0.55563	25.08	Down	0.000627	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
6.777916	2.149128	24.74	Down	0.000281	U15174	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
0.959227	-3.66704	24.7	Down	0.001627	AB033831	Homo sapiens hSCDGF mRNA for spinal cord-derived growth factor, complete cds. /PROD=spinal cord-derived growth factor /FL=gb:NM_016205.1 gb:AB033831.1 gb:AF091434.1 gb:AF244813.1
1.470435	-3.07409	23.34	Down	0.029826	L49506	Homo sapiens cyclin G2 mRNA, complete cds. /PROD=cyclin G2 /FL=gb:L49506.1
4.161028	-0.3587	22.94	Down	0.006316	BC005807	Homo sapiens, clone MGC:10264, mRNA, complete cds. /PROD=Unknown (protein

						for MGC:10264) /FL=gb:BC005807.1
2.446762	-1.7919	18.88	Down	0.029145	NM_005983	Homo sapiens S-phase kinase-associated protein 2 (p45) (SKP2), mRNA. /PROD=S-phase kinase-associated protein 2 (p45) /FL=gb:U33761.1 gb:NM_005983.1
1.790331	-2.43995	18.77	Down	0.001074	AA775681	hypothetical protein FLJ23091
4.505436	0.27614	18.76	Down	0.000281	W57613	ESTs
2.792215	-1.38592	18.1	Down	0.013563	BC017942	Homo sapiens, Similar to otoconin 90, clone IMAGE:4285317, mRNA.
4.507212	0.470029	16.42	Down	0.000262	AW196940	ESTs
2.469646	-1.56158	16.35	Down	0.000649	N76327	ESTs, Highly similar to 1011297A transferrin receptor (H.sapiens)
2.770179	-1.16077	15.25	Down	0.000181	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
3.834572	-0.07465	15.02	Down	0.000272	NM_002610	Homo sapiens pyruvate dehydrogenase kinase, isoenzyme 1 (PDK1), nuclear gene encoding mitochondrial protein, mRNA. /PROD=pyruvate dehydrogenase kinase, isoenzyme 1 /FL=gb:NM_002610.2 gb:L42450.1
2.306111	-1.49375	13.93	Down	0.004398	AI632223	hypothetical protein DKFZp434F2322
3.030236	-0.72689	13.52	Down	0.006371	AA812232	upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
3.268087	-0.40455	12.75	Down	0.000114	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14 /FL=gb:AF345910.1
5.294065	1.68926	12.17	Down	0.001199	AF279899	Homo sapiens PNAS-145 mRNA, complete cds. /PROD=PNAS-145 /FL=gb:U03105.1 gb:NM_006813.1 gb:AF279899.1
0.173113	-3.3673	11.64	Down	0.006169	NM_152490	Homo sapiens hypothetical protein MGC39558 (MGC39558), mRNA. /FL=gb:BC029564.1 gb:NM_152490.1
0.432613	-3.10597	11.62	Down	0.013508	BC004884	Homo sapiens, clone MGC:11141, mRNA, complete cds. /PROD=Unknown (protein

					for MGC:11141) /FL=gb:BC004884.1
6.371229	2.841928	11.55 Down	0.000432	AI950472	ESTs
5.023981	1.496597	11.53 Down	0.000207	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
2.036188	-1.4564	11.26 Down	0.023936	U55936	Human SNAP-23 mRNA, complete cds. /PROD=SNAP-23 /FL=gb:U55936.1 gb:BC000148.2 gb:BC003686.1 gb:Y09567.1
1.075159	-2.41498	11.24 Down	0.004979	J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
6.091008	2.605414	11.2 Down	0.000741	BC020935	Homo sapiens, Similar to otoconin 90, clone IMAGE:4277593, mRNA.
0.783065	-2.6827	11.05 Down	0.030265	AB014486	Homo sapiens mRNA for RA70, complete cds. /PROD=RA70 /FL=gb:AF051323.1 gb:BC002893.1 gb:AB014486.1 gb:AF072166.1 gb:NM_003930.1
2.505869	-0.95096	10.98 Down	0.001627	AV721177	phosphatidylinositol binding clathrin assembly protein
4.749034	1.297636	10.94 Down	0.000464	NM_002130	Homo sapiens 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble) (HMGCS1), mRNA. /PROD=3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1(soluble) /FL=gb:NM_002130.1 gb:L25798.1 gb:BC000297.1
1.840613	-1.60133	10.87 Down	0.015976	AI949760	ESTs, Weakly similar to unnamed protein product (H.sapiens)
2.060071	-1.36259	10.72 Down	0.003053	AA004300	hypothetical protein DKFZp566I133
2.990178	-0.3979	10.47 Down	0.000924	NM_013445	Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA. /PROD=glutamate

					decarboxylase 1, isoform GAD25 /FL=gb:NM_013445.1 gb:AF178853.1 gb:BC002815.1
1.143234	-2.23959	10.43	Down	0.00724	BF437711 ESTs
0.680039	-2.65005	10.06	Down	0.005452	AW268357 ESTs, Highly similar to AF155116 1 NY-REN-60 antigen (H.sapiens)
0.757197	-2.55666	9.94	Down	0.012419	AF213459 Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
3.953402	0.655224	9.84	Down	0.000312	BC005369 Homo sapiens, chromosome 1 open reading frame 12, clone MGC:12484, mRNA, complete cds. /PROD=chromosome 1 open reading frame 12 /FL=gb:AF277176.1 gb:NM_022051.1 gb:AF229245.1 gb:BC005369.1
2.660133	-0.625	9.75	Down	0.000281	AF277174 Homo sapiens PNAS-137 mRNA, complete cds. /PROD=PNAS-137 /FL=gb:AF277174.1
2.370141	-0.82549	9.16	Down	0.011076	BC020691 Homo sapiens, Similar to pre-B-cell colony-enhancing factor, clone MGC:22427 IMAGE:4717726, mRNA, complete cds. /PROD=Similar to pre-B-cell colony-enhancing factor /FL=gb:BC020691.1
1.250277	-1.93752	9.11	Down	0.02358	BC035744 Homo sapiens, hypothetical protein HSPC129, clone MGC:46091 IMAGE:5744745, mRNA, complete cds. /FL=gb:BC035744.1
2.62025	-0.48479	8.6	Down	0.002377	AA625683 ESTs
4.560288	1.479495	8.46	Down	0.000799	BF979497 squalene epoxidase
1.609384	-1.40302	8.07	Down	0.03374	BC005961 Homo sapiens, parathyroid hormone-like hormone, clone MGC:14611, mRNA, complete cds. /PROD=parathyroid hormone-like hormone /FL=gb:BC005961.1

2.422113	-0.58962	8.07 Down	0.035909	AL544576	ESTs
4.285883	1.280326	8.03 Down	0.000262	AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
1.194285	-1.77245	7.82 Down	0.029849	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
0.885541	-2.07053	7.76 Down	0.025326	AV721958	ESTs
4.501184	1.559254	7.68 Down	0.000103	AK000162	Homo sapiens cDNA FLJ20155 fis, clone COL08754, highly similar to ACSA_ECOLI ACETYL-COENZYME A SYNTHETASE.
2.264785	-0.65782	7.58 Down	0.000552	AF005037	Homo sapiens secretory carrier membrane protein (SCAMP1) mRNA, complete cds. /PROD=secretory carrier membrane protein /FL=gb:AF038966.1 gb:AF005037.1 gb:NM_004866.1
5.095598	2.21166	7.38 Down	0.001394	NM_005542	Homo sapiens insulin induced gene 1 (INSIG1), mRNA. /PROD=insulin induced gene 1 /FL=gb:NM_005542.1
5.979532	3.098176	7.37 Down	0.003586	U18197	Human ATP:citrate lyase mRNA, complete cds. /PROD=ATP:citrate lyase /FL=gb:U18197.1
4.782763	1.929757	7.23 Down	0.000451	NM_004199	Homo sapiens procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide II (P4HA2), mRNA. /PROD=procollagen-proline, 2-oxoglutarate4-dioxygenase (proline 4-hydroxylase), alpha polypeptideII /FL=gb:NM_004199.1 gb:U904
5.356771	2.540614	7.04 Down	0.000587	W92036	ESTs
1.41468	-1.38083	6.94 Down	0.017389	NM_018470	Homo sapiens uncharacterized hypothalamus protein HT009 (HT009), mRNA. /PROD=uncharacterized hypothalamus protein HT009 /FL=gb:AF220183.1 gb:NM_018470.1
7.047717	4.25951	6.91 Down	0.000431	NM_0040	Homo sapiens

					52	BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3), nuclear gene encoding mitochondrial protein, mRNA. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
1.815339	-0.96912	6.89	Down	0.011253	BE206621	Homo sapiens mRNA; cDNA DKFZp434P228 (from clone DKFZp434P228)
5.319714	2.54291	6.85	Down	0.000213	AL117352	Human DNA sequence from clone RP5-876B10 on chromosome 1q42.12-43. Contains the 3 end of the GNPAT gene for glyceronephosphate O-acyltransferase (DHAPAT, DAPAT, dihydroxyacetone phosphate acyltransferase, EC 2.3.1.42), the gene for a novel protei...
4.010007	1.2423	6.81	Down	0.00398	NM_006577	Homo sapiens beta-1,3-N-acetylglucosaminyltransferase (BETA3GNT), mRNA. /PROD=beta-1,3-N-acetylglucosaminyltransferase /FL=gb:NM_006577.2 gb:AF288208.1 gb:AF092051.2
1.390174	-1.34692	6.67	Down	0.014402	BC001224	Homo sapiens, clone MGC:982 IMAGE:3354306, mRNA, complete cds. /PROD=Unknown (protein for MGC:982) /FL=gb:BC001224.1
0.831091	-1.89825	6.63	Down	0.025217	NM_153036	Homo sapiens hypothetical protein FLJ32239 (FLJ32239), mRNA. /FL=gb:NM_153036.1
2.33099	-0.39642	6.62	Down	0.000103	NM_004041	Homo sapiens arrestin, beta 1 (ARRB1), transcript variant 1, mRNA. /PROD=arrestin beta 1, isoform A /FL=gb:BC003636.1 gb:AF084040.1 gb:NM_004041.2
1.389794	-1.32346	6.56	Down	0.006908	BG498699	ESTs
4.424942	1.717072	6.53	Down	0.000627	AF493929	Homo sapiens regulator of G protein signalling 5

					(RGS5) mRNA, complete cds. /PROD=regulator of G protein signalling 5 /FL=gb:AF493929.1
1.987876	-0.71603	6.52	Down	0.032029	D84105 Human CD46 mRNA, complete cds. /PROD=CD46 /FL=gb:D84105.1
2.224696	-0.43842	6.33	Down	0.003781	NM_015601 Homo sapiens DKFZP564G092 protein (DKFZP564G092), mRNA. /PROD=DKFZP564G092 protein /FL=gb:NM_015601.1
0.366041	-2.27572	6.24	Down	0.017238	AI242583 Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
0.899011	-1.74189	6.24	Down	0.031092	NM_002820 Homo sapiens parathyroid hormone-like hormone (PTHLH), mRNA. /PROD=parathyroid hormone-like hormone /FL=gb:J03802.1 gb:NM_002820.1
-0.00139	-2.64223	6.24	Down	0.045323	NM_002837 Homo sapiens protein tyrosine phosphatase, receptor type, B (PTPRB), mRNA. /PROD=protein tyrosine phosphatase, receptor type, B /FL=gb:NM_002837.1
0.81216	-1.82788	6.23	Down	0.021836	NM_017763 Homo sapiens hypothetical protein FLJ20315 (FLJ20315), mRNA. /PROD=hypothetical protein FLJ20315 /FL=gb:NM_017763.1
5.600865	2.995377	6.09	Down	0.000713	AI183997 regulator of G-protein signalling 5 /FL=gb:AB008109.1 gb:NM_003617.1 gb:AF159570.1
2.350127	-0.2504	6.07	Down	0.030265	AK026106 Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
3.732985	1.134619	6.06	Down	0.001697	AI459194 early growth response 1
2.36447	-0.20141	5.92	Down	0.000552	NM_005181 Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
3.621319	1.058823	5.91	Down	0.001394	AY072911 Homo sapiens coxsackie-adenovirus-receptor

						isoform CAR37 (CXADR) mRNA, complete cds; alternatively spliced. /PROD=coxsackie-adenovirus-receptor isoform CAR37 /FL=gb:AY072911.1
3.816817	1.261309	5.88	Down	0.000279	AF116616	Homo sapiens PRO0998 mRNA, complete cds. /PROD=PRO0998 /FL=gb:AF116616.1
2.003811	-0.52279	5.76	Down	0.012377	AK001291	Homo sapiens cDNA FLJ10429 fis, clone NT2RP1000413, highly similar to Homo sapiens mRNA for KIAA0587 protein.
2.951696	0.463484	5.61	Down	0.000268	AB019562	Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
4.654166	2.17714	5.57	Down	0.006161	H09085	Homo sapiens clone FLC0675 PRO2870 mRNA, complete cds
2.590871	0.126582	5.52	Down	0.00106	NM_016569	Homo sapiens TBX3-iso protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
2.432066	-0.0298	5.51	Down	0.005455	NM_007034	Homo sapiens DnaJ-like heat shock protein 40 (HLJ1), mRNA. /PROD=DnaJ-like heat shock protein 40 /FL=gb:NM_007034.2 gb:U40992.2
5.807319	3.352042	5.48	Down	0.000612	NM_018004	Homo sapiens hypothetical protein FLJ10134 (FLJ10134), mRNA. /PROD=hypothetical protein FLJ10134 /FL=gb:NM_018004.1
2.006604	-0.43301	5.42	Down	0.000713	NM_004087	Homo sapiens discs, large (Drosophila) homolog 1 (DLG1), mRNA. /PROD=discs, large (Drosophila) homolog 1 /FL=gb:NM_004087.1 gb:U13896.1
0.72592	-1.71056	5.41	Down	0.014643	AB050856	Homo sapiens beta3GalNAcT-1 mRNA for globoside synthase, complete cds, clone:type 2. /PROD=globoside synthase /FL=gb:AB050856.1
3.805066	1.369345	5.41	Down	0.001099	BG33007	Human alpha-catenin

					6	mRNA, partial cds.
3.70002	1.279892	5.35	Down	0.014262	NM_006544	Homo sapiens SEC10 (S. cerevisiae)-like 1 (SEC10L1), mRNA. /PROD=SEC10 (S. cerevisiae)-like 1 /FL=gb:U85946.1 gb:NM_006544.1
0.873551	-1.53444	5.31	Down	0.031228	AW293376	ESTs
5.850582	3.443167	5.31	Down	0.008657	AF394735	Homo sapiens MAD2 mitotic arrest deficient-like 1 variant (MAD2L1) mRNA, complete cds. /PROD=MAD2 mitotic arrest deficient-like 1 variant /FL=gb:AF394735.1
5.252439	2.850969	5.28	Down	0.000192	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
1.275104	-1.11616	5.25	Down	0.031092	AU146738	Homo sapiens cDNA FLJ11985 fis, clone HEMBB1001356
4.255531	1.866771	5.24	Down	0.001003	AF096296	Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor /FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
4.075321	1.687619	5.23	Down	0.000791	AI652662	branched chain aminotransferase 1, cytosolic
3.806044	1.418363	5.23	Down	0.010886	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
2.276913	-0.10568	5.21	Down	0.042222	AK025909	Homo sapiens cDNA: FLJ22256 fis, clone HRC02860.
3.264799	0.883433	5.21	Down	0.001003	NM_016076	Homo sapiens CGI-146 protein (LOC51029), mRNA. /PROD=CGI-146 protein /FL=gb:NM_016076.1 gb:AF151904.1
-0.70217	-3.08122	5.2	Down	0.046444	AV735100	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE

						CONTAMINATION WARNING ENTRY (H.sapiens)
2.28595	-0.08329	5.17	Down	0.001394	BE504838	ESTs
0.424388	-1.93597	5.13	Down	0.039624	NM_002433	Homo sapiens myelin oligodendrocyte glycoprotein (MOG), mRNA. /PROD=myelin oligodendrocyte glycoprotein /FL=gb:U18798.1 gb:U64564.1 gb:NM_002433.1
5.450694	3.100148	5.1	Down	0.000281	AF095771	Homo sapiens PTH-responsive osteosarcoma B1 protein (B1) mRNA, complete cds. /PROD=PTH-responsive osteosarcoma B1 protein /FL=gb:AF095771.1
2.176455	-0.15806	5.04	Down	0.000603	AB033281	Homo sapiens BTRCP2 mRNA for F-box and WD-repeats protein isoform C, complete cds. /PROD=F-box and WD-repeats protein beta-TRCP2 isoformC /FL=gb:AF176022.1 gb:AB033281.1
4.103964	1.770836	5.04	Down	0.000114	AA579773	ESTs
4.970228	2.637225	5.04	Down	0.005013	AF450454	Homo sapiens putative zinc finger protein 42 (ZFP42) mRNA, complete cds. /PROD=putative zinc finger protein 42 /FL=gb:AF450454.1
1.951234	-0.37257	5.01	Down	0.032802	NM_016277	Homo sapiens RAB23, member RAS oncogene family (RAB23), mRNA. /PROD=RAB23 protein /FL=gb:NM_016277.1 gb:AB034244.1

C) **H9P39 at 24 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	24 HRS DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-3.61621	3.252949	116.9	Up	1.09E-03	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-3.12747	2.81955	61.69	Up	5.09E-04	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-0.27888	4.796134	33.71	Up	2.25E-04	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA,

					complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-3.26893	1.684842	30.99 Up	1.95E-04	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-3.88742	0.690893	23.89 Up	2.83E-03	AA180985	ESTs
-1.32044	3.115913	21.65 Up	9.44E-03	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
1.168713	5.393939	18.7 Up	4.05E-04	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-2.69521	1.432079	17.48 Up	7.06E-05	AF282250	Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
-2.506	1.523432	16.33 Up	2.66E-04	AW193693	DKFZP566K1924 protein
-0.10733	3.827249	15.29 Up	5.09E-04	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-3.62742	0.232422	14.52 Up	1.32E-02	AA772920	ESTs
-0.69028	3.077263	13.62 Up	8.84E-04	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1 gb:M81140.1
-2.38787	1.308962	12.97 Up	1.24E-02	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
-1.03397	2.650732	12.86 Up	4.41E-04	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule,

					neuroendocrine protein 1 (7B2protein) /FL=gb:BC005349.1 gb:NM_003020.1
-2.05438	1.576656	12.39 Up	1.46E-02	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.756526	4.2504	11.27 Up	1.84E-04	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.39784	2.037775	10.82 Up	4.58E-03	BE222344	splicing factor, arginineserine-rich 5
-3.12304	0.280186	10.58 Up	1.86E-02	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
-2.01579	1.387151	10.58 Up	7.46E-03	AI937060	KIAA1151 protein
-2.19527	1.171426	10.32 Up	2.14E-03	NM_013333	Homo sapiens EH domain-binding mitotic phosphoprotein (EPSIN), mRNA. /PROD=EH domain-binding mitotic phosphoprotein /FL=gb:NM_013333.1 gb:AF073727.1
-1.16113	2.202477	10.29 Up	8.90E-03	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
1.109291	4.425076	9.96 Up	3.72E-04	NM_005356	Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-1.66608	1.62119	9.76 Up	1.29E-02	BE673445	Homo sapiens

					chromosome 19, cosmid R28379
-2.233	1.032915	9.62 Up	4.41E-03	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
-3.17826	0.063512	9.46 Up	2.56E-02	AI798098	ESTs
3.042634	6.275162	9.4 Up	1.84E-04	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
-2.62694	0.564089	9.13 Up	1.08E-02	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1
-3.588	-0.42279	8.97 Up	5.08E-02	AI743261	ESTs
-1.75731	1.403919	8.95 Up	3.72E-02	BC008992	Homo sapiens, clone MGC:16926 IMAGE:4183000, mRNA, complete cds. /PROD=Unknown (protein for MGC:16926) /FL=gb:BC008992.1
-1.56608	1.492453	8.33 Up	3.48E-02	NM_000767	Homo sapiens cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (CYP2B6), mRNA. /PROD=cytochrome P450, subfamily IIB(phenobarbital-inducible), polypeptide 6 /FL=gb:NM_000767.2 gb:AF182277.1 gb:M29874.1
-1.64839	1.373964	8.12 Up	2.63E-03	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
-2.85395	0.154004	8.04 Up	3.89E-02	AY063451	Homo sapiens D21S2088E mRNA sequence.

-1.61054	1.380575	7.95 Up	3.70E-03	AW264204	ESTs
-3.12055	-0.14826	7.85 Up	3.16E-02	AW780006	ESTs
-0.48291	2.475412	7.77 Up	6.01E-04	NM_000273	Homo sapiens ocular albinism 1 (Nettleship-Falls) (OA1), mRNA. /PROD=ocular albinism 1 (Nettleship-Falls) protein /FL=gb:NM_000273.1
-0.01122	2.91624	7.61 Up	5.09E-04	AI356398	butyrate response factor 2 (EGF-response factor 2) /FL=gb:BC005010.1 gb:NM_006887.1
-0.41404	2.492138	7.5 Up	1.22E-03	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-0.04543	2.826104	7.32 Up	8.38E-04	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
3.061783	5.932074	7.31 Up	2.39E-04	BF057809	ESTs
1.750623	4.603127	7.22 Up	3.35E-04	AA176289	ESTs
1.37261	4.224545	7.22 Up	2.56E-04	BC040605	Homo sapiens, clone IMAGE:5271039, mRNA.
0.194248	2.977224	6.88 Up	1.76E-03	U07236	Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-2.17012	0.571059	6.69 Up	1.11E-02	AB018580	Homo sapiens mRNA for hluPGFS, complete cds. /PROD=hluPGFS /FL=gb:NM_003739.2 gb:AF149416.2 gb:AB018580.1 gb:D17793.1
0.270429	2.998558	6.63 Up	2.01E-02	AF493872	Homo sapiens guanine nucleotide binding protein gamma 4 (GNG4) mRNA, complete cds. /PROD=guanine nucleotide binding protein gamma 4 /FL=gb:AF493872.1
0.462867	3.188675	6.62 Up	5.56E-03	AI807026	ESTs
-2.3444	0.379948	6.61 Up	5.18E-04	AW057589	ESTs
-2.06656	0.644395	6.55 Up	1.48E-02	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting

					protein LIP3
-1.88254	0.823917	6.53 Up	5.94E-03	BF694956	Human DNA sequence from clone RP1-187J11 on chromosome 6q11.1-22.33. Contains the gene for a novel protein similar to S. pombe and S. cerevisiae predicted proteins, the gene for a novel protein similar to protein kinase C inhibitors, the 3 end of the
-2.14678	0.54813	6.48 Up	2.59E-02	AA143060	ESTs, Highly similar to I38945 melanoma ubiquitous mutated protein (H.sapiens)
-1.09181	1.594917	6.44 Up	2.17E-02	AI653050	ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)
-1.57619	1.107388	6.42 Up	2.44E-03	AW072790	contactin 1
-1.42062	1.262234	6.42 Up	5.27E-02	AI830490	glycerol kinase
-1.51992	1.159662	6.41 Up	4.58E-03	AA460960	H.sapiens mRNA (clone ICRFp507L1876)
0.828954	3.501807	6.38 Up	9.79E-04	AK026659	Homo sapiens cDNA: FLJ23006 fis, clone LNG00414.
0.040412	2.69519	6.3 Up	3.16E-04	AA960844	Homo sapiens, clone IMAGE:4081483, mRNA
-0.0881	2.555378	6.25 Up	1.84E-04	AL565745	ESTs, Weakly similar to 2108402A carnitine palmitoyltransferase I (H.sapiens)
-0.66924	1.971531	6.24 Up	1.10E-02	AI986120	latent transforming growth factor beta binding protein 1 /FL=gb:M34057.1 gb:NM_000627.1
-1.25121	1.36043	6.11 Up	8.84E-04	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
1.285793	3.892769	6.09 Up	1.84E-04	AI949827	ESTs
-1.4606	1.131857	6.03 Up	1.46E-03	AW072102	Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
1.037668	3.589262	5.86 Up	3.89E-04	R40892	ESTs
-2.13754	0.412333	5.86 Up	2.35E-02	BF000203	ESTs
1.470195	4.017332	5.84 Up	1.93E-04	AI676059	ESTs
0.780689	3.30524	5.75 Up	2.66E-04	AI016316	ESTs
-1.41031	1.100005	5.7 Up	2.17E-02	AI832477	serologically defined colon cancer antigen 43
-0.68225	1.819364	5.66 Up	3.04E-03	N48299	ESTs, Moderately similar to NFY-C (H.sapiens)

0.937118	3.415706	5.57 Up	2.66E-04	AU151342	Homo sapiens cDNA FLJ12935 fis, clone NT2RP2004982
-0.41626	2.0614	5.57 Up	1.39E-03	BF110534	ESTs
2.167442	4.632856	5.52 Up	2.19E-04	NM_001552	Homo sapiens insulin-like growth factor-binding protein 4 (IGFBP4), mRNA. /PROD=insulin-like growth factor-binding protein 4 /FL=gb:M62403.1 gb:NM_001552.1
-0.46577	1.990737	5.49 Up	1.62E-04	AW051591	ESTs, Moderately similar to unnamed protein product (H.sapiens)
-1.98038	0.474231	5.48 Up	1.22E-02	NM_002442	Homo sapiens Musashi (Drosophila) homolog 1 (MSI1), mRNA. /PROD=Musashi (Drosophila) homolog 1 /FL=gb:AB012851.1 gb:NM_002442.1
0.466394	2.917466	5.47 Up	6.01E-04	NM_003121	Homo sapiens Spi-B transcription factor (Spi-1PU.1 related) (SPIB), mRNA. /PROD=Spi-B transcription factor (Spi-1PU.1 related) /FL=gb:NM_003121.1
-2.73733	-0.30853	5.38 Up	1.36E-03	L41944	Homo sapiens interferon receptor ifnar2-1 (splice variant IFNAR2-1) mRNA, complete cds. /PROD=interferon receptor /FL=gb:NM_000874.1 gb:L41944.1
0.923781	3.31197	5.23 Up	2.23E-04	BE897866	ESTs
1.198446	3.56619	5.16 Up	3.79E-03	BG283790	ESTs
0.013383	2.37551	5.14 Up	7.45E-03	L10374	Human (clone CTG-A4) mRNA sequence.
-1.39667	0.965049	5.14 Up	2.75E-03	AI018174	ESTs
-3.38515	-1.06056	5.01 Up	3.31E-02	NM_172368	Homo sapiens putative protein LG30 (G30), mRNA. /PROD=putative protein LG30 /FL=gb:AY138548.1 gb:NM_172368.1
3.409815	-1.99672	42.42 Down	8.38E-04	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
4.092731	-0.75499	28.79 Down	3.57E-04	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1

						gb:NM_004207.1
5.388254	0.591477	27.8	Down	4.11E-05	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
2.306225	-2.24414	23.43	Down	1.14E-03	AW444761	ESTs
2.306111	-1.93483	18.91	Down	7.20E-04	AI632223	hypothetical protein DKFZp434F2322
3.025351	-1.21304	18.87	Down	6.42E-03	AW590925	ESTs
0.757197	-3.40795	17.94	Down	7.19E-03	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
0.959227	-3.03425	15.93	Down	1.27E-02	AB033831	Homo sapiens hSCDGF mRNA for spinal cord-derived growth factor, complete cds. /PROD=spinal cord-derived growth factor /FL=gb:NM_016205.1 gb:AB033831.1 gb:AF091434.1 gb:AF244813.1
4.505436	0.524918	15.79	Down	1.36E-04	W57613	ESTs
0.942774	-2.97701	15.13	Down	8.44E-04	AW957786	ESTs, Weakly similar to S51797 vasodilator-stimulated phosphoprotein (H.sapiens)
1.1136	-2.73154	14.37	Down	1.61E-02	Z70519	H.sapiens FASApo 1 mRNA for FAS soluble protein (clone FAS Exo4Del). /PROD=FAS soluble protein
1.389794	-2.42829	14.1	Down	1.11E-02	BG498699	ESTs
1.312148	-2.42325	13.32	Down	5.09E-04	U32500	Human type 2 neuropeptide Y receptor mRNA, complete cds. /PROD=type 2 neuropeptide Y receptor /FL=gb:U42766.1 gb:U36269.1 gb:U32500.1
2.62025	-1.04008	12.64	Down	1.04E-03	AA625683	ESTs
3.268087	-0.32148	12.04	Down	1.86E-04	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14

						/FL=gb:AF345910.1
4.152765	0.57732	11.92	Down	3.06E-04	AW003173	stanniocalcin 1
6.777916	3.231028	11.69	Down	3.37E-05	U15174	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
1.143234	-2.39818	11.64	Down	6.01E-04	BF437711	ESTs
2.36447	-1.1716	11.6	Down	3.57E-04	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
4.285883	0.804811	11.17	Down	3.89E-04	AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
5.023981	1.567701	10.98	Down	2.66E-04	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
2.590871	-0.83277	10.73	Down	2.00E-03	NM_016569	Homo sapiens TBX3-iso protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
2.332751	-1.07983	10.65	Down	2.06E-02	NM_000077	Homo sapiens cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), mRNA. /PROD=cyclin-dependent kinase inhibitor 2A (melanoma,p16, inhibits CDK4) /FL=gb:NM_000077.1 gb:L27211.1
1.577138	-1.83389	10.64	Down	3.70E-03	M15329	Human interleukin 1-alpha (IL1A) mRNA, complete cds. /PROD=interleukin 1-alpha /FL=gb:M15329.1
0.831091	-2.57623	10.61	Down	1.77E-02	NM_153036	Homo sapiens hypothetical protein FLJ32239 (FLJ32239), mRNA. /FL=gb:NM_153036.1
2.350127	-1.04844	10.55	Down	2.83E-03	AK026106	Homo sapiens cDNA:

					FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
4.927935	1.558948	10.33	Down	6.84E-04	J05008 Homo sapiens endothelin-1 (EDN1) gene, complete cds /FL=gb:NM_001955.1
2.951696	-0.34119	9.8	Down	5.52E-04	AB019562 Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
-0.42962	-3.66853	9.44	Down	3.14E-02	D28364 Human mRNA for annexin II, 5UTR (sequence from the 5cap to the start codon).
3.030236	-0.19682	9.36	Down	3.06E-04	AA812232 upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
4.528627	1.33908	9.12	Down	1.86E-04	NM_003155 Homo sapiens stanniocalcin 1 (STC1), mRNA. /PROD=stanniocalcin 1 /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
2.660133	-0.51613	9.04	Down	3.37E-05	AF277174 Homo sapiens PNAS-137 mRNA, complete cds. /PROD=PNAS-137 /FL=gb:AF277174.1
2.422113	-0.74259	8.97	Down	6.51E-03	AL544576 ESTs
3.806044	0.684261	8.7	Down	3.17E-04	AV734646 DNA segment on chromosome X (unique) 9928 expressed sequence
3.953402	0.872354	8.46	Down	1.12E-03	BC005369 Homo sapiens, chromosome 1 open reading frame 12, clone MGC:12484, mRNA, complete cds. /PROD=chromosome 1 open reading frame 12 /FL=gb:AF277176.1 gb:NM_022051.1 gb:AF229245.1 gb:BC005369.1
3.437271	0.406885	8.17	Down	1.28E-04	AB029025 Homo sapiens mRNA for KIAA1102 protein, partial cds. /PROD=KIAA1102 protein
2.469646	-0.53314	8.02	Down	1.95E-03	N76327 ESTs, Highly similar to 1011297A transferrin receptor (H.sapiens)
4.255531	1.305501	7.73	Down	2.22E-03	AF096296 Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor

					/FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
1.609384	-1.3385	7.72	Down	3.57E-04	BC005961 Homo sapiens, parathyroid hormone-like hormone, clone MGC:14611, mRNA, complete cds. /PROD=parathyroid hormone-like hormone /FL=gb:BC005961.1
5.356771	2.475735	7.37	Down	2.39E-04	W92036 ESTs
4.055862	1.176103	7.36	Down	1.54E-04	AK026815 Homo sapiens cDNA: FLJ23162 fis, clone LNG09734.
4.782763	1.926881	7.24	Down	2.56E-04	NM_004199 Homo sapiens procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide II (P4HA2), mRNA. /PROD=procollagen-proline, 2-oxoglutarate4-dioxygenase (proline 4-hydroxylase), alpha polypeptideII /FL=gb:NM_004199.1 gb:U904
4.749034	1.911794	7.15	Down	6.01E-04	NM_002130 Homo sapiens 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble) (HMGCS1), mRNA. /PROD=3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1(soluble) /FL=gb:NM_002130.1 gb:L25798.1 gb:BC000297.1
4.501184	1.674786	7.09	Down	3.37E-05	AK000162 Homo sapiens cDNA FLJ20155 fis, clone COL08754, highly similar to ACSA_ECOLI ACETYL-COENZYME A SYNTHETASE.
4.103964	1.279587	7.08	Down	1.86E-04	AA579773 ESTs
5.294065	2.498324	6.94	Down	3.17E-04	AF279899 Homo sapiens PNAS-145 mRNA, complete cds. /PROD=PNAS-145 /FL=gb:U03105.1 gb:NM_006813.1 gb:AF279899.1
6.179917	3.394324	6.9	Down	2.56E-04	NM_000158 Homo sapiens glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme,

					Andersen disease, glycogen storage disease type IV) (GBE1), mRNA. /PROD=glucan (1,4-alpha-), branching enzyme 1(glycogen branching enzyme) /FL=gb:L07956.1 gb:NM_000158.1
3.880272	1.125517	6.75 Down	2.25E-04	NM_002521	Homo sapiens natriuretic peptide precursor B (NPPB), mRNA. /PROD=natriuretic peptide precursor B /FL=gb:NM_002521.1 gb:M25296.1
1.075159	-1.64214	6.58 Down	2.88E-03	J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
0.031255	-2.68323	6.56 Down	1.26E-02	AU142380	Homo sapiens cDNA FLJ34825 fis, clone NT2NE2008785, weakly similar to ANTER-SPECIFIC PROLINE-RICH PROTEIN APG.
5.252439	2.540223	6.55 Down	1.93E-04	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
1.58166	-1.12925	6.55 Down	3.72E-02	AF207990	Homo sapiens fer-1 like protein 3 (FER1L3) mRNA, complete cds. /PROD=fer-1 like protein 3 /FL=gb:AF207990.1
3.732985	1.022527	6.55 Down	8.08E-04	AI459194	early growth response 1
6.1137	3.411176	6.51 Down	2.56E-04	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
4.507212	1.810296	6.48 Down	1.84E-04	AW196940	ESTs
2.770179	0.094942	6.39 Down	7.20E-04	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
4.633038	1.983552	6.27 Down	5.56E-04	NM_016931	Homo sapiens NADPH oxidase 4 (NOX4), mRNA. /PROD=NADPH oxidase 4 /FL=gb:AF261943.1 gb:NM_016931.1

					gb:AF254621.1 gb:AB041035.1
5.099016	2.450575	6.27	Down	4.88E-04	NM_018192 Homo sapiens hypothetical protein FLJ10718 (FLJ10718), mRNA. /PROD=hypothetical protein FLJ10718 /FL=gb:NM_018192.1
3.41866	0.772516	6.26	Down	1.05E-03	AA149250 ESTs, Weakly similar to WDNM RAT WDNM1 PROTEIN PRECURSOR (R.norvegicus)
4.506475	1.891343	6.13	Down	2.83E-04	AI300520 stanniocalcin 1 /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
0.060743	-2.53505	6.05	Down	3.08E-02	NM_014795 Homo sapiens zinc finger homeobox 1B (ZFHX1B), mRNA. /PROD=zinc finger homeobox 1B /FL=gb:NM_014795.1 gb:AB011141.1
1.470435	-1.11845	6.02	Down	1.04E-03	L49506 Homo sapiens cyclin G2 mRNA, complete cds. /PROD=cyclin G2 /FL=gb:L49506.1
7.564809	4.992443	5.95	Down	2.36E-04	M83248 Human nephropontin mRNA, complete cds. /PROD=nephropontin /FL=gb:M83248.1
3.508683	0.95049	5.89	Down	3.89E-04	AK027231 Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
3.543738	0.987655	5.88	Down	4.67E-04	NM_001955 Homo sapiens endothelin 1 (EDN1), mRNA. /PROD=endothelin 1 /FL=gb:NM_001955.1
0.279226	-2.24474	5.75	Down	3.73E-02	AF278532 Homo sapiens beta-netrin mRNA, complete cds. /PROD=beta-netrin /FL=gb:AF119916.1 gb:AF297711.1 gb:NM_021229.1 gb:AF278532.1
1.771584	-0.72454	5.64	Down	1.63E-03	BI254089 Homo sapiens full length insert cDNA clone ZD50E03
5.450694	2.958035	5.63	Down	1.84E-04	AF095771 Homo sapiens PTH-responsive osteosarcoma B1 protein (B1) mRNA, complete cds. /PROD=PTH-responsive osteosarcoma B1 protein /FL=gb:AF095771.1
2.648874	0.166558	5.59	Down	1.84E-04	AW007532 Human insulin-like growth factor binding protein 5 (IGFBP5) mRNA
4.420733	1.940312	5.58	Down	1.95E-04	NM_0036 Homo sapiens basic helix-

				70	loop-helix domain containing, class B, 2 (BHLHB2), mRNA. /PROD=differentiated embryo chondrocyte expressed gene1 /FL=gb:AB004066.1 gb:NM_003670.1
1.659275	-0.81556	5.56	Down	6.51E-03 L16895	Human lysyl oxidase (LOX) gene, exon 7
3.334996	0.86328	5.55	Down	8.21E-04 R40917	phosphodiesterase 4D, cAMP-specific (dunce (Drosophila)-homolog phosphodiesterase E3) /FL=gb:L20969.1 gb:NM_006203.1 gb:U02882.1
2.886643	0.429864	5.49	Down	1.63E-03 NM_0220 36	Homo sapiens G protein-coupled receptor, family C, group 5, member C (GPRC5C), transcript variant 1, mRNA. /PROD=G protein-coupled receptor, family C, group 5,member C, isoform a, precursor /FL=gb:AF207989.1 gb:NM_022036.1
5.319714	2.870709	5.46	Down	1.84E-04 AL117352	Human DNA sequence from clone RP5-876B10 on chromosome 1q42.12-43. Contains the 3 end of the GNPAT gene for glyceronephosphate O-acyltransferase (DHAPAT, DAPAT, dihydroxyacetone phosphate acyltransferase, EC 2.3.1.42), the gene for a novel protei...
5.398488	2.949509	5.46	Down	3.37E-05 NM_0011 34	Homo sapiens alpha-fetoprotein (AFP), mRNA. /PROD=alpha-fetoprotein /FL=gb:NM_001134.1 gb:J00077.1
3.904705	1.46154	5.44	Down	4.81E-04 NM_0070 38	Homo sapiens a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2) (ADAMTS5), mRNA. /PROD=a disintegrin and metalloprotease withthrombospondin motifs-5 preproprotein /FL=gb:NM_007038.1 gb:AF14209
2.001263	-0.41849	5.35	Down	2.30E-03 U46768	Human stanniocalcin

					mRNA, complete cds. /PROD=stanniocalcin /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
5.095598	2.679984	5.34	Down	3.06E-04	NM_005542 Homo sapiens insulin induced gene 1 (INSIG1), mRNA. /PROD=insulin induced gene 1 /FL=gb:NM_005542.1
0.899011	-1.48844	5.23	Down	7.45E-03	NM_002820 Homo sapiens parathyroid hormone-like hormone (PTHLH), mRNA. /PROD=parathyroid hormone-like hormone /FL=gb:J03802.1 gb:NM_002820.1
2.933166	0.546859	5.23	Down	1.54E-04	NM_005780 Homo sapiens lipoma HMGIC fusion partner (LHFP), mRNA. /PROD=lipoma HMGIC fusion partner /FL=gb:NM_005780.1 gb:AF098807.1
2.454314	0.080053	5.18	Down	3.37E-05	NM_013281 Homo sapiens fibronectin leucine rich transmembrane protein 3 (FLRT3), mRNA. /PROD=fibronectin leucine rich transmembrane protein3 /FL=gb:AF169677.1 gb:NM_013281.1
4.981033	2.626098	5.12	Down	1.14E-03	NM_000602 Homo sapiens serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 (SERPINE1), mRNA. /PROD=serine (or cysteine) proteinase inhibitor, cladeE (nexin, plasminogen activator inhibitor type 1), membe
5.209052	2.857021	5.11	Down	2.66E-04	AI754404 procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2 /FL=gb:NM_000935.1 gb:U84573.1
7.251816	4.921229	5.03	Down	5.18E-04	NM_000700 Homo sapiens annexin A1 (ANXA1), mRNA. /PROD=annexin I /FL=gb:BC001275.1 gb:NM_000700.1

D) **H9P39 at 30 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	30 HR DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-3.61621	3.085829	104.12	Up	1.25E-03	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-3.12747	2.633618	54.23	Up	5.47E-04	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-3.26893	2.480892	53.81	Up	3.52E-04	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-3.62742	1.93392	47.22	Up	3.24E-03	AA772920	ESTs
-0.27888	4.672575	30.94	Up	2.20E-04	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-3.88742	0.719139	24.36	Up	2.32E-03	AA180985	ESTs
1.168713	5.535315	20.63	Up	4.09E-04	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-2.05438	2.234331	19.54	Up	9.02E-03	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-0.69028	3.350018	16.45	Up	8.76E-04	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1
-1.32044	2.675867	15.96	Up	1.31E-02	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1
3.042634	6.981126	15.33	Up	2.51E-04	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1

-0.41626	3.4773	14.86 Up	5.42E-04	BF110534	ESTs
-2.69521	1.031628	13.24 Up	7.80E-05	AF282250	Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
-2.38787	1.314022	13.01 Up	1.37E-02	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
-2.45311	1.22951	12.84 Up	4.18E-02	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
-0.68225	2.956253	12.45 Up	2.72E-04	N48299	ESTs, Moderately similar to NFY-C (H.sapiens)
-0.18256	3.454591	12.44 Up	2.72E-04	AI583173	major histocompatibility complex, class II, DQ beta 1
-0.26005	3.330481	12.05 Up	1.37E-03	R72286	microfibrillar-associated protein 4
-1.75731	1.805232	11.81 Up	2.70E-02	BC008992	Homo sapiens, clone MGC:16926 IMAGE:4183000, mRNA, complete cds. /PROD=Unknown (protein for MGC:16926) /FL=gb:BC008992.1
-3.76077	-0.22572	11.59 Up	2.57E-02	AI040305	ESTs
0.756526	4.287575	11.56 Up	4.69E-04	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.61054	1.918985	11.55 Up	2.71E-03	AW264204	ESTs
-2.30432	1.221219	11.52 Up	3.31E-02	BC017958	Homo sapiens, clone IMAGE:4607409, mRNA.
-1.16113	2.306767	11.06 Up	6.77E-03	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
-1.03397	2.369328	10.58 Up	5.45E-04	NM_003020	Homo sapiens secretory granule, neuroendocrine protein 1 (7B2 protein) (SGNE1), mRNA. /PROD=secretory granule, neuroendocrine protein 1 (7B2protein)

					/FL=gb:BC005349.1 gb:NM_003020.1
-0.80043	2.583204	10.44 Up	9.08E-04	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-1.16952	2.129685	9.84 Up	4.80E-02	NM_001343	Homo sapiens disabled (Drosophila) homolog 2 (mitogen-responsive phosphoprotein) (DAB2), mRNA. /PROD=disabled (Drosophila) homolog 2 /FL=gb:U39050.1 gb:NM_001343.1 gb:U53446.1 gb:BC003064.1
-0.10733	3.157091	9.61 Up	2.31E-03	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-0.70855	2.511903	9.32 Up	2.13E-03	AI917371	ESTs
1.109291	4.227073	8.68 Up	1.36E-03	NM_005356	Homo sapiens lymphocyte-specific protein tyrosine kinase (LCK), mRNA. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-1.39784	1.697082	8.54 Up	1.04E-02	BE222344	splicing factor, arginineserine-rich 5
-2.23133	0.840905	8.41 Up	8.31E-03	AA044140	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta
-1.64839	1.38707	8.2 Up	2.49E-03	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
0.502333	3.532743	8.17 Up	1.88E-03	AF211891	Homo sapiens Mix-like homeobox protein 1 (MILD1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
1.470195	4.487924	8.1 Up	4.48E-04	AI676059	ESTs
-1.66608	1.305765	7.85 Up	1.61E-02	BE673445	Homo sapiens chromosome 19, cosmid R28379

-2.17012	0.717557	7.4 Up	8.40E-03	AB018580	Homo sapiens mRNA for hluPGFS, complete cds. /PROD=hluPGFS /FL=gb:NM_003739.2 gb:AF149416.2 gb:AB018580.1 gb:D17793.1
-3.17826	-0.30252	7.34 Up	3.88E-02	AI798098	ESTs
-2.62694	0.235765	7.27 Up	1.61E-02	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1
-2.13754	0.709615	7.2 Up	1.59E-02	BF000203	ESTs
1.750623	4.592477	7.17 Up	3.86E-04	AA176289	ESTs
0.923781	3.753533	7.11 Up	5.45E-04	BE897866	ESTs
-1.51616	1.306468	7.07 Up	3.70E-03	AJ272267	Homo sapiens partial mRNA for choline dehydrogenase (chdh gene). /PROD=choline dehydrogenase
-3.12304	-0.30584	7.05 Up	3.13E-02	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
0.828954	3.642692	7.03 Up	1.53E-03	AK026659	Homo sapiens cDNA: FLJ23006 fis, clone LNG00414.
3.061783	5.870643	7.01 Up	1.32E-04	BF057809	ESTs
-0.20066	2.598953	6.96 Up	8.90E-04	NM_001609	Homo sapiens acyl-Coenzyme A dehydrogenase, shortbranched chain (ACADSB), nuclear gene encoding mitochondrial protein, mRNA. /PROD=acyl-Coenzyme A dehydrogenase, shortbranchedchain precursor /FL=gb:U12778.1 gb:NM_001609.1
-0.5777	2.186912	6.8 Up	2.34E-03	BC036592	Homo sapiens, clone IMAGE:4814184, mRNA.
-2.20139	0.556645	6.76 Up	1.88E-03	AI913749	ESTs
-2.19527	0.555455	6.73 Up	3.02E-03	NM_013333	Homo sapiens EH domain-binding mitotic phosphoprotein (EPSIN), mRNA. /PROD=EH domain-binding mitotic phosphoprotein /FL=gb:NM_013333.1 gb:AF073727.1

0.194248	2.884093	6.45 Up	3.02E-03	U07236	Human mutant lymphocyte-specific protein tyrosine kinase (LCK) mRNA, complete cds. /PROD=lymphocyte-specific protein tyrosine kinase /FL=gb:U07236.1 gb:NM_005356.1 gb:M36881.1
-1.4606	1.195222	6.3 Up	1.88E-03	AW072102	Homo sapiens mRNA; cDNA DKFZp434H205 (from clone DKFZp434H205)
-0.41404	2.208672	6.16 Up	1.88E-03	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.98038	0.627155	6.09 Up	9.18E-03	NM_002442	Homo sapiens Musashi (Drosophila) homolog 1 (MSI1), mRNA. /PROD=Musashi (Drosophila) homolog 1 /FL=gb:AB012851.1 gb:NM_002442.1
-3.12055	-0.51875	6.07 Up	4.51E-02	AW780006	ESTs
2.428694	5.011314	5.99 Up	8.90E-04	BF510715	fibroblast growth factor 4 (heparin secretory transforming protein 1, Kaposi sarcoma oncogene) /FL=gb:M17446.1 gb:NM_002007.1
-2.06656	0.511613	5.97 Up	1.81E-02	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
-1.18368	1.389404	5.95 Up	1.12E-03	AB011152	Homo sapiens mRNA for KIAA0580 protein, partial cds. /PROD=KIAA0580 protein
0.884916	3.44953	5.92 Up	2.61E-04	NM_000104	Homo sapiens cytochrome P450, subfamily I (dioxin-inducible), polypeptide 1 (glaucoma 3, primary infantile) (CYP1B1), mRNA. /PROD=cytochrome P450, subfamily I (dioxin-inducible),polypeptide 1 /FL=gb:U03688.1 gb:NM_000104.2
1.380324	3.936779	5.88 Up	4.48E-04	NM_006895	Homo sapiens histamine N-methyltransferase (HNMT), mRNA. /PROD=histamine N-

					methyltransferase /FL=gb:NM_006895.1 gb:D16224.1 gb:U08092.1
0.937118	3.476237	5.81 Up	5.45E-04	AU151342	Homo sapiens cDNA FLJ12935 fis, clone NT2RP2004982
-2.3444	0.189019	5.79 Up	3.32E-03	AW057589	ESTs
-1.09181	1.43832	5.78 Up	2.62E-02	AI653050	ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)
0.270429	2.788184	5.73 Up	2.50E-02	AF493872	Homo sapiens guanine nucleotide binding protein gamma 4 (GNG4) mRNA, complete cds. /PROD=guanine nucleotide binding protein gamma 4 /FL=gb:AF493872.1
2.453593	4.950008	5.64 Up	4.67E-04	NM_005410	Homo sapiens selenoprotein P, plasma, 1 (SEPP1), mRNA. /PROD=selenoprotein P precursor /FL=gb:NM_005410.1
-1.88254	0.61166	5.63 Up	6.09E-03	BF694956	Human DNA sequence from clone RP1-187J11 on chromosome 6q11.1-22.33. Contains the gene for a novel protein similar to S. pombe and S. cerevisiae predicted proteins, the gene for a novel protein similar to protein kinase C inhibitors, the 3 end of the
0.462867	2.940232	5.57 Up	8.05E-03	AI807026	ESTs
-0.04543	2.430022	5.56 Up	1.88E-03	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
-0.01122	2.462282	5.55 Up	2.31E-03	AI356398	butyrate response factor 2 (EGF-response factor 2) /FL=gb:BC005010.1 gb:NM_006887.1
1.285793	3.745524	5.5 Up	2.58E-03	AI949827	ESTs
1.37261	3.832097	5.5 Up	4.48E-04	BC040605	Homo sapiens, clone IMAGE:5271039, mRNA.
-0.67823	1.780805	5.5 Up	3.24E-04	AA040057	protocadherin 20
-1.41031	1.030229	5.43 Up	1.98E-02	AI832477	serologically defined colon cancer antigen 43
1.076427	3.500322	5.37 Up	1.17E-03	AI640307	protocadherin 10
-0.35323	2.051621	5.3 Up	2.59E-03	BM666010	Homo sapiens cDNA FLJ23803 fis, clone HEP22811.
0.040412	2.442774	5.29 Up	3.56E-04	AA960844	Homo sapiens, clone IMAGE:4081483, mRNA

-1.51992	0.881919	5.28 Up	6.04E-03	AA460960	H.sapiens mRNA (clone ICRFp507L1876)
-2.32443	0.069216	5.25 Up	3.43E-03	BC035759	Homo sapiens, clone IMAGE:5557641, mRNA.
4.072718	6.466193	5.25 Up	1.53E-03	AU144598	cell recognition molecule Caspr2 /FL=gb:AF193613.1 gb:NM_014141.1
0.143628	2.506522	5.14 Up	1.36E-02	AB037763	Homo sapiens mRNA for KIAA1342 protein, partial cds. /PROD=KIAA1342 protein /FL=gb:AF299075.1
-0.46577	1.883396	5.1 Up	6.92E-04	AW051591	ESTs, Moderately similar to unnamed protein product (H.sapiens)
0.780689	3.126868	5.08 Up	7.58E-04	AI016316	ESTs
3.409815	-2.82988	75.57 Down	1.48E-02	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
0.757197	-4.3571	34.64 Down	4.81E-03	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
5.388254	0.288621	34.29 Down	4.14E-05	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
4.092731	-0.8862	31.54 Down	7.12E-04	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
2.306111	-2.22732	23.16 Down	8.51E-04	AI632223	hypothetical protein DKFZp434F2322
3.030236	-1.2974	20.08 Down	8.31E-03	AA812232	upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
4.505436	0.504147	16.01 Down	1.23E-04	W57613	ESTs
3.025351	-0.90728	15.27 Down	2.53E-04	AW590925	ESTs
3.268087	-0.54228	14.03 Down	2.76E-05	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14

					/FL=gb:AF345910.1
2.62025	-1.1154	13.32	Down	1.12E-03	AA625683 ESTs
6.777916	3.123818	12.59	Down	6.00E-05	U15174 Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
2.590871	-1.03729	12.36	Down	1.53E-03	NM_016569 Homo sapiens TBX3-iso protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
4.152765	0.533234	12.29	Down	2.53E-04	AW003173 stanniocalcin 1
4.528627	0.921256	12.19	Down	7.80E-05	NM_003155 Homo sapiens stanniocalcin 1 (STC1), mRNA. /PROD=stanniocalcin 1 /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
1.544409	-1.9767	11.48	Down	4.92E-02	NM_000599 Homo sapiens insulin-like growth factor binding protein 5 (IGFBP5), mRNA. /PROD=insulin-like growth factor binding protein 5 /FL=gb:M65062.1 gb:M62782.1 gb:NM_000599.1 gb:AF055033.1
5.023981	1.530419	11.26	Down	2.80E-04	NM_006472 Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
2.36447	-1.00627	10.34	Down	1.88E-03	NM_005181 Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
4.285883	0.94478	10.13	Down	7.80E-05	AL038787 6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
4.782763	1.624946	8.92	Down	4.14E-05	NM_004199 Homo sapiens procollagen-proline, 2-oxoglutarate 4-

						dioxygenase (proline 4-hydroxylase), alpha polypeptide II (P4HA2), mRNA. /PROD=procollagen-proline, 2-oxoglutarate4-dioxygenase (proline 4-hydroxylase), alpha polypeptideII /FL=gb:NM_004199.1 gb:U904
2.660133	-0.48383	8.84	Down	3.01E-04	AF277174	Homo sapiens PNAS-137 mRNA, complete cds. /PROD=PNAS-137 /FL=gb:AF277174.1
1.99849	-1.11713	8.67	Down	1.48E-02	NM_002317	Homo sapiens lysyl oxidase (LOX), mRNA. /PROD=lysyl oxidase /FL=gb:AF039291.1 gb:NM_002317.1 gb:M94054.1
4.927935	1.83445	8.54	Down	4.77E-04	J05008	Homo sapiens endothelin-1 (EDN1) gene, complete cds /FL=gb:NM_001955.1
5.356771	2.317383	8.22	Down	1.92E-05	W92036	ESTs
3.806044	0.77917	8.15	Down	1.32E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
2.350127	-0.67445	8.14	Down	1.86E-02	AK026106	Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
5.450694	2.473087	7.88	Down	2.35E-04	AF095771	Homo sapiens PTH-responsive osteosarcoma B1 protein (B1) mRNA, complete cds. /PROD=PTH-responsive osteosarcoma B1 protein /FL=gb:AF095771.1
2.208449	-0.76852	7.87	Down	5.20E-03	AI806338	T-box 3 (ulnar mammary syndrome) /FL=gb:AF170708.2 gb:NM_005996.1
2.951696	-0.00873	7.78	Down	4.48E-04	AB019562	Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
3.953402	0.998843	7.75	Down	2.51E-04	BC005369	Homo sapiens, chromosome 1 open reading frame 12, clone MGC:12484, mRNA, complete cds. /PROD=chromosome 1 open reading frame 12 /FL=gb:AF277176.1 gb:NM_022051.1 gb:AF229245.1

					gb:BC005369.1
4.507212	1.576505	7.62	Down	2.04E-04	AW196940 ESTs
4.055862	1.195121	7.26	Down	5.45E-04	AK026815 Homo sapiens cDNA: FLJ23162 fis, clone LNG09734.
4.103964	1.24922	7.23	Down	8.28E-05	AA579773 ESTs
2.001263	-0.84882	7.21	Down	3.24E-03	U46768 Human stanniocalcin mRNA, complete cds. /PROD=stanniocalcin /FL=gb:U25997.1 gb:NM_003155.1 gb:U46768.1
1.1136	-1.73388	7.2	Down	3.21E-04	Z70519 H.sapiens FASApo 1 mRNA for FAS soluble protein (clone FAS Exo4Del). /PROD=FAS soluble protein
2.332751	-0.46123	6.94	Down	1.69E-04	NM_000077 Homo sapiens cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), mRNA. /PROD=cyclin-dependent kinase inhibitor 2A (melanoma,p16, inhibits CDK4) /FL=gb:NM_000077.1 gb:L27211.1
5.187988	2.402941	6.89	Down	3.52E-04	AA074145 proline oxidase homolog
4.255531	1.471522	6.89	Down	3.24E-04	AF096296 Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor /FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
4.501184	1.72274	6.86	Down	7.80E-05	AK000162 Homo sapiens cDNA FLJ20155 fis, clone COL08754, highly similar to ACSA_ECOLI ACETYL-COENZYME A SYNTHETASE.
2.770179	0.000064	6.82	Down	2.31E-03	AK000345 Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
6.1137	3.356776	6.76	Down	2.20E-04	NM_001553 Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
4.506475	1.751272	6.75	Down	2.53E-04	AI300520 stanniocalcin 1 /FL=gb:U25997.1

					gb:NM_003155.1 gb:U46768.1
3.404056	0.670009	6.65	Down	4.14E-05	AI623211 lymphocyte-specific protein 1
2.469646	-0.26027	6.63	Down	4.40E-03	N76327 ESTs, Highly similar to 1011297A transferrin receptor (H.sapiens)
5.252439	2.542675	6.54	Down	3.24E-04	NM_001553 Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
5.294065	2.607826	6.44	Down	1.45E-03	AF279899 Homo sapiens PNAS-145 mRNA, complete cds. /PROD=PNAS-145 /FL=gb:U03105.1 gb:NM_006813.1 gb:AF279899.1
1.312148	-1.30796	6.15	Down	2.85E-04	U32500 Human type 2 neuropeptide Y receptor mRNA, complete cds. /PROD=type 2 neuropeptide Y receptor /FL=gb:U42766.1 gb:U36269.1 gb:U32500.1
6.179917	3.561259	6.14	Down	3.24E-04	NM_000158 Homo sapiens glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme, Andersen disease, glycogen storage disease type IV) (GBE1), mRNA. /PROD=glucan (1,4-alpha-), branching enzyme 1(glycogen branching enzyme) /FL=gb:L07956.1 gb:NM_000158.1
0.959227	-1.64817	6.09	Down	2.57E-02	AB033831 Homo sapiens hSCDGF mRNA for spinal cord-derived growth factor, complete cds. /PROD=spinal cord-derived growth factor /FL=gb:NM_016205.1 gb:AB033831.1 gb:AF091434.1 gb:AF244813.1
0.579765	-1.99563	5.96	Down	2.00E-02	AI393930 ESTs
3.508683	0.978051	5.78	Down	4.14E-05	AK027231 Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
1.577138	-0.9435	5.74	Down	1.09E-02	M15329 Human interleukin 1-alpha (IL1A) mRNA, complete cds. /PROD=interleukin 1-alpha /FL=gb:M15329.1
2.982965	0.463474	5.73	Down	5.03E-04	AK026829 Homo sapiens cDNA:

					FLJ23176 fis, clone LNG10452.
3.86075	1.347537	5.71	Down	7.64E-04	U85995 Cluster Incl. U85995:Human clone IMAGE-22181 unknown protein mRNA, partial cds /cds=(0,1291) /gb=U85995 /gi=1835749 /ug=Hs.79340 /len=1696
2.64743	0.138623	5.69	Down	2.04E-04	AI702438 ESTs
3.437271	0.928673	5.69	Down	5.45E-04	AB029025 Homo sapiens mRNA for KIAA1102 protein, partial cds. /PROD=KIAA1102 protein
2.886643	0.386181	5.66	Down	1.25E-03	NM_022036 Homo sapiens G protein-coupled receptor, family C, group 5, member C (GPRC5C), transcript variant 1, mRNA. /PROD=G protein-coupled receptor, family C, group 5,member C, isoform a, precursor /FL=gb:AF207989.1 gb:NM_022036.1
5.099016	2.60798	5.62	Down	4.48E-04	NM_018192 Homo sapiens hypothetical protein FLJ10718 (FLJ10718), mRNA. /PROD=hypothetical protein FLJ10718 /FL=gb:NM_018192.1
5.807319	3.321529	5.6	Down	3.21E-04	NM_018004 Homo sapiens hypothetical protein FLJ10134 (FLJ10134), mRNA. /PROD=hypothetical protein FLJ10134 /FL=gb:NM_018004.1
1.659275	-0.80393	5.51	Down	2.08E-03	L16895 Human lysyl oxidase (LOX) gene, exon 7
2.060071	-0.40069	5.51	Down	5.45E-04	AA004300 hypothetical protein DKFZp566I133
3.094055	0.633797	5.5	Down	6.17E-04	AW188198 tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
1.865674	-0.57364	5.42	Down	1.88E-03	AU156421 Homo sapiens cDNA FLJ13457 fis, clone PLACE1003343
5.207569	2.775215	5.4	Down	1.32E-04	AA083478 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 746039
2.322104	-0.10923	5.39	Down	1.89E-03	AW291369 ESTs
3.862686	1.433656	5.39	Down	1.88E-03	NM_007115 Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis

					factor, alpha-induced protein 6 /FL=gb:NM_007115.1
4.881197	2.470702	5.32	Down	1.33E-03	NM_001975 Homo sapiens enolase 2, (gamma, neuronal) (ENO2), mRNA. /PROD=enolase 2, (gamma, neuronal) /FL=gb:NM_001975.1 gb:BC002745.1 gb:M22349.1
5.318139	2.908344	5.31	Down	4.67E-04	U87408 Cluster Incl. U87408:Human clone IMAGE-74593 unknown protein mRNA, partial cds /cds=(0,1362) /gb=U87408 /gi=1842104 /ug=Hs.79340 /len=1982
3.41866	1.024231	5.26	Down	1.40E-03	AA149250 ESTs, Weakly similar to WDNM RAT WDNM1 PROTEIN PRECURSOR (R.norvegicus)
2.28595	-0.10789	5.26	Down	1.74E-03	BE504838 ESTs
1.143234	-1.2451	5.24	Down	2.07E-03	BF437711 ESTs
2.164901	-0.22261	5.23	Down	2.00E-03	AI559300 ESTs
0.38149	-2.00456	5.23	Down	1.36E-02	Z25433 H.sapiens protein-serinethreonine kinase gene, complete CDS. /PROD=protein-serinethreonine kinase /FL=gb:Z25433.1
2.271332	-0.11134	5.22	Down	1.88E-03	NM_015198 Homo sapiens KIAA0633 protein (COBL), mRNA. /PROD=KIAA0633 protein /FL=gb:NM_015198.1
2.933166	0.558335	5.19	Down	1.04E-03	NM_005780 Homo sapiens lipoma HMGIC fusion partner (LHFP), mRNA. /PROD=lipoma HMGIC fusion partner /FL=gb:NM_005780.1 gb:AF098807.1
3.77776	1.406437	5.17	Down	3.24E-04	BU729850 hypothetical protein LOC153469
3.113698	0.751705	5.14	Down	7.12E-04	NM_002196 Homo sapiens insulinoma-associated 1 (INSM1), mRNA. /PROD=insulinoma-associated 1 /FL=gb:NM_002196.1 gb:M93119.1
7.564809	5.218561	5.09	Down	5.70E-04	M83248 Human nephropontin mRNA, complete cds. /PROD=nephropontin /FL=gb:M83248.1
5.209052	2.875305	5.04	Down	3.17E-04	AI754404 procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2

						/FL=gb:NM_000935.1 gb:U84573.1
1.639038	-0.68383		5 Down	2.00E-03	AW027879	ESTs, Weakly similar to NBHUC8 decorin precursor (H.sapiens)

E) **H9P39 at 48 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	48 HRS DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-3.62742	4.403382	261.52	Up	9.26E-04	AA772920	ESTs
-3.26893	4.712617	252.75	Up	7.47E-05	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-4.01441	3.67249	206.06	Up	1.83E-04	AB028021	Cluster Incl. AB028021:Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds /cds=(196,1569) /gb=AB028021 /gi=4958949 /ug=Hs.155651 /len=1944
-4.29896	3.38304	205.36	Up	6.25E-05	AY177407	Homo sapiens homeobox protein goosecoid mRNA, complete cds. /PROD=homeobox protein goosecoid /FL=gb:AY177407.1 gb:NM_173849.1
-0.80043	6.55024	163.22	Up	7.98E-05	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-2.178	4.977566	142.57	Up	5.92E-04	NM_014420	Homo sapiens dickkopf (Xenopus laevis) homolog 4 (DKK4), mRNA. /PROD=dickkopf (Xenopus laevis) homolog 4 /FL=gb:AB017788.1 gb:AF177397.1 gb:NM_014420.1
-3.61621	3.360873	125.98	Up	8.64E-04	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-3.8752	2.947466	113.19	Up	8.92E-05	AB028021	Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete

					cds. /PROD=hepatocyte nuclear factor-3 beta /FL=gb:AB028021.1 gb:NM_021784.1
-0.62093	5.956038	95.47 Up	7.47E-05	NM_022454	Homo sapiens hypothetical protein FLJ22252 similar to SRY-box containing gene 17 (FLJ22252), mRNA. /PROD=hypothetical protein FLJ22252 similar to SRY-boxcontaining gene 17 /FL=gb:NM_022454.1
-1.11159	5.388499	90.52 Up	1.05E-04	NM_003867	Homo sapiens fibroblast growth factor 17 (FGF17), mRNA. /PROD=fibroblast growth factor 17 /FL=gb:NM_003867.1 gb:AB009249.1
-3.7558	2.70012	87.79 Up	1.88E-03	AW473656	ESTs
-0.83997	5.315997	71.31 Up	2.36E-04	AI821669	ESTs
-0.26005	5.721539	63.19 Up	1.82E-04	R72286	microfibrillar-associated protein 4
-1.32044	4.378147	51.93 Up	4.06E-03	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-3.12747	2.481837	48.82 Up	4.18E-04	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-0.69028	4.779809	44.33 Up	1.82E-04	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1 gb:M81140.1
-4.79201	0.661683	43.83 Up	3.06E-04	NM_012431	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E (SEMA3E), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3E /FL=gb:NM_012431.1

					gb:AB002329.1
-1.55323	3.862277	42.68 Up	1.26E-04	AI821586	ESTs, Moderately similar to JE0284 Mm-1 cell derived transplantability-associated protein 1b (H.sapiens)
-5.25658	0.098569	40.93 Up	1.11E-03	AW005572	putative 47 kDa protein
-2.45311	2.87165	40.08 Up	1.40E-02	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
-3.10357	2.19103	39.25 Up	6.25E-05	NM_001453	Homo sapiens forkhead box C1 (FOXC1), mRNA. /PROD=forkhead box C1 /FL=gb:NM_001453.1
-0.27888	4.97765	38.23 Up	7.98E-05	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-0.81978	4.345795	35.89 Up	3.86E-04	AI824037	ESTs, Weakly similar to FCE2 MOUSE LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (M.musculus)
-2.4051	2.697137	34.35 Up	6.25E-05	NM_021020	Homo sapiens F37Esophageal cancer-related gene-coding leucine-zipper motif (FEZ1), mRNA. /PROD=F37Esophageal cancer-related gene-codingleucine-zipper motif /FL=gb:AF123659.1 gb:NM_021020.1
0.756526	5.856918	34.31 Up	7.98E-05	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-0.41626	4.620452	32.82 Up	2.24E-04	BF110534	ESTs
0.502333	5.516306	32.31 Up	1.26E-04	AF211891	Homo sapiens Mix-like homeobox protein 1 (MILD1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
-2.39338	2.604622	31.96 Up	3.59E-03	M17955	Human MHC class II HLA-DQ-beta mRNA, complete cds. /FL=gb:M33907.1 gb:M17955.1 gb:M16996.1

					gb:M17563.1 gb:M20432.1 gb:M26042.1
-0.5292	4.348346	29.4	Up	1.25E-03	AI127440 ESTs
-4.15276	0.716875	29.24	Up	1.59E-04	AA129444 Homo sapiens mRNA for KIAA1263 protein, partial cds
-0.18256	4.556137	26.7	Up	5.90E-05	AI583173 major histocompatibility complex, class II, DQ beta 1
-3.47945	1.255979	26.64	Up	2.39E-04	NM_000854 Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA. /PROD=glutathione S-transferase theta 2 /FL=gb:L38503.1 gb:BC002415.1 gb:NM_000854.2
-3.39007	1.340459	26.55	Up	9.26E-03	NM_006614 Homo sapiens cell adhesion molecule with homology to L1CAM (close homologue of L1) (CHL1), mRNA. /PROD=cell adhesion molecule with homology to L1CAM(close homologue of L1) /FL=gb:AF002246.1 gb:NM_006614.1
-1.61054	3.073011	25.7	Up	6.48E-04	AW264204 ESTs
-0.68225	3.994036	25.57	Up	8.92E-05	N48299 ESTs, Moderately similar to NFY-C (H.sapiens)
-2.69284	1.94677	24.93	Up	1.03E-02	R33964 Homo sapiens cDNA FLJ11022 fis, clone PLACE1003771
-3.3099	1.316389	24.7	Up	4.00E-03	NM_172037 Homo sapiens retinol dehydrogenase 10 (all-trans) (RDH10), mRNA. /PROD=retinol dehydrogenase 10 /FL=gb:NM_172037.1 gb:AF456765.1
-2.23941	2.381967	24.61	Up	2.32E-03	NM_005413 Homo sapiens sine oculis homeobox (Drosophila) homolog 3 (SIX3), mRNA. /PROD=sine oculis homeobox (Drosophila) homolog 3 /FL=gb:NM_005413.1
-2.6422	1.964075	24.36	Up	8.92E-05	BF589787 ESTs
-2.05438	2.54631	24.26	Up	6.59E-03	BG290908 ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.168713	5.686572	22.91	Up	2.60E-04	NM_016139 Homo sapiens 16.7Kd protein (LOC51142),

					mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-0.77864	3.712574	22.49	Up	5.77E-04	NM_022055 Homo sapiens reserved (KCNK12), mRNA. /PROD=tandem pore domain potassium channel THIK-2 /FL=gb:NM_022055.1 gb:AF287302.1
-0.70855	3.762307	22.17	Up	7.67E-04	AI917371 ESTs
-2.06656	2.392721	22	Up	2.94E-03	AF141339 Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
3.042634	7.476267	21.61	Up	5.90E-05	NM_005442 Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
-1.28224	3.131936	21.32	Up	2.22E-04	NM_005568 Homo sapiens LIM homeobox protein 1 (LHX1), mRNA. /PROD=LIM homeobox protein 1 /FL=gb:NM_005568.1 gb:U14755.1
-2.83906	1.564539	21.16	Up	4.15E-04	T15545 ESTs
-0.5777	3.802538	20.82	Up	8.57E-04	BC036592 Homo sapiens, clone IMAGE:4814184, mRNA.
-3.88742	0.452273	20.25	Up	2.18E-03	AA180985 ESTs
-1.95127	2.384447	20.19	Up	2.26E-03	L12468 Homo sapiens aminopeptidase A mRNA, complete cds. /PROD=aminopeptidase A /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
-4.63418	-0.31383	19.98	Up	2.41E-02	BF112218 ESTs
-2.30432	1.94413	19.01	Up	1.88E-02	BC017958 Homo sapiens, clone IMAGE:4607409, mRNA.
-2.9769	1.2531	18.77	Up	1.55E-02	AW612111 ESTs
0.420056	4.641313	18.65	Up	7.47E-05	NM_012242 Homo sapiens dickkopf (Xenopus laevis) homolog 1 (DKK1), mRNA. /PROD=dickkopf (Xenopus laevis) homolog 1 /FL=gb:AF177394.1 gb:NM_012242.1 gb:AF127563.1
-0.41404	3.780442	18.31	Up	4.24E-04	AI332407 secreted frizzled-related protein 1

					/FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-2.90798	1.272589	18.13 Up	1.07E-04	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-3.84662	0.311955	17.86 Up	2.27E-02	BF445031	ESTs
-0.48487	3.656098	17.64 Up	7.98E-05	BG150534	ESTs
0.442286	4.570914	17.49 Up	1.50E-04	NM_001778	Homo sapiens CD48 antigen (B-cell membrane protein) (CD48), mRNA. /PROD=CD48 antigen (B-cell membrane protein) /FL=gb:NM_001778.1 gb:M37766.1 gb:M59904.1
-2.0457	2.013773	16.67 Up	9.72E-04	AI422986	ESTs
-1.37391	2.670539	16.5 Up	1.44E-02	NM_006605	Homo sapiens ret finger protein-like 2 (RFPL2), mRNA. /PROD=ret finger protein-like 2 /FL=gb:NM_006605.1
-3.51429	0.527621	16.47 Up	2.50E-03	AA352113	ESTs
-0.15629	3.869435	16.29 Up	4.57E-04	AI799018	ESTs
-0.81856	3.176308	15.94 Up	8.74E-05	AI129628	ESTs
-2.38787	1.575045	15.59 Up	9.00E-03	BC003517	Homo sapiens, clone IMAGE:3542589, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3542589)
-1.39784	2.47691	14.67 Up	2.38E-03	BE222344	splicing factor, arginineserine-rich 5
-2.20139	1.663866	14.57 Up	7.98E-05	AI913749	ESTs
-3.18081	0.676419	14.49 Up	2.33E-04	AW449813	KIAA0918 protein
-2.14545	1.70837	14.46 Up	3.27E-03	NM_015831	Homo sapiens acetylcholinesterase (YT blood group) (ACHE), transcript variant E4-E5, mRNA. /PROD=acetylcholinesterase PI-linked form precursor /FL=gb:NM_015831.1
-2.233	1.502044	13.32 Up	1.33E-03	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
-0.21464	3.518576	13.3 Up	5.92E-04	NM_005045	Homo sapiens reelin (RELN), mRNA.

					/PROD=reelin /FL=gb:U79716.1 gb:NM_005045.1
-0.96765	2.760723	13.25 Up	1.83E-04	NM_024426	Homo sapiens Wilms tumor 1 (WT1), transcript variant D, mRNA. /PROD=Wilms tumor 1 isoform D /FL=gb:NM_024424.1 gb:NM_024426.1
1.076427	4.796662	13.18 Up	6.25E-05	AI640307	protocadherin 10
1.197921	4.916826	13.17 Up	6.25E-05	AW150720	hypothetical protein FLJ10262
0.366041	4.082294	13.14 Up	1.82E-04	AI242583	Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
-0.13396	3.581638	13.14 Up	5.99E-04	NM_006206	Homo sapiens platelet-derived growth factor receptor, alpha polypeptide (PDGFRA), mRNA. /PROD=platelet-derived growth factor receptor, alphapolypeptide /FL=gb:NM_006206.1 gb:M21574.1
-2.08299	1.631534	13.13 Up	3.64E-02	NM_002048	Homo sapiens growth arrest-specific 1 (GAS1), mRNA. /PROD=growth arrest-specific 1 /FL=gb:NM_002048.1 gb:L13698.1
0.502235	4.214192	13.1 Up	2.47E-04	NM_014899	Homo sapiens KIAA0878 protein (KIAA0878), mRNA. /PROD=KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
0.500662	4.2088	13.07 Up	4.57E-04	AB043703	Homo sapiens FZD8 mRNA for seven-transmembrane receptor Frizzled-8, complete cds. /PROD=seven-transmembrane receptor Frizzled-8 /FL=gb:AB043703.1
-1.80959	1.846066	12.6 Up	2.72E-03	BF447246	KIAA0960 protein
0.804491	4.446299	12.48 Up	2.36E-04	AA583044	bone morphogenetic protein 2 /FL=gb:NM_001200.1
0.937118	4.57509	12.45 Up	7.47E-05	AU151342	Homo sapiens cDNA FLJ12935 fis, clone NT2RP2004982
2.428694	6.062052	12.41 Up	7.98E-05	BF510715	fibroblast growth factor 4 (heparin secretory transforming protein 1, Kaposi sarcoma oncogene) /FL=gb:M17446.1

					gb:NM_002007.1
-4.25059	-0.61821	12.4 Up	2.17E-02	AL834407	Homo sapiens mRNA; cDNA DKFZp547H074 (from clone DKFZp547H074).
-2.64131	0.98784	12.37 Up	4.22E-02	AU157303	ESTs
1.370117	4.998653	12.37 Up	2.02E-04	M33653	Human (clones HT-(125,133)) alpha-2 type IV collagen (COL4A2) mRNA, complete cds. /PROD=alpha-2 type IV collagen /FL=gb:M33653.1
-0.05814	3.523836	11.98 Up	5.01E-04	BF308645	KIAA1415 protein
0.85401	4.424822	11.88 Up	3.70E-04	NM_001742	Homo sapiens calcitonin receptor (CALCR), mRNA. /PROD=calcitonin receptor /FL=gb:AB022177.1 gb:NM_001742.1 gb:U26553.1 gb:U26554.1
-0.4843	3.086083	11.88 Up	1.07E-04	NM_001766	Homo sapiens CD1D antigen, d polypeptide (CD1D), mRNA. /PROD=CD1D antigen, d polypeptide /FL=gb:NM_001766.1 gb:J04142.1
-3.03319	0.529885	11.82 Up	3.86E-02	AI378026	ESTs
-0.45718	3.095926	11.74 Up	2.21E-04	BF939489	glycoprotein M6A /FL=gb:D49958.1
-1.35345	2.18761	11.64 Up	3.72E-03	AW157571	ESTs, Weakly similar to T00331 hypothetical protein KIAA0555 (H.sapiens)
1.829497	5.364987	11.6 Up	2.65E-04	AA534817	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
0.828954	4.325235	11.28 Up	4.08E-04	AK026659	Homo sapiens cDNA: FLJ23006 fis, clone LNG00414.
-1.68521	1.795916	11.17 Up	5.31E-03	NM_002770	Homo sapiens protease, serine, 2 (trypsin 2) (PRSS2), mRNA. /PROD=protease, serine, 2 (trypsin 2) /FL=gb:M27602.1 gb:NM_002770.1
-1.75731	1.71717	11.12 Up	2.72E-02	BC008992	Homo sapiens, clone MGC:16926 IMAGE:4183000, mRNA, complete cds. /PROD=Unknown (protein for MGC:16926) /FL=gb:BC008992.1

-0.33264	3.138536	11.09 Up	2.48E-04	NM_020353	Homo sapiens phospholipid scramblase 4 (LOC57088), mRNA. /PROD=phospholipid scramblase 4 /FL=gb:NM_020353.1 gb:AF199023.1
-2.84061	0.614927	10.97 Up	1.85E-03	AI123532	ESTs
-0.11092	3.32528	10.82 Up	1.51E-04	BF591483	ESTs
-2.87916	0.555292	10.81 Up	6.20E-03	BF529886	Homo sapiens cDNA FLJ39329 fis, clone OCBBF2015751.
0.378586	3.8114	10.8 Up	6.60E-05	BF109231	ESTs
0.53123	3.962218	10.79 Up	5.00E-04	BF112171	DKFZP564O0423 protein
-1.82351	1.607197	10.78 Up	1.13E-03	AA603467	ribosomal protein S11
-2.56291	0.847807	10.63 Up	1.68E-02	BG532690	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
0.1187	3.529403	10.63 Up	1.31E-04	N21184	Cluster Incl. N21184:yx41a10.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-264282 /clone_end=3 /gb=N21184 /gi=1126354 /ug=Hs.93605 /len=619
-3.12055	0.266255	10.46 Up	1.87E-02	AW780006	ESTs
-0.27888	3.087584	10.31 Up	1.05E-04	NM_003078	Homo sapiens SWISNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 (SMARCD3), mRNA. /PROD=SWISNF related, matrix associated, actindependent regulator of chromatin, subfamily d, member 3 /FL=gb:NM_003078.1 gb
1.223968	4.582504	10.26 Up	1.32E-04	AL574912	ESTs, Weakly similar to serine protease (H.sapiens)
-0.52859	2.828373	10.25 Up	6.20E-03	AW590614	ESTs
-1.20714	2.140319	10.18 Up	1.22E-03	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
1.59762	4.944335	10.17 Up	1.33E-03	NM_018649	Homo sapiens core histone macroH2A2.2 (MACROH2A2), mRNA. /PROD=core histone macroH2A2.2 /FL=gb:AF151534.1 gb:NM_018649.1
-0.75724	2.582097	10.12 Up	5.49E-03	AL445192	Human DNA sequence from clone RP11-269H4 on chromosome 20 Contains the 3 end of the KIAA1415 gene similar to T-Lymphona invasion and metastasis inducing

					protein 1, ESTs, STSs and GSSs
0.884916	4.219652	10.09 Up	9.57E-05	NM_000104	Homo sapiens cytochrome P450, subfamily I (dioxin-inducible), polypeptide 1 (glaucoma 3, primary infantile) (CYP1B1), mRNA. /PROD=cytochrome P450, subfamily I (dioxin-inducible),polypeptide 1 /FL=gb:U03688.1 gb:NM_000104.2
-2.62694	0.700178	10.04 Up	8.15E-03	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1
1.388898	4.709109	9.99 Up	1.48E-04	BE620739	ESTs
0.345528	3.626449	9.72 Up	6.25E-05	AW276186	major histocompatibility complex, class II, DQ beta 1
1.563993	4.835093	9.65 Up	7.47E-05	NM_002413	Homo sapiens microsomal glutathione S-transferase 2 (MGST2), mRNA. /PROD=microsomal glutathione S-transferase 2 /FL=gb:NM_002413.1 gb:U77604.1
0.923781	4.188917	9.61 Up	7.47E-05	BE897866	ESTs
-1.64839	1.585806	9.41 Up	1.44E-03	NM_004900	Homo sapiens phorbolin (similar to apolipoprotein B mRNA editing protein) (DJ742C19.2), mRNA. /PROD=phorbolin (similar to apolipoprotein B mRNAediting protein) /FL=gb:NM_004900.1 gb:U61083.1
0.829254	4.053354	9.34 Up	1.19E-04	AV697515	hypothetical protein FLJ10262
-0.62897	2.594105	9.34 Up	2.12E-02	AI694545	ESTs
1.040647	4.25749	9.3 Up	6.25E-05	AI348094	KIAA0882 protein
-2.10316	1.110711	9.28 Up	1.17E-02	H49805	ESTs
-0.67823	2.5328	9.26 Up	1.82E-04	AA040057	protocadherin 20
-0.27302	2.923702	9.17 Up	3.58E-04	NM_014271	Homo sapiens interleukin 1 receptor accessory protein-like 1 (IL1RAPL1), mRNA. /PROD=interleukin 1 receptor accessory protein-like 1 /FL=gb:AF284435.1 gb:NM_014271.1 gb:AF181284.1
0.205308	3.376912	9.01 Up	1.73E-04	BF509230	ESTs
-0.13427	3.027131	8.95 Up	1.71E-04	D49958	Homo sapiens mRNA for

					membrane glycoprotein M6, complete cds. /PROD=membrane glycoprotein M6 /FL=gb:D49958.1
-0.95386	2.202339	8.91 Up	5.60E-04	AF312769	Homo sapiens cryptic mRNA, complete cds. /PROD=cryptic /FL=gb:AF312769.1
-1.39976	1.747599	8.86 Up	1.07E-04	NM_005204	Homo sapiens mitogen-activated protein kinase kinase kinase 8 (MAP3K8), mRNA. /PROD=mitogen-activated protein kinase kinase kinase8 /FL=gb:NM_005204.1 gb:D14497.1
-1.12824	2.007285	8.79 Up	9.57E-05	AK021452	Homo sapiens cDNA FLJ11390 fis, clone HEMBA1000561, weakly similar to ZINC FINGER PROTEIN 91.
4.042679	7.170301	8.74 Up	2.33E-04	NM_005454	Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
2.430238	5.551898	8.7 Up	7.47E-05	NM_004929	Homo sapiens calbindin 1, (28kD) (CALB1), mRNA. /PROD=calbindin 1 /FL=gb:NM_004929.2
-3.17826	-0.07573	8.59 Up	2.88E-02	AI798098	ESTs
0.424882	3.515001	8.52 Up	1.13E-03	AI692659	heat shock 90kD protein 1, alpha
2.19676	5.285103	8.51 Up	6.25E-05	AW264102	ESTs
-1.16113	1.925599	8.5 Up	9.58E-03	NM_012281	Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA. /PROD=potassium voltage-gated channel, Shal-relatedsubfamily, member 2 /FL=gb:NM_012281.1 gb:AB028967.1 gb:AF121104.1
1.071985	4.144927	8.41 Up	9.57E-05	NM_004560	Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA. /PROD=receptor tyrosine kinase-like orphan receptor 2 /FL=gb:M97639.1 gb:NM_004560.1
1.750623	4.809696	8.33 Up	2.20E-04	AA176289	ESTs

-1.25995	1.783805	8.25 Up	1.48E-03	AK026607	Homo sapiens cDNA: FLJ22954 fis, clone KAT09813, highly similar to AF010315 Homo sapiens Pig11 (PIG11) mRNA.
0.828899	3.847136	8.1 Up	6.55E-04	NM_001200	Homo sapiens bone morphogenetic protein 2 (BMP2), mRNA. /PROD=bone morphogenetic protein 2 precursor /FL=gb:NM_001200.1
1.690321	4.701963	8.06 Up	1.26E-04	NM_014045	Homo sapiens DKFZP564C1940 protein (DKFZP564C1940), mRNA. /PROD=DKFZP564C1940 protein /FL=gb:BC000424.1 gb:AF131760.1 gb:NM_014045.1
1.979568	4.987789	8.05 Up	7.98E-05	M17565	Human MHC class II DQ-beta associated with DRw6, DQw1 protein, complete cds. /FL=gb:M17565.1
-0.75007	2.251382	8.01 Up	1.88E-03	AI681917	ESTs, Highly similar to IRX3 MOUSE IROQUOIS-CLASS HOMEODOMAIN PROTEIN IRX-3 (M.musculus)
2.109037	5.094219	7.92 Up	5.90E-05	AW014927	calbindin 1, (28kD) /FL=gb:NM_004929.2
1.380324	4.364081	7.91 Up	2.74E-04	NM_006895	Homo sapiens histamine N-methyltransferase (HNMT), mRNA. /PROD=histamine N-methyltransferase /FL=gb:NM_006895.1 gb:D16224.1 gb:U08092.1
0.143628	3.121397	7.88 Up	7.94E-03	AB037763	Homo sapiens mRNA for KIAA1342 protein, partial cds. /PROD=KIAA1342 protein /FL=gb:AF299075.1
-0.20066	2.775234	7.87 Up	4.95E-04	NM_001609	Homo sapiens acyl-Coenzyme A dehydrogenase, shortbranched chain (ACADSB), nuclear gene encoding mitochondrial protein, mRNA. /PROD=acyl-Coenzyme A dehydrogenase, shortbranchedchain precursor /FL=gb:U12778.1 gb:NM_001609.1

-2.16611	0.806244	7.85 Up	2.70E-02	NM_001977	Homo sapiens glutamyl aminopeptidase (aminopeptidase A) (ENPEP), mRNA. /PROD=glutamyl aminopeptidase (aminopeptidase A) /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
0.007601	2.978021	7.84 Up	3.96E-04	N63706	ESTs
1.186033	4.154093	7.82 Up	1.02E-04	AI627704	ESTs, Weakly similar to T17346 hypothetical protein DKFZp586O1624.1 (H.sapiens)
1.207341	4.163803	7.76 Up	7.98E-05	M31213	Human papillary thyroid carcinoma-encoded protein mRNA, complete cds. /FL=gb:M31213.1
0.106425	3.062268	7.76 Up	1.05E-04	NM_018371	Homo sapiens hypothetical protein FLJ11264 (FLJ11264), mRNA. /PROD=hypothetical protein FLJ11264 /FL=gb:NM_018371.1
1.997597	4.940494	7.69 Up	8.49E-05	BC005997	Homo sapiens, clone MGC:14801, mRNA, complete cds. /PROD=Unknown (protein for MGC:14801) /FL=gb:BC005997.1
-0.29145	2.648165	7.67 Up	8.78E-04	AI197932	ESTs
-1.20098	1.732939	7.64 Up	8.76E-03	NM_001794	Homo sapiens cadherin 4, type 1, R-cadherin (retinal) (CDH4), mRNA. /PROD=cadherin 4, type 1, R-cadherin (retinal) /FL=gb:L34059.1 gb:NM_001794.1
-0.96106	1.954749	7.55 Up	3.03E-04	AU153412	Homo sapiens cDNA FLJ13136 fis, clone NT2RP3003139
4.072718	6.987624	7.54 Up	3.42E-04	AU144598	cell recognition molecule Caspr2 /FL=gb:AF193613.1 gb:NM_014141.1
1.754933	4.669573	7.54 Up	1.40E-04	NM_013231	Homo sapiens fibronectin leucine rich transmembrane protein 2 (FLRT2), mRNA. /PROD=fibronectin leucine rich transmembrane protein2 /FL=gb:AB007865.1 gb:AF169676.1 gb:NM_013231.1
-2.81405	0.095993	7.52 Up	9.09E-03	AI694325	ESTs

-1.80965	1.082014	7.42 Up	2.00E-02	NM_152506	Homo sapiens hypothetical protein FLJ32835 (FLJ32835), mRNA. /FL=gb:NM_152506.1
0.360809	3.246455	7.39 Up	7.76E-03	N47315	protein kinase C and casein kinase substrate in neurons 1
-0.10733	2.776046	7.38 Up	2.10E-03	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-1.44407	1.430083	7.33 Up	1.37E-02	U91903	Human Fritz mRNA, complete cds. /PROD=Fritz /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
2.383898	5.242759	7.25 Up	9.57E-05	BF476502	hypothetical protein FLJ11585
-1.74597	1.112559	7.25 Up	3.28E-02	AW269818	hypothetical protein FLJ23403 /FL=gb:NM_022068.1
-2.26295	0.569202	7.12 Up	1.70E-02	AI735586	ESTs
-1.6164	1.213758	7.11 Up	2.52E-02	X00452	Human mRNA for DC classII histocompatibility antigen alpha-chain. /PROD=DC classII histocompatibility antigenalpha-chain
-0.13959	2.687835	7.1 Up	3.70E-04	BG109855	Homo sapiens clone TUA8 Cri-du-chat region mRNA
-0.88175	1.936253	7.05 Up	3.50E-03	AI650874	ESTs
-1.37453	1.440655	7.04 Up	1.15E-02	AF126966	Homo sapiens voltage-dependent calcium channel alpha 1G subunit a isoform (CACNA1G) mRNA, complete cds. /PROD=voltage-dependent calcium channel alpha 1Gsubunit a isoform /FL=gb:AF190860.1 gb:AF126966.1
-3.09265	-0.28152	7.02 Up	9.07E-03	AI093492	ESTs
-0.54935	2.252035	6.97 Up	1.12E-03	NM_006877	Homo sapiens guanosine monophosphate reductase (GMPR), mRNA. /PROD=guanosine monophosphate reductase /FL=gb:M24470.1 gb:NM_006877.1
1.956109	4.750668	6.94 Up	2.21E-04	AI332979	potassium voltage-gated channel, subfamily G,

					member 1 /FL=gb:NM_002237.1 gb:AF033383.1
-1.26967	1.520668	6.92	Up	7.48E-03	AW166711 KIAA0403 protein
-0.23726	2.551912	6.91	Up	3.23E-04	AA912476 Homo sapiens cDNA FLJ13221 fis, clone NT2RP4002075
2.093848	4.875184	6.87	Up	5.90E-05	AC004010 Human BAC clone GS1-99H8
-0.96264	1.812987	6.85	Up	6.20E-03	AB028998 Homo sapiens mRNA for KIAA1075 protein, partial cds. /PROD=KIAA1075 protein
-2.33994	0.434528	6.84	Up	3.67E-02	AL134708 ESTs
-2.08762	0.681751	6.82	Up	2.01E-02	AF052117 Homo sapiens clone 23809 mRNA sequence.
0.323675	3.088394	6.8	Up	8.50E-03	M32577 Human MHC HLA-DQ beta mRNA, complete cds. /FL=gb:M32577.1
3.287037	6.047807	6.78	Up	5.77E-04	AI633559 ESTs
-2.02151	0.737644	6.77	Up	3.93E-03	BF062244 ESTs
-1.66608	1.08864	6.75	Up	1.86E-02	BE673445 Homo sapiens chromosome 19, cosmid R28379
0.449168	3.190138	6.69	Up	1.96E-04	AI688418 plexin A2
0.798972	3.539942	6.69	Up	4.35E-04	AI082827 hypothetical protein FLJ11585
0.83572	3.564527	6.63	Up	1.99E-03	N21138 KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
1.231172	3.958844	6.62	Up	2.36E-04	AI949419 ESTs
-2.31389	0.411671	6.61	Up	1.05E-02	AF302494 Homo sapiens voltage-gated K+ channel subunit MIRP2 (KCNE3) mRNA, complete cds. /PROD=voltage-gated K+ channel subunit MIRP2 /FL=gb:NM_005472.1 gb:AF076531.1 gb:AF302494.1
1.415513	4.132936	6.58	Up	3.18E-04	AI692703 potassium voltage-gated channel, Isk-related family, member 3
0.631332	3.346113	6.56	Up	5.92E-04	AI130705 ESTs, Weakly similar to A46302 PTB-associated splicing factor, long form (H.sapiens)
3.954335	6.666275	6.55	Up	7.98E-05	AB020675 Homo sapiens mRNA for KIAA0868 protein, partial cds. /PROD=KIAA0868 protein /FL=gb:AF193613.1 gb:NM_014141.1
-1.09181	1.620124	6.55	Up	2.00E-02	AI653050 ESTs, Weakly similar to HPPD_HUMAN 4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (H.sapiens)

1.888188	4.581731	6.47 Up	3.37E-04	AW340311	ESTs
-1.83503	0.855966	6.46 Up	6.85E-03	AA552969	ESTs
-2.08627	0.604316	6.46 Up	1.75E-03	N50714	ESTs
-1.2719	1.416234	6.44 Up	4.00E-03	NM_020406	Homo sapiens polycythemia rubra vera 1; cell surface receptor (PRV1), mRNA. /PROD=polycythemia rubra vera 1; cell surfacereceptor /FL=gb:NM_020406.1 gb:AF146747.1
2.444644	5.126622	6.42 Up	2.48E-04	AA789332	ESTs, Moderately similar to KIAA1215 protein (H.sapiens)
-1.10551	1.574234	6.41 Up	1.76E-02	AL136859	Homo sapiens mRNA; cDNA DKFZp434P1735 (from clone DKFZp434P1735); complete cds. /PROD=hypothetical protein /FL=gb:AL136859.1
-1.30127	1.354641	6.3 Up	4.69E-04	AI003579	solute carrier family 6 (neurotransmitter transporter, GABA), member 1 /FL=gb:NM_003042.1
-0.22337	2.432405	6.3 Up	5.31E-03	NM_021822	Homo sapiens phorbolin-like protein MDS019 (MDS019), mRNA. /PROD=phorbolin-like protein MDS019 /FL=gb:AF182420.1 gb:NM_021822.1
-1.25121	1.403996	6.3 Up	1.13E-03	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
-1.55104	1.102459	6.29 Up	7.99E-04	AU157716	Homo sapiens cDNA FLJ13585 fis, clone PLACE1009150
-2.47063	0.175591	6.26 Up	1.53E-02	H09657	ESTs
0.373467	3.018454	6.25 Up	1.79E-03	AU151239	Homo sapiens cDNA FLJ12927 fis, clone NT2RP2004743
1.861693	4.496649	6.21 Up	3.70E-04	AI374739	ESTs
-1.73396	0.890885	6.17 Up	1.62E-02	AU145336	Homo sapiens cDNA FLJ11655 fis, clone HEMBA1004554
1.586056	4.195825	6.1 Up	4.67E-04	Z83851	Human DNA sequence from clone 989H11 on chromosome 22q13.1-13.2. Contains part of a novel gene, ESTs, GSSs

					and four putative CpG islands
0.569298	3.178582	6.1 Up	3.18E-04	NM_000362	Homo sapiens tissue inhibitor of metalloproteinase 3 (Sorsby fundus dystrophy, pseudoinflammatory) (TIMP3), mRNA. /PROD=tissue inhibitor of metalloproteinase 3precursor /FL=gb:NM_000362.2 gb:U14394.1 gb:U67195.1 gb:U02571.1
-2.13754	0.46922	6.09 Up	2.02E-02	BF000203	ESTs
0.013383	2.617624	6.08 Up	5.42E-03	L10374	Human (clone CTG-A4) mRNA sequence.
1.250788	3.85327	6.07 Up	1.09E-04	AF077040	Homo sapiens SIH003 mRNA, complete cds. /PROD=SIH003 /FL=gb:AF077040.1
-1.09421	1.502221	6.05 Up	2.38E-03	AK023621	Homo sapiens cDNA FLJ13559 fis, clone PLACE1007852, highly similar to Homo sapiens mRNA for KIAA0878 protein.
0.466394	3.059875	6.04 Up	5.79E-04	NM_003121	Homo sapiens Spi-B transcription factor (Spi-1PU.1 related) (SPIB), mRNA. /PROD=Spi-B transcription factor (Spi-1PU.1 related) /FL=gb:NM_003121.1
-0.18863	2.401303	6.02 Up	3.85E-03	AV700724	GATA-binding protein 4 /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
2.182526	4.77117	6.02 Up	8.49E-05	NM_004010	Homo sapiens dystrophin (muscular dystrophy, Duchenne and Becker types), includes DXS142, DXS164, DXS206, DXS230, DXS239, DXS268, DXS269, DXS270, DXS272 (DMD), transcript variant Dp427p2, mRNA. /PROD=dystrophin Dp427p2 isoform /FL=gb:NM_004010.1
1.08211	3.666711	6 Up	9.72E-04	AF010314	Homo sapiens Pig10 (PIG10) mRNA, complete cds. /PROD=Pig10 /FL=gb:AF059611.1 gb:AF010314.1 gb:NM_003633.1 gb:BC000418.1 gb:AF005381.1
-1.4606	1.112751	5.95 Up	1.20E-03	AW07210	Homo sapiens mRNA;

				2	cDNA DKFZp434H205 (from clone DKFZp434H205)
2.092702	4.657439	5.92 Up	6.25E-05	AA700440	ESTs
0.513482	3.076608	5.91 Up	3.96E-04	AU154504	cytochrome P450, subfamily I (dioxin-inducible), polypeptide 1 (glaucoma 3, primary infantile) /FL=gb:U03688.1 gb:NM_000104.2
-1.13676	1.422546	5.89 Up	6.80E-03	AB023144	Homo sapiens mRNA for KIAA0927 protein, partial cds. /PROD=KIAA0927 protein
1.297014	3.854685	5.89 Up	1.02E-04	NM_005756	Homo sapiens G protein-coupled receptor 64 (GPR64), mRNA. /PROD=G protein-coupled receptor 64 /FL=gb:NM_005756.1
-0.68272	1.867351	5.86 Up	5.59E-03	AF159447	Homo sapiens Suppressor of Fused mRNA, alternatively spliced form 2, complete cds. /PROD=Suppressor of Fused /FL=gb:NM_016169.1 gb:AF159447.1 gb:AF175770.1
-3.12304	-0.58481	5.81 Up	4.03E-02	NM_018018	Homo sapiens hypothetical protein FLJ10191 (FLJ10191), mRNA. /PROD=hypothetical protein FLJ10191 /FL=gb:NM_018018.1
1.163123	3.692873	5.77 Up	1.63E-04	NM_002742	Homo sapiens protein kinase C, mu (PRKCM), mRNA. /PROD=protein kinase C, mu /FL=gb:NM_002742.1
-0.35867	2.162789	5.74 Up	1.69E-04	NM_001957	Homo sapiens endothelin receptor type A (EDNRA), mRNA. /PROD=endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
2.405473	4.925144	5.73 Up	6.25E-05	AI283093	ESTs
-1.58235	0.936512	5.73 Up	1.59E-03	NM_018419	Homo sapiens SRY (sex determining region Y)-box 18 (SOX18), mRNA. /PROD=SRY (sex determining region Y)-box 18 /FL=gb:AF270652.1 gb:AB033888.1 gb:NM_018419.1
-1.88254	0.627373	5.7 Up	6.20E-03	BF694956	Human DNA sequence from clone RP1-187J11

					on chromosome 6q11.1-22.33. Contains the gene for a novel protein similar to S. pombe and S. cerevisiae predicted proteins, the gene for a novel protein similar to protein kinase C inhibitors, the 3 end of the
-0.68545	1.817815	5.67 Up	5.99E-03	BC035640	Homo sapiens, clone IMAGE:5547405, mRNA.
-1.92555	0.569805	5.64 Up	1.75E-03	BE856597	ESTs
3.313759	5.801354	5.61 Up	1.18E-04	AB020657	Homo sapiens mRNA for KIAA0850 protein, complete cds. /PROD=KIAA0850 protein /FL=gb:AB020657.1 gb:AF161553.1 gb:AF205218.1 gb:NM_016389.1
4.49505	6.977964	5.59 Up	6.25E-05	AK093435	Homo sapiens cDNA FLJ36116 fis, clone TESTI2022338.
0.618056	3.100379	5.59 Up	1.33E-04	BG165333	ESTs
-1.12392	1.354596	5.57 Up	2.50E-03	T82147	ESTs
-1.17289	1.304294	5.57 Up	6.03E-03	AW025980	ESTs, Weakly similar to A47582 B-cell growth factor precursor (H.sapiens)
-0.66753	1.784294	5.47 Up	9.05E-04	AF284435	Homo sapiens TIGIRR-2 mRNA, complete cds. /PROD=TIGIRR-2 /FL=gb:AF284435.1 gb:NM_014271.1 gb:AF181284.1
-0.04543	2.399112	5.44 Up	1.46E-03	AB037730	Homo sapiens mRNA for KIAA1309 protein, partial cds. /PROD=KIAA1309 protein
-2.47478	-0.03132	5.44 Up	8.96E-03	NM_152687	Homo sapiens hypothetical protein FLJ33641 (FLJ33641), mRNA. /FL=gb:NM_152687.1
-1.89695	0.545787	5.44 Up	3.46E-03	AL136944	Homo sapiens mRNA; cDNA DKFZp586J0624 (from clone DKFZp586J0624); complete cds. /PROD=hypothetical protein /FL=gb:AF215636.1 gb:NM_014585.1 gb:AF231121.1 gb:AF226614.1 gb:AL136944.1
1.095538	3.529324	5.4 Up	1.59E-04	AF319520	Homo sapiens ARG99 mRNA, complete cds.

					/PROD=ARG99 /FL=gb:AF319520.1
2.130365	4.562488	5.4 Up	8.49E-05	BC005047	Homo sapiens, clone MGC:12852, mRNA, complete cds. /PROD=Unknown (protein for MGC:12852) /FL=gb:NM_001946.1 gb:AB013382.1 gb:BC003562.1 gb:BC003143.1 gb:BC005047.1
3.686635	6.118029	5.39 Up	1.82E-04	AF205218	Homo sapiens NS1-binding protein-like protein mRNA, complete cds. /PROD=NS1-binding protein-like protein /FL=gb:AB020657.1 gb:AF161553.1 gb:AF205218.1 gb:NM_016389.1
1.298769	3.727597	5.38 Up	2.76E-04	AI123815	ESTs
1.182358	3.610132	5.38 Up	1.82E-04	AW270138	Homo sapiens mRNA for KIAA1729 protein, partial cds
-1.39667	1.02491	5.36 Up	6.51E-03	AI018174	ESTs
-0.47241	1.946888	5.35 Up	6.80E-03	NM_006604	Homo sapiens ret finger protein-like 3 (RFPL3), mRNA. /PROD=ret finger protein-like 3 /FL=gb:NM_006604.1
-0.68921	1.725879	5.33 Up	1.34E-04	NM_016546	Homo sapiens complement C1r-like proteinase precursor, (LOC51279), mRNA. /PROD=complement C1r-like proteinase precursor, /FL=gb:AF178985.1 gb:NM_016546.1
-0.17505	2.238912	5.33 Up	1.05E-04	AA995925	Homo sapiens clone 23741 mRNA sequence
-0.20099	2.21229	5.33 Up	1.55E-03	BF984830	retinoic acid induced 1
2.377335	4.79048	5.33 Up	4.69E-04	NM_005328	Homo sapiens hyaluronan synthase 2 (HAS2), mRNA. /PROD=hyaluronan synthase 2 /FL=gb:U54804.1 gb:NM_005328.1
-0.98665	1.425455	5.32 Up	1.34E-02	NM_001463	Homo sapiens frizzled-related protein (FRZB), mRNA. /PROD=frizzled-related protein /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
2.264046	4.672118	5.31 Up	1.25E-04	AL049589	Human DNA sequence from clone 570L12 on

					chromosome Xq13.1-21.1. Contains the PGK1 gene for phosphoglycerate kinase 1, the gene for a novel protein similar to TAF2G (TATA box binding protein (TBP)-associated factor, RNA polymerase II, G, 32kD) (TAF...
-0.35323	2.046488	5.28 Up	2.37E-03	BM666010	Homo sapiens cDNA FLJ23803 fis, clone HEP22811.
3.472109	5.867303	5.26 Up	7.98E-05	AW069729	Homo sapiens mRNA; cDNA DKFZp434B2119 (from clone DKFZp434B2119); partial cds
0.977201	3.368558	5.25 Up	7.47E-05	AI656807	ESTs
2.732975	5.121756	5.24 Up	6.52E-04	AC005378	Homo sapiens PAC clone RP5-1137M13 from 7q33-q35
1.592667	3.976725	5.22 Up	6.48E-04	AI978754	ESTs
1.008383	3.391251	5.22 Up	8.23E-04	BE397715	pre-B-cell leukemia transcription factor 2 /FL=gb:NM_002586.1
0.134434	2.516313	5.21 Up	3.13E-04	AV758821	ESTs, Weakly similar to Z132_HUMAN ZINC FINGER PROTEIN 13 (H.sapiens)
1.496791	3.877324	5.21 Up	8.49E-05	BF338045	calumenin
0.329872	2.705019	5.19 Up	1.05E-04	AI652899	ESTs
-0.39856	1.964554	5.14 Up	1.29E-03	BC019064	Homo sapiens, Similar to hypothetical protein FLJ14743, clone MGC:29781 IMAGE:4590587, mRNA, complete cds. /PROD=Similar to hypothetical protein FLJ14743 /FL=gb:BC019064.1
0.462867	2.81993	5.12 Up	8.02E-03	AI807026	ESTs
0.385307	2.742224	5.12 Up	4.37E-04	BF435123	bromodomain and PHD finger containing, 3
-1.10371	1.252512	5.12 Up	9.04E-04	NM_005985	Homo sapiens snail 1 (drosophila homolog), zinc finger protein (SNAI1), mRNA. /PROD=snail 1 (drosophila homolog), zinc fingerprotein /FL=gb:AF125377.1 gb:NM_005985.1
1.094591	3.449692	5.12 Up	1.02E-04	NM_024064	Homo sapiens hypothetical protein MGC5363 (MGC5363), mRNA. /PROD=hypothetical protein MGC5363 /FL=gb:BC001000.2

					gb:NM_024064.1
2.167442	4.520183	5.11 Up	4.37E-04	NM_001552	Homo sapiens insulin-like growth factor-binding protein 4 (IGFBP4), mRNA. /PROD=insulin-like growth factor-binding protein 4 /FL=gb:M62403.1 gb:NM_001552.1
2.49682	4.845096	5.09 Up	2.00E-04	NM_014943	Homo sapiens KIAA0854 protein (KIAA0854), mRNA. /PROD=KIAA0854 protein /FL=gb:NM_014943.1 gb:AB020661.1
0.089114	2.430633	5.07 Up	5.31E-03	AW014734	ESTs
0.208844	2.544219	5.05 Up	4.90E-04	H09780	Human (clone CTG-A4) mRNA sequence
1.38879	3.721503	5.04 Up	1.05E-04	D21254	Human mRNA for OB-cadherin-1, complete cds. /PROD=OB-cadherin-1 /FL=gb:L34056.1 gb:NM_001797.1 gb:D21254.1
-0.07494	2.251273	5.01 Up	8.04E-04	NM_001394	Homo sapiens dual specificity phosphatase 4 (DUSP4), mRNA. /PROD=dual specificity phosphatase 4 /FL=gb:NM_001394.2 gb:BC002671.1 gb:U48807.1 gb:U21108.1
2.115363	4.439619	5.01 Up	1.50E-04	NM_018700	Homo sapiens zinc-binding protein Rbcc728 (Rbcc728), mRNA. /PROD=zinc-binding protein Rbcc728 /FL=gb:NM_018700.1
1.361153	-4.07391	43.26 Down	4.28E-04	NM_014352	Homo sapiens POU transcription factor (OCT11), mRNA. /PROD=POU transcription factor /FL=gb:NM_014352.1 gb:AF133895.1 gb:AF162278.1
1.312148	-3.67593	31.74 Down	2.15E-02	U32500	Human type 2 neuropeptide Y receptor mRNA, complete cds. /PROD=type 2 neuropeptide Y receptor /FL=gb:U42766.1 gb:U36269.1 gb:U32500.1
3.409815	-1.40094	28.07 Down	4.88E-03	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1

						gb:AF136631.1
0.757197	-4.01309	27.29	Down	5.31E-03	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
5.187988	0.925716	19.19	Down	1.82E-04	AA074145	proline oxidase homolog
3.862686	-0.33976	18.41	Down	1.79E-03	NM_007115	Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
0.579765	-3.61266	18.28	Down	1.63E-03	AI393930	ESTs
3.77776	-0.38219	17.88	Down	4.99E-04	BU729850	hypothetical protein LOC153469
2.951696	-1.16992	17.41	Down	5.31E-03	AB019562	Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
1.143234	-2.96901	17.29	Down	1.60E-04	BF437711	ESTs
3.268087	-0.81338	16.93	Down	1.82E-04	AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14 /FL=gb:AF345910.1
3.113698	-0.8325	15.41	Down	6.25E-05	NM_002196	Homo sapiens insulinoma-associated 1 (INSM1), mRNA. /PROD=insulinoma-associated 1 /FL=gb:NM_002196.1 gb:M93119.1
4.927935	1.009599	15.12	Down	1.75E-04	J05008	Homo sapiens endothelin-1 (EDN1) gene, complete cds /FL=gb:NM_001955.1
4.897427	1.053368	14.36	Down	6.25E-05	R06655	ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
2.271332	-1.54277	14.07	Down	1.21E-02	NM_015198	Homo sapiens KIAA0633 protein (COBL), mRNA. /PROD=KIAA0633 protein /FL=gb:NM_015198.1
3.025351	-0.68158	13.06	Down	6.25E-05	AW590925	ESTs
0.961816	-2.64027	12.14	Down	1.38E-02	AI796169	GATA-binding protein 3 /FL=gb:NM_002051.1 gb:M69106.1 gb:BC003070.1
1.840613	-1.75619	12.1	Down	1.31E-02	AI949760	ESTs, Weakly similar to unnamed protein product (H.sapiens)
2.350127	-1.16435	11.43	Down	1.75E-03	AK026106	Homo sapiens cDNA: FLJ22453 fis, clone

						HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
2.36447	-1.11975	11.19	Down	1.26E-04	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
3.806044	0.35797	10.91	Down	5.32E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
5.023981	1.579769	10.88	Down	1.50E-04	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
7.564809	4.126951	10.84	Down	6.52E-04	M83248	Human nephropontin mRNA, complete cds. /PROD=nephropontin /FL=gb:M83248.1
4.055862	0.664604	10.49	Down	9.57E-05	AK026815	Homo sapiens cDNA: FLJ23162 fis, clone LNG09734.
3.437271	0.12475	9.94	Down	3.82E-04	AB029025	Homo sapiens mRNA for KIAA1102 protein, partial cds. /PROD=KIAA1102 protein
2.129273	-1.1448	9.67	Down	1.66E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
4.847114	1.573515	9.67	Down	1.73E-04	NM_006474	Homo sapiens lung type-I cell membrane-associated glycoprotein (T1A-2), transcript variant 2, mRNA. /PROD=lung type-I cell membrane-associatedglycoprotein, isoform 2 precursor /FL=gb:NM_006474.1 gb:AF030428.1
1.577138	-1.67271	9.51	Down	7.76E-03	M15329	Human interleukin 1-alpha (IL1A) mRNA, complete cds. /PROD=interleukin 1-alpha /FL=gb:M15329.1
4.505436	1.287267	9.31	Down	9.57E-05	W57613	ESTs
3.508683	0.294832	9.28	Down	1.97E-04	AK027231	Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
2.62025	-0.53251	8.89	Down	5.60E-04	AA625683	ESTs
1.659275	-1.48435	8.84	Down	9.40E-04	L16895	Human lysyl oxidase (LOX) gene, exon 7
5.207569	2.064859	8.83	Down	2.72E-04	AA083478	Homo sapiens mRNA full length insert cDNA clone

					EUROIMAGE 746039
2.306225	-0.8129	8.69 Down	2.76E-04	AW444761	ESTs
2.000419	-1.10961	8.63 Down	5.03E-03	NM_031272	Homo sapiens testis expressed sequence 14 (TEX14), mRNA. /PROD=testis expressed sequence 14 /FL=gb:NM_031272.1
5.450694	2.394209	8.32 Down	9.84E-05	AF095771	Homo sapiens PTH-responsive osteosarcoma B1 protein (B1) mRNA, complete cds. /PROD=PTH-responsive osteosarcoma B1 protein /FL=gb:AF095771.1
5.252439	2.196404	8.32 Down	1.18E-03	NM_001553	Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
4.507212	1.458704	8.27 Down	1.26E-04	AW196940	ESTs
3.543738	0.544705	7.99 Down	4.95E-04	NM_001955	Homo sapiens endothelin 1 (EDN1), mRNA. /PROD=endothelin 1 /FL=gb:NM_001955.1
3.334996	0.337521	7.99 Down	1.34E-05	R40917	phosphodiesterase 4D, cAMP-specific (dunce (Drosophila)-homolog phosphodiesterase E3) /FL=gb:L20969.1 gb:NM_006203.1 gb:U02882.1
4.092731	1.098988	7.97 Down	7.83E-04	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.19487	0.215496	7.89 Down	2.37E-03	NM_173553	Homo sapiens hypothetical protein FLJ25801 (FLJ25801), mRNA. /FL=gb:NM_173553.1
5.388254	2.421904	7.82 Down	3.23E-04	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.094055	0.128818	7.81 Down	3.00E-04	AW188198	tumor necrosis factor, alpha-induced protein 6

					/FL=gb:NM_007115.1
2.332751	-0.63023	7.8	Down	9.35E-05	NM_000077 Homo sapiens cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), mRNA. /PROD=cyclin-dependent kinase inhibitor 2A (melanoma,p16, inhibits CDK4) /FL=gb:NM_000077.1 gb:L27211.1
1.10782	-1.84525	7.74	Down	3.46E-03	BC029425 Homo sapiens, Similar to KIAA1275 protein, clone IMAGE:4616553, mRNA.
3.655193	0.705514	7.73	Down	3.18E-04	AI659927 Homo sapiens cDNA: FLJ22547 fis, clone HSI00356
5.356771	2.412135	7.7	Down	1.86E-04	W92036 ESTs
2.28595	-0.65294	7.67	Down	2.78E-03	BE504838 ESTs
6.1137	3.198978	7.54	Down	2.22E-04	NM_001553 Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
4.738703	1.825888	7.53	Down	1.59E-04	NM_014033 Homo sapiens DKFZP586A0522 protein (DKFZP586A0522), mRNA. /PROD=DKFZP586A0522 protein /FL=gb:NM_014033.1
4.633038	1.723613	7.51	Down	7.34E-05	NM_016931 Homo sapiens NADPH oxidase 4 (NOX4), mRNA. /PROD=NADPH oxidase 4 /FL=gb:AF261943.1 gb:NM_016931.1 gb:AF254621.1 gb:AB041035.1
0.831091	-2.07313	7.49	Down	1.64E-02	NM_153036 Homo sapiens hypothetical protein FLJ32239 (FLJ32239), mRNA. /FL=gb:NM_153036.1
3.030236	0.148098	7.37	Down	1.06E-03	AA812232 upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
5.715937	2.845518	7.31	Down	6.25E-05	U85658 Human transcription factor ERF-1 mRNA, complete cds. /PROD=ERF-1 /FL=gb:NM_003222.1 gb:U85658.1
2.597946	-0.264	7.27	Down	1.96E-04	AW138143 ESTs
2.798327	-0.06241	7.26	Down	1.59E-04	BF062943 protocadherin 18
2.590871	-0.2675	7.25	Down	5.03E-03	NM_0165 Homo sapiens TBX3-iso

					69	protein (TBX3-iso), mRNA. /PROD=TBX3-iso protein /FL=gb:NM_016569.1 gb:AF216750.1
2.967768	0.161666	6.99	Down	2.73E-03	AL121753	Human DNA sequence from clone RP4-614O4 on chromosome 20q11.1-12 Contains the 3 part of the MMP24 (matrix metalloproteinase 24 (membrane-inserted)) gene, the ITGB4BP (integrin beta 4 binding protein) gene, the 3 end of a novel gene, the 3 end o...
1.041706	-1.73204	6.84	Down	3.48E-02	BF196010	ESTs
0.424388	-2.34418	6.81	Down	3.04E-03	NM_002433	Homo sapiens myelin oligodendrocyte glycoprotein (MOG), mRNA. /PROD=myelin oligodendrocyte glycoprotein /FL=gb:U18798.1 gb:U64564.1 gb:NM_002433.1
6.307554	3.554438	6.74	Down	3.96E-04	NM_006622	Homo sapiens serum-inducible kinase (SNK), mRNA. /PROD=serum-inducible kinase /FL=gb:AF059617.1 gb:NM_006622.1 gb:AF223574.1
3.876749	1.137352	6.68	Down	1.28E-03	AL574184	hydroxyprostaglandin dehydrogenase 15-(NAD) /FL=gb:NM_000860.1 gb:L76465.1
7.67265	4.935152	6.67	Down	3.86E-04	NM_002966	Homo sapiens S100 calcium-binding protein A10 (annexin II ligand, calpactin I, light polypeptide (p11)) (S100A10), mRNA. /PROD=S100 calcium-binding protein A10 /FL=gb:M81457.1 gb:M38591.1 gb:NM_002966.1
3.127666	0.401912	6.62	Down	4.36E-04	NM_003577	Homo sapiens undifferentiated embryonic cell transcription factor 1 (UTF1), mRNA. /PROD=undifferentiated embryonic cell transcriptionfactor 1 /FL=gb:NM_003577.1 gb:AB011076.1
2.677334	-0.04099	6.58	Down	4.48E-04	NM_0000	Homo sapiens collagen,

				94	type VII, alpha 1 (epidermolysis bullosa, dystrophic, dominant and recessive) (COL7A1), mRNA. /PROD=collagen, type VII, alpha 1 (epidermolysisbullosa, dystrophic, dominant and recessive) /FL=gb:L02870.1 gb:NM_000094.1
4.796495	2.100178	6.48 Down	2.14E-05	AI653107	ESTs
1.075159	-1.6205	6.48 Down	2.02E-02	J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
3.86075	1.187353	6.38 Down	1.59E-04	U85995	Cluster Incl. U85995:Human clone IMAGE-22181 unknown protein mRNA, partial cds /cds=(0,1291) /gb=U85995 /gi=1835749 /ug=Hs.79340 /len=1696
0.300578	-2.35535	6.3 Down	2.44E-02	AI110886	prothymosin, alpha (gene sequence 28)
0.182328	-2.47093	6.29 Down	1.88E-02	BC036917	Homo sapiens, clone MGC:46457 IMAGE:5201433, mRNA, complete cds. /PROD=Unknown (protein for MGC:46457) /FL=gb:BC036917.1
6.568635	3.918368	6.28 Down	1.51E-04	AL031602	Human DNA sequence from clone RP5-1174N9 on chromosome 1p34.1-35.3. Contains the gene for a novel protein with IBR domain, a (pseudo?) gene for a novel protein similar to MT1E (metallothionein 1E (functional)), ESTs, STSs, GSSs and two putative Cp...
1.639038	-1.00453	6.25 Down	5.77E-04	AW027879	ESTs, Weakly similar to NBHUC8 decorin precursor (H.sapiens)
4.038177	1.406797	6.2 Down	1.02E-04	BF449053	ESTs
6.008797	3.380703	6.18 Down	1.64E-03	W72516	dihydropyrimidinase-like 3 /FL=gb:NM_001387.1 gb:D78014.1
2.098906	-0.52676	6.17 Down	2.78E-03	NM_003914	Homo sapiens cyclin A1 (CCNA1), mRNA. /PROD=cyclin A1 /FL=gb:NM_003914.1 gb:U66838.1
1.99849	-0.59877	6.05 Down	5.92E-04	NM_0023	Homo sapiens lysyl

				17	oxidase (LOX), mRNA. /PROD=lysyl oxidase /FL=gb:AF039291.1 gb:NM_002317.1 gb:M94054.1
2.982965	0.397911	6 Down	1.82E-04	AK026829	Homo sapiens cDNA: FLJ23176 fis, clone LNG10452.
3.08363	0.500579	5.99 Down	1.74E-04	U73778	Human collagen type XII alpha-1 precursor (COL12A1) mRNA. /PROD=collagen type XII alpha-1 /FL=gb:NM_004370.3
0.857744	-1.71151	5.94 Down	4.12E-03	AB085901	Homo sapiens DBL mRNA for DBL proto-oncogene splicing variant 1, complete cds. /PROD=DBL proto-oncogene splicing variant 1 /FL=gb:AB085901.1
7.251816	4.700433	5.86 Down	3.86E-04	NM_000700	Homo sapiens annexin A1 (ANXA1), mRNA. /PROD=annexin I /FL=gb:BC001275.1 gb:NM_000700.1
5.318139	2.768691	5.85 Down	9.51E-05	U87408	Cluster Incl. U87408:Human clone IMAGE-74593 unknown protein mRNA, partial cds /cds=(0,1362) /gb=U87408 /gi=1842104 /ug=Hs.79340 /len=1982
0.668218	-1.87886	5.84 Down	1.56E-02	BE048571	ESTs
4.103964	1.558115	5.84 Down	8.74E-05	AA579773	ESTs
0.549053	-1.9953	5.83 Down	4.41E-02	AI825645	ESTs, Weakly similar to GBX2_HUMAN HOMEOBOX PROTEIN GBX-2 (H.sapiens)
2.98904	0.457127	5.78 Down	7.98E-05	AW138143	ESTs
3.280973	0.749482	5.78 Down	2.21E-04	AL139377	Human DNA sequence from clone RP11-251J8 on chromosome 13 Contains ESTs, STSs, GSSs and a CpG island. Contains two novel genes with two isoforms each and the KIAA0610 gene with two isoforms
2.750597	0.238017	5.71 Down	1.92E-02	NM_006942	Homo sapiens SRY (sex determining region Y)-box 20 (SOX20), mRNA. /PROD=SRY (sex determining region Y)-box 20 /FL=gb:NM_006942.1 gb:BC000985.1 gb:AB006867.1
3.880272	1.369596	5.7 Down	1.82E-04	NM_0025	Homo sapiens natriuretic

					21	peptide precursor B (NPPB), mRNA. /PROD=natriuretic peptide precursor B /FL=gb:NM_002521.1 gb:M25296.1
2.324824	-0.18374	5.69	Down	2.00E-04	AL096771	Human DNA sequence from clone RP1-238D15 on chromosome 6q12-14.3 Contains part of COL12A1 (collagen, type XII, alpha 1) gene and STSs
6.179917	3.681421	5.65	Down	6.25E-05	NM_000158	Homo sapiens glucan (1,4-alpha-), branching enzyme 1 (glycogen branching enzyme, Andersen disease, glycogen storage disease type IV) (GBE1), mRNA. /PROD=glucan (1,4-alpha-), branching enzyme 1(glycogen branching enzyme) /FL=gb:L07956.1 gb:NM_000158.1
6.777916	4.283022	5.64	Down	3.42E-04	U15174	Homo sapiens BCL2adenovirus E1B 19kD-interacting protein 3 (BNIP3) mRNA, complete cds. /PROD=BCL2adenovirus E1B 19kD-interacting protein 3 /FL=gb:AF002697.1 gb:NM_004052.2 gb:U15174.1
3.560033	1.066273	5.63	Down	4.18E-04	U38945	Human hypothetical 18.1 kDa protein (CDKN2A) mRNA, complete cds. /FL=gb:U38945.1 gb:U26727.1
2.64743	0.1565	5.62	Down	7.06E-03	AI702438	ESTs
4.981033	2.492173	5.61	Down	7.98E-05	NM_000602	Homo sapiens serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 (SERPINE1), mRNA. /PROD=serine (or cysteine) proteinase inhibitor, cladeE (nexin, plasminogen activator inhibitor type 1), membe
5.13621	2.649783	5.6	Down	1.82E-04	BC013944	Homo sapiens, Similar to myosin, heavy polypeptide 7, cardiac muscle, beta, clone IMAGE:4064393, mRNA.
2.648874	0.170587	5.57	Down	2.39E-04	AW00753	Human insulin-like growth

				2	factor binding protein 5 (IGFBP5) mRNA
4.285883	1.811154	5.56	Down	1.26E-04 AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
3.41866	0.980192	5.42	Down	3.42E-04 AA149250	ESTs, Weakly similar to WDNM RAT WDNM1 PROTEIN PRECURSOR (R.norvegicus)
3.932141	1.49687	5.41	Down	6.25E-05 NM_004490	Homo sapiens growth factor receptor-bound protein 14 (GRB14), mRNA. /PROD=growth factor receptor-bound protein 14 /FL=gb:L76687.1 gb:NM_004490.1
4.64236	2.208805	5.4	Down	4.99E-04 AB019695	Homo sapiens mRNA for thioredoxin reductase II beta, complete cds. /PROD=thioredoxin reductase II beta /FL=gb:AB019695.1
2.256481	-0.17666	5.4	Down	2.51E-03 NM_018495	Homo sapiens NAG22 protein (LOC55873), mRNA. /PROD=NAG22 protein /FL=gb:AF247820.3 gb:NM_018495.3
2.93223	0.515985	5.34	Down	1.40E-03 J05594	Homo sapiens NAD+-dependent 15-hydroxyprostaglandin dehydrogenase (PDGH) mRNA, complete cds. /PROD=NAD+-dependent 15-hydroxyprostaglandindehydrogenase /FL=gb:J05594.1
3.557525	1.145962	5.32	Down	1.74E-04 BF514079	Kruppel-like factor 4 (gut)
6.844763	4.45073	5.26	Down	5.92E-04 AF003114	Homo sapiens CYR61 mRNA, complete cds. /FL=gb:AF003114.1
3.947271	1.57134	5.19	Down	3.82E-04 AI928035	ESTs
4.835771	2.460275	5.19	Down	1.74E-04 AL574210	serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 /FL=gb:NM_000602.1 gb:M16006.1
5.332534	2.96686	5.15	Down	2.34E-04 AW189885	protocadherin 18
5.43052	3.069652	5.14	Down	2.73E-04 AU154455	lung type-I cell membrane-associated glycoprotein
3.041407	0.703421	5.06	Down	1.48E-04 NM_004472	Homo sapiens forkhead box D1 (FOXD1), mRNA. /PROD=forkhead box D1 /FL=gb:U59832.1

gb:NM_004472.1

F) **H9P39 at 72 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	72 HRS DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-4.01441	5.083597	547.99	Up	9.50E-05	AB028021	Cluster Incl. AB028021:Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds /cds=(196,1569) /gb=AB028021 /gi=4958949 /ug=Hs.155651 /len=1944
-4.79201	3.675687	354.02	Up	7.11E-05	NM_012431	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E (SEMA3E), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3E /FL=gb:NM_012431.1 gb:AB002329.1
-5.25658	3.066715	320.3	Up	5.36E-05	AW005572	putative 47 kDa protein
-0.80043	7.317513	277.81	Up	3.10E-05	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-3.8752	4.204423	270.53	Up	1.89E-05	AB028021	Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds. /PROD=hepatocyte nuclear factor-3 beta /FL=gb:AB028021.1 gb:NM_021784.1
-3.26893	4.729085	255.65	Up	3.66E-05	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-4.29896	3.360647	202.2	Up	1.85E-05	AY177407	Homo sapiens homeobox protein goosecoid mRNA, complete cds. /PROD=homeobox protein goosecoid /FL=gb:AY177407.1

					gb:NM_173849.1
-0.62093	6.953987	190.67 Up	1.85E-05	NM_022454	Homo sapiens hypothetical protein FLJ22252 similar to SRY-box containing gene 17 (FLJ22252), mRNA. /PROD=hypothetical protein FLJ22252 similar to SRY-boxcontaining gene 17 /FL=gb:NM_022454.1
-4.50758	2.853368	164.39 Up	5.73E-05	AU118882	endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
-1.11159	6.244682	163.85 Up	1.85E-05	NM_003867	Homo sapiens fibroblast growth factor 17 (FGF17), mRNA. /PROD=fibroblast growth factor 17 /FL=gb:NM_003867.1 gb:AB009249.1
-0.26005	7.057553	159.52 Up	8.58E-05	R72286	microfibrillar-associated protein 4
-3.62742	3.595825	149.42 Up	1.19E-03	AA772920	ESTs
-3.61621	3.595293	148.21 Up	7.06E-04	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-1.32044	5.888668	147.96 Up	1.62E-03	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-0.83997	6.288395	139.91 Up	1.06E-04	AI821669	ESTs
-1.89695	5.066236	124.78 Up	5.04E-05	AL136944	Homo sapiens mRNA; cDNA DKFZp586J0624 (from clone DKFZp586J0624); complete cds. /PROD=hypothetical protein /FL=gb:AF215636.1 gb:NM_014585.1 gb:AF231121.1 gb:AF226614.1 gb:AL136944.1
-2.90798	4.005677	120.56 Up	7.41E-05	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1

-3.39007	3.146077	92.81 Up	2.92E-03	NM_006614	Homo sapiens cell adhesion molecule with homology to L1CAM (close homologue of L1) (CHL1), mRNA. /PROD=cell adhesion molecule with homology to L1CAM(close homologue of L1) /FL=gb:AF002246.1 gb:NM_006614.1
-4.63418	1.846961	89.33 Up	5.54E-03	BF112218	ESTs
-2.0457	4.332524	83.18 Up	1.95E-04	AI422986	ESTs
0.756526	7.130796	82.96 Up	2.44E-05	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-3.17056	3.112711	77.88 Up	5.66E-05	AI801626	ESTs, Moderately similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-2.5679	3.691959	76.63 Up	1.85E-05	AL121722	Human DNA sequence from clone RP4-788L20 on chromosome 20 Contains the HNF3B (hepatocyte nuclear factor 3, beta) gene. a novel gene based on ESTs, ESTs, STSs, GSSs and CpG Islands
-3.12184	3.093954	74.33 Up	1.27E-04	AI700341	ESTs
-3.51429	2.6835	73.4 Up	7.26E-04	AA352113	ESTs
0.502235	6.679567	72.37 Up	8.17E-06	NM_014899	Homo sapiens KIAA0878 protein (KIAA0878), mRNA. /PROD=KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-3.7619	2.400862	71.64 Up	4.61E-05	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor potential 4 /FL=gb:NM_016179.1 gb:AF175406.1
-1.66311	4.46486	69.94 Up	3.60E-04	S69738	MCP-1=monocyte chemotactic protein (human, aortic endothelial cells, mRNA, 661 nt). /PROD=MCP-1
-2.26295	3.775709	65.74 Up	1.21E-03	AI735586	ESTs

-3.20091	2.823883	65.11 Up	8.22E-03	NM_002614	Homo sapiens PDZ domain containing 1 (PDZK1), mRNA. /PROD=PDZ domain containing 1 /FL=gb:NM_002614.1 gb:AF012281.1
-0.81978	5.17876	63.94 Up	1.52E-04	AI824037	ESTs, Weakly similar to FCE2 MOUSE LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (M.musculus)
-3.10357	2.888163	63.63 Up	1.85E-05	NM_001453	Homo sapiens forkhead box C1 (FOXC1), mRNA. /PROD=forkhead box C1 /FL=gb:NM_001453.1
-0.41404	5.48675	59.75 Up	1.39E-04	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-4.29055	1.60372	59.48 Up	5.86E-05	AI337300	Homo sapiens, clone MGC:4604, mRNA, complete cds /FL=gb:BC004219.1
-1.70149	4.121658	56.62 Up	6.46E-04	AF225426	Homo sapiens HT016 mRNA, complete cds. /PROD=HT016 /FL=gb:AF225426.1
-2.07937	3.707398	55.21 Up	2.52E-03	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
0.800949	6.56634	54.39 Up	2.72E-07	NM_030781	Homo sapiens scavenger receptor with C-type lectin (SRCL), mRNA. /PROD=scavenger receptor with C-type lectin /FL=gb:NM_030781.1
-2.72686	2.973219	51.99 Up	1.82E-04	AI692180	PTPRF interacting protein, binding protein 2 (liprin beta 2)
-1.55323	4.113731	50.81 Up	2.92E-05	AI821586	ESTs, Moderately similar to JE0284 Mm-1 cell derived transplantability-associated protein 1b (H.sapiens)
-3.53873	2.127137	50.77 Up	4.17E-04	AI675836	Human DNA sequence from clone RP11-446H13 on chromosome 10. Contains the 3 end of the gene for a novel protein similar to KIAA1059

					(ortholog of mouse VPS10 domain receptor protein SORCS), an RPL23A (60S ribosmal protein 23A) pseudogene, ESTs, STSs an
-2.45311	3.17372	49.41	Up	1.17E-02	BC042378 Homo sapiens, clone IMAGE:5277693, mRNA.
-2.91295	2.704851	49.1	Up	5.98E-03	AW005572 putative 47 kDa protein
-1.44407	4.173723	49.1	Up	1.23E-03	U91903 Human Fritz mRNA, complete cds. /PROD=Fritz /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-0.77864	4.836717	49.02	Up	2.61E-04	NM_022055 Homo sapiens reserved (KCNK12), mRNA. /PROD=tandem pore domain potassium channel THIK-2 /FL=gb:NM_022055.1 gb:AF287302.1
-3.90126	1.704039	48.68	Up	2.65E-04	AI004009 ESTs, Moderately similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.388898	6.98175	48.26	Up	1.85E-05	BE620739 ESTs
-3.91992	1.582406	45.33	Up	1.28E-04	AL553774 KIAA1462 protein
-2.50168	2.984782	44.83	Up	6.69E-03	X16468 Human mRNA for alpha-1 type II collagen.
-1.71797	3.748284	44.21	Up	2.10E-03	AL524520 G protein-coupled receptor 49
-0.5292	4.934946	44.14	Up	7.15E-04	AI127440 ESTs
-0.69028	4.756395	43.61	Up	1.42E-04	M16276 Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1 gb:M81140.1
0.83572	6.263504	43.05	Up	8.83E-05	N21138 KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-2.61405	2.778049	41.99	Up	4.08E-05	U71207 Human eyes absent homolog (Eab1) mRNA, complete cds. /PROD=Eab1 /FL=gb:NM_005244.1 gb:U71207.1
-3.54017	1.841563	41.69	Up	9.86E-04	NM_002091 Homo sapiens gastrin-releasing peptide (GRP), mRNA. /PROD=gastrin-

					releasing peptide /FL=gb:NM_002091.1 gb:K02054.1 gb:BC004488.1
-2.39338	2.964195	41	Up	2.62E-03	M17955 Human MHC class II HLA-DQ-beta mRNA, complete cds. /FL=gb:M33907.1 gb:M17955.1 gb:M16996.1 gb:M17563.1 gb:M20432.1 gb:M26042.1
-1.77041	3.564655	40.37	Up	1.48E-03	NM_003966 Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA. /PROD=sema domain, seven thrombospondin repeats (type1 and type 1-like), transmem
-0.27888	5.053648	40.29	Up	4.00E-05	AF225513 Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-2.4051	2.925248	40.23	Up	2.25E-05	NM_021020 Homo sapiens F37Esophageal cancer-related gene-coding leucine-zipper motif (FEZ1), mRNA. /PROD=F37Esophageal cancer-related gene-codingleucine-zipper motif /FL=gb:AF123659.1 gb:NM_021020.1
-2.16079	3.152396	39.76	Up	4.00E-05	NM_000552 Homo sapiens von Willebrand factor (VWF), mRNA. /PROD=von Willebrand factor precursor /FL=gb:NM_000552.2
-2.6422	2.666218	39.63	Up	1.85E-05	BF589787 ESTs
-1.09421	4.204596	39.36	Up	7.37E-05	AK023621 Homo sapiens cDNA FLJ13559 fis, clone PLACE1007852, highly similar to Homo sapiens mRNA for KIAA0878 protein.
-3.7558	1.527474	38.94	Up	3.02E-03	AW473656 ESTs
-3.21708	2.015336	37.59	Up	1.57E-04	NM_004438 Homo sapiens EphA4 (EPHA4), mRNA.

					/PROD=EphA4 /FL=gb:L36645.1 gb:NM_004438.1
-0.18256	5.019816	36.82	Up	1.85E-05	AI583173 major histocompatibility complex, class II, DQ beta 1
-0.18863	5.007893	36.67	Up	3.26E-04	AV700724 GATA-binding protein 4 /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
-2.69284	2.499705	36.57	Up	6.77E-03	R33964 Homo sapiens cDNA FLJ11022 fis, clone PLACE1003771
0.804491	5.966318	35.8	Up	4.00E-05	AA583044 bone morphogenetic protein 2 /FL=gb:NM_001200.1
0.828899	5.985645	35.67	Up	4.40E-05	NM_001200 Homo sapiens bone morphogenetic protein 2 (BMP2), mRNA. /PROD=bone morphogenetic protein 2 precursor /FL=gb:NM_001200.1
0.663834	5.813725	35.5	Up	7.23E-05	AI817041 G protein-coupled receptor
-2.83906	2.291355	35.03	Up	8.28E-05	T15545 ESTs
-3.25309	1.849989	34.37	Up	1.65E-03	AL050154 Homo sapiens mRNA; cDNA DKFZp586L0120 (from clone DKFZp586L0120).
0.713597	5.813528	34.3	Up	2.17E-04	BF508344 ESTs
-1.61054	3.372801	31.63	Up	6.80E-04	AW264204 ESTs
-3.31261	1.666545	31.54	Up	5.69E-04	BG397856 major histocompatibility complex, class II, DQ alpha 1
-1.35345	3.621423	31.45	Up	7.05E-04	AW157571 ESTs, Weakly similar to T00331 hypothetical protein KIAA0555 (H.sapiens)
-0.81856	4.154852	31.42	Up	2.94E-05	AI129628 ESTs
-0.45718	4.48679	30.78	Up	6.26E-05	BF939489 glycoprotein M6A /FL=gb:D49958.1
0.424882	5.366945	30.74	Up	1.58E-04	AI692659 heat shock 90kD protein 1, alpha
-0.95386	3.986146	30.7	Up	7.87E-05	AF312769 Homo sapiens cryptic mRNA, complete cds. /PROD=cryptic /FL=gb:AF312769.1
-1.39784	3.506506	29.95	Up	9.97E-04	BE222344 splicing factor, arginineserine-rich 5
-0.47614	4.408298	29.54	Up	3.38E-05	BF508639 Homo sapiens mRNA; cDNA DKFZp434E082 (from clone DKFZp434E082)
-3.12747	1.716365	28.72	Up	9.08E-04	AV726956 ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-2.81405	2.019329	28.51	Up	9.96E-04	AI694325 ESTs

1.829497	6.661623	28.48 Up	3.89E-05	AA534817	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-1.42034	3.409373	28.44 Up	4.12E-04	BE737251	Homo sapiens cDNA: FLJ22482 fis, clone HRC10859, highly similar to IRO180147 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 180147
1.563993	6.383462	28.24 Up	1.85E-05	NM_002413	Homo sapiens microsomal glutathione S-transferase 2 (MGST2), mRNA. /PROD=microsomal glutathione S-transferase 2 /FL=gb:NM_002413.1 gb:U77604.1
1.314051	6.126464	28.1 Up	1.89E-05	BC000740	Homo sapiens, cholecystokinin B receptor, clone MGC:2199, mRNA, complete cds. /PROD=cholecystokinin B receptor /FL=gb:L07746.1 gb:L08112.1 gb:S70057.1 gb:BC000740.1 gb:L04473.1 gb:NM_000731.1
0.420056	5.197721	27.43 Up	1.85E-05	NM_012242	Homo sapiens dickkopf (Xenopus laevis) homolog 1 (DKK1), mRNA. /PROD=dickkopf (Xenopus laevis) homolog 1 /FL=gb:AF177394.1 gb:NM_012242.1 gb:AF127563.1
-1.54464	3.22856	27.34 Up	5.11E-05	AI743534	Homo sapiens mRNA; cDNA DKFZp564B1162 (from clone DKFZp564B1162); complete cds /FL=gb:AL136646.1
-4.15276	0.598294	26.93 Up	1.83E-04	AA129444	Homo sapiens mRNA for KIAA1263 protein, partial cds
-1.83503	2.912585	26.86 Up	8.60E-04	AA552969	ESTs
0.442286	5.16846	26.47 Up	1.85E-05	NM_001778	Homo sapiens CD48 antigen (B-cell membrane protein) (CD48), mRNA. /PROD=CD48 antigen (B-cell membrane protein) /FL=gb:NM_001778.1 gb:M37766.1 gb:M59904.1
-2.05438	2.666454	26.37 Up	5.65E-03	BG29090	ESTs, Moderately similar

				8	to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-3.25961	1.457558	26.3 Up	1.49E-02	NM_016341	Homo sapiens pancreas-enriched phospholipase C (LOC51196), mRNA. /PROD=pancreas-enriched phospholipase C /FL=gb:AF117948.1 gb:NM_016341.1 gb:AF190642.2
-0.68225	4.022195	26.07 Up	4.08E-05	N48299	ESTs, Moderately similar to NFY-C (H.sapiens)
-0.37709	4.293707	25.47 Up	5.32E-05	AU152102	Homo sapiens cDNA FLJ12993 fis, clone NT2RP3000197
-0.13959	4.521681	25.3 Up	5.89E-05	BG109855	Homo sapiens clone TUA8 Cri-du-chat region mRNA
-1.80965	2.799751	24.41 Up	4.74E-03	NM_152506	Homo sapiens hypothetical protein FLJ32835 (FLJ32835), mRNA. /FL=gb:NM_152506.1
1.275191	5.879425	24.32 Up	3.33E-05	AI587307	hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-3.79684	0.804733	24.28 Up	2.78E-04	AK026720	Homo sapiens cDNA: FLJ23067 fis, clone LNG04993.
-0.13427	4.467037	24.27 Up	2.87E-05	D49958	Homo sapiens mRNA for membrane glycoprotein M6, complete cds. /PROD=membrane glycoprotein M6 /FL=gb:D49958.1
1.997597	6.595913	24.22 Up	2.84E-05	BC005997	Homo sapiens, clone MGC:14801, mRNA, complete cds. /PROD=Unknown (protein for MGC:14801) /FL=gb:BC005997.1
-2.9769	1.607498	23.99 Up	1.19E-02	AW612111	ESTs
-3.10679	1.463399	23.76 Up	3.41E-04	N59476	ESTs
-2.06656	2.502146	23.73 Up	2.55E-03	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
0.007601	4.558709	23.44 Up	1.02E-04	N63706	ESTs
-0.15629	4.385668	23.3 Up	2.61E-04	AI799018	ESTs
-3.10838	1.4221	23.11 Up	3.43E-04	N50412	ESTs
-2.50006	1.997519	22.59 Up	1.83E-03	U66061	Human germline T-cell receptor beta chain TCRBV17S1A1T,

					TCRBV2S1, TCRBV10S1P, TCRBV29S1P, TCRBV19S1P, TCRBV15S1, TCRBV11S1A1T, HVB relic, TCRBV28S1P, TCRBV34S1, TCRBV14S1, TCRBV3S1, TCRBV4S1A1T, TRY4, TRY5, TRY6, TRY7, TRY8, TCRBD1, TCRBJ1S1, TCRB...
-0.98665	3.469502	21.95 Up	1.93E-03	NM_001463	Homo sapiens frizzled-related protein (FRZB), mRNA. /PROD=frizzled-related protein /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-0.62897	3.790333	21.4 Up	7.95E-03	AI694545	ESTs
0.500662	4.91845	21.37 Up	1.92E-04	AB043703	Homo sapiens FZD8 mRNA for seven-transmembrane receptor Frizzled-8, complete cds. /PROD=seven-transmembrane receptor Frizzled-8 /FL=gb:AB043703.1
-0.10733	4.302037	21.25 Up	2.88E-04	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-0.70855	3.6919	21.12 Up	4.93E-04	AI917371	ESTs
-3.53207	0.857843	20.97 Up	1.12E-03	NM_002769	Homo sapiens protease, serine, 1 (trypsin 1) (PRSS1), mRNA. /PROD=protease, serine, 1 (trypsin 1) /FL=gb:M22612.1 gb:NM_002769.1
1.168713	5.556831	20.94 Up	2.43E-04	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-1.68521	2.69622	20.84 Up	2.06E-03	NM_002770	Homo sapiens protease, serine, 2 (trypsin 2) (PRSS2), mRNA. /PROD=protease, serine, 2 (trypsin 2) /FL=gb:M27602.1 gb:NM_002770.1
-2.14813	2.233148	20.84 Up	2.55E-04	NM_006034	Homo sapiens p53-induced protein (PIG11),

					mRNA. /PROD=p53-induced protein /FL=gb:AF010315.1 gb:BC000443.1 gb:BC003010.1 gb:NM_006034.1
-0.5982	3.780076	20.8 Up	1.63E-02	AI806510	putative 47 kDa protein
0.449168	4.82657	20.78 Up	2.33E-05	AI688418	plexin A2
1.223968	5.565279	20.27 Up	1.85E-05	AL574912	ESTs, Weakly similar to serine protease (H.sapiens)
2.368939	6.691717	20.01 Up	3.09E-05	AJ224869	Homo sapiens CXCR4 gene encoding receptor CXCR4
-1.83333	2.487663	19.99 Up	2.10E-03	NM_006501	Homo sapiens myelin-associated oligodendrocyte basic protein (MOBP), mRNA. /PROD=myelin-associated oligodendrocyte basic protein /FL=gb:D28113.1 gb:NM_006501.1
-2.16064	2.095432	19.11 Up	1.23E-02	NM_000475	Homo sapiens nuclear receptor subfamily 0, group B, member 1 (NR0B1), mRNA. /PROD=adrenal hypoplasia protein /FL=gb:NM_000475.2
1.861693	6.103583	18.92 Up	2.59E-05	AI374739	ESTs
-3.47945	0.755598	18.83 Up	5.51E-04	NM_000854	Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA. /PROD=glutathione S-transferase theta 2 /FL=gb:L38503.1 gb:BC002415.1 gb:NM_000854.2
-1.25995	2.973193	18.81 Up	2.98E-04	AK026607	Homo sapiens cDNA: FLJ22954 fis, clone KAT09813, highly similar to AF010315 Homo sapiens Pig11 (PIG11) mRNA.
-0.27888	3.946435	18.7 Up	2.46E-05	NM_003078	Homo sapiens SWISNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 (SMARCD3), mRNA. /PROD=SWISNF related, matrix associated, actindependent regulator of chromatin, subfamily d, member 3 /FL=gb:NM_003078.1 gb
1.740607	5.961556	18.65 Up	2.25E-05	NM_002160	Homo sapiens hexabrachion (tenascin C, cytotactin) (HXB), mRNA. /PROD=hexabrachion

					(tenascin C, cytotactin) /FL=gb:M55618.1 gb:NM_002160.1
-2.84061	1.378474	18.62 Up	7.18E-04	AI123532	ESTs
3.042634	7.250084	18.47 Up	2.33E-05	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
1.192657	5.39941	18.47 Up	1.18E-04	NM_024641	Homo sapiens hypothetical protein FLJ12838 (FLJ12838), mRNA. /PROD=hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-2.81453	1.375898	18.26 Up	3.27E-02	BC014585	Homo sapiens, clone IMAGE:4047715, mRNA.
0.476688	4.64635	18 Up	1.14E-04	NM_024581	Homo sapiens hypothetical protein FLJ13942 (FLJ13942), mRNA. /PROD=hypothetical protein FLJ13942 /FL=gb:NM_024581.1
-2.14545	2.018966	17.93 Up	2.47E-03	NM_015831	Homo sapiens acetylcholinesterase (YT blood group) (ACHE), transcript variant E4-E5, mRNA. /PROD=acetylcholinesterase PI-linked form precursor /FL=gb:NM_015831.1
-2.24406	1.891442	17.58 Up	4.96E-05	NM_003275	Homo sapiens tropomodulin (TMOD), mRNA. /PROD=tropomodulin /FL=gb:NM_003275.1 gb:M77016.1 gb:BC002660.1
-0.5777	3.557171	17.57 Up	5.59E-04	BC036592	Homo sapiens, clone IMAGE:4814184, mRNA.
-0.05814	4.076316	17.56 Up	1.83E-04	BF308645	KIAA1415 protein
-1.27748	2.846094	17.43 Up	1.96E-04	D78260	Homo sapiens mRNA for GATA-4 transcription factor, complete cds. /PROD=GATA-4 transcription factor /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
-2.64131	1.466395	17.24 Up	2.99E-02	AU157303	ESTs
-1.82351	2.283948	17.24 Up	3.95E-04	AA603467	ribosomal protein S11
1.59762	5.701737	17.2 Up	5.72E-04	NM_018649	Homo sapiens core histone macroH2A2.2 (MACROH2A2), mRNA.

					/PROD=core histone macroH2A2.2 /FL=gb:AF151534.1 gb:NM_018649.1
-0.20099	3.88744	17.01	Up	1.99E-04 BF984830	retinoic acid induced 1
-0.41626	3.652079	16.78	Up	2.69E-04 BF110534	ESTs
2.377335	6.437231	16.68	Up	1.89E-05 NM_005328	Homo sapiens hyaluronan synthase 2 (HAS2), mRNA. /PROD=hyaluronan synthase 2 /FL=gb:U54804.1 gb:NM_005328.1
-0.29145	3.768186	16.68	Up	2.40E-04 AI197932	ESTs
-3.88742	0.162889	16.57	Up	2.95E-03 AA180985	ESTs
-0.75724	3.289214	16.52	Up	2.66E-03 AL445192	Human DNA sequence from clone RP11-269H4 on chromosome 20 Contains the 3 end of the KIAA1415 gene similar to T-Lymphona invasion and metastasis inducing protein 1, ESTs, STSs and GSSs
-2.30432	1.732166	16.41	Up	2.23E-02 BC017958	Homo sapiens, clone IMAGE:4607409, mRNA.
-3.30412	0.716129	16.23	Up	3.22E-02 AU157224	Homo sapiens cDNA FLJ11570 fis, clone HEMBA1003309
-3.4744	0.544234	16.21	Up	8.79E-03 L32867	Homo sapiens alpha 2,8-sialyltransferase mRNA, complete cds. /PROD=alpha 2,8-sialyltransferase /FL=gb:L43494.1 gb:D26360.1 gb:L32867.1 gb:NM_003034.1
-3.09265	0.925475	16.2	Up	2.03E-03 AI093492	ESTs
-1.39277	2.622602	16.17	Up	2.73E-04 AI629041	ESTs
0.366041	4.354631	15.87	Up	8.71E-05 AI242583	Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
-0.35867	3.62672	15.84	Up	3.71E-05 NM_001957	Homo sapiens endothelin receptor type A (EDNRA), mRNA. /PROD=endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
-0.66587	3.318505	15.83	Up	9.18E-05 NM_001362	Homo sapiens deiodinase, iodothyronine, type III (DIO3), mRNA. /PROD=thyroxine deiodinase type III /FL=gb:NM_001362.1 gb:S79854.1
-1.80959	2.172774	15.81	Up	1.70E-03 BF447246	KIAA0960 protein
-3.95752	0.007632	15.62	Up	1.52E-02 NM_001432	Homo sapiens epiregulin (EREG), mRNA.

					/PROD=epiregulin precursor /FL=gb:D30783.1 gb:NM_001432.1
-0.22337	3.730539	15.5 Up	9.97E-04	NM_021822	Homo sapiens phorbolin-like protein MDS019 (MDS019), mRNA. /PROD=phorbolin-like protein MDS019 /FL=gb:AF182420.1 gb:NM_021822.1
-2.56291	1.390726	15.49 Up	1.14E-02	BG532690	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
-2.89467	1.029195	15.18 Up	4.69E-03	AW971205	ESTs
-1.16952	2.748825	15.12 Up	2.94E-02	NM_001343	Homo sapiens disabled (Drosophila) homolog 2 (mitogen-responsive phosphoprotein) (DAB2), mRNA. /PROD=disabled (Drosophila) homolog 2 /FL=gb:U39050.1 gb:NM_001343.1 gb:U53446.1 gb:BC003064.1
0.798972	4.674672	14.68 Up	5.97E-05	AI082827	hypothetical protein FLJ11585
-0.33264	3.541617	14.66 Up	3.49E-05	NM_020353	Homo sapiens phospholipid scramblase 4 (LOC57088), mRNA. /PROD=phospholipid scramblase 4 /FL=gb:NM_020353.1 gb:AF199023.1
-0.88175	2.988123	14.62 Up	1.30E-03	AI650874	ESTs
-0.11092	3.758565	14.62 Up	4.96E-05	BF591483	ESTs
1.370117	5.237165	14.59 Up	7.39E-05	M33653	Human (clones HT-(125,133)) alpha-2 type IV collagen (COL4A2) mRNA, complete cds. /PROD=alpha-2 type IV collagen /FL=gb:M33653.1
0.041468	3.902142	14.53 Up	9.62E-04	BF130943	ESTs
-0.41994	3.432925	14.45 Up	1.98E-03	AI686957	KIAA1494 protein
-3.44709	0.392958	14.32 Up	3.27E-02	H39185	ESTs
1.071985	4.903249	14.23 Up	1.89E-05	NM_004560	Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA. /PROD=receptor tyrosine kinase-like orphan receptor 2 /FL=gb:M97639.1 gb:NM_004560.1
-0.60671	3.220921	14.2 Up	2.49E-03	NM_000458	Homo sapiens transcription factor 2, hepatic; LF-B3; variant

					hepatic nuclear factor (TCF2), transcript variant a, mRNA. /PROD=transcription factor 2, isoform a /FL=gb:NM_000458.1
1.186033	5.004503	14.11	Up	5.86E-05	AI627704 ESTs, Weakly similar to T17346 hypothetical protein DKFZp586O1624.1 (H.sapiens)
-2.69521	1.121263	14.09	Up	5.32E-05	AF282250 Homo sapiens calneuron 1 (CALN1) mRNA, complete cds. /PROD=calneuron 1 /FL=gb:AF282250.1
-2.70961	1.095539	13.98	Up	2.03E-02	AK055534 Homo sapiens cDNA FLJ30972 fis, clone HEART2000492.
-0.65009	3.149996	13.93	Up	2.55E-04	NM_017931 Homo sapiens hypothetical protein FLJ20699 (FLJ20699), mRNA. /PROD=hypothetical protein FLJ20699 /FL=gb:NM_017931.1
-1.6164	2.173017	13.83	Up	9.97E-03	X00452 Human mRNA for DC classII histocompatibility antigen alpha-chain. /PROD=DC classII histocompatibility antigenalpha-chain
-3.47125	0.312463	13.77	Up	3.91E-02	BF114815 ESTs
-2.17973	1.59463	13.68	Up	1.03E-03	BE379542 chromodomain helicase DNA binding protein 3 /FL=gb:U91543.1
-1.95127	1.804379	13.51	Up	3.31E-03	L12468 Homo sapiens aminopeptidase A mRNA, complete cds. /PROD=aminopeptidase A /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
0.449933	4.203433	13.49	Up	6.43E-04	Z21533 H.sapiens HEX gene encoding homeobox related protein. /PROD=homeobox related protein
0.502333	4.255116	13.48	Up	3.46E-04	AF211891 Homo sapiens Mix-like homeobox protein 1 (MILD1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
0.151239	3.88836	13.33	Up	5.61E-05	BE644809 ESTs
0.631332	4.364524	13.3	Up	8.23E-05	AI130705 ESTs, Weakly similar to A46302 PTB-associated splicing factor, long form (H.sapiens)

-1.83999	1.892454	13.29 Up	2.17E-04	AK074453	Homo sapiens cDNA FLJ23873 fis, clone LNG12941.
-0.28951	3.441091	13.27 Up	2.34E-04	NM_018388	Homo sapiens hypothetical protein FLJ11316 (FLJ11316), mRNA. /PROD=hypothetical protein FLJ11316 /FL=gb:NM_018388.1
0.120924	3.842731	13.19 Up	4.04E-05	NM_001529	Homo sapiens hematopoietically expressed homeobox (HHEX), mRNA. /PROD=hematopoietically expressed homeobox /FL=gb:NM_001529.1 gb:L16499.1 gb:NM_002729.1
-0.4843	3.220215	13.04 Up	2.66E-05	NM_001766	Homo sapiens CD1D antigen, d polypeptide (CD1D), mRNA. /PROD=CD1D antigen, d polypeptide /FL=gb:NM_001766.1 gb:J04142.1
-3.18081	0.521542	13.02 Up	3.11E-04	AW449813	KIAA0918 protein
-1.17885	2.522906	13.01 Up	7.75E-04	AB002155	Homo sapiens mRNA for human uroplakin Ib, complete cds. /PROD=human uroplakin Ib /FL=gb:NM_006952.1 gb:AB015234.1 gb:AF042331.1 gb:AB002155.1
2.383898	6.070755	12.88 Up	2.59E-05	BF476502	hypothetical protein FLJ11585
3.2061	6.89075	12.86 Up	2.73E-05	NM_006681	Homo sapiens neuromedin U (NMU), mRNA. /PROD=neuromedin U /FL=gb:NM_006681.1
0.454394	4.138042	12.85 Up	2.43E-04	AL036088	KIAA1479 protein
-2.233	1.436726	12.73 Up	1.41E-03	NM_014862	Homo sapiens KIAA0307 gene product (KIAA0307), mRNA. /PROD=KIAA0307 gene product /FL=gb:AB002305.1 gb:NM_014862.1
-2.50335	1.160623	12.68 Up	4.71E-04	AA781795	ESTs
0.414809	4.075067	12.64 Up	3.71E-05	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor potential 4 /FL=gb:NM_016179.1 gb:AF175406.1
-0.40798	3.250175	12.62 Up	3.66E-05	AI143879	phosphodiesterase 10A

					/FL=gb:AB020593.1 gb:AF127479.1 gb:NM_006661.1
-1.20714	2.448878	12.61 Up	9.04E-04	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
0.999053	4.64687	12.53 Up	3.66E-05	AW129593	tudor repeat associator with PCTAIRE 2
-1.0335	2.604062	12.45 Up	4.91E-04	AL553774	KIAA1462 protein
-1.78964	1.842967	12.4 Up	1.49E-02	NM_004861	Homo sapiens cerebroside (3-phosphoadenylylsulfate:galactosylceramide 3) sulfotransferase (CST), mRNA. /PROD=galactosylceramide sulfotransferase /FL=gb:NM_004861.1 gb:D88667.1
0.81871	4.448452	12.38 Up	9.04E-05	X06268	Human mRNA for pro-alpha 1 (II) collagen 3end C-term. triple helical and C-terminal non-helical domain. /PROD=pro-alpha 1 (II) collagen (313 AA; AA 975-271c) /FL=gb:NM_001844.2
1.040647	4.667276	12.35 Up	2.25E-05	AI348094	KIAA0882 protein
-2.2316	1.390239	12.31 Up	1.38E-02	AA757630	ESTs
1.076427	4.696942	12.3 Up	3.12E-05	AI640307	protocadherin 10
-1.28224	2.327697	12.21 Up	3.34E-04	NM_005568	Homo sapiens LIM homeobox protein 1 (LHX1), mRNA. /PROD=LIM homeobox protein 1 /FL=gb:NM_005568.1 gb:U14755.1
-1.99136	1.617733	12.2 Up	4.20E-03	AL109653	Human DNA sequence from clone GS1-115M3 on chromosome Xq27.1-28 Contains a gene for a novel protein, CXorf1 (chromosome X open reading frame 1), ESTs, STSs, GSSs and a CpG Island
-3.12055	0.469175	12.04 Up	1.54E-02	AW780006	ESTs
0.1187	3.707767	12.03 Up	5.97E-05	N21184	Cluster Incl. N21184:yx41a10.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-264282 /clone_end=3 /gb=N21184 /gi=1126354 /ug=Hs.93605 /len=619
-1.40826	2.177544	12.01 Up	7.18E-04	AB046770	Homo sapiens mRNA for KIAA1550 protein, partial cds. /PROD=KIAA1550 protein
1.316429	4.899037	11.98 Up	7.87E-05	AI769688	Homo sapiens clone

					23664 and 23905 mRNA sequence
-1.08244	2.498502	11.97	Up	1.67E-03	X75208 X75208 /FEATURE=cds /DEFINITION=HSPTKR H.sapiens HEK2 mRNA for protein tyrosine kinase receptor
-2.68947	0.886703	11.93	Up	4.38E-02	AW291402 ESTs
1.438639	5.011903	11.9	Up	2.06E-04	BF223214 ESTs
-0.10881	3.452952	11.81	Up	2.39E-04	AA701657 hypothetical protein FLJ12666
-2.33994	1.211956	11.73	Up	1.74E-02	AL134708 ESTs
-0.52859	3.016773	11.68	Up	4.43E-03	AW590614 ESTs
-1.77455	1.768056	11.65	Up	1.17E-02	AF140507 Homo sapiens Ca2+calmodulin-dependent protein kinase kinase beta (CAMKKB) mRNA, complete cds. /PROD=Ca2+calmodulin-dependent protein kinase kinasebeta /FL=gb:AF140507.1
-2.84187	0.695267	11.61	Up	1.89E-03	NM_002244 Homo sapiens potassium inwardly-rectifying channel, subfamily J, inhibitor 1 (KCNJN1), mRNA. /PROD=potassium inwardly-rectifying channel, subfamilyJ, inhibitor 1 /FL=gb:NM_002244.1
4.042679	7.571956	11.55	Up	2.86E-05	NM_005454 Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
0.581614	4.103441	11.49	Up	1.82E-04	AF005775 Homo sapiens caspase-like apoptosis regulatory protein 2 (clarp) mRNA, alternatively spliced, complete cds. /PROD=caspase-like apoptosis regulatory protein 2 /FL=gb:AF005775.1
3.287037	6.806239	11.47	Up	3.78E-05	AI633559 ESTs
0.661121	4.174547	11.42	Up	4.53E-05	AA502609 Homo sapiens ankyrin-like with transmembrane domains 1 (ANKTM1), mRNA
1.888188	5.396458	11.38	Up	4.53E-05	AW340311 ESTs
-1.24923	2.257525	11.37	Up	1.03E-03	R42166 ESTs, Weakly similar to AXO1_HUMAN AXONIN-1 PRECURSOR (H.sapiens)

-0.21464	3.287026	11.33 Up	1.37E-03	NM_005045	Homo sapiens reelin (RELN), mRNA. /PROD=reelin /FL=gb:U79716.1 gb:NM_005045.1
2.377686	5.872207	11.27 Up	2.86E-05	NM_000222	Homo sapiens v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog (KIT), mRNA. /PROD=v-kit Hardy-Zuckerman 4 feline sarcoma viraloncogene homolog precursor /FL=gb:NM_000222.1
4.897427	-1.39089	78.16 Down	7.30E-04	R06655	ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
3.409815	-2.69915	69.02 Down	1.89E-05	NM_016588	Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
2.62025	-2.80479	42.96 Down	6.27E-03	AA625683	ESTs
0.757197	-4.55188	39.65 Down	2.02E-04	AF213459	Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
3.113698	-2.03811	35.55 Down	2.91E-04	NM_002196	Homo sapiens insulinoma-associated 1 (INSM1), mRNA. /PROD=insulinoma-associated 1 /FL=gb:NM_002196.1 gb:M93119.1
2.36447	-2.49724	29.08 Down	2.24E-03	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
3.77776	-1.04395	28.28 Down	5.05E-05	BU729850	hypothetical protein LOC153469
3.862686	-0.6228	22.4 Down	5.05E-05	NM_007115	Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
0.579765	-3.59498	18.06 Down	5.51E-04	AI393930	ESTs

0.300578	-3.86457	17.94 Down	5.00E-04	AI110886	prothymosin, alpha (gene sequence 28)
2.28595	-1.84349	17.5 Down	2.27E-02	BE504838	ESTs
4.507212	0.466223	16.46 Down	1.27E-04	AW196940	ESTs
3.025351	-0.89578	15.15 Down	8.71E-05	AW590925	ESTs
6.568635	2.65029	15.12 Down	6.26E-05	AL031602	Human DNA sequence from clone RP5-1174N9 on chromosome 1p34.1-35.3. Contains the gene for a novel protein with IBR domain, a (pseudo?) gene for a novel protein similar to MT1E (metallothionein 1E (functional)), ESTs, STSs, GSSs and two putative Cp...
2.000419	-1.85226	14.45 Down	1.06E-02	NM_031272	Homo sapiens testis expressed sequence 14 (TEX14), mRNA. /PROD=testis expressed sequence 14 /FL=gb:NM_031272.1
1.361153	-2.47081	14.24 Down	6.49E-03	NM_014352	Homo sapiens POU transcription factor (OCT11), mRNA. /PROD=POU transcription factor /FL=gb:NM_014352.1 gb:AF133895.1 gb:AF162278.1
2.350127	-1.47399	14.16 Down	7.74E-03	AK026106	Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
7.360687	3.631772	13.26 Down	4.64E-05	BF217861	metallothionein 1E (functional)
0.372329	-3.25088	12.32 Down	3.04E-02	AV648405	polymerase (RNA) III (DNA directed) (32kD)
0.82229	-2.77919	12.14 Down	1.29E-02	AB017269	Homo sapiens TMEFF2 mRNA, complete cds. /FL=gb:AB017269.1 gb:NM_016192.2 gb:AF179274.2 gb:AF242222.1
3.806044	0.220062	12.01 Down	7.25E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
2.967768	-0.60775	11.92 Down	1.42E-02	AL121753	Human DNA sequence from clone RP4-614O4 on chromosome 20q11.1-12 Contains the 3 part of the MMP24 (matrix metalloproteinase 24 (membrane-inserted))

					gene, the ITGB4BP (integrin beta 4 binding protein) gene, the 3 end of a novel gene, the 3 end o...
2.129273	-1.43763	11.85	Down	1.15E-04 AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
2.951696	-0.61466	11.85	Down	8.28E-05 AB019562	Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
0.860464	-2.69824	11.78	Down	2.25E-02 NM_003007	Homo sapiens semenogelin I (SEMG1), mRNA. /PROD=semenogelin I /FL=gb:J04440.1 gb:NM_003007.1
3.557525	0.063117	11.27	Down	1.07E-03 BF514079	Kruppel-like factor 4 (gut)
3.094055	-0.35326	10.91	Down	4.64E-05 AW188198	tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
4.847114	1.490225	10.25	Down	6.76E-05 NM_006474	Homo sapiens lung type-I cell membrane-associated glycoprotein (T1A-2), transcript variant 2, mRNA. /PROD=lung type-I cell membrane-associatedglycoprotein, isoform 2 precursor /FL=gb:NM_006474.1 gb:AF030428.1
6.426778	3.157882	9.64	Down	1.85E-05 AF313413	Homo sapiens putative small membrane protein NID67 mRNA, complete cds. /PROD=putative small membrane protein NID67 /FL=gb:AF313413.1
4.927935	1.661339	9.62	Down	8.71E-05 J05008	Homo sapiens endothelin-1 (EDN1) gene, complete cds /FL=gb:NM_001955.1
3.268087	0.027916	9.45	Down	1.05E-03 AF345910	Homo sapiens NYD-SP14 mRNA, complete cds. /PROD=NYD-SP14 /FL=gb:AF345910.1
3.655193	0.425727	9.38	Down	2.88E-04 AI659927	Homo sapiens cDNA: FLJ22547 fis, clone HSI00356
7.149479	3.957802	9.14	Down	3.56E-05 M10943	Human metallothionein-If gene (hMT-If)
1.143234	-2.04451	9.11	Down	1.25E-02 BF437711	ESTs
1.588735	-1.59544	9.09	Down	4.64E-02 AF279774	Homo sapiens clone N4 NTera2D1 teratocarcinoma mRNA.
7.144308	3.960669	9.09	Down	2.18E-05 BF246115	RNA helicase-related protein
3.437271	0.276071	8.95	Down	4.74E-05 AB029025	Homo sapiens mRNA for KIAA1102 protein, partial

					cds. /PROD=KIAA1102 protein
7.224807	4.073278	8.89	Down	2.46E-05	NM_005951 Homo sapiens metallothionein 1H (MT1H), mRNA. /PROD=metallothionein 1H /FL=gb:NM_005951.1
2.367534	-0.77672	8.84	Down	3.10E-03	AF098641 Homo sapiens CD44 isoform RC (CD44) mRNA, complete cds. /PROD=CD44 isoform RC /FL=gb:AF098641.1
4.253624	1.120681	8.77	Down	4.72E-05	NM_003385 Homo sapiens visinin-like 1 (VSNL1), mRNA. /PROD=visinin-like 1 /FL=gb:AF039555.1 gb:U14747.1 gb:AB001104.1 gb:NM_003385.1
5.398488	2.316218	8.47	Down	6.93E-05	NM_001134 Homo sapiens alpha-fetoprotein (AFP), mRNA. /PROD=alpha-fetoprotein /FL=gb:NM_001134.1 gb:J00077.1
3.947271	0.8794	8.39	Down	2.51E-04	AI928035 ESTs
7.768254	4.72435	8.25	Down	2.44E-05	NM_005953 Homo sapiens metallothionein 2A (MT2A), mRNA. /PROD=metallothionein 2A /FL=gb:NM_005953.1
6.813053	3.774649	8.22	Down	2.87E-05	NM_005950 Homo sapiens metallothionein 1G (MT1G), mRNA. /PROD=metallothionein 1G /FL=gb:NM_005950.1
7.426418	4.406989	8.11	Down	1.89E-05	NM_005952 Homo sapiens metallothionein 1X (MT1X), mRNA. /PROD=metallothionein 1X /FL=gb:NM_005952.1
2.332751	-0.66491	7.99	Down	5.08E-03	NM_000077 Homo sapiens cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4) (CDKN2A), mRNA. /PROD=cyclin-dependent kinase inhibitor 2A (melanoma,p16, inhibits CDK4) /FL=gb:NM_000077.1 gb:L27211.1
4.738703	1.752163	7.93	Down	4.08E-05	NM_014033 Homo sapiens DKFZP586A0522 protein (DKFZP586A0522), mRNA. /PROD=DKFZP586A0522 protein /FL=gb:NM_014033.1
5.601289	2.627505	7.86	Down	1.20E-04	AF039555 Homo sapiens visinin-like protein 1 (VSNL1) mRNA,

					complete cds. /PROD=visinin-like protein 1 /FL=gb:AF039555.1 gb:U14747.1 gb:AB001104.1 gb:NM_003385.1
7.564809	4.595208	7.83	Down	2.94E-05	M83248 Human nephropontin mRNA, complete cds. /PROD=nephropontin /FL=gb:M83248.1
3.602406	0.633934	7.83	Down	5.32E-05	AI493245 CD44 antigen (homing function and Indian blood group system)
3.08363	0.127792	7.76	Down	9.96E-04	U73778 Human collagen type XII alpha-1 precursor (COL12A1) mRNA. /PROD=collagen type XII alpha-1 /FL=gb:NM_004370.3
3.030236	0.074899	7.76	Down	9.24E-03	AA812232 upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
7.493544	4.550383	7.69	Down	2.85E-05	NM_002450 Homo sapiens metallothionein 1L (MT1L), mRNA. /PROD=metallothionein 1L /FL=gb:NM_002450.1
3.19487	0.252626	7.69	Down	1.19E-04	NM_173553 Homo sapiens hypothetical protein FLJ25801 (FLJ25801), mRNA. /FL=gb:NM_173553.1
3.127666	0.186544	7.68	Down	5.32E-05	NM_003577 Homo sapiens undifferentiated embryonic cell transcription factor 1 (UTF1), mRNA. /PROD=undifferentiated embryonic cell transcriptionfactor 1 /FL=gb:NM_003577.1 gb:AB011076.1
2.514693	-0.40391	7.56	Down	4.74E-05	NM_145032 Homo sapiens hypothetical protein MGC21636 (MGC21636), mRNA. /FL=gb:BC020572.1 gb:NM_145032.2
5.207569	2.290724	7.55	Down	5.33E-05	AA083478 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 746039
0.041471	-2.87232	7.54	Down	4.34E-02	AW162210 Homo sapiens cDNA FLJ11490 fis, clone HEMBA1001918
5.13621	2.236529	7.46	Down	5.86E-05	BC013944 Homo sapiens, Similar to myosin, heavy polypeptide 7, cardiac muscle, beta, clone IMAGE:4064393, mRNA.

4.255531	1.357834	7.45 Down	6.54E-05	AF096296	Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor /FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
4.055862	1.169817	7.39 Down	1.10E-04	AK026815	Homo sapiens cDNA: FLJ23162 fis, clone LNG09734.
4.715355	1.834956	7.36 Down	6.18E-04	AA788946	ESTs, Moderately similar to CA1C RAT COLLAGEN ALPHA 1(XII) CHAIN (R.norvegicus)
2.597946	-0.27094	7.31 Down	6.26E-05	AW138143	ESTs
4.796495	1.938561	7.25 Down	1.82E-04	AI653107	ESTs
3.508683	0.663662	7.19 Down	1.82E-04	AK027231	Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
5.441963	2.62358	7.05 Down	3.09E-05	NM_016651	Homo sapiens heptacellular carcinoma novel gene-3 protein (LOC51339), mRNA. /PROD=heptacellular carcinoma novel gene-3 protein /FL=gb:NM_016651.2 gb:AF251079.2
1.389794	-1.42311	7.03 Down	4.34E-03	BG498699	ESTs
2.194683	-0.60003	6.94 Down	3.56E-02	U63296	Human 15-hydroxyprostaglandin dehydrogenase mRNA, complete cds. /PROD=15-hydroxyprostaglandin dehydrogenase /FL=gb:U63296.1
5.450694	2.658196	6.93 Down	1.85E-05	AF095771	Homo sapiens PTH-responsive osteosarcoma B1 protein (B1) mRNA, complete cds. /PROD=PTH-responsive osteosarcoma B1 protein /FL=gb:AF095771.1
0.907338	-1.88392	6.92 Down	3.84E-02	NM_025243	Homo sapiens solute carrier (SLC19A3), mRNA. /PROD=solute carrier /FL=gb:NM_025243.1 gb:AF271633.1
6.93459	4.14838	6.9 Down	9.04E-05	AF078844	Homo sapiens hqp0376 protein mRNA, complete cds. /PROD=hqp0376 protein /FL=gb:AF078844.1

2.724257	-0.05687	6.87 Down	7.43E-04	AL552534	Human mRNA for CD44 antigen, 5UTR (sequence from the 5cap to the start codon).
3.86075	1.090793	6.82 Down	1.89E-05	U85995	Cluster Incl. U85995:Human clone IMAGE-22181 unknown protein mRNA, partial cds /cds=(0,1291) /gb=U85995 /gi=1835749 /ug=Hs.79340 /len=1696
2.982965	0.222537	6.78 Down	1.19E-03	AK026829	Homo sapiens cDNA: FLJ23176 fis, clone LNG10452.
0.873551	-1.88238	6.75 Down	5.65E-03	AW293376	ESTs
5.023981	2.272773	6.73 Down	8.41E-05	NM_006472	Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
3.932141	1.1878	6.7 Down	3.66E-05	NM_004490	Homo sapiens growth factor receptor-bound protein 14 (GRB14), mRNA. /PROD=growth factor receptor-bound protein 14 /FL=gb:L76687.1 gb:NM_004490.1
5.356771	2.61556	6.69 Down	4.40E-05	W92036	ESTs
2.770179	0.05935	6.55 Down	1.17E-04	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
3.462851	0.769123	6.47 Down	2.19E-04	BE673800	ESTs, Moderately similar to KIAA1238 protein (H.sapiens)
7.424722	4.734219	6.46 Down	7.86E-05	AF333388	Homo sapiens metallothionein 1H-like protein mRNA, complete cds. /PROD=metallothionein 1H-like protein /FL=gb:AF333388.1
3.610367	0.921088	6.45 Down	4.21E-05	BC004372	Homo sapiens, Similar to CD44 antigen (homing function and Indian blood group system), clone MGC:10468, mRNA, complete cds. /PROD=Similar to CD44 antigen (homing function andIndian blood group system) /FL=gb:BC004372.1
2.798327	0.114281	6.43 Down	4.31E-04	BF062943	protocadherin 18
2.387268	-0.26492	6.29 Down	2.59E-04	BF063186	ESTs

4.622217	1.982686	6.23 Down	4.40E-05	AL537457	neurofilament, light polypeptide (68kD) /FL=gb:NM_006158.1
5.295204	2.664042	6.2 Down	5.37E-04	D32039	Human pgH3 mRNA for proteoglycan PG-M(V3), complete cds. /PROD=proteoglycan PG-M(V3) /FL=gb:D32039.1
-0.55251	-3.18076	6.18 Down	2.91E-02	AI277662	ESTs, Weakly similar to TRP7_HUMAN TRANSIENT RECEPTOR POTENTIAL CHANNEL 7 (H.sapiens)
2.060071	-0.56473	6.17 Down	8.28E-05	AA004300	hypothetical protein DKFZp566I133
1.892794	-0.71503	6.1 Down	5.25E-04	AL138349	KIAA0367 protein
3.822765	1.223367	6.06 Down	2.86E-04	AL567376	G protein-coupled receptor 39
0.803559	-1.78647	6.02 Down	8.07E-04	BF673779	ESTs
4.038177	1.461889	5.96 Down	1.52E-04	BF449053	ESTs
3.280973	0.707817	5.95 Down	1.37E-03	AL139377	Human DNA sequence from clone RP11-251J8 on chromosome 13 Contains ESTs, STSs, GSSs and a CpG island. Contains two novel genes with two isoforms each and the KIAA0610 gene with two isoforms
3.059444	0.490104	5.94 Down	3.30E-02	NM_007350	Homo sapiens pleckstrin homology-like domain, family A, member 1 (PHLDA1), mRNA. /PROD=pleckstrin homology-like domain, family A,member 1 /FL=gb:NM_007350.1
3.876749	1.313133	5.91 Down	1.25E-03	AL574184	hydroxyprostaglandin dehydrogenase 15-(NAD) /FL=gb:NM_000860.1 gb:L76465.1
5.318139	2.762676	5.88 Down	2.55E-04	U87408	Cluster Incl. U87408:Human clone IMAGE-74593 unknown protein mRNA, partial cds /cds=(0,1362) /gb=U87408 /gi=1842104 /ug=Hs.79340 /len=1982
1.99849	-0.55448	5.87 Down	1.01E-03	NM_002317	Homo sapiens lysyl oxidase (LOX), mRNA. /PROD=lysyl oxidase /FL=gb:AF039291.1 gb:NM_002317.1 gb:M94054.1
1.312148	-1.23479	5.84 Down	1.36E-04	U32500	Human type 2 neuropeptide Y receptor mRNA, complete cds. /PROD=type 2 neuropeptide Y receptor

					/FL=gb:U42766.1 gb:U36269.1 gb:U32500.1
2.64743	0.101711	5.84	Down	6.52E-04	AI702438 ESTs
2.918001	0.408444	5.69	Down	5.51E-04	BF674052 cathepsin D (lysosomal aspartyl protease)
4.64236	2.137119	5.68	Down	3.09E-05	AB019695 Homo sapiens mRNA for thioredoxin reductase II beta, complete cds. /PROD=thioredoxin reductase II beta /FL=gb:AB019695.1
4.505436	2.001428	5.67	Down	9.04E-05	W57613 ESTs
2.98904	0.488717	5.66	Down	2.78E-04	AW138143 ESTs
0.424388	-2.06318	5.61	Down	2.92E-02	NM_002433 Homo sapiens myelin oligodendrocyte glycoprotein (MOG), mRNA. /PROD=myelin oligodendrocyte glycoprotein /FL=gb:U18798.1 gb:U64564.1 gb:NM_002433.1
3.560033	1.077194	5.59	Down	1.52E-04	U38945 Human hypothetical 18.1 kDa protein (CDKN2A) mRNA, complete cds. /FL=gb:U38945.1 gb:U26727.1
1.840613	-0.62498	5.52	Down	9.50E-05	AI949760 ESTs, Weakly similar to unnamed protein product (H.sapiens)
4.178686	1.713153	5.52	Down	1.61E-04	NM_003256 Homo sapiens tissue inhibitor of metalloproteinase 4 (TIMP4), mRNA. /PROD=tissue inhibitor of metalloproteinase 4precursor /FL=gb:NM_003256.1 gb:U76456.1
2.324824	-0.13601	5.51	Down	2.39E-04	AL096771 Human DNA sequence from clone RP1-238D15 on chromosome 6q12-14.3 Contains part of COL12A1 (collagen, type XII, alpha 1) gene and STSs
5.041032	2.59268	5.46	Down	2.25E-05	AK022686 Homo sapiens cDNA FLJ12624 fis, clone NT2RM4001754.
1.294482	-1.14923	5.44	Down	2.97E-02	AA723810 cDNA for differentially expressed CO16 gene /FL=gb:BC001291.1
3.732985	1.29318	5.43	Down	4.32E-03	AI459194 early growth response 1
1.117304	-1.32124	5.42	Down	1.63E-02	AL046992 G protein-coupled receptor 1 /FL=gb:NM_005279.1
6.120177	3.682667	5.42	Down	1.93E-04	NM_001753 Homo sapiens caveolin 1, caveolae protein, 22kD

						(CAV1), mRNA. /PROD=caveolin 1 /FL=gb:NM_001753.2
3.365852	0.931215	5.41	Down	8.41E-05	NM_003392	Homo sapiens wingless-type MMTV integration site family, member 5A (WNT5A), mRNA. /PROD=wingless-type MMTV integration site family,member 5A /FL=gb:NM_003392.1 gb:L20861.1
5.752704	3.318587	5.4	Down	5.75E-04	R94644	Homo sapiens versican Vint isoform, mRNA, partial cds
2.256481	-0.17157	5.38	Down	1.10E-04	NM_018495	Homo sapiens NAG22 protein (LOC55873), mRNA. /PROD=NAG22 protein /FL=gb:AF247820.3 gb:NM_018495.3
5.522456	3.095555	5.38	Down	9.25E-05	BG054844	ras homolog gene family, member E /FL=gb:NM_005168.1
3.660753	1.237109	5.37	Down	1.10E-04	BE903880	zinc finger protein 6 (CMPX1)
2.418198	0.007534	5.32	Down	9.96E-04	AI860150	ESTs, Weakly similar to A49134 Ig kappa chain V-I region (H.sapiens)
1.659275	-0.74924	5.31	Down	2.40E-03	L16895	Human lysyl oxidase (LOX) gene, exon 7
5.715937	3.314142	5.28	Down	1.74E-04	U85658	Human transcription factor ERF-1 mRNA, complete cds. /PROD=ERF-1 /FL=gb:NM_003222.1 gb:U85658.1
2.572851	0.172113	5.28	Down	2.43E-04	AW592563	KIAA0455 gene product
5.807319	3.410152	5.27	Down	6.54E-05	NM_018004	Homo sapiens hypothetical protein FLJ10134 (FLJ10134), mRNA. /PROD=hypothetical protein FLJ10134 /FL=gb:NM_018004.1
4.138808	1.745346	5.25	Down	1.40E-03	AW590196	lung type-I cell membrane-associated glycoprotein
6.003141	3.615412	5.23	Down	7.14E-04	M25915	Human complement cytolysis inhibitor (CLI) mRNA, complete cds. /FL=gb:J02908.1 gb:NM_001831.1 gb:M64722.1 gb:M25915.1
1.05854	-1.32898	5.23	Down	1.59E-03	AI703321	wingless-type MMTV integration site family, member 5A
4.285883	1.901821	5.22	Down	6.26E-05	AL038787	6-phosphofructo-2-kinasefructose-2,6-

					biphosphatase 4
6.959783	4.576665	5.22	Down	1.85E-05	NM_014367 Homo sapiens hypothetical protein, estradiol-induced (E2IG5), mRNA. /PROD=hypothetical protein, estradiol-induced /FL=gb:NM_014367.1 gb:AF191020.1
1.10782	-1.27174	5.2	Down	1.99E-04	BC029425 Homo sapiens, Similar to KIAA1275 protein, clone IMAGE:4616553, mRNA.
5.252439	2.877592	5.19	Down	5.32E-05	NM_001553 Homo sapiens insulin-like growth factor binding protein 7 (IGFBP7), mRNA. /PROD=insulin-like growth factor binding protein 7 /FL=gb:NM_001553.1 gb:L19182.1
6.881969	4.510778	5.17	Down	1.85E-05	AF201944 Homo sapiens HGTD-P (HGTD-P) mRNA, complete cds. /PROD=HGTD-P /FL=gb:AF201944.1 gb:AF250321.1
3.543738	1.178007	5.15	Down	2.51E-05	NM_001955 Homo sapiens endothelin 1 (EDN1), mRNA. /PROD=endothelin 1 /FL=gb:NM_001955.1
4.229884	1.871489	5.13	Down	1.55E-04	BC032716 Homo sapiens, clone MGC:45425 IMAGE:5518697, mRNA, complete cds. /PROD=Unknown (protein for MGC:45425) /FL=gb:BC032716.1
3.035594	0.680769	5.12	Down	1.37E-03	AI963605 ESTs
6.307554	3.95342	5.11	Down	7.03E-05	NM_006622 Homo sapiens serum-inducible kinase (SNK), mRNA. /PROD=serum-inducible kinase /FL=gb:AF059617.1 gb:NM_006622.1 gb:AF223574.1
2.271332	-0.08272	5.11	Down	1.59E-03	NM_015198 Homo sapiens KIAA0633 protein (COBL), mRNA. /PROD=KIAA0633 protein /FL=gb:NM_015198.1
3.584234	1.244979	5.06	Down	7.30E-04	AF232772 Homo sapiens hyaluronan synthase 3 (HAS3) mRNA, complete cds. /PROD=hyaluronan synthase 3 /FL=gb:NM_005329.1 gb:AF232772.1
6.883803	4.552208	5.03	Down	3.09E-05	AF107495 Homo sapiens FWP001 and putative FWP002 mRNA, complete cds.

3.931505	1.606097	5.01	Down	5.32E-05	NM_000610	/PROD=FWP001 /FL=gb:AF107495.1 Homo sapiens CD44 antigen (homing function and Indian blood group system) (CD44), mRNA. /PROD=CD44 antigen (homing function and Indian bloodgroup system) /FL=gb:U40373.1 gb:NM_000610.1 gb:M59040.1 gb:M24915.1

G) **H9P39 at 96 hr DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	96 HRS DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-4.01441	4.896261	481.26	Up	1.67E-04	AB028021	Cluster Incl. AB028021:Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds /cds=(196,1569) /gb=AB028021 /gi=4958949 /ug=Hs.155651 /len=1944
-4.79201	3.803312	386.77	Up	1.32E-04	NM_012431	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E (SEMA3E), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3E /FL=gb:NM_012431.1 gb:AB002329.1
-5.25658	3.205654	352.69	Up	1.07E-04	AW005572	putative 47 kDa protein
-0.80043	7.232518	261.91	Up	5.61E-05	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-4.50758	3.451939	248.92	Up	8.69E-05	AU118882	endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
-3.8752	4.026704	239.17	Up	2.39E-05	AB028021	Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds. /PROD=hepatocyte nuclear factor-3 beta

					/FL=gb:AB028021.1 gb:NM_021784.1
-2.90798	4.967321	234.8 Up	2.99E-05	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-4.29896	3.162606	176.26 Up	3.54E-05	AY177407	Homo sapiens homeobox protein goosecoid mRNA, complete cds. /PROD=homeobox protein goosecoid /FL=gb:AY177407.1 gb:NM_173849.1
-3.61621	3.736424	163.44 Up	7.81E-04	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-1.11159	6.139499	152.33 Up	2.99E-05	NM_003867	Homo sapiens fibroblast growth factor 17 (FGF17), mRNA. /PROD=fibroblast growth factor 17 /FL=gb:NM_003867.1 gb:AB009249.1
-3.26893	3.979011	152 Up	7.78E-05	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1
-2.0457	5.103681	141.96 Up	2.15E-04	AI422986	ESTs
-0.62093	6.499027	139.1 Up	2.99E-05	NM_022454	Homo sapiens hypothetical protein FLJ22252 similar to SRY-box containing gene 17 (FLJ22252), mRNA. /PROD=hypothetical protein FLJ22252 similar to SRY-boxcontaining gene 17 /FL=gb:NM_022454.1
-0.26005	6.792541	132.75 Up	1.17E-04	R72286	microfibrillar-associated protein 4
-3.62742	3.409798	131.34 Up	1.36E-03	AA772920	ESTs
-1.89695	5.127766	130.21 Up	8.40E-05	AL136944	Homo sapiens mRNA; cDNA DKFZp586J0624 (from clone DKFZp586J0624); complete cds. /PROD=hypothetical protein /FL=gb:AF215636.1 gb:NM_014585.1

					gb:AF231121.1 gb:AF226614.1 gb:AL136944.1
-1.32044	5.59755	120.93 Up	2.06E-03	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-0.83997	5.897601	106.71 Up	1.78E-04	AI821669	ESTs
-3.51429	3.198717	104.91 Up	1.10E-03	AA352113	ESTs
-2.5679	4.132538	104 Up	7.31E-05	AL121722	Human DNA sequence from clone RP4-788L20 on chromosome 20 Contains the HNF3B (hepatocyte nuclear factor 3, beta) gene. a novel gene based on ESTs, ESTs, STSs, GSSs and CpG Islands
-3.53873	2.87541	85.28 Up	7.65E-04	AI675836	Human DNA sequence from clone RP11-446H13 on chromosome 10. Contains the 3 end of the gene for a novel protein similar to KIAA1059 (ortholog of mouse VPS10 domain receptor protein SORCS), an RPL23A (60S ribosmal protein 23A) pseudogene, ESTs, STSs an
-3.39007	3.012851	84.62 Up	3.25E-03	NM_006614	Homo sapiens cell adhesion molecule with homology to L1CAM (close homologue of L1) (CHL1), mRNA. /PROD=cell adhesion molecule with homology to L1CAM(close homologue of L1) /FL=gb:AF002246.1 gb:NM_006614.1
-1.66311	4.666455	80.42 Up	4.61E-04	S69738	MCP-1=monocyte chemotactic protein (human, aortic endothelial cells, mRNA, 661 nt). /PROD=MCP-1
0.502235	6.820772	79.81 Up	1.83E-05	NM_014899	Homo sapiens KIAA0878 protein (KIAA0878), mRNA. /PROD=KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-2.07937	4.232685	79.45 Up	1.97E-03	NM_001643	Homo sapiens apolipoprotein A-II

					(APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-3.17056	3.136032	79.15 Up	8.69E-05	AI801626	ESTs, Moderately similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-3.54017	2.747179	78.11 Up	6.80E-04	NM_002091	Homo sapiens gastrin-releasing peptide (GRP), mRNA. /PROD=gastrin-releasing peptide /FL=gb:NM_002091.1 gb:K02054.1 gb:BC004488.1
0.756526	7.035708	77.66 Up	3.90E-05	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-1.44407	4.79513	75.54 Up	9.78E-04	U91903	Human Fritz mRNA, complete cds. /PROD=Fritz /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-2.72686	3.495506	74.67 Up	2.07E-04	AI692180	PTPRF interacting protein, binding protein 2 (liprin beta 2)
-3.20091	3.013879	74.27 Up	7.33E-03	NM_002614	Homo sapiens PDZ domain containing 1 (PDZK1), mRNA. /PROD=PDZ domain containing 1 /FL=gb:NM_002614.1 gb:AF012281.1
-3.7619	2.33669	68.53 Up	7.27E-05	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor potential 4 /FL=gb:NM_016179.1 gb:AF175406.1
-3.12184	2.909781	65.42 Up	1.61E-04	AI700341	ESTs
0.800949	6.787852	63.42 Up	2.39E-05	NM_030781	Homo sapiens scavenger receptor with C-type lectin (SRCL), mRNA. /PROD=scavenger receptor with C-type lectin

					/FL=gb:NM_030781.1
-4.29055	1.624099	60.32 Up	2.39E-04	AI337300	Homo sapiens, clone MGC:4604, mRNA, complete cds /FL=gb:BC004219.1
-2.91295	2.987854	59.75 Up	5.35E-03	AW005572	putative 47 kDa protein
-1.70149	4.156198	57.99 Up	7.75E-04	AF225426	Homo sapiens HT016 mRNA, complete cds. /PROD=HT016 /FL=gb:AF225426.1
-1.71797	4.089548	56.01 Up	2.11E-03	AL524520	G protein-coupled receptor 49
-2.50168	3.192473	51.77 Up	6.18E-03	X16468	Human mRNA for alpha-1 type II collagen.
-1.55323	4.102505	50.41 Up	6.30E-05	AI821586	ESTs, Moderately similar to JE0284 Mm-1 cell derived transplantability-associated protein 1b (H.sapiens)
1.388898	7.006012	49.08 Up	2.00E-05	BE620739	ESTs
0.663834	6.273873	48.84 Up	1.42E-04	AI817041	G protein-coupled receptor
-0.41404	5.168897	47.93 Up	2.80E-04	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-0.77864	4.801921	47.85 Up	3.26E-04	NM_022055	Homo sapiens reserved (KCNK12), mRNA. /PROD=tandem pore domain potassium channel THIK-2 /FL=gb:NM_022055.1 gb:AF287302.1
-3.10357	2.474935	47.79 Up	1.14E-04	NM_001453	Homo sapiens forkhead box C1 (FOXC1), mRNA. /PROD=forkhead box C1 /FL=gb:NM_001453.1
-0.81978	4.721279	46.56 Up	2.62E-04	AI824037	ESTs, Weakly similar to FCE2 MOUSE LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (M.musculus)
-2.26295	3.255855	45.85 Up	1.71E-03	AI735586	ESTs
-2.45311	3.005889	43.99 Up	1.26E-02	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
-0.18863	5.2349	42.92 Up	3.48E-04	AV700724	GATA-binding protein 4 /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
-0.27888	5.117281	42.11 Up	1.28E-04	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor

					beta /FL=gb:AF225513.1
-1.83503	3.514396	40.77 Up	1.00E-03	AA552969	ESTs
0.83572	6.138202	39.46 Up	1.51E-04	N21138	KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-3.79684	1.484084	38.88 Up	7.14E-05	AK026720	Homo sapiens cDNA: FLJ23067 fis, clone LNG04993.
-1.77041	3.498637	38.56 Up	1.69E-03	NM_003966	Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA. /PROD=sema domain, seven thrombospondin repeats (type1 and type 1-like), transmem
-3.31261	1.945323	38.26 Up	5.68E-04	BG397856	major histocompatibility complex, class II, DQ alpha 1
0.804491	6.016482	37.07 Up	6.98E-05	AA583044	bone morphogenetic protein 2 /FL=gb:NM_001200.1
-3.10838	2.083703	36.56 Up	3.89E-04	N50412	ESTs
-2.61405	2.571666	36.4 Up	7.27E-05	U71207	Human eyes absent homolog (Eab1) mRNA, complete cds. /PROD=Eab1 /FL=gb:NM_005244.1 gb:U71207.1
-3.12747	2.048588	36.15 Up	6.25E-04	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
-2.81405	2.361598	36.14 Up	1.28E-03	AI694325	ESTs
-0.69028	4.475046	35.89 Up	2.18E-04	M16276	Human MHC class II HLA-DR2-Dw12 mRNA DQw1-beta, complete cds. /FL=gb:NM_002123.1 gb:M16276.1 gb:M60028.1 gb:M17564.1 gb:M81141.1 gb:M81140.1
0.713597	5.840181	34.93 Up	2.79E-04	BF508344	ESTs
0.828899	5.924976	34.2 Up	7.27E-05	NM_001200	Homo sapiens bone morphogenetic protein 2 (BMP2), mRNA. /PROD=bone morphogenetic protein 2 precursor /FL=gb:NM_001200.1
-0.47614	4.618034	34.16 Up	6.98E-05	BF508639	Homo sapiens mRNA; cDNA DKFZp434E082 (from clone DKFZp434E082)

-0.5292	4.497879	32.61 Up	9.90E-04	AI127440	ESTs
f	7.391827	32.51 Up	5.61E-05	AJ224869	Homo sapiens CXCR4 gene encoding receptor CXCR4
-3.7558	1.259886	32.35 Up	4.07E-03	AW473656	ESTs
-0.98665	4.021785	32.19 Up	1.71E-03	NM_001463	Homo sapiens frizzled-related protein (FRZB), mRNA. /PROD=frizzled-related protein /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-4.30972	0.685002	31.88 Up	7.81E-04	AI911379	hypothetical protein FLJ11113
-3.25309	1.716276	31.33 Up	2.03E-03	AL050154	Homo sapiens mRNA; cDNA DKFZp586L0120 (from clone DKFZp586L0120).
-0.45718	4.508664	31.25 Up	1.56E-04	BF939489	glycoprotein M6A /FL=gb:D49958.1
-2.39338	2.572327	31.25 Up	3.48E-03	M17955	Human MHC class II HLA-DQ-beta mRNA, complete cds. /FL=gb:M33907.1 gb:M17955.1 gb:M16996.1 gb:M17563.1 gb:M20432.1 gb:M26042.1
1.314051	6.278914	31.23 Up	2.39E-05	BC000740	Homo sapiens, cholecystokinin B receptor, clone MGC:2199, mRNA, complete cds. /PROD=cholecystokinin B receptor /FL=gb:L07746.1 gb:L08112.1 gb:S70057.1 gb:BC000740.1 gb:L04473.1 gb:NM_000731.1
-2.16079	2.736566	29.8 Up	2.47E-04	NM_000552	Homo sapiens von Willebrand factor (VWF), mRNA. /PROD=von Willebrand factor precursor /FL=gb:NM_000552.2
-1.39784	3.483531	29.47 Up	1.14E-03	BE222344	splicing factor, arginineserine-rich 5
-3.25961	1.618799	29.41 Up	1.38E-02	NM_016341	Homo sapiens pancreas-enriched phospholipase C (LOC51196), mRNA. /PROD=pancreas-enriched phospholipase C /FL=gb:AF117948.1 gb:NM_016341.1 gb:AF190642.2
-4.15276	0.707307	29.04 Up	1.84E-04	AA129444	Homo sapiens mRNA for KIAA1263 protein, partial

					cds
-0.13959	4.718875	29.01 Up	6.98E-05	BG109855	Homo sapiens clone TUA8 Cri-du-chat region mRNA
1.829497	6.66646	28.58 Up	6.58E-05	AA534817	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-1.09421	3.740217	28.53 Up	8.67E-04	AK023621	Homo sapiens cDNA FLJ13559 fis, clone PLACE1007852, highly similar to Homo sapiens mRNA for KIAA0878 protein.
-0.37709	4.429943	27.99 Up	7.27E-05	AU152102	Homo sapiens cDNA FLJ12993 fis, clone NT2RP3000197
-3.4744	1.320969	27.77 Up	5.88E-03	L32867	Homo sapiens alpha 2,8-sialyltransferase mRNA, complete cds. /PROD=alpha 2,8-sialyltransferase /FL=gb:L43494.1 gb:D26360.1 gb:L32867.1 gb:NM_003034.1
-2.4051	2.382948	27.63 Up	7.27E-05	NM_021020	Homo sapiens F37Esophageal cancer-related gene-coding leucine-zipper motif (FEZ1), mRNA. /PROD=F37Esophageal cancer-related gene-codingleucine-zipper motif /FL=gb:AF123659.1 gb:NM_021020.1
1.563993	6.348869	27.57 Up	2.99E-05	NM_002413	Homo sapiens microsomal glutathione S-transferase 2 (MGST2), mRNA. /PROD=microsomal glutathione S-transferase 2 /FL=gb:NM_002413.1 gb:U77604.1
-4.63418	0.150462	27.56 Up	1.41E-02	BF112218	ESTs
-2.83906	1.924807	27.17 Up	1.51E-04	T15545	ESTs
-0.18256	4.580673	27.16 Up	2.39E-05	AI583173	major histocompatibility complex, class II, DQ beta 1
-1.80965	2.891679	26.02 Up	4.11E-03	NM_152506	Homo sapiens hypothetical protein FLJ32835 (FLJ32835), mRNA. /FL=gb:NM_152506.1
-0.10733	4.583423	25.83 Up	3.29E-04	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein

					for IMAGE:3840937)
-1.42034	3.260135	25.64 Up	5.35E-04	BE737251	Homo sapiens cDNA: FLJ22482 fis, clone HRC10859, highly similar to IRO180147 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 180147
-2.6422	2.00977	25.14 Up	2.92E-05	BF589787	ESTs
-2.50335	2.123365	24.7 Up	3.11E-04	AA781795	ESTs
-2.68947	1.923908	24.48 Up	2.10E-02	AW291402	ESTs
-2.14813	2.455272	24.31 Up	7.80E-04	NM_006034	Homo sapiens p53-induced protein (PIG11), mRNA. /PROD=p53-induced protein /FL=gb:AF010315.1 gb:BC000443.1 gb:BC003010.1 gb:NM_006034.1
-1.35345	3.203459	23.54 Up	9.11E-04	AW157571	ESTs, Weakly similar to T00331 hypothetical protein KIAA0555 (H.sapiens)
0.424882	4.980575	23.52 Up	2.79E-04	AI692659	heat shock 90kD protein 1, alpha
-2.05438	2.485242	23.26 Up	6.59E-03	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-0.35867	4.178782	23.22 Up	4.79E-05	NM_001957	Homo sapiens endothelin receptor type A (EDNRA), mRNA. /PROD=endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
-0.13427	4.37209	22.73 Up	3.30E-04	D49958	Homo sapiens mRNA for membrane glycoprotein M6, complete cds. /PROD=membrane glycoprotein M6 /FL=gb:D49958.1
-1.54464	2.95955	22.69 Up	1.14E-04	AI743534	Homo sapiens mRNA; cDNA DKFZp564B1162 (from clone DKFZp564B1162); complete cds /FL=gb:AL136646.1
-2.16064	2.33987	22.64 Up	1.03E-02	NM_000475	Homo sapiens nuclear receptor subfamily 0, group B, member 1 (NR0B1), mRNA. /PROD=adrenal hypoplasia protein /FL=gb:NM_000475.2

1.168713	5.649978	22.34 Up	3.27E-04	NM_016139	Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
1.740607	6.204585	22.07 Up	3.94E-05	NM_002160	Homo sapiens hexabrachion (tenascin C, cytotactin) (HXB), mRNA. /PROD=hexabrachion (tenascin C, cytotactin) /FL=gb:M55618.1 gb:NM_002160.1
-3.95062	0.506384	21.96 Up	3.04E-03	AU144247	Homo sapiens cDNA FLJ13443 fis, clone PLACE1002853
-2.49959	1.953408	21.9 Up	2.53E-03	NM_000623	Homo sapiens bradykinin receptor B2 (BDKRB2), mRNA. /PROD=bradykinin receptor B2 /FL=gb:M88714.1 gb:NM_000623.1
1.997597	6.394209	21.06 Up	7.27E-05	BC005997	Homo sapiens, clone MGC:14801, mRNA, complete cds. /PROD=Unknown (protein for MGC:14801) /FL=gb:BC005997.1
0.476688	4.86637	20.96 Up	1.84E-04	NM_024581	Homo sapiens hypothetical protein FLJ13942 (FLJ13942), mRNA. /PROD=hypothetical protein FLJ13942 /FL=gb:NM_024581.1
-0.5982	3.789814	20.94 Up	1.67E-02	AI806510	putative 47 kDa protein
1.275191	5.659185	20.88 Up	2.29E-04	AI587307	hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-0.81856	3.56477	20.87 Up	6.98E-05	AI129628	ESTs
-1.25995	3.108032	20.65 Up	5.74E-04	AK026607	Homo sapiens cDNA: FLJ22954 fis, clone KAT09813, highly similar to AF010315 Homo sapiens Pig11 (PIG11) mRNA.
-2.69284	1.656461	20.38 Up	1.26E-02	R33964	Homo sapiens cDNA FLJ11022 fis, clone PLACE1003771
0.449168	4.77336	20.03 Up	2.99E-05	AI688418	plexin A2
-3.9115	0.399609	19.85 Up	2.57E-03	NM_005739	Homo sapiens RAS guanyl releasing protein 1 (calcium and DAG-regulated) (RASGRP1), mRNA. /PROD=RAS guanyl releasing protein 1 /FL=gb:AF081195.1 gb:NM_005739.2

					gb:AF106071.1
-1.61054	2.680455	19.58 Up	1.10E-03	AW264204	ESTs
-1.40826	2.851659	19.16 Up	6.31E-04	AB046770	Homo sapiens mRNA for KIAA1550 protein, partial cds. /PROD=KIAA1550 protein
0.007601	4.206081	18.36 Up	8.27E-05	N63706	ESTs
-0.15629	4.036024	18.28 Up	5.42E-04	AI799018	ESTs
-0.95386	3.225705	18.12 Up	2.80E-04	AF312769	Homo sapiens cryptic mRNA, complete cds. /PROD=cryptic /FL=gb:AF312769.1
-1.16952	2.986121	17.82 Up	2.56E-02	NM_001343	Homo sapiens disabled (Drosophila) homolog 2 (mitogen-responsive phosphoprotein) (DAB2), mRNA. /PROD=disabled (Drosophila) homolog 2 /FL=gb:U39050.1 gb:NM_001343.1 gb:U53446.1 gb:BC003064.1
-0.68225	3.470947	17.79 Up	9.21E-05	N48299	ESTs, Moderately similar to NFY-C (H.sapiens)
1.861693	6.008305	17.71 Up	2.22E-04	AI374739	ESTs
0.366041	4.503789	17.6 Up	2.15E-04	AI242583	Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
0.420056	4.533726	17.31 Up	7.27E-05	NM_012242	Homo sapiens dickkopf (Xenopus laevis) homolog 1 (DKK1), mRNA. /PROD=dickkopf (Xenopus laevis) homolog 1 /FL=gb:AF177394.1 gb:NM_012242.1 gb:AF127563.1
-2.64131	1.459191	17.15 Up	3.06E-02	AU157303	ESTs
-1.39277	2.690011	16.94 Up	1.61E-04	AI629041	ESTs
-0.88175	3.200899	16.94 Up	1.09E-03	AI650874	ESTs
-2.14545	1.935001	16.92 Up	3.05E-03	NM_015831	Homo sapiens acetylcholinesterase (YT blood group) (ACHE), transcript variant E4-E5, mRNA. /PROD=acetylcholinesterase PI-linked form precursor /FL=gb:NM_015831.1
-0.5777	3.489676	16.76 Up	7.55E-04	BC036592	Homo sapiens, clone IMAGE:4814184, mRNA.
-3.18582	0.860182	16.52 Up	1.89E-03	AI991033	heparan sulfate proteoglycan 2 (perlecan) /FL=gb:M85289.1 gb:NM_005529.2
0.041468	4.081945	16.46 Up	6.89E-04	BF130943	ESTs
-1.6164	2.402639	16.21 Up	8.12E-03	X00452	Human mRNA for DC classII histocompatibility antigen alpha-chain.

					/PROD=DC classII histocompatibility antigenalpha-chain
-0.70855	3.310445	16.21 Up	8.09E-04	AI917371	ESTs
1.186033	5.204849	16.21 Up	2.18E-04	AI627704	ESTs, Weakly similar to T17346 hypothetical protein DKFZp586O1624.1 (H.sapiens)
-2.70961	1.305453	16.17 Up	1.75E-02	AK055534	Homo sapiens cDNA FLJ30972 fis, clone HEART2000492.
1.192657	5.206164	16.15 Up	6.23E-04	NM_024641	Homo sapiens hypothetical protein FLJ12838 (FLJ12838), mRNA. /PROD=hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-0.41626	3.581554	15.98 Up	4.74E-04	BF110534	ESTs
-0.29145	3.703489	15.94 Up	3.27E-04	AI197932	ESTs
-0.20099	3.787591	15.87 Up	4.75E-04	BF984830	retinoic acid induced 1
-0.62897	3.35485	15.82 Up	1.12E-02	AI694545	ESTs
3.042634	7.019598	15.75 Up	2.39E-05	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
0.500662	4.465346	15.61 Up	5.59E-04	AB043703	Homo sapiens FZD8 mRNA for seven-transmembrane receptor Frizzled-8, complete cds. /PROD=seven-transmembrane receptor Frizzled-8 /FL=gb:AB043703.1
-2.81453	1.143479	15.54 Up	4.26E-02	BC014585	Homo sapiens, clone IMAGE:4047715, mRNA.
-0.27888	3.6716	15.46 Up	7.27E-05	NM_003078	Homo sapiens SWISNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 (SMARCD3), mRNA. /PROD=SWISNF related, matrix associated, actindependent regulator of chromatin, subfamily d, member 3 /FL=gb:NM_003078.1 gb
2.377335	6.2969	15.13 Up	7.27E-05	NM_005328	Homo sapiens hyaluronan synthase 2 (HAS2), mRNA. /PROD=hyaluronan synthase 2

					/FL=gb:U54804.1 gb:NM_005328.1
-2.84061	1.073185	15.07 Up	1.33E-03	AI123532	ESTs
0.81871	4.722909	14.97 Up	2.18E-04	X06268	Human mRNA for pro-alpha 1 (II) collagen 3end C-term. triple helical and C-terminal non-helical domain. /PROD=pro-alpha 1 (II) collagen (313 AA; AA 975-271c) /FL=gb:NM_001844.2
3.2061	7.080736	14.67 Up	2.00E-05	NM_006681	Homo sapiens neuromedin U (NMU), mRNA. /PROD=neuromedin U /FL=gb:NM_006681.1
-0.60671	3.260587	14.59 Up	2.39E-03	NM_000458	Homo sapiens transcription factor 2, hepatic; LF-B3; variant hepatic nuclear factor (TCF2), transcript variant a, mRNA. /PROD=transcription factor 2, isoform a /FL=gb:NM_000458.1
-3.75063	0.097574	14.4 Up	2.53E-03	AW243154	ESTs
-0.66587	3.17829	14.36 Up	2.94E-04	NM_001362	Homo sapiens deiodinase, iodothyronine, type III (DIO3), mRNA. /PROD=thyroxine deiodinase type III /FL=gb:NM_001362.1 gb:S79854.1
-2.17973	1.654509	14.26 Up	7.81E-04	BE379542	chromodomain helicase DNA binding protein 3 /FL=gb:U91543.1
-0.40798	3.424074	14.24 Up	3.78E-04	AI143879	phosphodiesterase 10A /FL=gb:AB020593.1 gb:AF127479.1 gb:NM_006661.1
1.194285	5.026057	14.24 Up	4.81E-04	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
-0.22337	3.603991	14.2 Up	1.24E-03	NM_021822	Homo sapiens phorbolin-like protein MDS019 (MDS019), mRNA. /PROD=phorbolin-like protein MDS019 /FL=gb:AF182420.1 gb:NM_021822.1
-3.47125	0.352559	14.16 Up	3.65E-02	BF114815	ESTs
-3.95752	-0.14384	14.06 Up	1.63E-02	NM_001432	Homo sapiens epiregulin (EREG), mRNA. /PROD=epiregulin precursor /FL=gb:D30783.1

					gb:NM_001432.1
-1.83999	1.973187	14.06 Up	2.96E-04	AK074453	Homo sapiens cDNA FLJ23873 fis, clone LNG12941.
-2.9769	0.834997	14.04 Up	2.11E-02	AW612111	ESTs
-1.92059	1.887684	14.01 Up	1.43E-03	AI738662	homeo box HB9 /FL=gb:NM_005515.1
1.868094	5.672805	13.97 Up	7.78E-05	H92988	tyrosine 3-monooxygenasetryptophan 5-monooxygenase activation protein, eta polypeptide
-1.42171	2.367519	13.83 Up	1.18E-04	NM_005010	Homo sapiens neuronal cell adhesion molecule (NRCAM), mRNA. /PROD=neuronal cell adhesion molecule /FL=gb:AB002341.1 gb:NM_005010.1
-3.18081	0.59108	13.66 Up	6.34E-04	AW449813	KIAA0918 protein
-0.11092	3.655377	13.61 Up	1.43E-04	BF591483	ESTs
-1.74597	2.018156	13.59 Up	1.45E-02	AW269818	hypothetical protein FLJ23403 /FL=gb:NM_022068.1
1.59762	5.358013	13.55 Up	9.35E-04	NM_018649	Homo sapiens core histone macroH2A2.2 (MACROH2A2), mRNA. /PROD=core histone macroH2A2.2 /FL=gb:AF151534.1 gb:NM_018649.1
-2.85208	0.904726	13.52 Up	4.53E-03	AI423201	ESTs
-1.68521	2.068725	13.49 Up	3.53E-03	NM_002770	Homo sapiens protease, serine, 2 (trypsin 2) (PRSS2), mRNA. /PROD=protease, serine, 2 (trypsin 2) /FL=gb:M27602.1 gb:NM_002770.1
0.753353	4.506029	13.48 Up	1.83E-05	NM_021827	Homo sapiens hypothetical protein FLJ23514 (FLJ23514), mRNA. /PROD=hypothetical protein FLJ23514 /FL=gb:NM_021827.1
-1.54589	2.19498	13.37 Up	7.14E-03	AW088232	ESTs
-2.06656	1.672721	13.35 Up	5.12E-03	AF141339	Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
1.696658	5.415977	13.17 Up	8.38E-04	L01639	Human (clone HSY3RR) neuropeptide Y receptor (NPYR) mRNA, complete cds. /PROD=neuropeptide

					Y receptor /FL=gb:L06797.1 gb:NM_003467.1 gb:AF025375.1 gb:AF147204.1 gb:M99293.1 gb:L01639.1
1.633768	5.346711	13.11 Up	2.39E-05	AI733465	collagen, type IX, alpha 2 /FL=gb:NM_001852.1
-0.65009	3.058078	13.07 Up	1.17E-04	NM_017931	Homo sapiens hypothetical protein FLJ20699 (FLJ20699), mRNA. /PROD=hypothetical protein FLJ20699 /FL=gb:NM_017931.1
0.661121	4.360957	12.99 Up	1.08E-04	AA502609	Homo sapiens ankyrin-like with transmembrane domains 1 (ANKTM1), mRNA
1.048741	4.74741	12.98 Up	4.60E-04	NM_001899	Homo sapiens cystatin S (CST4), mRNA. /PROD=cystatin S /FL=gb:NM_001899.1
-2.19527	1.501137	12.96 Up	1.06E-03	NM_013333	Homo sapiens EH domain-binding mitotic phosphoprotein (EPSIN), mRNA. /PROD=EH domain-binding mitotic phosphoprotein /FL=gb:NM_013333.1 gb:AF073727.1
-2.89467	0.794807	12.9 Up	7.39E-03	AW971205	ESTs
-3.30412	0.383694	12.89 Up	3.93E-02	AU157224	Homo sapiens cDNA FLJ11570 fis, clone HEMBA1003309
1.223968	4.90936	12.87 Up	8.70E-05	AL574912	ESTs, Weakly similar to serine protease (H.sapiens)
-2.30432	1.381011	12.86 Up	3.92E-02	BC017958	Homo sapiens, clone IMAGE:4607409, mRNA.
2.593137	6.238337	12.51 Up	2.99E-05	NM_001873	Homo sapiens carboxypeptidase E (CPE), mRNA. /PROD=carboxypeptidase E precursor /FL=gb:NM_001873.1
-1.43446	2.199521	12.41 Up	9.27E-03	AW291482	ESTs
0.151239	3.777599	12.35 Up	1.16E-04	BE644809	ESTs
-0.07494	3.527775	12.15 Up	9.39E-05	NM_001394	Homo sapiens dual specificity phosphatase 4 (DUSP4), mRNA. /PROD=dual specificity phosphatase 4 /FL=gb:NM_001394.2 gb:BC002671.1 gb:U48807.1 gb:U21108.1
-2.56291	1.033178	12.09 Up	1.48E-02	BG53269	integrin, alpha 4 (antigen

				0	CD49D, alpha 4 subunit of VLA-4 receptor)
-3.10679	0.486734	12.07 Up	8.34E-04	N59476	ESTs
-1.71673	1.874627	12.05 Up	9.46E-04	NM_000420	Homo sapiens Kell blood group (KEL), mRNA. /PROD=Kell blood group antigen /FL=gb:BC003135.1 gb:NM_000420.1
1.071985	4.656957	12 Up	6.98E-05	NM_004560	Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA. /PROD=receptor tyrosine kinase-like orphan receptor 2 /FL=gb:M97639.1 gb:NM_004560.1
-0.05814	3.51961	11.94 Up	8.07E-04	BF308645	KIAA1415 protein
0.581614	4.158253	11.93 Up	1.95E-04	AF005775	Homo sapiens caspase-like apoptosis regulatory protein 2 (clarp) mRNA, alternatively spliced, complete cds. /PROD=caspase-like apoptosis regulatory protein 2 /FL=gb:AF005775.1
-3.51603	0.057356	11.9 Up	2.99E-02	AV724769	ESTs
-1.99136	1.57545	11.85 Up	8.72E-03	AL109653	Human DNA sequence from clone GS1-115M3 on chromosome Xq27.1-28 Contains a gene for a novel protein, CXorf1 (chromosome X open reading frame 1), ESTs, STSs, GSSs and a CpG Island
0.454394	4.013479	11.79 Up	3.30E-04	AL036088	KIAA1479 protein
-0.41994	3.13818	11.78 Up	2.73E-03	AI686957	KIAA1494 protein
1.355965	4.912341	11.76 Up	2.16E-04	AI141603	collagen, type VI, alpha 1
-2.33835	1.203342	11.65 Up	2.16E-02	L33477	Human (clone 8B1) Br-cadherin mRNA, complete cds. /PROD=Br-cadherin /FL=gb:L34057.1 gb:L33477.1 gb:NM_004061.1
2.453593	5.992042	11.62 Up	5.24E-05	NM_005410	Homo sapiens selenoprotein P, plasma, 1 (SEPP1), mRNA. /PROD=selenoprotein P precursor /FL=gb:NM_005410.1
0.240245	3.777926	11.61 Up	8.44E-04	BF940761	ESTs
-0.28951	3.242447	11.57 Up	3.11E-04	NM_018388	Homo sapiens hypothetical protein FLJ11316 (FLJ11316), mRNA. /PROD=hypothetical

					protein FLJ11316 /FL=gb:NM_018388.1
-0.10881	3.416108	11.51 Up	3.44E-04	AA701657	hypothetical protein FLJ12666
-1.17666	2.334376	11.4 Up	7.27E-04	NM_024633	Homo sapiens hypothetical protein FLJ21276 (FLJ21276), mRNA. /PROD=hypothetical protein FLJ21276 /FL=gb:NM_024633.1
2.59334	6.102285	11.38 Up	6.58E-05	AA045184	ribosomal protein L14
0.451744	3.95936	11.37 Up	2.79E-04	NM_001399	Homo sapiens ectodermal dysplasia 1, anhidrotic (ED1), mRNA. /PROD=ectodermal dysplasia 1, anhidrotic /FL=gb:AF060999.1 gb:NM_001399.1 gb:AF040628.1 gb:AF061189.1
1.040647	4.542431	11.33 Up	6.98E-05	AI348094	KIAA0882 protein
-1.24923	2.248992	11.3 Up	1.02E-03	R42166	ESTs, Weakly similar to AXO1_HUMAN AXONIN-1 PRECURSOR (H.sapiens)
0.414809	3.908697	11.27 Up	2.78E-04	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor potential 4 /FL=gb:NM_016179.1 gb:AF175406.1
-2.9904	0.493882	11.19 Up	2.79E-04	U96136	Homo sapiens delta-catenin mRNA, complete cds. /PROD=delta-catenin /FL=gb:NM_001332.1 gb:U72665.1 gb:AB013805.1 gb:U96136.1 gb:AF035302.1
1.076427	4.559689	11.18 Up	1.88E-04	AI640307	protocadherin 10
-1.08244	2.395089	11.14 Up	2.32E-03	X75208	X75208 /FEATURE=cds /DEFINITION=HSPTKR H.sapiens HEK2 mRNA for protein tyrosine kinase receptor
-1.25121	2.224638	11.13 Up	3.78E-04	R62432	Cluster Incl. R62432:yg52e11.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-36023 /clone_end=3 /gb=R62432 /gi=834311 /ug=Hs.12321 /len=487
0.631332	4.097155	11.05 Up	3.78E-04	AI130705	ESTs, Weakly similar to A46302 PTB-associated splicing factor, long form (H.sapiens)
1.438639	4.903827	11.04 Up	9.39E-05	BF223214	ESTs

0.120924	3.584799	11.03 Up	9.41E-05	NM_001529	Homo sapiens hematopoietically expressed homeobox (HHEX), mRNA. /PROD=hematopoietically expressed homeobox /FL=gb:NM_001529.1 gb:L16499.1 gb:NM_002729.1
1.316429	4.768005	10.94 Up	1.37E-04	AI769688	Homo sapiens clone 23664 and 23905 mRNA sequence
0.449933	3.898646	10.92 Up	3.56E-03	Z21533	H.sapiens HEX gene encoding homeobox related protein. /PROD=homeobox related protein
2.383898	5.826754	10.87 Up	2.39E-05	BF476502	hypothetical protein FLJ11585
-2.21968	1.214412	10.81 Up	2.00E-02	AA946876	ESTs
0.999053	4.427902	10.77 Up	2.39E-04	AW129593	tudor repeat associator with PCTAIRE 2
1.750623	5.17881	10.76 Up	7.27E-05	AA176289	ESTs
0.502333	3.925314	10.73 Up	2.47E-03	AF211891	Homo sapiens Mix-like homeobox protein 1 (MILD1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
-2.15454	1.256699	10.64 Up	4.44E-02	NM_012082	Homo sapiens Friend of GATA2 (FOG2), mRNA. /PROD=Friend of GATA2 /FL=gb:NM_012082.2 gb:AF119334.1
-0.23726	3.166937	10.59 Up	3.27E-04	AA912476	Homo sapiens cDNA FLJ13221 fis, clone NT2RP4002075
-2.38435	1.018436	10.58 Up	1.74E-03	AI743137	ESTs
-1.83333	1.555259	10.47 Up	5.26E-03	NM_006501	Homo sapiens myelin-associated oligodendrocyte basic protein (MOBP), mRNA. /PROD=myelin-associated oligodendrocyte basic protein /FL=gb:D28113.1 gb:NM_006501.1
2.168853	5.557183	10.47 Up	2.75E-04	AA284532	tyrosine 3-monooxygenasetryptophan 5-monooxygenase activation protein, eta polypeptide
-1.0335	2.347369	10.42 Up	9.35E-04	AL553774	KIAA1462 protein
-1.78964	1.575618	10.3 Up	2.04E-02	NM_004861	Homo sapiens cerebroside (3-phosphoadenylylsulfate:galactosylceramide 3) sulfotransferase (CST), mRNA. /PROD=galactosylceramid

					e sulfotransferase /FL=gb:NM_004861.1 gb:D88667.1
-3.12055	0.243075	10.29 Up	2.31E-02	AW780006	ESTs
2.194421	5.519803	10.02 Up	8.38E-04	AF348491	Homo sapiens chemokine receptor CXCR4 mRNA, complete cds. /PROD=chemokine receptor CXCR4 /FL=gb:AF348491.1
-0.75724	2.561949	9.98 Up	5.19E-03	AL445192	Human DNA sequence from clone RP11-269H4 on chromosome 20 Contains the 3 end of the KIAA1415 gene similar to T-Lymphona invasion and metastasis inducing protein 1, ESTs, STSs and GSSs
-0.92287	2.395505	9.98 Up	3.26E-04	AA443280	ESTs, Highly similar to AF229172 1 class III myosin (H.sapiens)
-0.38837	2.924326	9.94 Up	6.37E-04	BE551088	ESTs
-1.06796	2.241523	9.91 Up	3.97E-02	AW664179	hypothetical protein MGC4342 /FL=gb:NM_024329.1 gb:BC003033.1
-0.65031	2.656212	9.89 Up	1.16E-04	AI760630	ESTs
-0.2425	3.063759	9.89 Up	1.10E-04	NM_018286	Homo sapiens hypothetical protein FLJ10970 (FLJ10970), mRNA. /PROD=hypothetical protein FLJ10970 /FL=gb:NM_018286.1
4.042679	7.345476	9.87 Up	3.22E-04	NM_005454	Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
0.561438	3.86147	9.85 Up	3.49E-04	BF968270	ESTs
-2.62694	0.672523	9.85 Up	8.33E-03	NM_000055	Homo sapiens butyrylcholinesterase (BCHE), mRNA. /PROD=butyrylcholinesterase precursor /FL=gb:M16541.1 gb:M16474.1 gb:NM_000055.1
-1.75731	1.539959	9.83 Up	3.37E-02	BC008992	Homo sapiens, clone MGC:16926 IMAGE:4183000, mRNA, complete cds. /PROD=Unknown (protein for MGC:16926) /FL=gb:BC008992.1
3.287037	6.580588	9.81 Up	7.27E-05	AI633559	ESTs

-1.20714	2.08291	9.78 Up	3.66E-03	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
0.937118	4.225755	9.77 Up	7.27E-05	AU151342	Homo sapiens cDNA FLJ12935 fis, clone NT2RP2004982
0.447082	3.734688	9.76 Up	1.61E-04	NM_014942	Homo sapiens KIAA0957 protein (KIAA0957), mRNA. /PROD=KIAA0957 protein /FL=gb:AB023174.1 gb:NM_014942.1
-3.09265	0.191299	9.74 Up	6.04E-03	AI093492	ESTs
-2.20597	1.071614	9.7 Up	1.05E-02	AI968904	ESTs
1.370117	4.641246	9.65 Up	7.27E-05	M33653	Human (clones HT-(125,133)) alpha-2 type IV collagen (COL4A2) mRNA, complete cds. /PROD=alpha-2 type IV collagen /FL=gb:M33653.1
0.205308	3.457432	9.53 Up	1.55E-04	BF509230	ESTs
1.380324	4.628332	9.5 Up	3.46E-04	NM_006895	Homo sapiens histamine N-methyltransferase (HNMT), mRNA. /PROD=histamine N-methyltransferase /FL=gb:NM_006895.1 gb:D16224.1 gb:U08092.1
0.1187	3.354157	9.42 Up	2.39E-05	N21184	Cluster Incl. N21184:yx41a10.s1 Homo sapiens cDNA, 3 end /clone=IMAGE-264282 /clone_end=3 /gb=N21184 /gi=1126354 /ug=Hs.93605 /len=619
-0.30596	2.924622	9.39 Up	1.42E-03	BC029835	Homo sapiens, clone IMAGE:5169759, mRNA.
1.008383	4.233261	9.35 Up	1.84E-04	BE397715	pre-B-cell leukemia transcription factor 2 /FL=gb:NM_002586.1
-1.28081	1.941655	9.33 Up	1.10E-03	NM_001735	Homo sapiens complement component 5 (C5), mRNA. /PROD=complement component 5 /FL=gb:M57729.1 gb:NM_001735.1
-1.80959	1.41238	9.33 Up	3.47E-03	BF447246	KIAA0960 protein
0.378586	3.596764	9.31 Up	3.90E-05	BF109231	ESTs
-1.17885	2.035986	9.28 Up	1.34E-03	AB002155	Homo sapiens mRNA for human uroplakin Ib, complete cds. /PROD=human uroplakin Ib /FL=gb:NM_006952.1 gb:AB015234.1 gb:AF042331.1 gb:AB002155.1
-2.84187	0.3707	9.27 Up	2.06E-03	NM_002244	Homo sapiens potassium inwardly-rectifying

					channel, subfamily J, inhibitor 1 (KCNJN1), mRNA. /PROD=potassium inwardly-rectifying channel, subfamilyJ, inhibitor 1 /FL=gb:NM_002244.1
0.442286	3.651458	9.25 Up	6.22E-04	NM_001778	Homo sapiens CD48 antigen (B-cell membrane protein) (CD48), mRNA. /PROD=CD48 antigen (B-cell membrane protein) /FL=gb:NM_001778.1 gb:M37766.1 gb:M59904.1
-1.58477	1.612357	9.17 Up	3.93E-03	NM_016341	Homo sapiens pancreas-enriched phospholipase C (LOC51196), mRNA. /PROD=pancreas-enriched phospholipase C /FL=gb:AF117948.1 gb:NM_016341.1 gb:AF190642.2
0.798972	3.993241	9.15 Up	2.02E-05	AI082827	hypothetical protein FLJ11585
-1.39976	1.793953	9.15 Up	8.10E-04	NM_005204	Homo sapiens mitogen-activated protein kinase kinase kinase 8 (MAP3K8), mRNA. /PROD=mitogen-activated protein kinase kinase kinase8 /FL=gb:NM_005204.1 gb:D14497.1
-1.2719	1.918316	9.13 Up	2.22E-03	NM_020406	Homo sapiens polycythemia rubra vera 1; cell surface receptor (PRV1), mRNA. /PROD=polycythemia rubra vera 1; cell surfacereceptor /FL=gb:NM_020406.1 gb:AF146747.1
-1.20098	1.986443	9.11 Up	7.28E-03	NM_001794	Homo sapiens cadherin 4, type 1, R-cadherin (retinal) (CDH4), mRNA. /PROD=cadherin 4, type 1, R-cadherin (retinal) /FL=gb:L34059.1 gb:NM_001794.1
0.270283	3.456007	9.1 Up	1.24E-03	AI690433	Homo sapiens mRNA; cDNA DKFZp434K0621 (from clone DKFZp434K0621); partial cds
-3.14727	0.038057	9.1 Up	4.46E-02	NM_001147	Homo sapiens angiopoietin 2 (ANGPT2), mRNA. /PROD=angiopoietin 2

					/FL=gb:AB009865.1 gb:AF004327.1 gb:NM_001147.1
-2.65285	0.529695	9.08 Up	5.20E-04	BE549700	ESTs
-0.70603	2.476147	9.08 Up	2.75E-04	X02162	Human mRNA for apolipoprotein AI (apo AI)=. /PROD=preproapolipoprotein AI
0.134434	3.31354	9.06 Up	7.31E-05	AV758821	ESTs, Weakly similar to Z132_HUMAN ZINC FINGER PROTEIN 13 (H.sapiens)
1.488455	4.666225	9.05 Up	2.39E-05	NM_000177	Homo sapiens gelsolin (amyloidosis, Finnish type) (GSN), mRNA. /PROD=gelsolin (amyloidosis, Finnish type) /FL=gb:NM_000177.1
0.37879	3.553097	9.03 Up	2.87E-04	BC039295	Homo sapiens, Similar to down-regulated by Ctnnb1, a, clone MGC:39518 IMAGE:5267063, mRNA, complete cds. /PROD=Similar to down-regulated by Ctnnb1, a /FL=gb:BC039295.1
-2.03929	1.12953	8.99 Up	1.03E-02	NM_003855	Homo sapiens interleukin 18 receptor 1 (IL18R1), mRNA. /PROD=interleukin 18 receptor 1 /FL=gb:NM_003855.1 gb:U43672.1
-1.95127	1.210788	8.95 Up	6.65E-03	L12468	Homo sapiens aminopeptidase A mRNA, complete cds. /PROD=aminopeptidase A /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
-3.03451	0.120756	8.91 Up	1.30E-03	BF432875	ESTs
0.219552	3.367037	8.86 Up	1.61E-04	BE856336	Homo sapiens mRNA; cDNA DKFZp761G151 (from clone DKFZp761G151); partial cds
1.091867	4.237655	8.85 Up	3.97E-03	NM_004765	Homo sapiens B-cell CLLlymphoma 7C (BCL7C), mRNA. /PROD=B-cell CLLlymphoma 7C /FL=gb:NM_004765.1
-1.37872	1.766362	8.85 Up	2.81E-03	AF063825	Homo sapiens trp-related protein 4 truncated variant gamma mRNA, complete cds. /PROD=trp-related protein 4 truncated variant gamma

					/FL=gb:AF063825.1
-0.88126	2.263541	8.84 Up	1.10E-03	BC014364	Homo sapiens, clone MGC:24252 IMAGE:3932604, mRNA, complete cds. /PROD=Unknown (protein for MGC:24252) /FL=gb:BC014364.1
0.345528	3.488906	8.84 Up	1.32E-04	AW276186	major histocompatibility complex, class II, DQ beta 1
-1.23083	1.909333	8.82 Up	3.54E-05	AF063824	Homo sapiens trp-related protein 4 truncated variant delta mRNA, complete cds. /PROD=trp-related protein 4 truncated variant delta /FL=gb:AF063824.1
-0.95126	2.187719	8.81 Up	8.38E-04	NM_021170	Homo sapiens bHLH factor Hes4 (LOC57801), mRNA. /PROD=bHLH factor Hes4 /FL=gb:NM_021170.1 gb:AB048791.1
1.979568	5.115328	8.79 Up	1.83E-05	M17565	Human MHC class II DQ-beta associated with DRw6, DQw1 protein, complete cds. /FL=gb:M17565.1
1.425392	4.555892	8.76 Up	1.10E-03	AB018195	Homo sapiens ca xi mRNA for carbonic anhydrase-related protein XI, complete cds. /PROD=carbonic anhydrase-related protein XI /FL=gb:NM_001217.2 gb:AB018195.1 gb:BC002662.1 gb:AF067662.1
-0.94697	2.181933	8.75 Up	8.53E-03	BG208091	Homo sapiens cDNA FLJ37414 fis, clone BRAWH1000157.
-2.29059	0.832807	8.71 Up	1.45E-03	NM_000110	Homo sapiens dihydropyrimidine dehydrogenase (DPYD), mRNA. /PROD=dihydropyrimidine dehydrogenase /FL=gb:AB003063.1 gb:U09178.1 gb:NM_000110.2 gb:U20938.1
1.409091	4.531365	8.71 Up	3.78E-04	AF026219	Homo sapiens HP protein (HP) mRNA, complete cds. /PROD=HP protein /FL=gb:AF026219.1 gb:AF035119.1 gb:NM_006094.2
0.038661	3.158562	8.69 Up	1.38E-02	AL831967	Homo sapiens mRNA; cDNA DKFZp451H072

					(from clone DKFZp451H072); complete cds. /FL=gb:AL831967.1
-0.75335	2.363345	8.67	Up	7.05E-03	AK023900 Homo sapiens cDNA FLJ13838 fis, clone THYRO1000756, weakly similar to ALPHA-N-ACETYLGALACTOSAMINIDE ALPHA-2,6-SIALYLTRANSFERASE (EC 2.4.99.-). /FL=gb:NM_013443.1 gb:AB035173.1
-3.56757	-0.45104	8.67	Up	3.25E-03	R43486 ESTs
2.377686	5.491345	8.66	Up	5.61E-05	NM_000222 Homo sapiens v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog (KIT), mRNA. /PROD=v-kit Hardy-Zuckerman 4 feline sarcoma viraloncogene homolog precursor /FL=gb:NM_000222.1
3.409815	-4.69755	275.78	Down	7.78E-05	NM_016588 Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
2.62025	-3.04157	50.63	Down	2.62E-04	AA625683 ESTs
4.897427	-0.73179	49.5	Down	3.89E-04	R06655 ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
3.77776	-1.65937	43.32	Down	9.82E-04	BU729850 hypothetical protein LOC153469
0.757197	-4.31965	33.75	Down	9.91E-03	AF213459 Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form /FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
3.025351	-1.38311	21.24	Down	1.78E-03	AW590925 ESTs
2.350127	-1.99242	20.29	Down	2.82E-04	AK026106 Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
0.860464	-3.44694	19.8	Down	1.25E-02	NM_003007 Homo sapiens semenogelin I (SEMG1), mRNA. /PROD=semenogelin I /FL=gb:J04440.1

					gb:NM_003007.1
0.579765	-3.42804	16.09	Down	1.83E-03	AI393930 ESTs
4.507212	0.732117	13.69	Down	6.09E-05	AW196940 ESTs
3.862686	0.237876	12.34	Down	1.03E-03	NM_007115 Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
2.36447	-1.22861	12.07	Down	2.57E-04	NM_005181 Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
3.113698	-0.4652	11.95	Down	1.17E-04	NM_002196 Homo sapiens insulinoma-associated 1 (INSM1), mRNA. /PROD=insulinoma-associated 1 /FL=gb:NM_002196.1 gb:M93119.1
1.05854	-2.46305	11.48	Down	2.94E-02	AI703321 wingless-type MMTV integration site family, member 5A
3.557525	0.041029	11.44	Down	2.62E-04	BF514079 Kruppel-like factor 4 (gut)
3.806044	0.419409	10.46	Down	7.75E-04	AV734646 DNA segment on chromosome X (unique) 9928 expressed sequence
2.64743	-0.69932	10.17	Down	2.48E-03	AI702438 ESTs
3.030236	-0.17175	9.2	Down	4.80E-03	AA812232 upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
5.023981	1.931575	8.53	Down	1.95E-04	NM_006472 Homo sapiens upregulated by 1,25-dihydroxyvitamin D-3 (VDUP1), mRNA. /PROD=upregulated by 1,25-dihydroxyvitamin D-3 /FL=gb:NM_006472.1 gb:S73591.1
6.426778	3.371755	8.31	Down	2.62E-04	AF313413 Homo sapiens putative small membrane protein NID67 mRNA, complete cds. /PROD=putative small membrane protein NID67 /FL=gb:AF313413.1
-0.42962	-3.45743	8.16	Down	2.90E-02	D28364 Human mRNA for annexin II, 5UTR (sequence from the 5cap to the start codon).
2.367534	-0.64534	8.07	Down	2.77E-02	AF098641 Homo sapiens CD44 isoform RC (CD44)

						mRNA, complete cds. /PROD=CD44 isoform RC /FL=gb:AF098641.1
5.13621	2.189627	7.71	Down	2.78E-03	BC013944	Homo sapiens, Similar to myosin, heavy polypeptide 7, cardiac muscle, beta, clone IMAGE:4064393, mRNA.
2.951696	0.005808	7.71	Down	1.79E-02	AB019562	Homo sapiens mRNA expressed only in placental villi, clone SMAP41.
6.568635	3.642312	7.6	Down	2.61E-04	AL031602	Human DNA sequence from clone RP5-1174N9 on chromosome 1p34.1-35.3. Contains the gene for a novel protein with IBR domain, a (pseudo?) gene for a novel protein similar to MT1E (metallothionein 1E (functional)), ESTs, STSs, GSSs and two putative Cp...
0.237018	-2.68848	7.6	Down	1.69E-02	NM_002852	Homo sapiens pentaxin-related gene, rapidly induced by IL-1 beta (PTX3), mRNA. /PROD=pentaxin-related gene, rapidly induced by IL-1beta /FL=gb:M31166.1 gb:NM_002852.1
3.094055	0.187515	7.5	Down	7.78E-05	AW188198	tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
0.510307	-2.36971	7.36	Down	5.02E-02	AI040887	ESTs
2.514693	-0.35098	7.29	Down	5.77E-05	NM_145032	Homo sapiens hypothetical protein MGC21636 (MGC21636), mRNA. /FL=gb:BC020572.1 gb:NM_145032.2
5.356771	2.49399	7.27	Down	2.39E-04	W92036	ESTs
4.622217	1.771706	7.21	Down	4.89E-05	AL537457	neurofilament, light polypeptide (68kD) /FL=gb:NM_006158.1
7.360687	4.513462	7.2	Down	5.28E-04	BF217861	metallothionein 1E (functional)
5.388254	2.562722	7.09	Down	4.27E-04	NM_004207	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 3 (SLC16A3), mRNA. /PROD=solute carrier family 16 (monocarboxylic acidtransporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.462851	0.655394	7	Down	5.00E-04	BE673800	ESTs, Moderately similar

						to KIAA1238 protein (H.sapiens)
4.749034	1.960178	6.91	Down	1.18E-02	NM_002130	Homo sapiens 3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1 (soluble) (HMGCS1), mRNA. /PROD=3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1(soluble) /FL=gb:NM_002130.1 gb:L25798.1 gb:BC000297.1
4.738703	1.971781	6.81	Down	7.81E-04	NM_014033	Homo sapiens DKFZP586A0522 protein (DKFZP586A0522), mRNA. /PROD=DKFZP586A0522 protein /FL=gb:NM_014033.1
2.28595	-0.4498	6.66	Down	2.03E-03	BE504838	ESTs
1.10782	-1.62775	6.66	Down	9.81E-04	BC029425	Homo sapiens, Similar to KIAA1275 protein, clone IMAGE:4616553, mRNA.
4.092731	1.365462	6.62	Down	2.70E-04	AL513917	solute carrier family 16 (monocarboxylic acid transporters), member 3 /FL=gb:U81800.1 gb:NM_004207.1
3.437271	0.717704	6.59	Down	1.77E-04	AB029025	Homo sapiens mRNA for KIAA1102 protein, partial cds. /PROD=KIAA1102 protein
2.129273	-0.56464	6.47	Down	9.35E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
3.508683	0.85988	6.27	Down	4.89E-05	AK027231	Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
4.285883	1.64868	6.22	Down	4.39E-04	AL038787	6-phosphofructo-2-kinasefructose-2,6-biphosphatase 4
4.847114	2.216008	6.2	Down	6.18E-03	NM_006474	Homo sapiens lung type-I cell membrane-associated glycoprotein (T1A-2), transcript variant 2, mRNA. /PROD=lung type-I cell membrane-associatedglycoprotein, isoform 2 precursor /FL=gb:NM_006474.1 gb:AF030428.1
5.095598	2.488937	6.09	Down	5.96E-03	NM_005542	Homo sapiens insulin induced gene 1 (INSIG1), mRNA. /PROD=insulin induced gene 1 /FL=gb:NM_005542.1
0.547626	-2.03638	6	Down	2.43E-03	AI632015	solute carrier family 12 (sodiumpotassiumchloride

					transporters), member 1 /FL=gb:U58130.1 gb:NM_000338.1
3.127666	0.546103	5.99	Down	1.23E-03	NM_003577 Homo sapiens undifferentiated embryonic cell transcription factor 1 (UTF1), mRNA. /PROD=undifferentiated embryonic cell transcriptionfactor 1 /FL=gb:NM_003577.1 gb:AB011076.1
1.389794	-1.18154	5.94	Down	7.75E-04	BG498699 ESTs
2.098906	-0.46916	5.93	Down	5.35E-03	NM_003914 Homo sapiens cyclin A1 (CCNA1), mRNA. /PROD=cyclin A1 /FL=gb:NM_003914.1 gb:U66838.1
1.361153	-1.18056	5.82	Down	5.68E-04	NM_014352 Homo sapiens POU transcription factor (OCT11), mRNA. /PROD=POU transcription factor /FL=gb:NM_014352.1 gb:AF133895.1 gb:AF162278.1
4.308564	1.770347	5.81	Down	3.89E-04	NM_171999 Homo sapiens sal-like 3 (Drosophila) (SALL3), mRNA. /PROD=sal-like 3 /FL=gb:NM_171999.1
2.798327	0.284755	5.71	Down	7.29E-03	BF062943 protocadherin 18
4.255531	1.77831	5.57	Down	8.19E-04	AF096296 Homo sapiens thymic stroma chemokine-1 precursor, mRNA, complete cds. /PROD=thymic stroma chemokine-1 precursor /FL=gb:AF142434.1 gb:AF096296.1 gb:AF124601.1 gb:AB010447.1 gb:NM_006072.1
3.602406	1.138163	5.52	Down	2.16E-04	AI493245 CD44 antigen (homing function and Indian blood group system)
1.892794	-0.57116	5.52	Down	8.90E-04	AL138349 KIAA0367 protein
4.253624	1.806392	5.45	Down	2.55E-03	NM_003385 Homo sapiens visinin-like 1 (VSNL1), mRNA. /PROD=visinin-like 1 /FL=gb:AF039555.1 gb:U14747.1 gb:AB001104.1 gb:NM_003385.1
4.055862	1.616613	5.42	Down	1.30E-03	AK026815 Homo sapiens cDNA: FLJ23162 fis, clone LNG09734.
5.441963	3.012923	5.39	Down	5.89E-03	NM_016651 Homo sapiens heptacellular carcinoma

						novel gene-3 protein (LOC51339), mRNA. /PROD=heptacellular carcinoma novel gene-3 protein /FL=gb:NM_016651.2 gb:AF251079.2
7.149479	4.725219	5.37	Down	2.79E-04	M10943	Human metallothionein-If gene (hMT-If)
4.590778	2.174965	5.34	Down	5.10E-04	BF055311	hypothetical protein
4.560288	2.150773	5.31	Down	4.80E-02	BF979497	squalene epoxidase
5.807319	3.418163	5.24	Down	4.84E-04	NM_018004	Homo sapiens hypothetical protein FLJ10134 (FLJ10134), mRNA. /PROD=hypothetical protein FLJ10134 /FL=gb:NM_018004.1
7.224807	4.842369	5.21	Down	6.39E-04	NM_005951	Homo sapiens metallothionein 1H (MT1H), mRNA. /PROD=metallothionein 1H /FL=gb:NM_005951.1
7.144308	4.773705	5.17	Down	4.79E-04	BF246115	RNA helicase-related protein
3.56272	1.19687	5.15	Down	2.14E-04	NM_003247	Homo sapiens thrombospondin 2 (THBS2), mRNA. /PROD=thrombospondin 2 /FL=gb:NM_003247.1 gb:L12350.1
3.280973	0.92641	5.11	Down	8.07E-04	AL139377	Human DNA sequence from clone RP11-251J8 on chromosome 13 Contains ESTs, STSs, GSSs and a CpG island. Contains two novel genes with two isoforms each and the KIAA0610 gene with two isoforms
2.770179	0.433532	5.05	Down	1.14E-04	AK000345	Homo sapiens cDNA FLJ20338 fis, clone HEP12179.
3.947271	1.623385	5.01	Down	6.54E-04	AI928035	ESTs

H) **H9P39 at 5 day DE stage vs EXPRES 01- Intensity values are in Log2 format.**

EXPRES 01	5D DE	Ratio	Direction	adj. p-value	Gene Identifier	Gene Name
-4.01441	5.124176	563.62	Up	2.04E-04	AB028021	Cluster Incl. AB028021:Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds /cds=(196,1569) /gb=AB028021

					/gi=4958949 /ug=Hs.155651 /len=1944
-2.90798	5.80468	419.54 Up	6.31E-05	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-3.8752	4.686662	377.9 Up	9.07E-05	AB028021	Homo sapiens HNF-3beta mRNA for hepatocyte nuclear factor-3 beta, complete cds. /PROD=hepatocyte nuclear factor-3 beta /FL=gb:AB028021.1 gb:NM_021784.1
-5.25658	3.291398	374.28 Up	1.45E-04	AW005572	putative 47 kDa protein
-4.79201	3.696679	359.21 Up	1.91E-04	NM_012431	Homo sapiens sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E (SEMA3E), mRNA. /PROD=sema domain, immunoglobulin domain (Ig), shortbasic domain, secreted, (semaphorin) 3E /FL=gb:NM_012431.1 gb:AB002329.1
-4.29896	3.55326	231.07 Up	6.31E-05	AY177407	Homo sapiens homeobox protein goosecoid mRNA, complete cds. /PROD=homeobox protein goosecoid /FL=gb:AY177407.1 gb:NM_173849.1
-0.80043	6.860899	202.44 Up	1.45E-04	D87811	Homo sapiens mRNA for GATA-6, complete cds. /PROD=GATA-6 /FL=gb:U66075.1 gb:NM_005257.1 gb:D87811.1
-2.0457	5.432491	178.3 Up	3.17E-04	AI422986	ESTs
-0.62093	6.825713	174.45 Up	6.31E-05	NM_022454	Homo sapiens hypothetical protein FLJ22252 similar to SRY-box containing gene 17 (FLJ22252), mRNA. /PROD=hypothetical protein FLJ22252 similar to SRY-boxcontaining gene 17 /FL=gb:NM_022454.1
-3.20091	4.115748	159.42 Up	4.55E-03	NM_0026	Homo sapiens PDZ

					14	domain containing 1 (PDZK1), mRNA. /PROD=PDZ domain containing 1 /FL=gb:NM_002614.1 gb:AF012281.1
-1.55323	5.756709	158.68	Up	1.18E-04	AI821586	ESTs, Moderately similar to JE0284 Mm-1 cell derived transplantability-associated protein 1b (H.sapiens)
-1.32044	5.931596	152.43	Up	1.87E-03	AF017987	Homo sapiens secreted apoptosis related protein 2 (SARP2) mRNA, complete cds. /PROD=secreted apoptosis related protein 2 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
-2.07937	5.100657	145.01	Up	1.38E-03	NM_001643	Homo sapiens apolipoprotein A-II (APOA2), mRNA. /PROD=apolipoprotein A-II precursor /FL=gb:M29882.1 gb:NM_001643.1 gb:BC005282.1
-1.44407	5.698139	141.26	Up	7.86E-04	U91903	Human Fritz mRNA, complete cds. /PROD=Fritz /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-1.89695	5.224062	139.2	Up	2.36E-04	AL136944	Homo sapiens mRNA; cDNA DKFZp586J0624 (from clone DKFZp586J0624); complete cds. /PROD=hypothetical protein /FL=gb:AF215636.1 gb:NM_014585.1 gb:AF231121.1 gb:AF226614.1 gb:AL136944.1
-1.39784	5.68934	135.97	Up	4.88E-04	BE222344	splicing factor, arginineserine-rich 5
-0.77864	6.281843	133.48	Up	2.22E-04	NM_022055	Homo sapiens reserved (KCNK12), mRNA. /PROD=tandem pore domain potassium channel THIK-2 /FL=gb:NM_022055.1 gb:AF287302.1
-4.50758	2.549475	133.16	Up	2.17E-04	AU118882	endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1

-3.51429	3.503914	129.63 Up	4.95E-04	AA352113	ESTs
-3.66072	3.328123	127.01 Up	3.78E-04	AI240545	glycophorin B (includes Ss blood group)
-1.11159	5.754168	116.63 Up	1.30E-04	NM_003867	Homo sapiens fibroblast growth factor 17 (FGF17), mRNA. /PROD=fibroblast growth factor 17 /FL=gb:NM_003867.1 gb:AB009249.1
-3.61621	3.217076	114.03 Up	1.27E-03	AL569326	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds
-1.66311	5.134985	111.28 Up	4.22E-04	S69738	MCP-1=monocyte chemotactic protein (human, aortic endothelial cells, mRNA, 661 nt). /PROD=MCP-1
-0.83997	5.93144	109.24 Up	2.98E-04	AI821669	ESTs
-0.98665	5.726104	104.89 Up	5.59E-04	NM_001463	Homo sapiens frizzled-related protein (FRZB), mRNA. /PROD=frizzled-related protein /FL=gb:U24163.1 gb:U68057.1 gb:NM_001463.1 gb:U91903.1
-2.5679	4.137457	104.36 Up	7.79E-05	AL121722	Human DNA sequence from clone RP4-788L20 on chromosome 20 Contains the HNF3B (hepatocyte nuclear factor 3, beta) gene. a novel gene based on ESTs, ESTs, STSs, GSSs and CpG Islands
-1.80965	4.847846	100.95 Up	1.46E-03	NM_152506	Homo sapiens hypothetical protein FLJ32835 (FLJ32835), mRNA. /FL=gb:NM_152506.1
0.502235	7.009369	90.96 Up	6.31E-05	NM_014899	Homo sapiens KIAA0878 protein (KIAA0878), mRNA. /PROD=KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-2.72686	3.743779	88.69 Up	2.40E-04	AI692180	PTPRF interacting protein, binding protein 2 (liprin beta 2)
-3.53873	2.900762	86.79 Up	7.01E-04	AI675836	Human DNA sequence from clone RP11-446H13 on chromosome 10. Contains the 3 end of the gene for a novel protein similar to KIAA1059 (ortholog of mouse VPS10 domain receptor protein

					SORCS), an RPL23A (60S ribosmal protein 23A) pseudogene, ESTs, STSs an
0.756526	7.184293	86.09 Up	1.32E-04	NM_003012	Homo sapiens secreted frizzled-related protein 1 (SFRP1), mRNA. /PROD=secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1 gb:AF001900.1
1.194285	7.539085	81.28 Up	1.91E-04	NM_001898	Homo sapiens cystatin SN (CST1), mRNA. /PROD=cystatin SN /FL=gb:J03870.1 gb:NM_001898.1
-3.13458	3.167207	78.89 Up	3.78E-04	AI767388	Human DNA sequence from clone RP5-1024N4 on chromosome 1p32.1-33. Contains the gene for a novel Sodium:solute symporter family member similar to SLC5A1 (SGLT1), a pseudogene similar to part of butyrophilin family members, a novel gene, ESTs, STSs, GS
-2.16064	4.140592	78.86 Up	3.71E-03	NM_000475	Homo sapiens nuclear receptor subfamily 0, group B, member 1 (NR0B1), mRNA. /PROD=adrenal hypoplasia protein /FL=gb:NM_000475.2
-3.54017	2.700772	75.63 Up	7.42E-04	NM_002091	Homo sapiens gastrin-releasing peptide (GRP), mRNA. /PROD=gastrin-releasing peptide /FL=gb:NM_002091.1 gb:K02054.1 gb:BC004488.1
-0.10733	6.129363	75.41 Up	1.89E-04	BC005107	Homo sapiens, clone IMAGE:3840937, mRNA, partial cds. /PROD=Unknown (protein for IMAGE:3840937)
-0.70603	5.511093	74.39 Up	1.32E-04	X02162	Human mRNA for apolipoprotein AI (apo AI)=. /PROD=preproapolipoprotein AI
-1.71797	4.462566	72.53 Up	1.82E-03	AL524520	G protein-coupled receptor 49
-2.6422	3.482776	69.79 Up	1.32E-04	BF589787	ESTs
-2.55363	3.5449	68.52 Up	7.88E-04	NM_005143	Homo sapiens haptoglobin (HP), mRNA.

					/PROD=haptoglobin /FL=gb:K00422.1 gb:L29394.1 gb:NM_005143.1
-1.68521	4.368534	66.43	Up	8.61E-04	NM_002770 Homo sapiens protease, serine, 2 (trypsin 2) (PRSS2), mRNA. /PROD=protease, serine, 2 (trypsin 2) /FL=gb:M27602.1 gb:NM_002770.1
-0.81978	5.225222	66.03	Up	2.29E-04	AI824037 ESTs, Weakly similar to FCE2 MOUSE LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (M.musculus)
-3.86227	2.17108	65.5	Up	3.68E-03	U00178 Homo sapiens glycophorin Erik STA (GPErik) gene complete cds. /PROD=glycophorin Erik (STA) /FL=gb:U00178.1
-1.09421	4.938977	65.49	Up	6.31E-05	AK023621 Homo sapiens cDNA FLJ13559 fis, clone PLACE1007852, highly similar to Homo sapiens mRNA for KIAA0878 protein.
0.663834	6.652281	63.49	Up	1.91E-04	AI817041 G protein-coupled receptor
-0.58181	5.375577	62.14	Up	1.45E-04	NM_000039 Homo sapiens apolipoprotein A-I (APOA1), mRNA. /PROD=apolipoprotein A-I precursor /FL=gb:M27875.1 gb:M11791.1 gb:NM_000039.1 gb:BC005380.1
-1.54589	4.362835	60.08	Up	1.73E-03	AW088232 ESTs
-0.07494	5.828115	59.84	Up	1.54E-04	NM_001394 Homo sapiens dual specificity phosphatase 4 (DUSP4), mRNA. /PROD=dual specificity phosphatase 4 /FL=gb:NM_001394.2 gb:BC002671.1 gb:U48807.1 gb:U21108.1
-4.56294	1.310101	58.61	Up	1.11E-03	NM_002443 Homo sapiens microseminoprotein, beta- (MSMB), mRNA. /PROD=microseminoprotein, beta- /FL=gb:NM_002443.1
-3.4744	2.363586	57.2	Up	2.68E-03	L32867 Homo sapiens alpha 2,8-sialyltransferase mRNA, complete cds. /PROD=alpha 2,8-

					sialyltransferase /FL=gb:L43494.1 gb:D26360.1 gb:L32867.1 gb:NM_003034.1
-2.46443	3.369728	57.05	Up	1.45E-04	AL450314 Novel human gene mapping to chomosome 22. /PROD=hypothetical protein
1.388898	7.19192	55.83	Up	8.20E-05	BE620739 ESTs
-4.00586	1.787905	55.48	Up	2.21E-04	AI032108 hepatocyte nuclear factor 4, alpha
-3.79684	1.959873	54.07	Up	2.17E-04	AK026720 Homo sapiens cDNA: FLJ23067 fis, clone LNG04993.
-0.66587	5.083659	53.8	Up	1.91E-04	NM_001362 Homo sapiens deiodinase, iodothyronine, type III (DIO3), mRNA. /PROD=thyroxine deiodinase type III /FL=gb:NM_001362.1 gb:S79854.1
-0.18863	5.551911	53.47	Up	3.52E-04	AV700724 GATA-binding protein 4 /FL=gb:NM_002052.1 gb:L34357.1 gb:D78260.1
0.800949	6.531642	53.1	Up	1.02E-04	NM_030781 Homo sapiens scavenger receptor with C-type lectin (SRCL), mRNA. /PROD=scavenger receptor with C-type lectin /FL=gb:NM_030781.1
-1.61054	4.10541	52.56	Up	5.56E-04	AW264204 ESTs
-2.91295	2.78771	52.01	Up	6.07E-03	AW005572 putative 47 kDa protein
-2.50006	3.186935	51.52	Up	8.45E-04	U66061 Human germline T-cell receptor beta chain TCRBV17S1A1T, TCRBV2S1, TCRBV10S1P, TCRBV29S1P, TCRBV19S1P, TCRBV15S1, TCRBV11S1A1T, HVB relic, TCRBV28S1P, TCRBV34S1, TCRBV14S1, TCRBV3S1, TCRBV4S1A1T, TRY4, TRY5, TRY6, TRY7, TRY8, TCRBD1, TCRBJ1S1, TCRB...
-1.70149	3.97514	51.15	Up	1.10E-03	AF225426 Homo sapiens HT016 mRNA, complete cds. /PROD=HT016 /FL=gb:AF225426.1
-2.50335	3.151666	50.39	Up	2.47E-04	AA781795 ESTs
-3.2144	2.380089	48.32	Up	4.61E-03	NM_020995 Homo sapiens haptoglobin-related protein (HPR), mRNA.

					/PROD=haptoglobin-related protein /FL=gb:NM_020995.1
0.83572	6.417467	47.89	Up	1.94E-04	N21138 KIAA0878 protein /FL=gb:NM_014899.1 gb:AB020685.1
-2.4051	3.170689	47.7	Up	1.32E-04	NM_021020 Homo sapiens F37Esophageal cancer-related gene-coding leucine-zipper motif (FEZ1), mRNA. /PROD=F37Esophageal cancer-related gene-codingleucine-zipper motif /FL=gb:AF123659.1 gb:NM_021020.1
-3.91992	1.65452	47.65	Up	2.78E-04	AL553774 KIAA1462 protein
-3.39007	2.175099	47.35	Up	5.44E-03	NM_006614 Homo sapiens cell adhesion molecule with homology to L1CAM (close homologue of L1) (CHL1), mRNA. /PROD=cell adhesion molecule with homology to L1CAM(close homologue of L1) /FL=gb:AF002246.1 gb:NM_006614.1
-1.77041	3.785027	47.03	Up	1.43E-03	NM_003966 Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA. /PROD=sema domain, seven thrombospondin repeats (type1 and type 1-like), transmem
-2.1243	3.414352	46.48	Up	7.42E-04	AL590118 Novel human mRNA from chromosome 22. Splice variant of dJ222E13.C22.1. /PROD=hypothetical protein
-3.71922	1.808255	46.13	Up	6.31E-05	NM_012301 Homo sapiens atrophin-1 interacting protein 1; activin receptor interacting protein 1 (KIAA0705), mRNA. /PROD=atrophin-1 interacting protein 1; activinreceptor interacting protein 1 /FL=gb:NM_012301.1 gb:AF038563.1
0.282425	5.79006	45.49	Up	2.52E-04	AW772192 Homo sapiens clone 23736 mRNA sequence
1.314051	6.761422	43.63	Up	8.20E-05	BC000740 Homo sapiens,

					cholecystokinin B receptor, clone MGC:2199, mRNA, complete cds. /PROD=cholecystokinin B receptor /FL=gb:L07746.1 gb:L08112.1 gb:S70057.1 gb:BC000740.1 gb:L04473.1 gb:NM_000731.1
1.048741	6.488423	43.4 Up	1.43E-04	NM_001899	Homo sapiens cystatin S (CST4), mRNA. /PROD=cystatin S /FL=gb:NM_001899.1
-0.26005	5.163577	42.92 Up	3.89E-04	R72286	microfibrillar-associated protein 4
-3.53207	1.859147	41.97 Up	6.92E-04	NM_002769	Homo sapiens protease, serine, 1 (trypsin 1) (PRSS1), mRNA. /PROD=protease, serine, 1 (trypsin 1) /FL=gb:M22612.1 gb:NM_002769.1
-0.2425	5.144972	41.86 Up	1.91E-04	NM_018286	Homo sapiens hypothetical protein FLJ10970 (FLJ10970), mRNA. /PROD=hypothetical protein FLJ10970 /FL=gb:NM_018286.1
-3.14727	2.237789	41.79 Up	9.13E-03	NM_001147	Homo sapiens angiopoietin 2 (ANGPT2), mRNA. /PROD=angiopoietin 2 /FL=gb:AB009865.1 gb:AF004327.1 gb:NM_001147.1
-3.69577	1.687554	41.74 Up	3.38E-03	AL133386	Human DNA sequence from clone RP1-181C24 on chromosome 6p11.1-12.2. Contains the 3 end of the BMP5 gene for bone morphogenetic protein 5, ESTs, STSs and GSSs /FL=gb:M60314.1 gb:NM_021073.1
0.828899	6.191145	41.13 Up	1.33E-04	NM_001200	Homo sapiens bone morphogenetic protein 2 (BMP2), mRNA. /PROD=bone morphogenetic protein 2 precursor /FL=gb:NM_001200.1
-3.26893	2.058218	40.15 Up	5.08E-04	NM_001785	Homo sapiens cytidine deaminase (CDA), mRNA. /PROD=cytidine deaminase /FL=gb:L27943.1 gb:NM_001785.1

0.804491	6.097871	39.22 Up	1.58E-04	AA583044	bone morphogenetic protein 2 /FL=gb:NM_001200.1
-3.25961	2.021534	38.89 Up	1.07E-02	NM_016341	Homo sapiens pancreas-enriched phospholipase C (LOC51196), mRNA. /PROD=pancreas-enriched phospholipase C /FL=gb:AF117948.1 gb:NM_016341.1 gb:AF190642.2
-1.83503	3.428167	38.4 Up	1.04E-03	AA552969	ESTs
-1.9473	3.313481	38.34 Up	1.92E-03	U43328	Human link protein mRNA, complete cds. /PROD=link protein /FL=gb:NM_001884.1 gb:U43328.1
1.563993	6.815362	38.09 Up	6.31E-05	NM_002413	Homo sapiens microsomal glutathione S-transferase 2 (MGST2), mRNA. /PROD=microsomal glutathione S-transferase 2 /FL=gb:NM_002413.1 gb:U77604.1
0.753353	5.985265	37.58 Up	6.31E-05	NM_021827	Homo sapiens hypothetical protein FLJ23514 (FLJ23514), mRNA. /PROD=hypothetical protein FLJ23514 /FL=gb:NM_021827.1
-3.95062	1.221052	36.04 Up	2.88E-03	AU144247	Homo sapiens cDNA FLJ13443 fis, clone PLACE1002853
-1.92059	3.223801	35.37 Up	7.42E-04	AI738662	homeo box HB9 /FL=gb:NM_005515.1
0.007601	5.147748	35.26 Up	1.45E-04	N63706	ESTs
-3.12184	2.01388	35.16 Up	5.36E-04	AI700341	ESTs
1.470195	6.597094	34.94 Up	8.20E-05	AI676059	ESTs
-2.81405	2.284598	34.26 Up	1.27E-03	AI694325	ESTs
-2.83906	2.251765	34.08 Up	1.40E-04	T15545	ESTs
-0.27888	4.797361	33.74 Up	1.91E-04	AF225513	Homo sapiens cAMP-dependent protein kinase inhibitor beta mRNA, complete cds. /PROD=cAMP-dependent protein kinase inhibitor beta /FL=gb:AF225513.1
-2.80061	2.271493	33.64 Up	1.79E-03	NM_014624	Homo sapiens S100 calcium-binding protein A6 (calcyclin) (S100A6), mRNA. /PROD=S100 calcium-binding protein A6 /FL=gb:NM_014624.2 gb:BC001431.1
-3.7619	1.277348	32.88 Up	1.63E-04	NM_016179	Homo sapiens transient receptor potential channel 4 (TRPC4), mRNA. /PROD=transient receptor

					potential 4 /FL=gb:NM_016179.1 gb:AF175406.1
0.366041	5.37746	32.25 Up	1.45E-04	AI242583	Homo sapiens cDNA FLJ11550 fis, clone HEMBA1002970
1.696658	6.703009	32.14 Up	1.02E-04	L01639	Human (clone HSY3RR) neuropeptide Y receptor (NPYR) mRNA, complete cds. /PROD=neuropeptide Y receptor /FL=gb:L06797.1 gb:NM_003467.1 gb:AF025375.1 gb:AF147204.1 gb:M99293.1 gb:L01639.1
-3.62742	1.377732	32.11 Up	4.73E-03	AA772920	ESTs
-0.22337	4.733912	31.07 Up	6.84E-04	NM_021822	Homo sapiens phorbolin-like protein MDS019 (MDS019), mRNA. /PROD=phorbolin-like protein MDS019 /FL=gb:AF182420.1 gb:NM_021822.1
-2.33835	2.59894	30.64 Up	8.18E-03	L33477	Human (clone 8B1) Br-cadherin mRNA, complete cds. /PROD=Br-cadherin /FL=gb:L34057.1 gb:L33477.1 gb:NM_004061.1
0.713597	5.633194	30.27 Up	4.33E-04	BF508344	ESTs
0.299946	5.21645	30.2 Up	3.47E-03	NM_001322	Homo sapiens cystatin SA (CST2), mRNA. /PROD=cystatin SA /FL=gb:NM_001322.1
-1.43446	3.469297	29.93 Up	3.61E-03	AW291482	ESTs
-0.11092	4.785145	29.78 Up	2.75E-04	BF591483	ESTs
2.368939	7.24917	29.45 Up	1.43E-04	AJ224869	Homo sapiens CXCR4 gene encoding receptor CXCR4
-2.68947	2.167726	28.98 Up	1.86E-02	AW291402	ESTs
-3.25309	1.589977	28.7 Up	2.04E-03	AL050154	Homo sapiens mRNA; cDNA DKFZp586L0120 (from clone DKFZp586L0120).
-3.17056	1.66331	28.52 Up	2.66E-04	AI801626	ESTs, Moderately similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-0.41404	4.412864	28.38 Up	3.12E-04	AI332407	secreted frizzled-related protein 1 /FL=gb:AF056087.1 gb:NM_003012.2 gb:AF017987.1

					gb:AF001900.1
-0.47614	4.348662	28.34 Up	2.59E-04	BF508639	Homo sapiens mRNA; cDNA DKFZp434E082 (from clone DKFZp434E082)
-0.88175	3.931755	28.12 Up	6.39E-04	AI650874	ESTs
-2.66737	2.145076	28.1 Up	6.31E-05	BF060736	ESTs
-1.42034	3.315265	26.64 Up	7.42E-04	BE737251	Homo sapiens cDNA: FLJ22482 fis, clone HRC10859, highly similar to IRO180147 Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 180147
-3.9115	0.79001	26.02 Up	2.08E-03	NM_005739	Homo sapiens RAS guanyl releasing protein 1 (calcium and DAG-regulated) (RASGRP1), mRNA. /PROD=RAS guanyl releasing protein 1 /FL=gb:AF081195.1 gb:NM_005739.2 gb:AF106071.1
0.041468	4.741042	25.98 Up	4.95E-04	BF130943	ESTs
-2.45311	2.234445	25.77 Up	2.11E-02	BC042378	Homo sapiens, clone IMAGE:5277693, mRNA.
-2.50168	2.154999	25.22 Up	1.22E-02	X16468	Human mRNA for alpha-1 type II collagen.
-2.81453	1.810003	24.67 Up	2.55E-02	BC014585	Homo sapiens, clone IMAGE:4047715, mRNA.
-1.54464	3.064723	24.41 Up	1.58E-04	AI743534	Homo sapiens mRNA; cDNA DKFZp564B1162 (from clone DKFZp564B1162); complete cds /FL=gb:AL136646.1
-0.20114	4.391607	24.13 Up	2.40E-04	NM_000280	Homo sapiens paired box gene 6 (aniridia, keratitis) (PAX6), mRNA. /PROD=paired box gene 6, isoform a /FL=gb:NM_000280.1 gb:M93650.1
-2.26295	2.328666	24.11 Up	3.38E-03	AI735586	ESTs
2.194421	6.729686	23.19 Up	6.31E-05	AF348491	Homo sapiens chemokine receptor CXCR4 mRNA, complete cds. /PROD=chemokine receptor CXCR4 /FL=gb:AF348491.1
-2.05438	2.47465	23.09 Up	7.80E-03	BG290908	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
-2.56112	1.953388	22.86 Up	3.79E-02	NM_002098	Homo sapiens guanylate cyclase activator 1B

					(retina) (GUCA1B), mRNA. /PROD=guanylate cyclase activator 1B (retina) /FL=gb:M95174.1 gb:NM_002098.1 gb:M97496.1
1.186033	5.699787	22.84	Up	3.11E-04	AI627704 ESTs, Weakly similar to T17346 hypothetical protein DKFZp586O1624.1 (H.sapiens)
-0.37709	4.122407	22.62	Up	1.32E-04	AU152102 Homo sapiens cDNA FLJ12993 fis, clone NT2RP3000197
-3.10838	1.371	22.31	Up	7.67E-04	N50412 ESTs
0.581614	5.04863	22.12	Up	1.91E-04	AF005775 Homo sapiens caspase-like apoptosis regulatory protein 2 (clarp) mRNA, alternatively spliced, complete cds. /PROD=caspase-like apoptosis regulatory protein 2 /FL=gb:AF005775.1
-0.15629	4.305757	22.04	Up	5.69E-04	AI799018 ESTs
-1.22896	3.220593	21.85	Up	3.57E-04	AA628967 ESTs, Highly similar to IHH_HUMAN INDIAN HEDGEHOG PROTEIN PRECURSOR (H.sapiens)
-0.5982	3.842585	21.72	Up	1.62E-02	AI806510 putative 47 kDa protein
-3.64219	0.7939	21.65	Up	4.82E-02	NM_016950 Homo sapiens testican 3 (HSAJ1454), mRNA. /PROD=testican 3 /FL=gb:NM_016950.1 gb:BC000460.1 gb:BC003017.1
1.168713	5.589508	21.42	Up	7.42E-04	NM_016139 Homo sapiens 16.7Kd protein (LOC51142), mRNA. /PROD=16.7Kd protein /FL=gb:NM_016139.1 gb:AF078845.1 gb:BC003079.1
-0.35867	4.059826	21.38	Up	3.11E-04	NM_001957 Homo sapiens endothelin receptor type A (EDNRA), mRNA. /PROD=endothelin receptor type A /FL=gb:NM_001957.1 gb:L06622.1
-2.06656	2.342712	21.25	Up	3.19E-03	AF141339 Homo sapiens LYST-interacting protein LIP3 mRNA, partial cds. /PROD=LYST-interacting protein LIP3
-0.5292	3.876079	21.19	Up	1.54E-03	AI127440 ESTs
-3.10357	1.289233	21.01	Up	2.09E-04	NM_001453 Homo sapiens forkhead box C1 (FOXC1), mRNA. /PROD=forkhead box C1

					/FL=gb:NM_001453.1
0.143286	4.530622	20.93 Up	2.37E-03	AW15754 8	insulin-like growth factor binding protein 5 /FL=gb:M65062.1 gb:M62782.1 gb:NM_000599.1 gb:AF055033.1
-2.7734	1.613669	20.92 Up	2.19E-03	BF515913	ESTs
0.240245	4.617197	20.78 Up	7.42E-04	BF940761	ESTs
1.203777	5.579613	20.76 Up	9.87E-05	AA633203	conserved gene amplified in osteosarcoma
-0.95126	3.407252	20.51 Up	3.70E-04	NM_0211 70	Homo sapiens bHLH factor Hes4 (LOC57801), mRNA. /PROD=bHLH factor Hes4 /FL=gb:NM_021170.1 gb:AB048791.1
-2.50705	1.830533	20.22 Up	1.44E-02	NM_0011 74	Homo sapiens Rho GTPase activating protein 6 (ARHGAP6), transcript variant 2, mRNA. /PROD=Rho GTPase activating protein 6 isoform 2 /FL=gb:AF022212.2 gb:NM_001174.2
0.476688	4.813764	20.21 Up	2.22E-04	NM_0245 81	Homo sapiens hypothetical protein FLJ13942 (FLJ13942), mRNA. /PROD=hypothetical protein FLJ13942 /FL=gb:NM_024581.1
-3.12747	1.195263	20.01 Up	1.04E-03	AV726956	ESTs, Weakly similar to C35826 hypothetical 13K protein A (H.sapiens)
1.868094	6.17918	19.85 Up	1.30E-04	H92988	tyrosine 3-monooxygenasetryptopha n 5-monooxygenase activation protein, eta polypeptide
-2.08299	2.183935	19.25 Up	2.64E-02	NM_0020 48	Homo sapiens growth arrest-specific 1 (GAS1), mRNA. /PROD=growth arrest-specific 1 /FL=gb:NM_002048.1 gb:L13698.1
0.417034	4.677559	19.17 Up	4.65E-04	AL571375	hypothetical protein FLJ21032
-1.42686	2.825005	19.05 Up	1.38E-03	NM_0072 50	Homo sapiens Kruppel-like factor 8 (KLF8), mRNA. /PROD=Kruppel-like factor 8 /FL=gb:U28282.1 gb:NM_007250.1
1.829497	6.079493	19.03 Up	2.21E-04	AA534817	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE

					CONTAMINATION WARNING ENTRY (H.sapiens)
-2.33658	1.906847	18.94	Up	4.55E-03	AW299538 ESTs
-3.7558	0.485727	18.92	Up	8.76E-03	AW473656 ESTs
-2.20597	2.032138	18.87	Up	3.53E-03	AI968904 ESTs
-0.23726	3.987817	18.7	Up	5.55E-04	AA912476 Homo sapiens cDNA FLJ13221 fis, clone NT2RP4002075
0.02885	4.245437	18.59	Up	1.45E-04	AL534095 hypothetical protein FLJ23091
1.275191	5.478497	18.42	Up	2.30E-04	AI587307 hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-2.65285	1.547186	18.38	Up	5.15E-04	BE549700 ESTs
-2.40046	1.790023	18.26	Up	9.66E-03	NM_002102 Homo sapiens glycophorin E (GYPE), mRNA. /PROD=glycophorin E /FL=gb:NM_002102.1 gb:M29610.1
0.903379	5.089167	18.2	Up	5.59E-04	AF229179 Homo sapiens kidney-specific membrane protein NX-17 mRNA, complete cds. /PROD=kidney-specific membrane protein NX-17 /FL=gb:AF229179.1
-1.78964	2.376462	17.95	Up	9.77E-03	NM_004861 Homo sapiens cerebroside (3-phosphoadenylylsulfate:galactosylceramide 3) sulfotransferase (CST), mRNA. /PROD=galactosylceramide sulfotransferase /FL=gb:NM_004861.1 gb:D88667.1
1.641644	5.800724	17.87	Up	9.96E-04	AI922855 carboxypeptidase E /FL=gb:NM_001873.1
-3.18081	0.961939	17.66	Up	2.69E-04	AW449813 KIAA0918 protein
-2.49139	1.64952	17.64	Up	2.29E-04	AJ277914 Homo sapiens partial LHX9 gene for LIM-homeobox 9, 3UTR.
0.780949	4.89808	17.35	Up	2.32E-04	NM_005630 Homo sapiens solute carrier family 21 (prostaglandin transporter), member 2 (SLC21A2), mRNA. /PROD=solute carrier family 21 (prostaglandintransporter), member 2 /FL=gb:U70867.1 gb:NM_005630.1
2.648874	6.762839	17.32	Up	1.18E-04	AW007532 Human insulin-like growth factor binding protein 5

					(IGFBP5) mRNA
-1.99136	2.122261	17.31	Up	1.87E-03	AL109653 Human DNA sequence from clone GS1-115M3 on chromosome Xq27.1-28 Contains a gene for a novel protein, CXorf1 (chromosome X open reading frame 1), ESTs, STSs, GSSs and a CpG Island
-3.18582	0.924726	17.27	Up	1.83E-03	AI991033 heparan sulfate proteoglycan 2 (perlecan) /FL=gb:M85289.1 gb:NM_005529.2
2.59334	6.695074	17.17	Up	9.96E-05	AA045184 ribosomal protein L14
-2.28658	1.813753	17.15	Up	4.49E-03	NM_030817 Homo sapiens hypothetical protein DKFZp434F0318 (DKFZP434F0318), mRNA. /PROD=hypothetical protein DKFZp434F0318 /FL=gb:NM_030817.1
1.603889	5.703513	17.14	Up	2.09E-04	NM_001661 Homo sapiens ADP-ribosylation factor 4-like (ARF4L), mRNA. /PROD=ADP-ribosylation factor 4-like /FL=gb:U25771.1 gb:L38490.1 gb:NM_001661.1 gb:BC000043.1
-1.44072	2.657871	17.13	Up	9.96E-04	AF260333 Homo sapiens AD036 mRNA, complete cds. /PROD=AD036 /FL=gb:AF260333.1
-0.74006	3.356451	17.11	Up	6.19E-04	NM_014391 Homo sapiens cardiac ankyrin repeat protein (CARP), mRNA. /PROD=cardiac ankyrin repeat protein /FL=gb:NM_014391.1
-1.58689	2.507158	17.08	Up	5.06E-04	AI808090 ESTs
0.800778	4.890724	17.03	Up	1.91E-04	AF020769 Homo sapiens cardiac ventricular troponin C mRNA, complete cds. /PROD=cardiac ventricular troponin C /FL=gb:NM_003280.1 gb:AF020769.1
-1.39277	2.693344	16.98	Up	3.73E-04	AI629041 ESTs
-0.70855	3.373415	16.94	Up	7.93E-04	AI917371 ESTs
-1.18408	2.895859	16.91	Up	1.39E-03	NM_006456 Homo sapiens sialyltransferase (STHM), mRNA. /PROD=sialyltransferase /FL=gb:U14550.1 gb:NM_006456.1
1.076427	5.150301	16.84	Up	1.91E-04	AI640307 protocadherin 10

-1.35345	2.70797	16.7 Up	1.40E-03	AW157571	ESTs, Weakly similar to T00331 hypothetical protein KIAA0555 (H.sapiens)
-0.60671	3.453551	16.68 Up	2.09E-03	NM_000458	Homo sapiens transcription factor 2, hepatic; LF-B3; variant hepatic nuclear factor (TCF2), transcript variant a, mRNA. /PROD=transcription factor 2, isoform a /FL=gb:NM_000458.1
-1.65513	2.402967	16.66 Up	1.07E-02	NM_004923	Homo sapiens metallothionein-like 5, testis-specific (tesmin) (MTL5), mRNA. /PROD=metallothionein-like 5, testis-specific(tesmin) /FL=gb:U86074.1 gb:NM_004923.1
-0.45718	3.590445	16.54 Up	4.87E-04	BF939489	glycoprotein M6A /FL=gb:D49958.1
-1.95127	2.075959	16.3 Up	3.25E-03	L12468	Homo sapiens aminopeptidase A mRNA, complete cds. /PROD=aminopeptidase A /FL=gb:L12468.1 gb:NM_001977.1 gb:L14721.1
2.168853	6.193675	16.28 Up	8.20E-05	AA284532	tyrosine 3-monooxygenasetryptophan 5-monooxygenase activation protein, eta polypeptide
-4.19938	-0.18035	16.21 Up	2.14E-02	BC027866	Homo sapiens, Similar to sialyltransferase 8D (alpha-2, 8-polysialytransferase), clone MGC:34450 IMAGE:5203343, mRNA, complete cds. /PROD=Similar to sialyltransferase 8D (alpha-2,8-polysialytransferase) /FL=gb:BC027866.1
-2.47297	1.540991	16.16 Up	3.51E-02	NM_005235	Homo sapiens v-erb-a avian erythroblastic leukemia viral oncogene homolog-like 4 (ERBB4), mRNA. /PROD=v-erb-a avian erythroblastic leukemia viraloncogene homolog-like 4 /FL=gb:L07868.1 gb:NM_005235.1
1.166518	5.166811	16 Up	3.17E-04	BC002671	Homo sapiens, dual

					specificity phosphatase 4, clone MGC:3713, mRNA, complete cds. /PROD=dual specificity phosphatase 4 /FL=gb:NM_001394.2 gb:BC002671.1 gb:U48807.1 gb:U21108.1
-1.25086	2.738997	15.89 Up	4.57E-03	NM_021804	Homo sapiens angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 (ACE2), mRNA. /PROD=angiotensin I converting enzyme(peptidyl-dipeptidase A) 2 /FL=gb:NM_021804.1 gb:AF241254.1 gb:AB046569.1 gb:AF291820.1
0.502333	4.476006	15.71 Up	6.47E-04	AF211891	Homo sapiens Mix-like homeobox protein 1 (MILD1) mRNA, complete cds. /PROD=Mix-like homeobox protein 1 /FL=gb:AF211891.1
1.520924	5.473417	15.48 Up	4.31E-04	U87460	Human putative endothelin receptor type B-like protein mRNA, complete cds. /PROD=putative endothelin receptor type B-likeprotein /FL=gb:U87460.1
1.740607	5.665717	15.19 Up	1.78E-04	NM_002160	Homo sapiens hexabrachion (tenascin C, cytotactin) (HXB), mRNA. /PROD=hexabrachion (tenascin C, cytotactin) /FL=gb:M55618.1 gb:NM_002160.1
0.449168	4.362026	15.06 Up	1.33E-04	AI688418	plexin A2
1.452987	5.359741	15 Up	1.54E-04	AI813654	ESTs, Weakly similar to T32252 hypothetical protein T15B7.2 - Caenorhabditis elegans (C.elegans)
-1.10807	2.786741	14.87 Up	2.36E-04	BC028058	Homo sapiens, UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 5, clone MGC:39847 IMAGE:5175670, mRNA, complete cds. /PROD=UDP-GlcNAc:betaGalbeta-1,3-N-acetylglucosaminyltransferase 5 /FL=gb:BC028058.1

-2.2316	1.662544	14.87 Up	1.07E-02	AA757630	ESTs
1.861693	5.752015	14.83 Up	3.11E-04	AI374739	ESTs
0.219552	4.102867	14.76 Up	1.43E-04	BE856336	Homo sapiens mRNA; cDNA DKFZp761G151 (from clone DKFZp761G151); partial cds
0.608519	4.456307	14.4 Up	1.72E-04	U97075	Homo sapiens FLICE-like inhibitory protein short form mRNA, complete cds. /PROD=FLICE-like inhibitory protein short form /FL=gb:U97075.1
1.438639	5.28126	14.35 Up	3.45E-04	BF223214	ESTs
-2.47063	1.370067	14.33 Up	3.55E-03	H09657	ESTs
1.633768	5.465898	14.24 Up	1.32E-04	AI733465	collagen, type IX, alpha 2 /FL=gb:NM_001852.1
-0.94697	2.883335	14.22 Up	4.55E-03	BG208091	Homo sapiens cDNA FLJ37414 fis, clone BRAWH1000157.
0.177945	4.006546	14.21 Up	3.78E-04	NM_020672	Homo sapiens S100-type calcium binding protein A14 (LOC57402), mRNA. /PROD=S100-type calcium binding protein A14 /FL=gb:BC005019.1 gb:NM_020672.1 gb:AY007220.1
-0.95386	2.873194	14.19 Up	3.57E-04	AF312769	Homo sapiens cryptic mRNA, complete cds. /PROD=cryptic /FL=gb:AF312769.1
-1.84267	1.976613	14.12 Up	4.45E-02	AF213678	Homo sapiens HAI-2 related small protein (HAI-2) mRNA, complete cds. /PROD=HAI-2 related small protein /FL=gb:AB038317.1 gb:AF213678.1
-1.42965	2.38124	14.03 Up	5.47E-03	M60721	Human homeobox gene, complete cds. /FL=gb:M60721.1 gb:NM_021958.1
-0.75724	3.050773	14.01 Up	3.87E-03	AL445192	Human DNA sequence from clone RP11-269H4 on chromosome 20 Contains the 3 end of the KIAA1415 gene similar to T-Lymphona invasion and metastasis inducing protein 1, ESTs, STSs and GSSs
-0.53584	3.260892	13.9 Up	5.76E-03	NM_002100	Homo sapiens glycophorin B (includes Ss blood group) (GYPB), mRNA. /PROD=glycophorin B precursor /FL=gb:J02982.1 gb:NM_002100.2

0.424882	4.20576	13.75 Up	8.98E-04	AI692659	heat shock 90kD protein 1, alpha
-0.13427	3.646365	13.74 Up	4.95E-04	D49958	Homo sapiens mRNA for membrane glycoprotein M6, complete cds. /PROD=membrane glycoprotein M6 /FL=gb:D49958.1
1.359845	5.139453	13.73 Up	2.09E-04	NM_002178	Homo sapiens insulin-like growth factor binding protein 6 (IGFBP6), mRNA. /PROD=insulin-like growth factor binding protein 6 /FL=gb:BC005007.1 gb:M62402.1 gb:BC003507.1 gb:NM_002178.1
0.451744	4.228949	13.71 Up	1.03E-03	NM_001399	Homo sapiens ectodermal dysplasia 1, anhidrotic (ED1), mRNA. /PROD=ectodermal dysplasia 1, anhidrotic /FL=gb:AF060999.1 gb:NM_001399.1 gb:AF040628.1 gb:AF061189.1
-1.83238	1.938552	13.65 Up	1.15E-02	AI807197	ESTs
-2.85208	0.915477	13.62 Up	4.78E-03	AI423201	ESTs
-0.05814	3.703455	13.56 Up	3.59E-04	BF308645	KIAA1415 protein
-1.25995	2.496941	13.52 Up	7.42E-04	AK026607	Homo sapiens cDNA: FLJ22954 fis, clone KAT09813, highly similar to AF010315 Homo sapiens Pig11 (PIG11) mRNA.
-1.42171	2.3129	13.31 Up	4.72E-04	NM_005010	Homo sapiens neuronal cell adhesion molecule (NRCAM), mRNA. /PROD=neuronal cell adhesion molecule /FL=gb:AB002341.1 gb:NM_005010.1
2.593137	6.314378	13.19 Up	1.91E-04	NM_001873	Homo sapiens carboxypeptidase E (CPE), mRNA. /PROD=carboxypeptidase E precursor /FL=gb:NM_001873.1
-2.15454	1.548754	13.03 Up	3.70E-02	NM_012082	Homo sapiens Friend of GATA2 (FOG2), mRNA. /PROD=Friend of GATA2 /FL=gb:NM_012082.2 gb:AF119334.1
-2.23424	1.463376	12.97 Up	3.45E-03	U22178	Human prostatic secretory protein 57 mRNA, complete cds. /PROD=PSP57 /FL=gb:U22178.1

0.882447	4.579373	12.97 Up	8.26E-04	U15979	Human (dlk) mRNA, complete cds. /FL=gb:NM_003836.1 gb:U15979.1
0.999053	4.691273	12.93 Up	1.43E-04	AW129593	tudor repeat associator with PCTAIRE 2
-0.20099	3.487721	12.89 Up	7.70E-04	BF984830	retinoic acid induced 1
-1.08244	2.60456	12.88 Up	1.81E-03	X75208	X75208 /FEATURE=cds /DEFINITION=HSPTKR H.sapiens HEK2 mRNA for protein tyrosine kinase receptor
-1.2719	2.409872	12.83 Up	1.92E-03	NM_020406	Homo sapiens polycythemia rubra vera 1; cell surface receptor (PRV1), mRNA. /PROD=polycythemia rubra vera 1; cell surfacereceptor /FL=gb:NM_020406.1 gb:AF146747.1
3.042634	6.716272	12.76 Up	1.52E-04	NM_005442	Homo sapiens eomesodermin (Xenopus laevis) homolog (EOMES), mRNA. /PROD=eomesodermin (Xenopus laevis) homolog /FL=gb:AB031038.1 gb:NM_005442.1
0.279226	3.951227	12.75 Up	2.73E-04	AF278532	Homo sapiens beta-netrin mRNA, complete cds. /PROD=beta-netrin /FL=gb:AF119916.1 gb:AF297711.1 gb:NM_021229.1 gb:AF278532.1
1.071985	4.738394	12.7 Up	1.78E-04	NM_004560	Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA. /PROD=receptor tyrosine kinase-like orphan receptor 2 /FL=gb:M97639.1 gb:NM_004560.1
2.839833	6.489379	12.55 Up	1.45E-04	AI078167	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha /FL=gb:NM_020529.1 gb:BC002601.1 gb:BC004983.1 gb:M69043.1
-0.28951	3.358536	12.54 Up	3.81E-04	NM_018388	Homo sapiens hypothetical protein FLJ11316 (FLJ11316), mRNA. /PROD=hypothetical protein FLJ11316

					/FL=gb:NM_018388.1
-1.89628	1.750206	12.52 Up	1.09E-03	AA557324	ESTs, Weakly similar to fatty acid omega-hydroxylase (H.sapiens)
-0.41578	3.210639	12.35 Up	9.09E-04	NM_002345	Homo sapiens lumican (LUM), mRNA. /PROD=lumican /FL=gb:NM_002345.1 gb:U18728.1 gb:U21128.1
-2.37004	1.251403	12.31 Up	2.48E-02	AL136607	Homo sapiens mRNA; cDNA DKFZp564I0422 (from clone DKFZp564I0422); complete cds. /PROD=hypothetical protein /FL=gb:AL136607.1
-1.71673	1.894393	12.22 Up	1.15E-03	NM_000420	Homo sapiens Kell blood group (KEL), mRNA. /PROD=Kell blood group antigen /FL=gb:BC003135.1 gb:NM_000420.1
1.192657	4.801382	12.2 Up	2.40E-04	NM_024641	Homo sapiens hypothetical protein FLJ12838 (FLJ12838), mRNA. /PROD=hypothetical protein FLJ12838 /FL=gb:NM_024641.1
-1.18483	2.411486	12.09 Up	4.96E-03	BE551416	ESTs, Weakly similar to KIAA1330 protein (H.sapiens)
-2.33994	1.256182	12.09 Up	1.80E-02	AL134708	ESTs
1.040647	4.635771	12.08 Up	5.15E-04	AI348094	KIAA0882 protein
-0.68921	2.90298	12.06 Up	1.76E-04	NM_016546	Homo sapiens complement C1r-like proteinase precursor, (LOC51279), mRNA. /PROD=complement C1r-like proteinase precursor, /FL=gb:AF178985.1 gb:NM_016546.1
0.631332	4.218347	12.02 Up	2.78E-04	AI130705	ESTs, Weakly similar to A46302 PTB-associated splicing factor, long form (H.sapiens)
0.449933	4.035966	12.01 Up	1.08E-03	Z21533	H.sapiens HEX gene encoding homeobox related protein. /PROD=homeobox related protein
-0.29145	3.291186	11.98 Up	1.87E-03	AI197932	ESTs
-0.12863	3.441776	11.88 Up	9.23E-04	AV699825	Homo sapiens cDNA FLJ13221 fis, clone NT2RP4002075
-1.2534	2.309237	11.82 Up	1.91E-03	AW167727	ESTs
-3.44338	0.118393	11.81 Up	5.12E-04	AI336920	ESTs, Weakly similar to

					I38428 T-complex protein 10A (H.sapiens)
-1.74597	1.814225	11.8 Up	1.77E-02	AW269818	hypothetical protein FLJ23403 /FL=gb:NM_022068.1
-1.28224	2.27746	11.79 Up	4.88E-04	NM_005568	Homo sapiens LIM homeobox protein 1 (LHX1), mRNA. /PROD=LIM homeobox protein 1 /FL=gb:NM_005568.1 gb:U14755.1
-1.28314	2.272713	11.76 Up	1.08E-02	NM_001884	Homo sapiens cartilage linking protein 1 (CRTL1), mRNA. /PROD=cartilage linking protein 1 /FL=gb:NM_001884.1 gb:U43328.1
0.085832	3.636571	11.72 Up	5.91E-04	AA639753	ESTs
-0.41626	3.117859	11.58 Up	4.87E-04	BF110534	ESTs
0.134434	3.659063	11.51 Up	4.41E-04	AV758821	ESTs, Weakly similar to Z132_HUMAN ZINC FINGER PROTEIN 13 (H.sapiens)
-0.13959	3.371263	11.4 Up	1.78E-04	BG109855	Homo sapiens clone TUA8 Cri-du-chat region mRNA
-0.21951	3.281608	11.32 Up	4.51E-04	AL575177	noggin /FL=gb:NM_005450.1
1.470971	4.963113	11.25 Up	1.58E-04	NM_022825	Homo sapiens porcupine (MG61), mRNA. /PROD=porcupine /FL=gb:AF317059.1 gb:AF317058.1 gb:NM_022825.1
-1.77455	1.705193	11.16 Up	9.89E-03	AF140507	Homo sapiens Ca2+calmodulin-dependent protein kinase kinase beta (CAMKKB) mRNA, complete cds. /PROD=Ca2+calmodulin-dependent protein kinase kinasebeta /FL=gb:AF140507.1
-0.63867	2.838534	11.14 Up	1.33E-04	BF508948	phorbolin-like protein MDS019
1.372194	4.848723	11.13 Up	2.69E-04	AI677701	ESTs, Weakly similar to S38383 SEB4B protein (H.sapiens)
2.377335	5.850689	11.11 Up	3.11E-04	NM_005328	Homo sapiens hyaluronan synthase 2 (HAS2), mRNA. /PROD=hyaluronan synthase 2 /FL=gb:U54804.1 gb:NM_005328.1
0.244521	3.706479	11.02 Up	1.54E-04	AF190725	Homo sapiens beta-site APP cleaving enzyme (BACE) mRNA, complete

					cds. /PROD=beta-site APP cleaving enzyme /FL=gb:AF200343.1 gb:AF204943.1 gb:AF190725.1 gb:AF201468.1 gb:NM_012104.1
1.790331	5.251922	11.02	Up	3.68E-04	AA775681 hypothetical protein FLJ23091
1.592531	5.049671	10.98	Up	7.29E-04	BE502982 ESTs
4.042679	7.483078	10.86	Up	6.31E-05	NM_005454 Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA. /PROD=cerberus 1 /FL=gb:NM_005454.1
4.897427	-0.40571	39.48	Down	5.51E-03	R06655 ESTs, Moderately similar to AF078844 1 hqp0376 protein (H.sapiens)
2.000419	-2.84891	28.83	Down	3.77E-03	NM_031272 Homo sapiens testis expressed sequence 14 (TEX14), mRNA. /PROD=testis expressed sequence 14 /FL=gb:NM_031272.1
2.75017	-1.94826	25.96	Down	1.63E-04	NM_014851 Homo sapiens KIAA0469 gene product (KIAA0469), mRNA. /PROD=KIAA0469 gene product /FL=gb:AB007938.1 gb:NM_014851.1
3.862686	-0.73843	24.27	Down	7.42E-04	NM_007115 Homo sapiens tumor necrosis factor, alpha-induced protein 6 (TNFAIP6), mRNA. /PROD=tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
0.144221	-4.24111	20.9	Down	1.35E-02	BC028359 Homo sapiens, clone IMAGE:4828836, mRNA.
3.77776	-0.50822	19.51	Down	1.45E-04	BU729850 hypothetical protein LOC153469
0.99752	-3.16289	17.88	Down	1.40E-02	AB046400 Homo sapiens mRNA for SCCA2b, complete cds. /PROD=SCCA2b /FL=gb:AB046400.1
3.409815	-0.56562	15.73	Down	3.09E-04	NM_016588 Homo sapiens neuritin (LOC51299), mRNA. /PROD=neuritin /FL=gb:NM_016588.1 gb:BC002683.1 gb:AF136631.1
0.757197	-3.1394	14.89	Down	1.40E-03	AF213459 Homo sapiens ephrin receptor EPHA3 complete form (EPHA3) mRNA, complete cds. /PROD=ephrin receptor EPHA3 complete form

						/FL=gb:NM_005233.1 gb:M83941.1 gb:AF213459.1
0.381955	-3.46654	14.41	Down	2.29E-03	NM_017655	Homo sapiens hypothetical protein FLJ20075 (FLJ20075), mRNA. /PROD=hypothetical protein FLJ20075 /FL=gb:NM_017655.1
0.579765	-3.20358	13.77	Down	1.32E-04	AI393930	ESTs
3.655193	-0.10882	13.59	Down	1.31E-02	AI659927	Homo sapiens cDNA: FLJ22547 fis, clone HSI00356
5.303843	1.677393	12.35	Down	4.87E-04	AI129626	ESTs
1.10782	-2.42265	11.56	Down	1.71E-02	BC029425	Homo sapiens, Similar to KIAA1275 protein, clone IMAGE:4616553, mRNA.
2.28595	-1.22933	11.43	Down	1.44E-03	BE504838	ESTs
2.514693	-0.98766	11.33	Down	3.64E-04	NM_145032	Homo sapiens hypothetical protein MGC21636 (MGC21636), mRNA. /FL=gb:BC020572.1 gb:NM_145032.2
2.982965	-0.50149	11.19	Down	1.41E-03	AK026829	Homo sapiens cDNA: FLJ23176 fis, clone LNG10452.
2.350127	-1.0564	10.6	Down	4.33E-04	AK026106	Homo sapiens cDNA: FLJ22453 fis, clone HRC09679, highly similar to AF059516 Homo sapiens tolloid-like 2 protein (TLL2) mRNA.
1.892794	-1.50555	10.54	Down	5.19E-03	AL138349	KIAA0367 protein
1.357098	-1.99222	10.19	Down	1.15E-02	AW026426	Homo sapiens mRNA; cDNA DKFZp761J1324 (from clone DKFZp761J1324)
0.860464	-2.46893	10.05	Down	1.07E-02	NM_003007	Homo sapiens semenogelin I (SEMG1), mRNA. /PROD=semenogelin I /FL=gb:J04440.1 gb:NM_003007.1
4.308564	0.981775	10.03	Down	2.66E-04	NM_171999	Homo sapiens sal-like 3 (Drosophila) (SALL3), mRNA. /PROD=sal-like 3 /FL=gb:NM_171999.1
0.857744	-2.42855	9.76	Down	3.75E-02	AB085901	Homo sapiens DBL mRNA for DBL proto-oncogene splicing variant 1, complete cds. /PROD=DBL proto-oncogene splicing variant 1 /FL=gb:AB085901.1
3.947271	0.673296	9.67	Down	6.85E-03	AI928035	ESTs
4.847114	1.59891	9.5	Down	3.74E-03	NM_006474	Homo sapiens lung type-I cell membrane-associated

					glycoprotein (T1A-2), transcript variant 2, mRNA. /PROD=lung type-I cell membrane-associatedglycoprotein, isoform 2 precursor /FL=gb:NM_006474.1 gb:AF030428.1
4.796495	1.557748	9.44	Down	1.32E-04	AI653107 ESTs
4.952105	1.726419	9.35	Down	1.09E-03	BG164365 microtubule-associated protein 1B /FL=gb:NM_005909.1
5.398488	2.236155	8.95	Down	2.40E-04	NM_001134 Homo sapiens alpha-fetoprotein (AFP), mRNA. /PROD=alpha-fetoprotein /FL=gb:NM_001134.1 gb:J00077.1
1.360363	-1.7842	8.84	Down	7.29E-03	BM479034 Homo sapiens, clone IMAGE:5301169, mRNA
2.336954	-0.80072	8.8	Down	5.07E-02	AI632259 ESTs
4.788115	1.679617	8.62	Down	1.42E-04	AW014743 ESTs
3.094055	-0.00508	8.57	Down	1.58E-04	AW188198 tumor necrosis factor, alpha-induced protein 6 /FL=gb:NM_007115.1
3.380359	0.288493	8.53	Down	1.58E-04	AI553933 solute carrier family 30 (zinc transporter), member 1
6.568635	3.486111	8.47	Down	3.77E-04	AL031602 Human DNA sequence from clone RP5-1174N9 on chromosome 1p34.1-35.3. Contains the gene for a novel protein with IBR domain, a (pseudo?) gene for a novel protein similar to MT1E (metallothionein 1E (functional)), ESTs, STSs, GSSs and two putative Cp...
2.79562	-0.27455	8.4	Down	6.95E-04	NM_024582 Homo sapiens hypothetical protein FLJ23056 (FLJ23056), mRNA. /PROD=hypothetical protein FLJ23056 /FL=gb:NM_024582.1
4.507212	1.466775	8.23	Down	1.45E-04	AW196940 ESTs
1.349693	-1.67509	8.14	Down	2.76E-04	AI963083 ESTs
3.19487	0.179371	8.09	Down	2.85E-03	NM_173553 Homo sapiens hypothetical protein FLJ25801 (FLJ25801), mRNA. /FL=gb:NM_173553.1
5.650767	2.645343	8.03	Down	1.24E-03	NM_002006 Homo sapiens fibroblast growth factor 2 (basic) (FGF2), mRNA. /PROD=fibroblast growth

					factor 2 (basic) /FL=gb:NM_002006.1 gb:M27968.1
3.113698	0.120494	7.96 Down	1.54E-03	NM_002196	Homo sapiens insulinoma-associated 1 (INSM1), mRNA. /PROD=insulinoma-associated 1 /FL=gb:NM_002196.1 gb:M93119.1
3.56272	0.596221	7.82 Down	1.58E-04	NM_003247	Homo sapiens thrombospondin 2 (THBS2), mRNA. /PROD=thrombospondin 2 /FL=gb:NM_003247.1 gb:L12350.1
2.273566	-0.68409	7.77 Down	1.21E-03	AL133653	Homo sapiens mRNA; cDNA DKFZp434M2415 (from clone DKFZp434M2415).
4.143011	1.250592	7.43 Down	8.26E-04	AW664953	Homo sapiens mRNA; cDNA DKFZp434P1115 (from clone DKFZp434P1115); partial cds
4.012773	1.121978	7.42 Down	1.58E-04	NM_006275	Homo sapiens splicing factor, arginineserine-rich 6 (SFRS6), mRNA. /PROD=splicing factor, arginineserine-rich 6 /FL=gb:U30883.1 gb:NM_006275.1
4.178686	1.291693	7.4 Down	1.22E-03	NM_003256	Homo sapiens tissue inhibitor of metalloproteinase 4 (TIMP4), mRNA. /PROD=tissue inhibitor of metalloproteinase 4precursor /FL=gb:NM_003256.1 gb:U76456.1
1.179422	-1.69499	7.33 Down	7.84E-03	N21096	ESTs
4.39721	1.545243	7.22 Down	1.25E-02	NM_018063	Homo sapiens hypothetical protein FLJ10339 (FLJ10339), mRNA. /PROD=hypothetical protein FLJ10339 /FL=gb:NM_018063.1
1.200505	-1.65141	7.22 Down	2.22E-04	AI939511	ESTs
2.763752	-0.07502	7.15 Down	1.05E-02	AI078169	Homo sapiens cDNA: FLJ23176 fis, clone LNG10452
2.456617	-0.3811	7.15 Down	1.10E-03	AW274018	ESTs
3.806044	0.973798	7.12 Down	3.11E-04	AV734646	DNA segment on chromosome X (unique) 9928 expressed sequence
1.05854	-1.7603	7.06 Down	1.28E-02	AI703321	wingless-type MMTV

					integration site family, member 5A
3.365852	0.550606	7.04	Down	4.65E-04	NM_003392 Homo sapiens wingless-type MMTV integration site family, member 5A (WNT5A), mRNA. /PROD=wingless-type MMTV integration site family,member 5A /FL=gb:NM_003392.1 gb:L20861.1
2.768094	-0.0094	6.86	Down	1.91E-04	AI968085 wingless-type MMTV integration site family, member 5A
0.951905	-1.82311	6.84	Down	3.46E-02	NM_003070 Homo sapiens SWISNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 (SMARCA2), mRNA. /PROD=SWISNF related, matrix associated, actindependent regulator of chromatin, subfamily a, member 2 /FL=gb:NM_003070.1 gb
4.715355	1.945181	6.82	Down	5.10E-04	AA788946 ESTs, Moderately similar to CA1C RAT COLLAGEN ALPHA 1(XII) CHAIN (R.norvegicus)
2.967768	0.209555	6.77	Down	2.08E-03	AL121753 Human DNA sequence from clone RP4-614O4 on chromosome 20q11.1-12 Contains the 3 part of the MMP24 (matrix metalloproteinase 24 (membrane-inserted)) gene, the ITGB4BP (integrin beta 4 binding protein) gene, the 3 end of a novel gene, the 3 end o...
3.932141	1.175689	6.76	Down	9.73E-04	NM_004490 Homo sapiens growth factor receptor-bound protein 14 (GRB14), mRNA. /PROD=growth factor receptor-bound protein 14 /FL=gb:L76687.1 gb:NM_004490.1
1.515893	-1.22358	6.68	Down	3.73E-04	AF146343 Homo sapiens CYP7A promoter binding factor (CPF) mRNA, complete cds. /PROD=CYP7A promoter binding factor /FL=gb:NM_003822.1 gb:AF146343.1 gb:U80251.1
1.264681	-1.46804	6.65	Down	9.80E-03	BF724558 ESTs, Moderately similar to ALU8_HUMAN ALU

					SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
1.713798	-1.01596	6.63	Down	1.04E-03 AI692645	ESTs
3.725552	1.002058	6.6	Down	1.05E-03 AL136805	Homo sapiens mRNA; cDNA DKFZp434J1521 (from clone DKFZp434J1521); complete cds. /PROD=hypothetical protein /FL=gb:AL136805.1
3.08363	0.365051	6.58	Down	1.15E-03 U73778	Human collagen type XII alpha-1 precursor (COL12A1) mRNA. /PROD=collagen type XII alpha-1 /FL=gb:NM_004370.3
5.13621	2.424893	6.55	Down	1.22E-03 BC013944	Homo sapiens, Similar to myosin, heavy polypeptide 7, cardiac muscle, beta, clone IMAGE:4064393, mRNA.
2.316204	-0.37946	6.48	Down	4.62E-03 R21486	sal (Drosophila)-like 3
4.90146	2.20907	6.46	Down	2.13E-03 AB037813	Homo sapiens mRNA for KIAA1392 protein, partial cds. /PROD=KIAA1392 protein
3.863484	1.1739	6.45	Down	2.04E-04 BE552428	hypothetical protein PRO2176
2.11536	-0.56359	6.4	Down	2.50E-04 AI919519	ESTs
7.149479	4.474262	6.39	Down	4.95E-04 M10943	Human metallothionein-If gene (hMT-If)
7.360687	4.694371	6.35	Down	4.22E-04 BF217861	metallothionein 1E (functional)
5.343502	2.678631	6.34	Down	1.35E-02 AI685060	caldesmon 1 /FL=gb:M64110.1 gb:NM_004342.2
7.144308	4.501103	6.25	Down	7.42E-04 BF246115	RNA helicase-related protein
1.075159	-1.5631	6.23	Down	4.27E-02 J03580	Human, parathyroid-like protein (associated with humoral hypercalcemia of malignancy) mRNA, complete cds. /FL=gb:J03580.1
1.640803	-0.9861	6.18	Down	3.01E-03 BC042832	Homo sapiens, clone IMAGE:5314747, mRNA.
1.012356	-1.60426	6.13	Down	5.10E-04 BC036731	Homo sapiens, Similar to KIAA0441 gene product, clone MGC:45124 IMAGE:5578893, mRNA, complete cds. /PROD=Similar to KIAA0441 gene product /FL=gb:BC036731.1
2.64743	0.040287	6.09	Down	2.48E-03 AI702438	ESTs

2.324824	-0.28186	6.09	Down	1.61E-03	AL096771 Human DNA sequence from clone RP1-238D15 on chromosome 6q12-14.3 Contains part of COL12A1 (collagen, type XII, alpha 1) gene and STSs
1.840613	-0.75086	6.03	Down	1.02E-02	AI949760 ESTs, Weakly similar to unnamed protein product (H.sapiens)
4.229884	1.643039	6.01	Down	1.12E-02	BC032716 Homo sapiens, clone MGC:45425 IMAGE:5518697, mRNA, complete cds. /PROD=Unknown (protein for MGC:45425) /FL=gb:BC032716.1
1.041771	-1.52819	5.94	Down	2.75E-02	AI798863 ESTs
5.715937	3.148402	5.93	Down	1.89E-04	U85658 Human transcription factor ERF-1 mRNA, complete cds. /PROD=ERF-1 /FL=gb:NM_003222.1 gb:U85658.1
1.546166	-1.02082	5.93	Down	1.96E-03	NM_003182 Homo sapiens tachykinin, precursor 1 (substance K, substance P, neurokinin 1, neurokinin 2, neuromedin L, neurokinin alpha, neuropeptide K,neuropeptide gamma) (TAC1), transcript variant beta, mRNA. /PROD=tachykinin 2 precursor, isoform beta /FL=gb:U3
0.170617	-2.3896	5.9	Down	2.62E-02	AI760495 ESTs
2.262799	-0.29226	5.88	Down	5.43E-03	AV725365 SWISNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 /FL=gb:NM_003070.1 gb:D26155.1
2.256527	-0.29339	5.86	Down	9.65E-05	T68445 ESTs
3.280973	0.732773	5.85	Down	8.36E-03	AL139377 Human DNA sequence from clone RP11-251J8 on chromosome 13 Contains ESTs, STSs, GSSs and a CpG island. Contains two novel genes with two isoforms each and the KIAA0610 gene with two isoforms
2.396883	-0.14976	5.84	Down	9.07E-04	NM_000426 Homo sapiens laminin, alpha 2 (merosin, congenital muscular dystrophy) (LAMA2), mRNA. /PROD=laminin alpha 2 subunit precursor

					/FL=gb:NM_000426.1
4.738703	2.192611	5.84	Down	5.19E-04	NM_014033 Homo sapiens DKFZP586A0522 protein (DKFZP586A0522), mRNA. /PROD=DKFZP586A0522 protein /FL=gb:NM_014033.1
0.624075	-1.92148	5.84	Down	4.41E-02	NM_173549 Homo sapiens hypothetical protein FLJ39553 (FLJ39553), mRNA. /FL=gb:NM_173549.1
4.904591	2.37385	5.78	Down	4.91E-03	NM_003246 Homo sapiens thrombospondin 1 (THBS1), mRNA. /PROD=thrombospondin 1 /FL=gb:NM_003246.1
7.424722	4.894249	5.78	Down	3.11E-04	AF333388 Homo sapiens metallothionein 1H-like protein mRNA, complete cds. /PROD=metallothionein 1H-like protein /FL=gb:AF333388.1
3.368771	0.840887	5.77	Down	1.30E-04	BE502594 ESTs
0.899011	-1.62659	5.76	Down	2.54E-02	NM_002820 Homo sapiens parathyroid hormone-like hormone (PTHLH), mRNA. /PROD=parathyroid hormone-like hormone /FL=gb:J03802.1 gb:NM_002820.1
2.626097	0.101116	5.76	Down	2.74E-03	NM_001149 Homo sapiens ankyrin 3, node of Ranvier (ankyrin G) (ANK3), transcript variant 2, mRNA. /PROD=ankyrin 3, isoform 2 /FL=gb:NM_001149.1 gb:U43965.1
0.424388	-2.09844	5.75	Down	2.63E-02	NM_002433 Homo sapiens myelin oligodendrocyte glycoprotein (MOG), mRNA. /PROD=myelin oligodendrocyte glycoprotein /FL=gb:U18798.1 gb:U64564.1 gb:NM_002433.1
2.572851	0.057742	5.72	Down	1.48E-03	AW592563 KIAA0455 gene product
7.768254	5.269899	5.65	Down	2.22E-04	NM_005953 Homo sapiens metallothionein 2A (MT2A), mRNA. /PROD=metallothionein 2A /FL=gb:NM_005953.1
2.883717	0.391944	5.62	Down	1.29E-03	NM_001236 Homo sapiens carbonyl reductase 3 (CBR3), mRNA. /PROD=carbonyl

						reductase 3 /FL=gb:NM_001236.2 gb:BC002812.1 gb:AB004854.1
2.36447	-0.12562	5.62	Down	6.57E-03	NM_005181	Homo sapiens carbonic anhydrase III, muscle specific (CA3), mRNA. /PROD=carbonic anhydrase III /FL=gb:BC004897.1 gb:NM_005181.2
1.578748	-0.89916	5.57	Down	2.81E-04	AW874669	ESTs
5.295204	2.822156	5.55	Down	6.08E-04	D32039	Human pgH3 mRNA for proteoglycan PG-M(V3), complete cds. /PROD=proteoglycan PG-M(V3) /FL=gb:D32039.1
5.817948	3.354828	5.51	Down	1.13E-04	NM_020662	Homo sapiens transporter similar to yeast MRS2 (MRS2L), mRNA. /PROD=transporter similar to yeast MRS2 /FL=gb:AF288288.1 gb:NM_020662.1
0.915911	-1.54553	5.51	Down	2.09E-02	N50912	ESTs
3.557525	1.099544	5.49	Down	2.08E-03	BF514079	Kruppel-like factor 4 (gut)
2.055951	-0.39628	5.47	Down	1.36E-02	NM_001035	Homo sapiens ryanodine receptor 2 (cardiac) (RYR2), mRNA. /PROD=ryanodine receptor 2 (cardiac) /FL=gb:NM_001035.1
1.657973	-0.79412	5.47	Down	1.69E-02	NM_001709	Homo sapiens brain-derived neurotrophic factor (BDNF), mRNA. /PROD=brain-derived neurotrophic factor /FL=gb:NM_001709.1
4.154511	1.702833	5.47	Down	4.62E-03	AJ010395	Homo sapiens DKC1 gene, exons 1 to 11
5.041032	2.594003	5.45	Down	1.54E-03	AK022686	Homo sapiens cDNA FLJ12624 fis, clone NT2RM4001754.
3.795526	1.350041	5.45	Down	6.34E-04	AI871745	ESTs
4.294951	1.865106	5.39	Down	7.73E-04	AI634411	ESTs
1.677862	-0.74993	5.38	Down	2.64E-02	AW140122	ESTs, Weakly similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING ENTRY (H.sapiens)
5.43052	3.00534	5.37	Down	3.45E-04	AU154455	lung type-I cell membrane-associated glycoprotein
2.056044	-0.36367	5.35	Down	2.80E-03	NM_004352	Homo sapiens cerebellin 1 precursor (CBLN1), mRNA. /PROD=cerebellin 1 precursor

					/FL=gb:NM_004352.1 gb:M58583.1
2.332365	-0.08446	5.34 Down	3.73E-04	NM_022783	Homo sapiens hypothetical protein FLJ12428 (FLJ12428), mRNA. /PROD=hypothetical protein FLJ12428 /FL=gb:NM_022783.1 gb:AL136678.1
0.261162	-2.15545	5.34 Down	3.31E-03	AW023227	ESTs
5.441963	3.026487	5.33 Down	9.59E-04	NM_016651	Homo sapiens heptacellular carcinoma novel gene-3 protein (LOC51339), mRNA. /PROD=heptacellular carcinoma novel gene-3 protein /FL=gb:NM_016651.2 gb:AF251079.2
1.389794	-1.02563	5.33 Down	1.41E-03	BG498699	ESTs
1.611395	-0.79534	5.3 Down	1.89E-02	AI633640	ESTs
2.816671	0.411432	5.3 Down	1.27E-03	AB002438	Homo sapiens mRNA from chromosome 5q21-22, clone:FBR89.
3.12458	0.725853	5.27 Down	1.05E-03	AW028075	ESTs, Highly similar to S21424 nestin (H.sapiens)
2.904034	0.514711	5.24 Down	1.73E-02	NM_017503	Homo sapiens surfeit 2 (SURF2), mRNA. /PROD=surfeit 2 /FL=gb:NM_017503.1
1.639038	-0.74617	5.22 Down	4.51E-04	AW027879	ESTs, Weakly similar to NBHUC8 decorin precursor (H.sapiens)
1.861339	-0.51278	5.18 Down	1.56E-03	NM_003822	Homo sapiens nuclear receptor subfamily 5, group A, member 2 (NR5A2), mRNA. /PROD=nuclear receptor subfamily 5, group A, member 2 /FL=gb:NM_003822.1 gb:AF146343.1 gb:U80251.1
7.224807	4.851007	5.18 Down	4.41E-04	NM_005951	Homo sapiens metallothionein 1H (MT1H), mRNA. /PROD=metallothionein 1H /FL=gb:NM_005951.1
5.094773	2.721788	5.18 Down	2.50E-03	BC001811	Homo sapiens, Similar to regulator for ribosome resistance homolog (S. cerevisiae), clone MGC:2755, mRNA, complete cds. /PROD=Similar to regulator for ribosome

					resistancehomolog (S. cerevisiae) /FL=gb:BC001811.1
5.332534	2.968398	5.15 Down	1.32E-03	AW189885	protocadherin 18
1.117304	-1.24345	5.14 Down	1.21E-03	AL046992	G protein-coupled receptor 1 /FL=gb:NM_005279.1
7.426418	5.068036	5.13 Down	8.05E-04	NM_005952	Homo sapiens metallothionein 1X (MT1X), mRNA. /PROD=metallothionein 1X /FL=gb:NM_005952.1
3.508683	1.151949	5.12 Down	1.91E-04	AK027231	Homo sapiens cDNA: FLJ23578 fis, clone LNG12709.
3.243916	0.897369	5.09 Down	1.91E-04	NM_021614	Homo sapiens potassium intermediatesmall conductance calcium-activated channel, subfamily N, member 2 (KCNN2), mRNA. /PROD=potassium intermediatesmall conductancecalcium-activated channel, subfamily N, member 2 /FL=gb:NM_021614.1 gb:AF239613.1
3.396839	1.052549	5.08 Down	3.25E-04	BC043295	Homo sapiens, zinc finger protein 398, clone MGC:44469 IMAGE:5298104, mRNA, complete cds. /PROD=zinc finger protein 398 /FL=gb:BC043295.1
2.750597	0.411007	5.06 Down	1.55E-02	NM_006942	Homo sapiens SRY (sex determining region Y)-box 20 (SOX20), mRNA. /PROD=SRY (sex determining region Y)-box 20 /FL=gb:NM_006942.1 gb:BC000985.1 gb:AB006867.1
1.709228	-0.63019	5.06 Down	1.50E-02	AI375083	ESTs
5.819522	3.484185	5.05 Down	4.28E-04	AK023446	Homo sapiens cDNA FLJ13384 fis, clone PLACE1001062, highly similar to Homo sapiens mRNA for lysine-ketoglutarate reductasesaccharopine dehydrogenase.
4.038177	1.706644	5.03 Down	6.66E-04	BF449053	ESTs
0.310919	-2.01457	5.01 Down	4.41E-02	BG054792	ESTs
2.360697	0.036146	5.01 Down	2.65E-02	NM_018042	Homo sapiens hypothetical protein FLJ10260 (FLJ10260),

					mRNA. /PROD=hypothetical protein FLJ10260 /FL=gb:NM_018042.1
3.553409	1.229902	5.01	Down	7.70E-04	NM_004845 Homo sapiens phosphate cytidylyltransferase 1, choline, beta isoform (PCYT1B), mRNA. /PROD=phosphate cytidylyltransferase 1, choline, betaisoform /FL=gb:AF052510.1 gb:NM_004845.1
6.93459	4.611479	5	Down	4.34E-04	AF078844 Homo sapiens hqp0376 protein mRNA, complete cds. /PROD=hqp0376 protein /FL=gb:AF078844.1

Table VII- Correlation coefficient between differentiated ES cells, EXPRES 01, EXPRES 02 and various time points during differentiation to DE

	ES	EXPRES 02	EXPRES 01
EXPRES 02	0.882		
EXPRES 01	0.906	0.912	
2 hr DE	0.914	0.895	0.922
6 hr DE	0.904	0.887	0.915
24hr DE	0.912	0.898	0.924
30hr DE	0.91	0.902	0.926
48hr DE	0.906	0.913	0.921
72hr DE	0.896	0.918	0.91
96hr DE	0.895	0.919	0.912
5 days DE	0.883	0.925	0.904

Table VIII OD_{490} readings for EXPRES 01 and 02 cells cultured for 4 hrs in low O2 or atmospheric oxygen tension.

a)

Plate 1 normal oxygen												
1	2	3	4	5	6	7	8	9	10	11	12	cells/well
1.2163	1.2607	1.2923	1.4392	1.3991	1.3549	0.8957	0.9162	0.8877	0.8854	0.9165	0.9030	80000
0.8215	0.8665	0.8850	0.9298	0.9727	0.9451	0.7175	0.7140	0.8123	0.8161	0.7516	0.6362	40000
0.5815	0.6768	0.8321	0.8127	0.8372	0.8159	0.5256	0.4501	0.5246	0.4877	0.4900	0.4308	20000
0.4118	0.4209	0.4460	0.4501	0.5507	0.4664	0.3158	0.3341	0.3181	0.3321	0.2936	0.2979	10000
0.3093	0.3326	0.3262	0.4011	0.3860	0.3997	0.2531	0.2498	0.2458	0.2458	0.2518	0.2189	5000
0.2289	0.2428	0.2292	0.2390	0.2239	0.2718	0.1943	0.1918	0.2006	0.1917	0.1877	0.1888	2500
0.1912	0.2041	0.2061	0.2094	0.2078	0.2089	0.1772	0.1779	0.1731	0.1714	0.1818	0.1758	1250
0.1529	0.1625	0.1637	0.1630	0.1618	0.1628	0.1622	0.1599	0.1696	0.1630	0.1616	0.1644	0
Plate 2 low oxygen												
1	2	3	4	5	6	7	8	9	10	11	12	cells/well
1.2492	1.2799	1.2998	1.3045	1.2598	1.2682	0.8743	0.8889	0.9029	0.9095	0.8978	0.9006	80000
0.9462	0.9493	1.1588	1.1644	1.1837	1.1095	0.7572	0.7734	0.8213	0.7843	0.8631	0.6452	40000
0.6420	0.7420	0.8089	0.7952	0.8037	0.7863	0.5278	0.5314	0.5436	0.5488	0.5688	0.4330	20000
0.4250	0.5385	0.5513	0.5684	0.5520	0.5080	0.3608	0.3573	0.3359	0.3490	0.3546	0.2779	10000
0.3191	0.3280	0.3714	0.3683	0.3815	0.3576	0.2547	0.2437	0.2503	0.2415	0.2436	0.2172	5000
0.2240	0.2465	0.2487	0.2642	0.2631	0.2575	0.2016	0.2036	0.1984	0.1952	0.1979	0.1805	2500
0.1919	0.2040	0.1977	0.2054	0.2015	0.2126	0.1827	0.1819	0.1787	0.1794	0.1802	0.1651	1250
0.1029	0.1007	0.1056	0.1048	0.1043	0.1030	0.1662	0.1673	0.1661	0.1633	0.1655	0.1623	0
Expres 01						Expres 02						

b)

av OD plate 1	
Expres01	Expres02
1.327	0.901
0.903	0.741
0.759	0.485
0.458	0.315
0.359	0.244
0.239	0.192
0.205	0.176
0.161	0.163

c)

av OD plate 2	
Expres01	Expres02
1.277	0.896
1.085	0.774
0.763	0.526
0.524	0.339
0.354	0.242
0.251	0.196
0.202	0.178
0.104	0.165

d)

%CV within plate 1	
Expres01	Expres02
6.4	1.5
6.2	9.2
13.9	7.9
10.9	5.3
11.4	5.2
7.3	2.4
3.3	2.1
2.5	2.1

e)

%CV within plate 2	
Expres01	Expres02
1.7	1.4
10.1	9.5
8.4	9.1
10.0	9.2
7.1	5.4
6.0	4.2
3.5	3.6
1.7	1.2

f)

%CV between plates	
Expres01	Expres02
5.0	1.4
12.7	9.2
10.9	9.2
12.2	8.3
9.1	5.1
6.8	3.4
3.3	2.9
22.8	1.7

Table IX Expression of cytokines, growth factors, and receptors as measured by protein arrays

a)

	EXPRES 01 Sample #1	EXPRES 01 Sample #2	EXPRES 02 Sample #1	EXPRES 02 Sample #2
POS	54,220	54,220	54,220	54,220
NEG	0	0	0	0
Angiogenin	1,049	957	2,098	1,494
BDNF	461	383	165	219
BLC	173	182	0	206
BMP-4	0	0	0	29
BMP-6	0	0	0	114
CK beta 8-1	0	0	0	0
CNTF	751	870	745	654
EGF	38	88	118	137
Eotaxin	0	43	0	30
Eotaxin-2	0	0	36	44
Eotaxin-3	0	0	0	0
FGF-6	0	0	0	0
FGF-7	122	12	55	62
Flt-3 Ligand	74	39	33	6
Fractalkine	468	376	457	341
GCP-2	327	209	31	11
GDNF	0	0	0	0
GM-CSF	885	847	655	716
I-309	0	8	0	0
IFN-gamma	792	830	702	841
IGFBP-1	199	142	62	99
IGFBP-2	1,262	1,408	846	867
IGFBP-4	0	0	56	98
IGF-I	1,437	1,368	1,880	1,597
IL-10	111	125	95	48
IL-13	470	426	348	445
IL-15	758	633	631	553
IL-16	87	0	0	0
IL-1alpha	1,274	1,022	1,053	1,055
IL-1beta	219	53	0	0
IL-1ra	66	103	0	0
IL-2	934	946	815	829
IL-3	825	930	819	904
IL-4	212	230	213	304
IL-5	959	939	851	849
IL-6	930	891	994	975
IL-7	1,214	1,013	1,005	1,074
Leptin	0	0	0	0
LIGHT	0	0	0	0
MCP-1	1,611	1,632	6,146	4,338
MCP-2	225	203	212	257
MCP-3	463	445	364	248
MCP-4	228	170	244	149
M-CSF	267	342	307	282
MDC	218	299	140	252
MIG	898	863	789	976

MIP-1-delta	107	236	145	281
MIP-3-alpha	386	518	472	495
NAP-2	92	159	91	67
NT-3	0	0	0	0
PARC	90	77	69	230
PDGF-BB	2,623	1,755	467	583
RANTES	0	0	127	102
SCF	0	0	0	0
SDF-1	532	493	168	290
TARC	0	0	0	0
TGF-beta 1	716	788	806	840
TGF-beta 3	73	111	0	16
TNF-alpha	748	825	760	908
TNF-beta	269	316	247	307

b)

	EXPRES 01 Sample #1	**EXPRES 01 Sample #2**	**EXPRES 02 Sample #1**	**EXPRES 02 Sample #2**
POS	43,203.88	39,506.01	36,640.81	42,748.84
NEG	0.00	0.00	0.00	0.00
Activin A	1,044.38	797.16	429.05	408.73
ALCAM	926.38	812.41	1,132.59	1,111.92
B7-1(CD80)	164.38	193.08	183.69	149.23
BMP-5	62.38	39.17	65.41	67.20
BMP-7	203.88	165.35	203.92	235.90
Cardiotrophin-1	420.38	390.43	330.99	529.97
CD14	551.38	581.78	449.28	504.69
CXCL- 16	144.38	126.52	114.65	144.58
DR6 (TNFRSF21)	317.88	278.12	254.92	294.20
Endoglin	769.88	610.44	824.79	738.91
ErbB3	453.88	383.50	352.10	276.14
E-Selectin	175.88	145.47	158.63	204.43
Fas Ligand	325.38	272.11	290.98	421.63
ICAM-2	165.88	105.73	97.51	244.15
IGF-II	8,897.88	9,437.80	8,026.40	5,317.62
IL-1 R II	92.38	2.66	28.91	131.69
IL-10 Rbeta	156.88	65.05	65.41	242.09
IL-13 Ralpha2	362.88	140.39	82.12	312.77
IL-18 BPalpha	334.88	267.49	415.86	535.13
IL-18 Rbeta	161.38	97.87	152.47	127.04
IL-2 Ralpha	0.88	0.00	30.23	0.00
IL-2 Rbeta	0.00	2.20	19.24	0.00
IL-2 Rgamma	0.00	0.00	0.00	0.00
IL-21R	452.38	433.42	399.15	458.26
IL-5 Ralpha	446.88	302.62	397.83	297.81
IL-9	340.38	342.83	454.55	325.67
IP-10	364.88	310.01	295.82	382.42
LAP	1,194.38	1,087.42	3,883.43	4,764.05
Leptin R	272.38	200.47	179.29	286.46
LIF	326.38	89.09	74.64	180.18
L-Selectin	83.38	55.35	29.79	97.12
M-CSF R	60.38	0.00	21.00	0.00
MMP-1	12.88	36.86	23.63	62.55
MMP-13	158.38	25.30	54.85	144.58
MMP-9	504.38	450.98	282.19	257.05

MPIF-1	0.00	16.99	50.46	30.57
NGF R	30.38	43.79	29.35	6.84
PDGF AA	442.38	454.68	436.52	356.62
PDGF-AB	507.38	459.76	124.33	187.40
PDGF Ralpha	278.88	228.21	254.92	207.01
PDGF Rbeta	483.38	379.34	413.66	465.48
PECAM-1	199.38	148.25	157.75	181.21
Prolactin	312.88	218.04	184.13	182.25
SCF R	472.88	353.92	454.11	483.02
SDF-1beta	1,047.88	765.73	382.44	469.09
Siglec-5	0.00	0.00	0.00	0.00
TGF-alpha	113.88	123.29	50.90	55.33
TGF beta2	68.38	50.73	14.84	53.27
Tie-1	291.38	218.96	165.22	198.24
Tie-2	57.88	53.50	119.49	94.02
TIMP-4	166.88	143.16	109.38	180.70
VE-Cadherin	432.38	329.89	1,175.24	208.04
VEGF R2	510.88	367.33	437.40	801.34
VEGF R3	41.38	38.25	20.12	0.00
Internal Control	23,824.38	23,824.38	23,824.38	23,824.38

c)

	EXPRES 01 Sample #1	**EXPRES 01 Sample #2**	**EXPRES 02 Sample #1**	**EXPRES 02 Sample #2**
POS	55,531.00	63,702.50	55,954.13	76,525.06
NEG	0.00	0.00	0.00	0.00
Acrp30	140.00	100.45	119.63	179.61
AgRP	221.50	239.23	261.80	443.17
Angiopoietin-2	0.00	0.00	58.85	104.61
Amphiregulin	0.00	0.00	0.00	0.00
Axl	210.00	351.20	368.94	523.07
bFGF	64,959.00	75,788.69	57,182.11	65,024.38
b-NGF	0.00	0.00	0.00	0.00
BTC	0.00	0.00	0.00	0.00
CCL-28	455.50	399.01	258.71	415.13
CTACK	57.00	48.55	70.18	12.09
Dtk	0.00	0.00	0.00	0.00
EGF-R	83.50	92.28	30.52	33.82
ENA-78	726.00	842.78	781.52	939.43
Fas/TNFRSF6	374.00	460.83	352.97	450.17
FGF-4	232.50	130.77	110.36	218.17
FGF-9	271.00	520.31	295.28	460.69
GCSF	688.00	895.85	223.68	973.77
GITR-Ligand	0.00	0.00	0.00	0.00
GITR	242.00	109.19	140.75	167.00
GRO	1,380.00	1,572.29	929.87	1,270.97
GRO-alpha	962.00	1,043.39	920.08	1,080.31
HCC-4	162.50	108.03	194.83	217.46
HGF	0.00	0.00	0.00	0.00
ICAM-1	752.00	848.62	571.88	614.89
ICAM-3	0.00	0.00	0.00	0.00
IGFBP-3	169.00	439.25	190.20	372.37
IGFBP-6	314.50	285.89	245.31	368.17
IGF-I SR	236.00	314.46	133.54	237.09
IL-1 R4/ST2	226.00	354.11	283.43	373.77

IL-1 RI	0.00	32.80	0.00	92.70
IL-11	187.50	178.59	135.60	299.47
IL-12 p40	174.00	130.19	91.82	227.28
IL-12 p70	163.00	198.41	140.23	245.50
IL-17	120.00	114.44	72.24	164.89
IL-2 Rapha	434.50	488.24	422.50	553.21
IL-6 R	163.00	114.44	327.73	144.57
IL-8	741.00	782.72	694.47	1,053.68
I-TAC	721.50	763.48	551.28	754.38
Lymphotactin	177.00	68.37	93.88	135.46
MIF	2,703.00	2,577.05	2,491.12	3,008.58
MIP-1alpha	251.00	257.89	236.56	341.53
MIP-1beta	15.50	0.00	14.55	56.95
MIP-3beta	242.50	233.99	184.02	279.15
MSP-alpha	376.50	303.38	250.98	408.12
NT-4	37.00	101.03	108.81	253.21
Osteoprotegerin	380.50	390.27	432.29	696.90
Oncostatin M	466.50	394.35	361.21	504.15
PIGF	180.50	198.41	195.86	220.27
sgp130	18.00	36.30	203.08	209.05
sTNF RII	0.00	0.00	0.00	0.00
sTNF-RI	11.50	0.00	694.47	267.93
TECK	0.00	0.00	0.00	0.00
TIMP-1	175.00	123.19	172.17	223.77
TIMP-2	1,718.50	2,953.76	487.41	502.74
Thrombopoietin	256.50	231.65	227.80	256.02
TRAIL R3	0.00	0.00	127.36	94.10
TRAIL R4	239.00	273.64	277.25	370.27
uPAR	104.50	84.12	103.66	319.10
VEGF	311.00	289.97	305.06	523.77
VEGF-D	0.00	0.00	0.00	0.00
Internal Control	18,664.17	18,664.17	18,664.17	18,664.17

What is claimed is:

1. A method for deriving a population of cells comprising cells expressing pluripotency markers comprising the steps of:

    a. Obtaining cells, and

    b. Culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

2. The method of claim 1, wherein the cells are human embryonic stem cells.

3. The method of claim 2, wherein the human embryonic stem cells are treated with a Rho kinase inhibitor.

4. The method of claim 1, wherein the cells are cells expressing markers characteristic of the definitive endoderm lineage.

5. The method of claim 1, wherein the human embryonic stem cells are cultured in normoxic conditions prior to culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

6. The method of claim 1, wherein the human embryonic stem cells are cultured in hypoxic conditions prior to culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

7. The method of claim 1, wherein the cells expressing markers characteristic of the definitive endoderm lineage are cultured in normoxic conditions prior to culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

8. The method of claim 1, wherein the cells expressing markers characteristic of the definitive endoderm lineage are cultured in hypoxic conditions prior to

culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

9. The method of claim 1, wherein the hypoxic conditions are an O_2 level from about 1% to about 20%.

10. The method of claim 1, wherein the hypoxic conditions are an O_2 level from about 2% to about 10%.

11. The method of claim 1, wherein the hypoxic conditions are an O_2 level of about 3%.

12. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration from about 2% to about 5%.

13. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration of about 2%.

14. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration from about 50ng/ml to about 100ng/ml.

15. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration of about 100ng/ml.

16. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration from about 10ng/ml to about 20ng/ml.

17. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration of about 200ng/ml.

18. The method of claim 16, wherein the Wnt ligand is Wnt-3a.

19. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration from about 25ng/ml to about 50ng/ml.

20. The method of claim 1, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration of about 50ng/ml.

21. The method of claim 1,wherein the cells expressing pluripotency markers express at least one of the pluripotency markers selected from the group consisting of ABCG2, cripto, FoxD3, Connexin43, Connexin45, Oct4, SOX-2, Nanog, hTERT, UTF-1, ZFP42, SSEA-3, SSEA-4, Tra1-60, and Tra1-81.

22. The method of claim 1, wherein the cells expressing pluripotency markers express markers characteristic of pre-primitive streak cells.

23. The method of claim 1, wherein the cells expressing pluripotency markers express markers characteristic of primitive streak cells.

24. The method of claim 1, wherein the cells expressing pluripotency markers express markers characteristic of mesoendoderm cells.

25. The method of claim 1, wherein the cells expressing pluripotency markers express markers characteristic of definite endoderm cells.

26. A method for deriving a population of cells comprising cells expressing pluripotency markers, comprising the steps of:

a. Culturing human embryonic stem cells,

b. Differentiating the human embryonic stem cells into cells expressing markers characteristic of definitive endoderm cells, and

c. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

27. The method of claim 26, wherein the human embryonic stem cells are treated with a Rho kinase inhibitor.

28. The method of claim 26, wherein the human embryonic stem cells are cultured on an extracellular matrix, prior to differentiating the cells.

29. The method of claim 26, wherein the human embryonic stem cells are cultured on a feeder cell layer, prior to differentiating the cells.

30. The method of claim 26, wherein the human embryonic stem cells are differentiated on an extracellular matrix, prior to removing the cells.

31. The method of claim 26, wherein the human embryonic stem cells are differentiated on a feeder cell layer, prior to removing the cells.

32. The method of claim 26, wherein the human embryonic stem cells are cultured and differentiated in normoxic conditions, prior to removing the cells.

33. The method of claim 26, wherein the human embryonic stem cells are cultured and differentiated in hypoxic conditions, prior to removing the cells.

34. The method of claim 26, wherein the hypoxic conditions are an O_2 level from about 1% to about 20%.

35. The method of claim 26, wherein the hypoxic conditions are an O_2 level from about 2% to about 10%.

36. The method of claim 26, wherein the hypoxic conditions are an O_2 level of about 3%.

37. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration from about 2% to about 5%.

38. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration of about 2%.

39. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration from about 50ng/ml to about 100ng/ml.

40. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration of about 100ng/ml.

41. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration from about 10ng/ml to about 20ng/ml.

42. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration of about 200ng/ml.

43. The method of claim 42, wherein the Wnt ligand is Wnt-3a.

44. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration from about 25ng/ml to about 50ng/ml.

45. The method of claim 26, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration of about 50ng/ml.

46. The method of claim 26,wherein the cells expressing pluripotency markers express at least one of the pluripotency markers selected from the group consisting of ABCG2, cripto, FoxD3, Connexin43, Connexin45, Oct4, SOX-2, Nanog, hTERT, UTF-1, ZFP42, SSEA-3, SSEA-4, Tra1-60, and Tra1-81.

47. The method of claim 26, wherein the cells expressing pluripotency markers express markers characteristic of pre-primitive streak cells.

48. The method of claim 26, wherein the cells expressing pluripotency markers express markers characteristic of primitive streak cells.

49. The method of claim 26, wherein the cells expressing pluripotency markers express markers characteristic of mesoendoderm cells.

50. The method of claim 26, wherein the cells expressing pluripotency markers express markers characteristic of definite endoderm cells.

51. A method for deriving a population of cells comprising cells expressing pluripotency markers comprising the steps of:

    a. Culturing human embryonic stem cells, and

    b. Removing the cells, and subsequently culturing them under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix prior to culturing the cells.

52. The method of claim 51, wherein the human embryonic stem cells are treated with a Rho kinase inhibitor.

53. The method of claim 51, wherein the human embryonic stem cells are cultured on an extracellular matrix, prior to removing the cells.

54. The method of claim 51, wherein the human embryonic stem cells are cultured on a feeder cell layer, prior to removing the cells.

55. The method of claim 51, wherein the human embryonic stem cells are cultured in normoxic conditions, prior to removing the cells.

56. The method of claim 51, wherein the human embryonic stem cells are cultured a in hypoxic conditions, prior to removing the cells.

57. The method of claim 51, wherein the hypoxic conditions are an O_2 level from about 1% to about 20%.

58. The method of claim 51, wherein the hypoxic conditions are an O_2 level from about 2% to about 10%.

59. The method of claim 51, wherein the hypoxic conditions are an O_2 level of about 3%.

60. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration from about 2% to about 5%.

61. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration of about 2%.

62. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration from about 50ng/ml to about 100ng/ml.

63. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration of about 100ng/ml.

64. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration from about 10ng/ml to about 20ng/ml.

65. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration of about 200ng/ml.

66. The method of claim 65, wherein the Wnt ligand is Wnt-3a.

67. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration from about 25ng/ml to about 50ng/ml.

68. The method of claim 51, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing IGF-1 at a concentration of about 50ng/ml.

69. The method of claim 51,wherein the cells expressing pluripotency markers express at least one of the pluripotency markers selected from the group consisting of ABCG2, cripto, FoxD3, Connexin43, Connexin45, Oct4, SOX-2, Nanog, hTERT, UTF-1, ZFP42, SSEA-3, SSEA-4, Tra1-60, and Tra1-81.

70. The method of claim 51, wherein the cells expressing pluripotency markers express markers characteristic of pre-primitive streak cells.

71. The method of claim 51, wherein the cells expressing pluripotency markers express markers characteristic of primitive streak cells.

72. The method of claim 51, wherein the cells expressing pluripotency markers express markers characteristic of mesoendoderm cells.

73. The method of claim 51, wherein the cells expressing pluripotency markers express markers characteristic of definite endoderm cells.

74. A method to expand cells expressing markers characteristic of the definitive endoderm lineage, comprising the steps of: culturing the cells under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix.

75. The method of claim 74, wherein the cells expressing markers characteristic of the definitive endoderm lineage are derived from pluripotent cells formed by the methods of the present invention.

76. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration from about 0.2% to about 5%.

77. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing serum at a concentration of about 0.5%.

78. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration from about 50ng/ml to about 100ng/ml.

79. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing activin-A at a concentration of about 100ng/ml.

80. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration from about 10ng/ml to about 20ng/ml.

81. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a Wnt ligand at a concentration of about 200ng/ml.

82. The method of claim 80, wherein the Wnt ligand is Wnt-3a.

83. The method of claim 74, wherein the cells are cultured under hypoxic conditions, on a tissue culture substrate that is not pre-treated with a protein or an extracellular matrix, in medium containing a GSK-3B inhibitor.