

Table S1. List of genes that were differentially expressed in MSCs harvested at high cell confluence (~90%, CC3) and at low cell confluence (~50%, CC1).

Gene Symbol	Gene Description	Fold Change
PTGDS	prostaglandin D2 synthase 21kDa (brain)	13.94
PALM	paralemmin	12.01
CXCR7	chemokine (C-X-C motif) receptor 7	10.81
LEPR	leptin receptor	10.53
PTGIS	prostaglandin I2 (prostacyclin) synthase	10.49
COL11A1	collagen, type XI, alpha 1	10.47
NDUFA4L2	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 4-like 2	10.22
VCAM1	vascular cell adhesion molecule 1	10.19
COMP	cartilage oligomeric matrix protein	10.10
MXRA5	matrix-remodelling associated 5	9.86
ECM2	extracellular matrix protein 2, female organ and adipocyte specific	9.84
FNDC1	fibronectin type III domain containing 1	8.87
C1R	complement component 1, r subcomponent	8.70
WISP2	WNT1 inducible signaling pathway protein 2	8.64
SERPINA3	serpin peptidase inhibitor, clade A (alpha-1 antitrypsin, antitrypsin), member 3	8.62
APOE	apolipoprotein E	8.20
CFD	complement factor D (adipsin)	7.60
C1S	complement component 1, s subcomponent	7.49
MFAP4	microfibrillar-associated protein 4	6.69
GDF15	growth differentiation factor 15	6.69
COL8A2	collagen, type VIII, alpha 2	6.68
EGR2	early growth response 2 (Krox-20 homolog, Drosophila)	6.40
DHRS3	dehydrogenase/reductase (SDR family) member 3	6.26
KRT17	keratin 17	5.98
SERPING1	serpin peptidase inhibitor, clade G (C1 inhibitor), member 1	5.77
DEPDC6	DEP domain containing 6 (DEPDC6)	5.75
ABCA1	ATP-binding cassette, sub-family A (ABC1), member 1	5.49
MGP	matrix Gla protein	5.35
MKX	mohawk homeobox	5.19
TRIB3	tribbles homolog 3 (Drosophila)	5.18
MME	membrane metallo-endopeptidase	5.09
PODN	podocan	5.06
MSC	musculin (activated B-cell factor-1)	5.04
FBXO32	F-box protein 32	4.89
IFITM1	interferon induced transmembrane protein 1 (9-27)	4.78
CYGB	cytoglobin	4.73
C5orf46	chromosome 5 open reading frame 46	4.72
THBS2	thrombospondin 2	4.67
FAM129A	family with sequence similarity 129, member A	4.57
ANKRD37	ankyrin repeat domain 37	4.56
CDKN2B	cyclin-dependent kinase inhibitor 2B (p15, inhibits CDK4)	4.55
PLXDC2	plexin domain containing 2	4.47

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
TNS3	tensin 3	4.31
EFEMP1	EGF-containing fibulin-like extracellular matrix protein 1	4.30
DDIT4	DNA-damage-inducible transcript 4	4.24
COL12A1	collagen, type XII, alpha 1	4.20
FRAS1	Fraser syndrome 1	4.20
MMP11	matrix metalloproteinase 11 (stromelysin 3)	4.08
CPZ	carboxypeptidase Z	4.07
ADM2	adrenomedullin 2	4.01
AKR1C3	aldo-keto reductase family 1, member C3 (3-alpha hydroxysteroid dehydrogenase, type II)	3.97
CALB2	calbindin 2	3.94
CNTNAP2	contactin associated protein-like 2	3.90
SCRG1	scrapie responsive protein 1	3.89
TIMP3	TIMP metalloproteinase inhibitor 3	3.88
DMKN	dermokine	3.75
DCN	decorin	3.72
C10orf10	chromosome 10 open reading frame 10	3.66
FBLN2	fibulin 2	3.66
ITGA11	integrin, alpha 11	3.62
CTSF	cathepsin F	3.62
CCPG1	cell cycle progression 1	3.61
P8	p8 protein (candidate of metastasis 1)	3.58
SLC6A9	solute carrier family 6 (neurotransmitter transporter, glycine), member 9	3.55
MN1	meningioma (disrupted in balanced translocation) 1	3.53
IGFBP2	insulin-like growth factor binding protein 2, 36kDa	3.52
UNC5B	unc-5 homolog B (C. elegans)	3.51
KRT16	keratin 16 (focal non-epidermolytic palmoplantar keratoderma)	3.47
CTSK	cathepsin K	3.47
FLG	filaggrin	3.47
POSTN	periostin, osteoblast specific factor	3.43
RBP1	retinol binding protein 1, cellular	3.42
NUPR1	nuclear protein 1	3.41
SETBP1	SET binding protein 1	3.39
XAF1	XIAP associated factor 1	3.32
VLDLR	very low density lipoprotein receptor	3.32
ANKRD33	ankyrin repeat domain 33	3.30
DACT1	dapper, antagonist of beta-catenin, homolog 1 (Xenopus laevis)	3.30
PPP1R14C	protein phosphatase 1, regulatory (inhibitor) subunit 14C	3.28
THRA	thyroid hormone receptor, alpha (erythroblastic leukemia viral (v-erb-a) oncogene homolog, avian)	3.28
C1QTNF1	C1q and tumor necrosis factor related protein 1	3.24
FTHL12	ferritin, heavy polypeptide-like 12	3.19
PAPPA	pregnancy-associated plasma protein A, pappalysin 1	3.18
TPD52L1	tumor protein D52-like 1	3.17

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
SULF1	sulfatase 1	3.16
PI16	peptidase inhibitor 16	3.15
C10orf54	chromosome 10 open reading frame 54	3.13
ALDOC	aldolase C, fructose-bisphosphate	3.13
SBSN	suprabasin	3.13
THBS3	thrombospondin 3	3.13
PSAT1	phosphoserine aminotransferase 1	3.09
MUC1	mucin 1, cell surface associated	3.09
COL3A1	collagen, type III, alpha 1	3.08
PMEPA1	prostate transmembrane protein, androgen induced 1	3.06
SORBS2	sorbin and SH3 domain containing 2	3.04
SLIT3	slit homolog 3 (Drosophila)	3.03
ASS1	argininosuccinate synthetase 1	2.95
NDRG1	N-myc downstream regulated gene 1	2.95
TMEM119	transmembrane protein 119	2.95
COL18A1	collagen, type XVIII, alpha 1	2.95
CRABP2	cellular retinoic acid binding protein 2	2.93
SMOC1	SPARC related modular calcium binding 1	2.92
PPP1R3C	protein phosphatase 1, regulatory (inhibitor) subunit 3C	2.92
MTHFD2	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase	2.91
FBLN1	fibulin 1	2.89
PCK2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)	2.87
SCG2	secretogranin II (chromogranin C)	2.85
PIK3IP1	phosphoinositide-3-kinase interacting protein 1	2.84
DDIT4L	DNA-damage-inducible transcript 4-like	2.84
MAN1C1	mannosidase, alpha, class 1C, member 1	2.84
PROS1	protein S (alpha)	2.82
MX1	myxovirus (influenza virus) resistance 1, interferon-inducible protein p78 (mouse)	2.82
GPNMB	glycoprotein (transmembrane) nmb	2.81
TXNIP	thioredoxin interacting protein	2.80
OLFML1	olfactomedin-like 1	2.78
FMOD	fibromodulin	2.77
CBS	cystathionine-beta-synthase	2.77
ZSWIM4	zinc finger, SWIM-type containing 4	2.75
SESN2	sestrin 2	2.74
AGT	angiotensinogen (serpin peptidase inhibitor, clade A, member 8)	2.74
ASNS	asparagine synthetase	2.69
NNMT	nicotinamide N-methyltransferase	2.67
PLAC9	placenta-specific 9	2.67
CEBPD	CCAAT/enhancer binding protein (C/EBP), delta	2.66
SOX4	SRY (sex determining region Y)-box 4	2.65
HEPH	hephaestin	2.62

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
LAMA5	laminin, alpha 5	2.62
FTHL3P	ferritin, heavy polypeptide-like 3 pseudogene	2.62
ABLIM1	actin binding LIM protein 1	2.62
KAL1	Kallmann syndrome 1 sequence	2.61
PRSS23	protease, serine, 23	2.60
HNMT	histamine N-methyltransferase	2.59
OSBPL10	oxysterol binding protein-like 10	2.58
TUBB2B	tubulin, beta 2B	2.57
CTSD	cathepsin D	2.57
RAB33A	RAB33A, member RAS oncogene family	2.56
CCL2	chemokine (C-C motif) ligand 2	2.54
CFB	complement factor B	2.53
GPC6	glypican 6	2.53
HLA-DMA	major histocompatibility complex, class II, DM alpha	2.53
DBC1	deleted in bladder cancer 1	2.52
SORCS2	sortilin-related VPS10 domain containing receptor 2	2.52
RPS29	ribosomal protein S29	2.50
SEZ6L2	seizure related 6 homolog (mouse)-like 2	2.50
MKNK2	MAP kinase interacting serine/threonine kinase 2	2.49
SUSD2	sushi domain containing 2	2.49
ANGPTL2	angiopoietin-like 2	2.49
FOXO1	forkhead box O1	2.48
SERPINF1	serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1	2.48
CYP1B1	cytochrome P450, family 1, subfamily B, polypeptide 1	2.48
ANKRD38	ankyrin repeat domain 38	2.47
FCGRT	Fc fragment of IgG, receptor, transporter, alpha	2.47
C1QTNF5	C1q and tumor necrosis factor related protein 5	2.47
NUAK1	NUAK family, SNF1-like kinase, 1	2.46
JAM2	junctional adhesion molecule 2	2.46
PDE5A	phosphodiesterase 5A, cGMP-specific	2.45
FAM43A	family with sequence similarity 43, member A	2.44
MFAP2	microfibrillar-associated protein 2	2.44
C9orf150	chromosome 9 open reading frame 150	2.44
SPRY1	sprouty homolog 1, antagonist of FGF signaling (Drosophila)	2.43
KCNE4	potassium voltage-gated channel, Isk-related family, member 4	2.43
EPSTI1	epithelial stromal interaction 1 (breast)	2.43
ANTXR1	anthrax toxin receptor 1	2.42
FTHL11	ferritin, heavy polypeptide-like 11 on chromosome 8	2.40
PTGES	prostaglandin E synthase	2.40
GAA	glucosidase, alpha; acid	2.40
CYBRD1	cytochrome b reductase 1	2.40
SVEP1	sushi, von Willebrand factor type A, EGF and pentraxin domain containing 1	2.40

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
RARRES3	retinoic acid receptor responder (tazarotene induced) 3	2.39
PCMTD1	protein-L-isoaspartate (D-aspartate) O-methyltransferase domain containing 1	2.39
FAM38B	family with sequence similarity 38, member B	2.39
MAP3K8	mitogen-activated protein kinase kinase kinase 8	2.39
LTBP3	latent transforming growth factor beta binding protein 3	2.38
RRAGD	Ras-related GTP binding D	2.38
PLSCR4	phospholipid scramblase 4	2.36
GALNAC4S-6ST	B cell RAG associated protein	2.36
SLC38A1	solute carrier family 38, member 1	2.36
OAS2	2'-5'-oligoadenylate synthetase 2, 69/71kDa	2.35
GABARAPL1	GABA(A) receptor-associated protein like 1	2.35
ACAP1	ArfGAP with coiled-coil, ankyrin repeat and PH domains 1	2.35
CRLF1	cytokine receptor-like factor 1	2.34
MYO1D	myosin ID	2.34
FAM102A	family with sequence similarity 102, member A	2.33
PLEKHF1	pleckstrin homology domain containing, family F (with FYVE domain) member 1	2.32
P4HA1	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide I	2.32
CDH13	cadherin 13, H-cadherin (heart)	2.32
NCOA7	nuclear receptor coactivator 7	2.31
YPEL3	yippee-like 3 (Drosophila)	2.31
PPFIBP2	PTPRF interacting protein, binding protein 2 (liprin beta 2)	2.30
DPYSL4	dihydropyrimidinase-like 4	2.30
EPAS1	endothelial PAS domain protein 1	2.30
GPT2	glutamic pyruvate transaminase (alanine aminotransferase) 2	2.30
VCAN	versican	2.29
LBH	limb bud and heart development homolog (mouse)	2.28
TCEA2	transcription elongation factor A (SII), 2	2.27
COL16A1	collagen, type XVI, alpha 1	2.27
FAM116B	family with sequence similarity 116, member B	2.27
TMEM140	transmembrane protein 140	2.27
AK3L1	adenylate kinase 3-like 1	2.27
TCTN1	tectonic family member 1	2.26
BEXL1	brain expressed X-linked-like 1	2.25
ACVR2A	activin A receptor, type IIA	2.25
ANKRD29	ankyrin repeat domain 29	2.25
WARS	tryptophanyl-tRNA synthetase	2.24
FAM46A	family with sequence similarity 46, member A	2.24
SEMA3C	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3C	2.24
FLJ40504	hypothetical protein FLJ40504	2.23
HSD17B6	hydroxysteroid (17-beta) dehydrogenase 6 homolog (mouse)	2.23
RPS27	ribosomal protein S27 (metallopanstimulin 1)	2.22
CLDN1	claudin 1	2.22

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
GBP2	guanylate binding protein 2, interferon-inducible	2.21
SLC22A15	solute carrier family 22 (organic cation transporter), member 15	2.21
BACE2	beta-site APP-cleaving enzyme 2	2.20
DRAM	damage-regulated autophagy modulator	2.20
ITGBL1	integrin, beta-like 1 (with EGF-like repeat domains)	2.20
SLC7A7	solute carrier family 7 (cationic amino acid transporter, y+ system), member 7	2.20
ADAMTSL4	ADAMTS-like 4	2.19
PGCP	plasma glutamate carboxypeptidase	2.19
FAP	fibroblast activation protein, alpha	2.18
PDGFRB	platelet-derived growth factor receptor, beta polypeptide	2.18
C5orf41	chromosome 5 open reading frame 41	2.18
RENBP	renin binding protein	2.17
HLA-F	major histocompatibility complex, class I, F	2.17
SSPN	sarcospan (Kras oncogene-associated gene)	2.17
SPATA18	spermatogenesis associated 18 homolog (rat)	2.17
TMTC1	transmembrane and tetratricopeptide repeat containing 1	2.17
GPRC5C	G protein-coupled receptor, family C, group 5, member C	2.16
CXCL16	chemokine (C-X-C motif) ligand 16	2.15
GATS	opposite strand transcription unit to STAG3	2.14
FAM110B	family with sequence similarity 110, member B	2.14
GAS1	growth arrest-specific 1	2.14
AZI2	5-azacytidine induced 2	2.14
LARP6	La ribonucleoprotein domain family, member 6	2.13
C7orf41	chromosome 7 open reading frame 41	2.13
BNIP3	BCL2/adenovirus E1B 19kDa interacting protein 3	2.13
SOX18	SRY (sex determining region Y)-box 18	2.12
INSIG2	insulin induced gene 2	2.12
KLF9	Kruppel-like factor 9	2.12
SPON2	spondin 2, extracellular matrix protein	2.12
ENPP2	ectonucleotide pyrophosphatase/phosphodiesterase 2	2.12
SPAG4	sperm associated antigen 4	2.12
RAB11FIP1	RAB11 family interacting protein 1 (class I)	2.11
VEGFA	vascular endothelial growth factor A	2.11
HBP1	HMG-box transcription factor 1	2.10
LHPP	phospholysine phosphohistidine inorganic pyrophosphate phosphatase	2.10
C19orf4	chromosome 19 open reading frame 4	2.09
FLYWCH1	FLYWCH-type zinc finger 1	2.09
GRN	granulin	2.08
DCLK1	doublecortin-like kinase 1	2.08
SLC25A23	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 23	2.07
IRF1	interferon regulatory factor 1	2.07
PLA2G4C	phospholipase A2, group IVC (cytosolic, calcium-independent)	2.07
ULK1	unc-51-like kinase 1 (C. elegans)	2.07

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
ABHD4	abhydrolase domain containing 4	2.06
DDIT3	DNA-damage-inducible transcript 3	2.06
TMEM47	transmembrane protein 47	2.06
FBLN5	fibulin 5	2.06
SRPK2	SFRS protein kinase 2	2.06
C20orf39	chromosome 20 open reading frame 39	2.06
DNAJC12	DnaJ (Hsp40) homolog, subfamily C, member 12	2.05
OPLAH	5-oxoprolinase (ATP-hydrolysing)	2.05
MFAP5	microfibrillar associated protein 5	2.04
IFI27	interferon, alpha-inducible protein 27	2.04
CD82	CD82 molecule	2.04
CRBN	cereblon	2.04
DPYSL3	dihydropyrimidinase-like 3	2.03
VDR	vitamin D (1,25- dihydroxyvitamin D3) receptor	2.03
NME5	non-metastatic cells 5, protein expressed in (nucleoside-diphosphate kinase)	2.03
CPXM2	carboxypeptidase X (M14 family), member 2	2.02
PLD3	phospholipase D family, member 3	2.02
LY96	lymphocyte antigen 96	2.01
BNIP3L	BCL2/adenovirus E1B 19kDa interacting protein 3-like	2.01
JUNB	jun B proto-oncogene	2.01
ULBP1	UL16 binding protein 1	2.01
MXD1	MAX dimerization protein 1	2.01
CFH	complement factor H	2.00
GMPPB	GDP-mannose pyrophosphorylase B	-2.00
ITIH3	inter-alpha (globulin) inhibitor H3	-2.00
NRIP3	nuclear receptor interacting protein 3	-2.00
RFC4	replication factor C (activator 1) 4, 37kDa	-2.01
C14orf151	chromosome 14 open reading frame 151	-2.01
NEK2	NIMA (never in mitosis gene a)-related kinase 2	-2.01
PDCD1LG2	programmed cell death 1 ligand 2	-2.01
TRPV2	transient receptor potential cation channel, subfamily V, member 2	-2.01
WDR51A	WD repeat domain 51A	-2.01
BRCA1	breast cancer 1, early onset	-2.01
LMNB2	lamin B2	-2.01
PSG4	pregnancy specific beta-1-glycoprotein 4	-2.02
FMN2	formin 2	-2.02
RAD51	RAD51 homolog (RecA homolog, E. coli) (S. cerevisiae)	-2.03
WDR62	WD repeat domain 62	-2.03
LIN7A	lin-7 homolog A (C. elegans)	-2.03
HYI	hydroxypyruvate isomerase homolog (E. coli)	-2.03
RFC5	replication factor C (activator 1) 5, 36.5kDa	-2.04
GLIPR1	GLI pathogenesis-related 1	-2.04
EXOSC9	exosome component 9	-2.04

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
CGB5	chorionic gonadotropin, beta polypeptide 5	-2.05
MND1	meiotic nuclear divisions 1 homolog (<i>S. cerevisiae</i>)	-2.05
NES	nestin	-2.05
TBX2	T-box 2	-2.05
DNAJC9	DnaJ (Hsp40) homolog, subfamily C, member 9	-2.05
RBL1	retinoblastoma-like 1 (p107)	-2.05
UNQ1940	HWKM1940	-2.05
POLE	polymerase (DNA directed), epsilon	-2.05
C13orf3	chromosome 13 open reading frame 3	-2.06
LBR	lamin B receptor	-2.06
C14orf80	chromosome 14 open reading frame 80	-2.06
E2F7	E2F transcription factor 7	-2.06
KIF15	kinesin family member 15	-2.06
FIGNL1	fidgetin-like 1	-2.06
XRCC3	X-ray repair complementing defective repair in Chinese hamster cells 3	-2.07
TTF2	transcription termination factor, RNA polymerase II	-2.08
NCAPD2	non-SMC condensin I complex, subunit D2	-2.08
DDX39	DEAD (Asp-Glu-Ala-Asp) box polypeptide 39	-2.09
TIMELESS	timeless homolog (<i>Drosophila</i>)	-2.09
DONSON	downstream neighbor of SON	-2.09
CENPN	centromere protein N	-2.09
IGF2BP3	insulin-like growth factor 2 mRNA binding protein 3	-2.09
C16orf59	chromosome 16 open reading frame 59	-2.10
HBEGF	heparin-binding EGF-like growth factor	-2.11
ATP2B4	ATPase, Ca ⁺⁺ transporting, plasma membrane 4	-2.11
CASC5	cancer susceptibility candidate 5	-2.11
TMPO	thymopoietin	-2.12
VEGFC	vascular endothelial growth factor C	-2.12
MPP4	membrane protein, palmitoylated 4 (MAGUK p55 subfamily member 4)	-2.13
CCDC99	coiled-coil domain containing 99	-2.13
DSN1	DSN1, MIND kinetochore complex component, homolog (<i>S. cerevisiae</i>)	-2.14
DNMT1	DNA (cytosine-5-)-methyltransferase 1	-2.14
FOSL1	FOS-like antigen 1	-2.15
LCP1	lymphocyte cytosolic protein 1 (L-plastin)	-2.15
INA	internexin neuronal intermediate filament protein, alpha	-2.16
TUBB2C	tubulin, beta 2C	-2.16
MYO19	myosin XIX	-2.16
FOXQ1	forkhead box Q1	-2.17
SPP1	secreted phosphoprotein 1	-2.17
CSTF3	cleavage stimulation factor, 3' pre-RNA, subunit 3, 77kDa	-2.18
DBNDD1	dysbindin (dystrobrevin binding protein 1) domain containing 1	-2.18
PENK	proenkephalin	-2.19
CDC44	cell division cycle associated 4	-2.19

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
PRIM1	primase, DNA, polypeptide 1 (49kDa)	-2.19
STX1A	syntaxin 1A (brain)	-2.19
KNTC1	kinetochore associated 1	-2.19
ITGA10	integrin, alpha 10	-2.19
FANCD2	Fanconi anemia, complementation group D2	-2.19
BTBD11	BTB (POZ) domain containing 11	-2.20
MCM10	minichromosome maintenance complex component 10	-2.21
POP1	processing of precursor 1, ribonuclease P/MRP subunit (<i>S. cerevisiae</i>)	-2.21
CCNB1	cyclin B1	-2.22
C3orf52	chromosome 3 open reading frame 52	-2.23
SMTN	smoothelin	-2.23
GABBR2	gamma-aminobutyric acid (GABA) B receptor, 2	-2.23
GSG2	germ cell associated 2 (haspin)	-2.23
ATAD3B	ATPase family, AAA domain containing 3B	-2.23
ATAD3A	ATPase family, AAA domain containing 3A	-2.24
HYLS1	hydrolethalus syndrome 1	-2.24
PPIL5	peptidylprolyl isomerase (cyclophilin)-like 5	-2.25
CTTF18	CTF18, chromosome transmission fidelity factor 18 homolog (<i>S. cerevisiae</i>)	-2.25
CENPL	centromere protein L	-2.25
C18orf24	chromosome 18 open reading frame 24	-2.26
C1orf112	chromosome 1 open reading frame 112	-2.27
EZH2	enhancer of zeste homolog 2 (<i>Drosophila</i>)	-2.27
CHAF1B	chromatin assembly factor 1, subunit B (p60)	-2.27
E2F2	E2F transcription factor 2	-2.28
CENPK	centromere protein K	-2.28
UHRF1	ubiquitin-like with PHD and ring finger domains 1	-2.29
LIG1	ligase I, DNA, ATP-dependent	-2.29
SMC4	structural maintenance of chromosomes 4	-2.30
KPNA2	karyopherin alpha 2 (RAG cohort 1, importin alpha 1)	-2.30
KIF14	kinesin family member 14	-2.31
POLA2	polymerase (DNA directed), alpha 2 (70kD subunit)	-2.31
UBE2T	ubiquitin-conjugating enzyme E2T (putative)	-2.32
HELLS	helicase, lymphoid-specific	-2.32
WNT7B	wingless-type MMTV integration site family, member 7B	-2.32
C17orf53	chromosome 17 open reading frame 53	-2.33
EDN1	endothelin 1	-2.33
CDCA1	cell division cycle associated 1	-2.36
MCM5	minichromosome maintenance complex component 5	-2.36
MKI67	antigen identified by monoclonal antibody Ki-67	-2.37
PLCXD1	phosphatidylinositol-specific phospholipase C, X domain containing 1	-2.37
ADRB2	adrenergic, beta-2-, receptor, surface	-2.39
RECQL4	RecQ protein-like 4	-2.39
POLE2	polymerase (DNA directed), epsilon 2 (p59 subunit)	-2.40

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
BARD1	BRCA1 associated RING domain 1	-2.42
WWC1	WW and C2 domain containing 1	-2.43
SERPINB7	serpin peptidase inhibitor, clade B (ovalbumin), member 7	-2.43
RAB3B	RAB3B, member RAS oncogene family	-2.43
BLM	Bloom syndrome	-2.43
DIAPH3	diaphanous homolog 3 (Drosophila)	-2.44
CCNE2	cyclin E2	-2.45
CHEK1	CHK1 checkpoint homolog (S. pombe)	-2.45
SERPINB2	serpin peptidase inhibitor, clade B (ovalbumin), member 2	-2.45
MCM4	minichromosome maintenance complex component 4	-2.46
ORC1L	origin recognition complex, subunit 1-like (yeast)	-2.46
NUDT1	nudix (nucleoside diphosphate linked moiety X)-type motif 1	-2.46
FGF5	fibroblast growth factor 5	-2.47
CDC25C	cell division cycle 25 homolog C (S. pombe)	-2.48
RGMB	RGM domain family, member B	-2.48
INCENP	inner centromere protein antigens 135/155kDa	-2.48
ADARB1	adenosine deaminase, RNA-specific, B1 (RED1 homolog rat)	-2.52
FLJ35409	PREDICTED: FLJ35409 protein	-2.53
RFC3	replication factor C (activator 1) 3, 38kDa	-2.53
CDT1	chromatin licensing and DNA replication factor 1	-2.56
FOXE1	forkhead box E1 (thyroid transcription factor 2)	-2.56
CDC25A	cell division cycle 25 homolog A (S. pombe)	-2.56
CDK2	cyclin-dependent kinase 2	-2.57
IL11	interleukin 11	-2.57
EXO1	exonuclease 1	-2.58
KIF18A	kinesin family member 18A	-2.58
RAD51AP1	RAD51 associated protein 1	-2.58
KIF11	kinesin family member 11	-2.58
LYPD1	LY6/PLAUR domain containing 1	-2.58
PLK1	polo-like kinase 1 (Drosophila)	-2.59
MCM2	minichromosome maintenance complex component 2	-2.59
CENPE	centromere protein E, 312kDa	-2.59
SUV39H1	suppressor of variegation 3-9 homolog 1 (Drosophila)	-2.62
GPSM2	G-protein signalling modulator 2 (AGS3-like, C. elegans)	-2.63
PSMC3IP	PSMC3 interacting protein	-2.64
OIP5	Opa interacting protein 5	-2.64
ERCC6L	excision repair cross-complementing rodent repair deficiency, complementation group 6-like	-2.65
STIL	SCL/TAL1 interrupting locus	-2.65
H2AFX	H2A histone family, member X	-2.66
GPR56	G protein-coupled receptor 56	-2.66
PHF19	PHD finger protein 19	-2.67
MELK	maternal embryonic leucine zipper kinase	-2.67

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
ASF1B	ASF1 anti-silencing function 1 homolog B (<i>S. cerevisiae</i>)	-2.67
KIAA0101	KIAA0101	-2.69
SPC24	SPC24, NDC80 kinetochore complex component, homolog (<i>S. cerevisiae</i>)	-2.71
GINS2	GINS complex subunit 2 (Psf2 homolog)	-2.71
RACGAP1	Rac GTPase activating protein 1	-2.73
HAS2	hyaluronan synthase 2	-2.73
PTTG3	pituitary tumor-transforming 3	-2.76
FEN1	flap structure-specific endonuclease 1	-2.77
CDC45L	CDC45 cell division cycle 45-like (<i>S. cerevisiae</i>)	-2.78
PBK	PDZ binding kinase	-2.80
NCAPG2	non-SMC condensin II complex, subunit G2	-2.80
CDCA7	cell division cycle associated 7	-2.81
CDCA3	cell division cycle associated 3	-2.84
TYMS	thymidylate synthetase	-2.86
KIF20B	kinesin family member 20B	-2.87
ANLN	anillin, actin binding protein	-2.90
CDKN3	cyclin-dependent kinase inhibitor 3 (CDK2-associated dual specificity phosphatase)	-2.91
PSRC1	proline/serine-rich coiled-coil 1	-2.91
CDC2	cell division cycle 2, G1 to S and G2 to M	-2.91
ASPM	asp (abnormal spindle) homolog, microcephaly associated (<i>Drosophila</i>)	-2.92
CCNF	cyclin F	-2.94
C11orf82	chromosome 11 open reading frame 82	-2.95
TACC3	transforming, acidic coiled-coil containing protein 3	-2.95
STMN1	stathmin 1/oncoprotein 18	-2.97
WNK4	WNK lysine deficient protein kinase 4	-2.98
KIF23	kinesin family member 23	-3.01
CENPM	centromere protein M	-3.02
CENPF	centromere protein F, 350/400ka (mitosin)	-3.03
MCM7	minichromosome maintenance complex component 7	-3.05
POLQ	polymerase (DNA directed), theta	-3.06
TOP2A	topoisomerase (DNA) II alpha 170kDa	-3.06
ATAD2	ATPase family, AAA domain containing 2	-3.09
SCARA3	scavenger receptor class A, member 3	-3.09
PTTG1	pituitary tumor-transforming 1	-3.11
BUB1	BUB1 budding uninhibited by benzimidazoles 1 homolog (yeast)	-3.11
C9orf140	chromosome 9 open reading frame 140	-3.14
NUSAP1	nucleolar and spindle associated protein 1	-3.15
PRR11	proline rich 11	-3.18
CCNB2	cyclin B2	-3.18
TTK	TTK protein kinase	-3.19
SGOL1	shugoshin-like 1 (<i>S. pombe</i>)	-3.19
TMSL8	thymosin-like 8	-3.21
APOBEC3B	apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3B	-3.21

Table S1. Continued

Gene Symbol	Gene Description	Fold Change
KIF4A	kinesin family member 4A	-3.22
NCAPG	non-SMC condensin I complex, subunit G	-3.24
BIRC5	baculoviral IAP repeat-containing 5	-3.25
CTSC	cathepsin C	-3.27
FAM64A	family with sequence similarity 64, member A	-3.28
PKMYT1	protein kinase, membrane associated tyrosine/threonine 1	-3.28
TRIP13	thyroid hormone receptor interactor 13	-3.29
CENPA	centromere protein A	-3.31
PLK4	polo-like kinase 4 (Drosophila)	-3.36
CDCA5	cell division cycle associated 5	-3.38
PRC1	protein regulator of cytokinesis 1	-3.39
CDCA2	cell division cycle associated 2	-3.42
CEP55	centrosomal protein 55kDa	-3.45
TPX2	TPX2, microtubule-associated, homolog (Xenopus laevis)	-3.48
C11orf87	chromosome 11 open reading frame 87	-3.52
TK1	thymidine kinase 1, soluble	-3.53
GTSE1	G-2 and S-phase expressed 1	-3.53
DLG7	discs, large homolog 7 (Drosophila)	-3.56
HJURP	Holliday junction recognition protein	-3.57
KIF2C	kinesin family member 2C	-3.61
UBE2C	ubiquitin-conjugating enzyme E2C	-3.61
SHISA2	shisa homolog 2 (Xenopus laevis)	-3.63
PODXL	podocalyxin-like	-3.68
TROAP	trophinin associated protein (tastin)	-3.70
LMNB1	lamin B1	-3.75
CKAP2L	cytoskeleton associated protein 2-like	-3.76
FOXM1	forkhead box M1	-3.76
AURKB	aurora kinase B	-3.81
RRM2	ribonucleotide reductase M2 polypeptide	-4.05
AURKA	aurora kinase A	-4.05
KIF20A	kinesin family member 20A	-4.14
CDCA8	cell division cycle associated 8	-4.18
HMMR	hyaluronan-mediated motility receptor (RHAMM)	-4.23
KIFC1	kinesin family member C1	-4.24
CCNA2	cyclin A2	-4.48
FAM83D	family with sequence similarity 83, member D	-4.49
CDC20	cell division cycle 20 homolog (S. cerevisiae)	-4.50
TAGLN3	transgelin 3	-4.91
NEFM	neurofilament, medium polypeptide 150kDa	-6.00

Fold changes are for comparison between MSCs harvested at high cell confluence (~90%) and at low cell confluence (~50%). Positive values indicate higher and negative values indicate lower expression in MSCs harvested at high cell density. CC1, culture condition 1; CC3, culture condition 3. $p < 0.05$.