

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Probe Set ID	Gene Symbol	Gene Title
Bt.9979.1.S1_at	CHRNA5	cholinergic receptor, nicotinic, alpha 5
Bt.8132.1.S1_at	HRG	histidine-rich glycoprotein
Bt.26755.2.S1_a_at	LOC783009	similar to KIAA0674 protein
Bt.26636.1.S1_at	NKG7	natural killer cell group 7 sequence
Bt.26126.1.A1_at	LOC783038	Hypothetical protein LOC783038
Bt.25683.1.A1_at	MGC134028	similar to IILG9 protein
Bt.22408.1.S1_at	LOC407176	calcium activated potassium channel beta subunit
Bt.21044.2.A1_at	---	Transcribed locus, moderately similar to NP_057236.1 retinoic acid receptor, bet
Bt.17231.1.A1_at	MGC179444	similar to putative protein product of HYST1046
Bt.1207.1.S1_at	MGC139592	similar to solute carrier family 16 (monocarboxylic acid transporters), member 1
Bt.11341.1.A1_at	NNAT	Neuronatin
Bt.8555.2.S1_at	LOC505941	similar to ribosome binding protein 1
Bt.8363.2.S1_at	KCNK1	potassium channel, subfamily K, member 1
Bt.729.1.S1_at	LOC788224	similar to Rse
Bt.7209.1.S1_at	CRHR1	corticotropin releasing hormone receptor 1
Bt.7196.1.S1_at	LOC404111	epidermal keratin VII
Bt.7168.1.S1_at	LOC513668	similar to collagen, type XXVII, alpha 1
Bt.6509.2.S1_at	LOC511043	Similar to laminin 5 gamma 2 subunit
Bt.6007.1.S1_at	LOC519777	Similar to Suppressor of variegation 4-20 homolog 2 (Drosophila)
Bt.5194.2.S1_a_at	WBP1	WW domain binding protein 1
Bt.4858.1.S1_at	LOC504250	similar to dihydropyrimidinase related protein-1
Bt.48.1.S1_a_at	CD28	CD28 molecule
Bt.4768.1.S1_at	JAM1	junctional adhesion molecule 1
Bt.4414.2.S1_at	LOC532273	hypothetical LOC532273
Bt.4298.3.S1_a_at	GPR172A	G protein-coupled receptor 172A
Bt.4133.1.S1_at	RGS16	regulator of G-protein signaling 16
Bt.4074.1.S1_at	FUT	alpha 1,3 fucosyltransferase
Bt.4057.2.S1_at	MYH10	myosin, heavy chain 10, non-muscle
Bt.37.2.S1_a_at	LHCGR	luteinizing hormone/choriogonadotropin receptor
Bt.29794.1.S1_at	---	Glucose induced gene (clone 2C) [cattle, thoracic aorta smooth muscle cells, mRN
Bt.29794.1.A1_at	---	Glucose induced gene (clone 2C) [cattle, thoracic aorta smooth muscle cells, mRN
Bt.29763.1.S1_at	TRB@	T cell receptor, beta cluster
Bt.29683.1.A1_at	HYAL2	Hyaluronoglucosaminidase 2
Bt.29462.1.S1_at	MGC137262	similar to cell division cycle associated 2
Bt.29179.1.S1_at	POLR2F	polymerase (RNA) II (DNA directed) polypeptide F
Bt.2867.1.S1_at	SCHIP1	schwannomin interacting protein 1
Bt.28401.2.A1_at	LOC514978	similar to lipopolysaccharide binding protein
Bt.2833.1.S1_at	LOC510764	similar to SAPS2 protein
Bt.28277.1.A1_at	LOC781988	hypothetical protein LOC781988
Bt.28014.1.S1_at	LOC407172	cAMP-gated channel
Bt.28004.2.S1_at	LOC505306	Hypothetical LOC505306
Bt.27681.1.A1_at	LOC539023	similar to tripartite motif-containing 36
Bt.27484.1.A1_at	PLXNA3	plexin A3
Bt.27329.1.A1_at	LOC541200	similar to 5-HT5A serotonin receptor
Bt.27319.1.A1_at	MGC151855	hypothetical LOC508022
Bt.26827.1.S1_at	KLHL12	kelch-like 12
Bt.26798.1.S1_at	GPR114	G-protein coupled receptor 114
Bt.26529.1.S1_at	DOK1	docking protein 1
Bt.26356.1.A1_at	MGC142602	similar to Glutamate decarboxylase 1 (Glutamate decarboxylase, 67 kDa isoform) (
Bt.26153.2.A1_at	LOC615350	Hypothetical LOC615350
Bt.25955.1.A1_at	LOC538986	similar to Fidgetin-like 1
Bt.25924.1.A1_at	MGC160119	similar to Family with sequence similarity 64, member A
Bt.25911.1.A1_at	LOC521943	similar to Zinc finger and BTB domain containing 8
Bt.25800.1.A1_at	FLJ32660	hypothetical protein LOC509524
Bt.25767.2.A1_at	LOC527517	similar to putative G protein-coupled receptor
Bt.25666.1.A1_at	FAM19A5	similar to TAF5
Bt.2551.1.S1_at	CCNA2 ///	cyclin A2 /// similar to Cyclin A2
Bt.2519.1.S1_at	PLAU	plasminogen activator, urokinase
Bt.25040.1.S1_at	MGC142697	similar to Plakophilin-3
Bt.24882.2.S1_at	MAP1B	microtubule-associated protein 1B
Bt.24739.1.S1_at	ELA2	elastase 2, neutrophil
Bt.24643.1.S1_at	APOBEC2	apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 2
Bt.24381.2.S1_at	LOC784292	similar to dCMP deaminase
Bt.23582.1.A1_at	NOX4	NADPH oxidase 4
Bt.23480.1.S1_at	MGC143269	similar to distal-less homeobox protein
Bt.23250.3.A1_at	AHSG	Alpha-2-HS-glycoprotein
Bt.23126.2.A1_at	NOS2A	nitric oxide synthase 2A (inducible, hepatocytes)
Bt.23094.2.A1_at	LOC785762	similar to prostaglandin F synthase-like1 protein
Bt.22950.1.S1_at	CRISP-1	cysteine-rich secretory protein 1
Bt.22599.1.A1_at	MGC137443	similar to L-threonine dehydrogenase
Bt.21998.1.S1_at	LOC504797	similar to zinc finger transcription factor TReP-132
Bt.2121.2.S1_at	LOC522383	similar to nestin
Bt.21130.1.S1_at	LOC508029	similar to KNP3
Bt.21087.2.S1_at	MGC143310	similar to putative transcription factor
Bt.2092.3.S1_at	LOC506953	similar to Integrin alpha-7 precursor
Bt.20880.1.S1_at	MGC140206	similar to p53-regulated receptor for death and life
Bt.20778.2.S1_at	LOC510050	similar to TG-interacting factor
Bt.19690.1.A1_at	PON1	paraoxonase 1
Bt.19376.1.A1_at	G6PC	Glucose-6-phosphatase, catalytic subunit
Bt.19.2.A1_at	SLC24A1	solute carrier family 24 (sodium/potassium/calcium exchanger), member 1
Bt.18834.1.A1_at	LOC538993	similar to KIAA0748 protein
Bt.18616.2.A1_at	LOC537010	Similar to striatin, calmodulin binding protein
Bt.17928.2.A1_at	LOC532126	similar to transmembrane protein 16A
Bt.17928.1.A1_at	LOC532126	similar to transmembrane protein 16A
Bt.17885.1.A1_at	LOC531389	hypothetical LOC531389
Bt.17609.1.A1_at	LOC531398	similar to KIAA1290 protein

1

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.1745.1.S1_at	KRT18	keratin 18
Bt.17307.1.A1_at	LOC785202	similar to RIKEN cDNA 2510048L02 gene
Bt.17047.1.A1_at	MGC140771	similar to HUD3
Bt.16377.1.S1_at	MBP	myelin basic protein
Bt.16073.1.A1_at	LOC533166	similar to mosaic protein LR11
Bt.16047.1.S1_at	CDC45	cell division cycle associated 5
Bt.15601.2.S1_at	XRCC3	X-ray repair complementing defective repair in Chinese hamster cells 3
Bt.14579.2.S1_at	WRNIP1	Werner helicase interacting protein 1
Bt.13922.1.A1_at	MGC140381	similar to hairy and enhancer of split 6
Bt.13721.1.S1_at	LOC512371	Similar to tumor protein p53 inducible protein 5
Bt.13470.2.S1_at	LOC787630	hypothetical protein LOC787630
Bt.13092.1.S1_at	MMP7	matrix metalloproteinase 7 (matrilysin, uterine)
Bt.13030.2.A1_at	COL2A1	collagen, type II, alpha 1
Bt.13003.9.S1_at	TRA@	T cell receptor, alpha
Bt.13003.9.A1_at	TRA@	T cell receptor, alpha
Bt.12989.1.S1_at	SEC14L2	SEC14-like 2 (S. cerevisiae)
Bt.12818.3.A1_x_at	TSPY	testis-specific protein, Y-encoded
Bt.12636.1.A1_at	LOC514609	similar to BCM-like membrane protein
Bt.12328.1.S1_at	LOC533089	similar to centromere protein F (350/400kD)
Bt.11506.1.A1_at	alpha globin	hemoglobin alpha chain
Bt.11410.1.A1_at	LOC512401	hypothetical LOC512401
Bt.11226.2.S1_at	LOC507102	similar to sterol regulatory element-binding transcription factor 2
Bt.11040.1.S1_at	LOC785319	similar to Neural cell adhesion molecule 1, 180 kDa isoform precursor (N-CAM 180)
Bt.10719.1.S1_at	MGC140227	similar to Myosin light polypeptide 4 (Myosin light chain 1, embryonic muscle/at
Bt.106.1.S1_at	ALPI	alkaline phosphatase, intestinal
BtAffx.1.9.S1_at	NPPA	natriuretic peptide precursor A
BtAffx.1.6.S1_at	OSM	oncostatin M
BtAffx.1.16.S1_s_at	5-OPase	5-oxo-L-prolinase
Bt.9987.1.S1_at	LOC513008	similar to deleted in neuroblastoma 5
Bt.9986.2.S1_at	LOC513431	Hypothetical LOC513431
Bt.9957.1.S1_a_at	SFN	stratifin
Bt.9868.3.S1_a_at	LOC522614	similar to aarF domain containing kinase 5
Bt.9863.1.S1_at	LOC523367	hypothetical LOC523367
Bt.9832.2.S1_at	MUSTN1	musculoskeletal, embryonic nuclear protein 1
Bt.9789.1.S1_at	mash2	achaete-scute complex-like protein 2 /// achaete scute-like protein 2
Bt.9683.1.A1_at	MGC148604	similar to lymphocyte antigen 6 complex, locus G6E
Bt.9656.1.S1_at	MARK4	MAP/microtubule affinity-regulating kinase 4
Bt.9654.1.S1_at	LOC510193	similar to Apolipoprotein L, 3
Bt.964.1.S1_at	MGC148510	thymidine kinase 1, soluble
Bt.9632.1.S1_a_at	MUCIN	gall-bladder mucin
Bt.9595.1.S1_at	LOC509961	hypothetical LOC509961
Bt.9563.1.S1_at	ASZ1	ankyrin repeat, SAM and basic leucine zipper domain containing 1
Bt.9483.1.S1_at	ITGAD	integrin, alpha D
Bt.942.2.S1_at	LOC517717 /// MGC142499	hypothetical LOC517717 /// similar to SAM domain and HD domain-containing protei
Bt.9412.1.S1_at	LOC781493	similar to collagen, type XIV, alpha 1
Bt.9306.3.S1_at	MARS	methionyl-tRNA synthetase
Bt.9261.1.S1_at	LOC787353	hypothetical protein LOC787353
Bt.9196.1.A1_at	LOC513220	similar to antigen identified by monoclonal antibody Ki-67
Bt.9163.1.A1_at	P2RY10	purinergic receptor P2Y, G-protein coupled, 10
Bt.9159.1.S1_at	MOBKLA2	MOB1, Mps One Binder kinase activator-like 2A (yeast)
Bt.9139.1.A1_at	LOC616332	hypothetical LOC616332
Bt.9032.3.A1_at	TCRG	T-cell receptor gamma chain
Bt.9032.2.A1_at	TRGC3	T cell receptor gamma C3
Bt.9028.1.S1_at	TYR	tyrosinase
Bt.9025.1.S1_at	ITPR3	inositol 1,4,5-triphosphate receptor, type 3
Bt.891.1.S1_at	LOC508292	similar to Chromosome 16 open reading frame 77
Bt.8889.1.S1_at	LOC515924	Similar to ret proto-oncogene
Bt.8869.1.S1_at	LOC534002	similar to Serine/arginine repetitive matrix protein 2
Bt.8834.2.S1_a_at	NRM	nurim (nuclear envelope membrane protein)
Bt.8822.1.A1_at	MGC152173	similar to inward rectifier potassium channel Kir1.2
Bt.8804.1.S1_at	MGC166235	similar to nel-related protein 2
Bt.8694.2.S1_at	LOC789036	similar to cask-interacting protein 2
Bt.8624.2.S1_at	ARG2	arginase, type II
Bt.8601.1.S1_at	LOC617280	similar to Rho guanine nucleotide exchange factor (GEF) 19
Bt.86.1.S1_at	SERPINF2	serpin peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium der
Bt.8597.2.S1_at	TOP3B	topoisomerase (DNA) III beta
Bt.8543.1.S1_at	TIMAP	CAAX box protein TIMAP
Bt.8479.1.A1_at	NOS2A	nitric oxide synthase 2A (inducible, hepatocytes)
Bt.8282.1.S2_at	DPP4 /// LOC784693	dipeptidyl-peptidase 4 (CD26, adenosine deaminase complexing protein 2) /// simi
Bt.8279.1.A1_at	MGC128000	Similar to nuclear protein E3-3
Bt.8232.1.S1_at	PPP1R16A	Protein phosphatase 1, regulatory (inhibitor) subunit 16A
Bt.8145.1.S1_at	SMCX	Smcx homolog, X chromosome (mouse)
Bt.8141.1.A1_at	UGT8	UDP glycosyltransferase 8 (UDP-galactose ceramide galactosyltransferase)
Bt.8127.1.S2_at	HPSE	heparanase
Bt.8030.2.S1_at	RGS3	regulator of G-protein signaling 3
Bt.8030.1.S1_at	RGS3	regulator of G-protein signaling 3
Bt.7990.2.S1_at	LOC517259	similar to molecule interacting with Rab13
Bt.797.1.S1_at	LOC616570	similar to Hydrogen voltage-gated channel 1
Bt.7960.1.S1_at	CD1A /// CD1B /// LOC618200	CD1b molecule /// CD1a molecule /// similar to CD1b3
Bt.7948.1.S1_at	LOC518833	similar to KIAA1168 protein
Bt.794.1.S1_at	MGC151650	similar to SCG10-related protein HiAT3
Bt.7872.1.S1_at	CBR1	carbonyl reductase 1
Bt.7860.2.S1_a_at	LOC534119	similar to beta-dystrobrevin
Bt.7741.1.S1_at	ApoC3	apolipoprotein C-III
Bt.7677.1.S1_at	TMEM59L	transmembrane protein 59-like

2

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.7641.1.S1_at	PDXK	pyridoxal (pyridoxine, vitamin B6) kinase
Bt.762.1.S1_at	TMUB1	transmembrane and ubiquitin-like domain containing 1
Bt.7338.1.S1_at	LOC539721	hypothetical LOC539721
Bt.73.1.S1_at	COL10A1	collagen, type X, alpha 1 (Schmid metaphyseal chondrodysplasia)
Bt.7213.1.S1_at	IL12RB2	interleukin 12 receptor, beta 2
Bt.7211.1.S1_at	SIAT4A	sialyltransferase 4A (beta-galactosidase alpha-2,3-sialyltransferase)
Bt.7179.1.S1_a_at	MMP23B	matrix metalloproteinase 23B
Bt.7174.1.S1_at	LOC533435	hypothetical LOC533435
Bt.7126.1.S1_at	LOC616326	similar to Chromosome 14 open reading frame 131
Bt.7034.1.S1_at	ITGB1BP3	integrin beta 1 binding protein 3
Bt.7003.2.S1_at	LPXN	leupaxin
Bt.6976.1.S1_at	SELPG	selectin P ligand
Bt.6849.1.S1_at	SEC23B	Sec23 homolog B (S. cerevisiae)
Bt.6724.2.S1_a_at	HGS	hepatocyte growth factor-regulated tyrosine kinase substrate
Bt.6710.2.S1_at	LOC516108	hypothetical LOC516108
Bt.6700.1.A1_at	LOC515917	similar to trophoblast Kunitz domain protein 2
Bt.6670.1.S1_at	CHF2	cardiovascular basic helix-loop-helix factor 2
Bt.6654.1.S1_at	LOC521224	similar to Ras GTPase-activating protein 4 (RasGAP-activating-like protein 2) (C
Bt.6620.1.S1_at	MYH7	myosin, heavy chain 7, cardiac muscle, beta
Bt.6509.3.S1_a_at	LOC511043	similar to laminin 5 gamma 2 subunit
Bt.6507.2.A1_s_at	LOC509889	Hypothetical LOC509889
Bt.6413.1.S1_at	MGC127064	hypothetical protein LOC616622
Bt.6116.3.S1_at	HTRA2	HtrA serine peptidase 2
Bt.6072.1.S1_a_at	STX1A	syntaxin 1A (brain)
Bt.6056.1.S1_at	LOC615408	similar to septin 5
Bt.6025.1.S1_at	SLC27A1	solute carrier family 27 (fatty acid transporter), member 1
Bt.597.1.S1_at	MMP20	matrix metalloproteinase 20 (enamelysin)
Bt.5945.1.A1_at	ITIH4	inter-alpha (globulin) inhibitor H4 (plasma Kallikrein-sensitive glycoprotein)
Bt.594.1.S1_at	LOC286871	uterine milk protein precursor
Bt.5878.2.S1_at	SDS	serine dehydratase
Bt.5848.1.S1_at	ATP2A1	ATPase, Ca++ transporting, cardiac muscle, fast twitch 1
Bt.5839.1.S1_at	TSEN2	tRNA splicing endonuclease 2 homolog (S. cerevisiae)
Bt.5819.1.S1_at	LOC513643	similar to Forkhead box protein M1 (Forkhead-related protein FKHL16) (Hepatocyte
Bt.5770.1.A1_at	SMPD2	sphingomyelin phosphodiesterase 2, neutral membrane (neutral sphingomyelinase)
Bt.576.1.S1_at	BSP30B	common salivary protein BSP30, form b
Bt.5718.1.S1_at	CACNA1G	calcium channel, voltage-dependent, T type, alpha 1G subunit
Bt.565.1.S1_at	CCRL1	chemokine (C-C motif) receptor-like 1
Bt.5585.1.S1_at	MGC137174	Similar to Protein KIAA0317
Bt.5579.1.S1_at	LOC540545	hypothetical LOC540545
Bt.5577.1.S1_at	LOC506293	similar to DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11
Bt.5550.1.S1_at	IMPG1	interphotoreceptor matrix proteoglycan 1
Bt.5525.1.S1_at	LOC524222	similar to extracellular matrix protein 1
Bt.549.1.A1_at	AMBP	alpha-1-microglobulin/bikunin precursor
Bt.5448.1.S1_at	CHGB	chromogranin B (secretogranin 1)
Bt.5430.1.S1_at	BCAN	brevican
Bt.5391.1.S1_at	KERA	keratocan
Bt.5360.2.S1_at	PAPOLB	poly(A) polymerase beta (testis specific)
Bt.5354.1.S1_at	CSN1S2	casein alpha-S2
Bt.5353.2.S1_a_at	SSBP4	single stranded DNA binding protein 4
Bt.5271.1.S1_at	LOC504986	similar to polycystin 1; polycystic kidney disease 1
Bt.5262.1.S1_at	MGC157179	similar to Cyclin F
Bt.5237.1.S1_at	IGFBP4	insulin-like growth factor binding protein 4
Bt.5194.3.S1_a_at	WBP1	WW domain binding protein 1
Bt.5177.1.S1_at	MGC137853	similar to BMP and activin membrane-bound inhibitor homolog precursor (Putative
Bt.5129.1.S1_a_at	NNAT	neuronatin
Bt.510.1.S1_at	TAP	tracheal antimicrobial peptide
Bt.5087.1.S1_at	PNPLA6	patatin-like phospholipase domain containing 6
Bt.507.1.S1_at	UCP1	uncoupling protein 1
Bt.5061.1.S1_at	PFKL	phosphofructokinase, liver
Bt.5046.2.A1_a_at	LOC506670	similar to Solute carrier family 7, (cationic amino acid transporter, y+ system)
Bt.5038.3.S1_at	FGF1	fibroblast growth factor 1 (acidic)
Bt.499.1.S1_a_at	PRLR	prolactin receptor
Bt.4899.1.S1_at	LOC510465	similar to Mucoepidermoid carcinoma translocated protein 1 (Transducer of regula
Bt.4865.1.S1_at	LOC540451	similar to emilin
	LOC787239 ///	
Bt.4860.1.S1_at	SYT1	synaptotagmin I /// similar to Synaptotagmin-1 (Synaptotagmin I) (Syt1) (p65)
Bt.4774.1.S1_at	GNAT1	guanine nucleotide binding protein (G protein), alpha transducing activity poly
Bt.4760.1.S1_at	HSD3B1	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1
Bt.473.1.S1_a_at	NGT1	guanine nucleotide binding protein (G protein), gamma transducing activity poly
Bt.4714.1.S1_at	MMP9	matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collage
Bt.4698.1.S1_at	TIE	tyrosine kinase with immunoglobulin and epidermal growth factor homology domains
Bt.4695.1.S1_at	PIGR	polymeric immunoglobulin receptor
Bt.4630.1.S1_at	RNASE1	ribonuclease
Bt.4614.1.S1_at	LOC511558	similar to glycerol 3-phosphate permease
Bt.4597.1.S1_at	GPR68	G protein-coupled receptor 68
Bt.4553.3.S1_a_at	LOC526472	similar to CLIM2
Bt.4547.2.S1_a_at	NTT73	homolog of rat orphan transporter v7-3
	LOC751563 ///	
Bt.454.1.S1_at	PRP1	prolactin-related protein 1 /// prolactin-related protein 12
Bt.452.1.S1_at	GPLD1	glycosylphosphatidylinositol specific phospholipase D1
Bt.45.1.S1_at	CCIN	calicin
Bt.4480.1.S1_at	GUCY1A3	guanylate cyclase 1, soluble, alpha 3
Bt.448.1.S1_at	PLCB1	phospholipase C, beta 1 (phosphoinositide-specific)
Bt.4387.2.S1_at	NAGK	N-acetylglucosamine kinase
Bt.4375.1.S1_at	B4GALT3	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 3
Bt.4332.1.S1_at	CEBPA	CCAAT/enhancer binding protein (C/EBP), alpha
Bt.4321.1.S1_at	CISH	cytokine inducible SH2-containing protein
Bt.430.1.S1_a_at	CSH1	chorionic somatomammotropin hormone 1 (placental lactogen)

3

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.4297.1.S2_at	CYP11B1	cytochrome P450, subfamily XI B, polypeptide 1
Bt.423.1.S1_at	IL4	interleukin 4
Bt.4210.1.A1_a_at	KNG	kininogen
Bt.4194.1.S1_at	TTYH2	tweety homolog 2
Bt.4071.1.S1_at	MGC148652	Hypothetical LOC616916
Bt.3994.2.S1_a_at	SMN	survival motor neuron
Bt.3930.1.S1_at	ASMT	acetylserotonin O-methyltransferase
Bt.3885.4.S1_a_at	CLCA3 ///	chloride channel, calcium activated, family member 3 ///
Bt.3863.1.S1_at	LOC784768	similar to calcium-acti
Bt.3760.1.A1_at	ZFP36	zinc finger protein 36, C3H type, homolog (mouse)
Bt.3757.1.S1_at	MGC139033	similar to suppression of tumorigenicity 5
Bt.3731.1.S1_at	LOC523865	similar to Myeloid zinc finger 1
Bt.373.3.S1_a_at	LOC787458	similar to fibrillin3
Bt.372.1.S1_at	AMELX ///	amelogenin (amelogenesis imperfecta 1, X-linked) ///
Bt.37.1.S1_at	AMELY	amelogenin, Y-linked
Bt.3686.1.S1_at	AKAP5	A kinase (PRKA) anchor protein 5
Bt.365.1.S2_at	LHCGR	luteinizing hormone/choriogonadotropin receptor
Bt.3538.3.S1_at	IL6	interleukin 6 (interferon, beta 2)
Bt.3457.1.S1_at	SYNJ1	synaptojanin 1
Bt.341.1.S1_at	MGC128098	similar to anterior pharynx defective 1a homolog
Bt.3406.1.S1_at	TBC1D10A	TBC1 domain family, member 10A
Bt.3371.1.S1_at	IL2	interleukin 2
Bt.3360.2.S1_at	MGC139318	hypothetical LOC508503
Bt.3360.1.S1_at	POLR2A	Polymerase (RNA) II (DNA directed) polypeptide A, 220kDa
Bt.3339.1.S1_at	LOC510120	similar to MCM2 minichromosome maintenance deficient 2, mitotin (S. cerevisiae)
Bt.3323.1.S1_at	LOC521410	hypothetical LOC521410
Bt.3315.1.A1_at	MGC134547	similar to peptidylprolyl isomerase-like 2
Bt.3255.1.A1_at	SEMA4A	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cyt
Bt.3225.3.A1_at	LOC508175	similar to KIAA0315
Bt.3194.1.S1_at	MGC139689	similar to D-lactate dehydrogenase isoform 2 precursor
Bt.3194.1.S1_at	ABP1	amiloride binding protein 1 (amine oxidase (copper-containing))
Bt.3194.1.S1_at	LOC506423	Similar to Glucose 6-phosphate translocase (Glucose 5-phosphate transporter) (So
Bt.3194.1.S1_at	LOC511594	similar to cell adhesion molecule JCAM
Bt.3194.1.S1_at	SNAI1	snail homolog 1 (Drosophila)
Bt.3194.1.S1_at	BAT3	HLA-B associated transcript 3
Bt.3194.1.S1_at	RCV1	recoverin
Bt.3194.1.S1_at	MAP3K12	mitogen-activated protein kinase kinase 12
Bt.3194.1.S1_at	LOC522068	similar to small optic lobes homolog
Bt.3194.1.S1_at	LOC508078	similar to mKIAA0870 protein
Bt.3194.1.S1_at	TRMT12	tRNA methyltransferase 12 homolog (S. cerevisiae)
Bt.3194.1.S1_at	MGC140559	similar to transmembrane protein 68
Bt.3194.1.S1_at	RBM15B	RNA binding motif protein 15B
Bt.3194.1.S1_at	IL-18Ra	IL-18 receptor alpha
Bt.3194.1.S1_at	LOC407218	calcitonin receptor-stimulating peptide-1
Bt.3194.1.S1_at	SP-A	surfactant protein A
Bt.3194.1.S1_at	hare	putative hyaluronan receptor for endocytosis
Bt.3194.1.S1_at	LOC407118	GABA transporter GAT-1 homolog
Bt.3194.1.S1_at	OMG	oligodendrocyte myelin glycoprotein
Bt.3194.1.S1_at	LOC540382	cannabinoid receptor 1
Bt.3194.1.S1_at	BOLA-NC1	Non-classical MHC class I antigen
Bt.3194.1.S1_x_at	BOLA	MHC class I heavy chain
Bt.3194.1.S1_at	---	Clone 2 immunoglobulin heavy chain variable region (VH)
Bt.3194.1.S1_at	SIAT1	Sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase)
Bt.3194.1.S1_s_at	SIAT1	Sialyltransferase 1 (beta-galactoside alpha-2,6-sialyltransferase)
Bt.3194.1.S1_at	---	Glutathione-S-transferase (GST) specific immunoglobulin heavy chain variable reg
Bt.3194.1.S1_at	---	Glutathione-S-transferase (GST) specific immunoglobulin heavy chain variable reg
Bt.3194.1.S1_at	---	Immunoglobulin lambda light chain variable region (Ig V1a)
Bt.3194.1.S1_at	LOC407184	steroidogenic factor 1
Bt.3194.1.S1_at	TRPC3	transient receptor potential cation channel, subfamily C, member 3
Bt.3194.1.S1_at	LOC509384	Similar to T-cell receptor beta chain
Bt.3194.1.S1_at	---	B4 cell-line anti-respiratory syncytial virus Ig lambda chain V region (IgL)
Bt.3194.1.S1_at	---	B4 cell-line anti-respiratory syncytial virus Ig lambda chain V region (IgL)
Bt.3194.1.S1_at	---	Immunoglobulin variable region
Bt.3194.1.S1_at	zo3	tight junction protein 3
Bt.29691.1.S1_at	BVd1.18 ///	T cell receptor delta chain variable region ///
Bt.29688.1.A1_at	LOC786720	hypothetical protein LOC786720
Bt.29688.1.A1_at	BVd1.22	T cell receptor delta chain variable region
Bt.29683.1.S1_x_at	HYAL2	Hyaluronoglucosaminidase 2
Bt.29682.1.S1_at	LOC407199	T cell receptor delta chain
Bt.2965.2.S1_at	MGC148363	similar to growth arrest specific 11
Bt.29631.1.A1_at	---	Transcribed locus, strongly similar to NP_033401.1 thyroglobulin [Mus musculus]
Bt.29612.1.A1_at	LOC538467	similar to putative T7-like mitochondrial DNA helicase
Bt.29515.1.A1_at	LOC509187	similar to high mobility group AT-hook 1-like 4
Bt.29469.1.A1_at	LOC526526	similar to small GTPase RAB6B
Bt.29298.1.A1_at	NKAPL	NFKB activating protein-like
Bt.29293.1.A1_at	MGC159470	similar to transcript expressed during hematopoiesis 2
Bt.2928.3.S1_a_at	PPP1R13L	protein phosphatase 1, regulatory (inhibitor) subunit 13 like
Bt.2928.1.S1_at	PPP1R13L	protein phosphatase 1, regulatory (inhibitor) subunit 13 like
Bt.29258.2.A1_at	LOC789849 ///	LOC789849 ///
Bt.29147.1.S1_at	MADCAM1	mucosal vascular addressin cell adhesion molecule 1 ///
Bt.29137.1.A1_at	PSMD13	Proteasome (prosome, macropain) 26S subunit, non-ATPase, 13
Bt.29137.1.A1_at	FASTK	Fas-activated serine/threonine kinase
Bt.29133.1.A1_at	LOC782888 ///	LOC782888 ///
Bt.29080.1.A1_at	LOC784090	hypothetical protein LOC782888 ///
Bt.29076.1.S1_at	LOC784090	hypothetical protein LOC784090
Bt.29076.1.S1_at	TINAG	tubulointerstitial nephritis antigen
Bt.29059.1.A1_at	LOC510079	similar to HSPC323
Bt.29059.1.A1_at	LOC513936	similar to N-benzoyl-L-tyrosyl-p-amino-benzoic acid hydrolase alpha subunit
Bt.29019.1.S1_at	FOV	foveolin precursor

4

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.28966.1.S1_at	LOC100125947 /// LOC507201	phospholipase A2 group IIA-like /// hypothetical protein LOC100125947
Bt.2892.1.S1_at	FABP7	fatty acid binding protein 7, brain
Bt.28908.1.A1_at	---	Transcribed locus, strongly similar to XP_869038.2 PREDICTED: similar to mFLJ003
Bt.28891.1.S1_at	LOC614174	similar to Double-headed protease inhibitor, submandibular gland
Bt.28865.1.A1_at	RPS8	ribosomal protein S8
Bt.28836.1.S1_at	LOC538749 /// MGC139910	similar to KIAA0666 protein /// hypothetical LOC538749
Bt.28828.1.S1_at	MGC148379	similar to LAMP
Bt.28826.1.A1_at	LOC511100	Similar to Opa interacting protein 5
Bt.288.1.S1_at	PAG15	pregnancy-associated glycoprotein 15
Bt.28797.2.S1_at	CENP-N	centromere protein N
Bt.28795.1.A1_at	CAPNS1	calpain, small subunit 1
Bt.28759.1.A1_at	LOC539452	similar to SLIT-ROBO Rho GTPase activating protein 1
Bt.28751.1.S1_at	LOC615257	similar to enterocytin
Bt.28745.1.S1_at	F2RL1	coagulation factor II (thrombin) receptor-like 1
Bt.28740.1.S1_at	REG4	regenerating islet-derived family, member 4
Bt.28707.1.S1_at	LOC618833	similar to IQ motif containing E
Bt.28675.1.S1_at	LOC407169	12-lipoxygenase
Bt.28664.1.A1_at	MGC140449	similar to catechol O-methyltransferase, membrane-bound form
Bt.28604.1.S1_at	MGC137499	hypothetical LOC511775
Bt.28552.2.S1_at	GPI7	GPI7 protein
Bt.28518.1.S1_at	LOC404103 /// PTI	spleen trypsin inhibitor /// pancreatic trypsin inhibitor
Bt.28510.1.S1_at	CHN2	chimerin (chimaerin) 2
Bt.28494.7.S1_at	LOC524810	IgM
Bt.28494.2.A1_at	LOC524810	IgM
Bt.28487.1.S1_at	ART4	ADP-ribosyltransferase 4 (Dombrock blood group)
Bt.28476.1.S1_at	MOGAT1	monoacylglycerol O-acyltransferase 1
Bt.28461.1.S1_a_at	INSR	insulin receptor
Bt.28461.1.A1_at	INSR	insulin receptor
Bt.28460.1.S1_at	SNRPD3	small nuclear ribonucleoprotein D3 polypeptide 18kDa
Bt.28423.1.S1_at	LOC541051	similar to KIAA0984 protein
Bt.28392.1.S1_at	LOC531539	Similar to KIAA1609 protein
Bt.28358.1.A1_at	MLZE	melanoma-derived leucine zipper, extra-nuclear factor
Bt.28335.1.A1_at	ITLN2 /// LOC786046 /// LOC788773	intelectin 2 /// similar to endothelial lectin HL-2
Bt.28329.1.S1_at	MGC155124	hypothetical LOC510914
Bt.28307.1.S1_at	LOC525823	hypothetical LOC525823
Bt.28276.1.S1_at	MGC127939	similar to beta-casein-like protein
Bt.28268.1.A1_at	LOC509874	Similar to general transcription factor IIIC, polypeptide 1, alpha 220kDa
Bt.28241.1.A1_at	ITPK1	inositol 1,3,4-triphosphate 5/6 kinase
Bt.28230.1.S1_at	LOC519127	similar to Cfh protein
Bt.28228.1.S1_at	LYSB	intestinal lysozyme
Bt.28196.1.S1_at	LOC518699	similar to sphingomyelin phosphodiesterase, acid-like 3B
Bt.28168.1.A1_at	MGC166050	similar to insulin gene enhancer binding protein Isl-1
Bt.28162.2.A1_at	PLN	phospholamban
Bt.28148.2.A1_at	LOC517805	similar to fork head-related protein like A
Bt.2813.2.S1_at	PRKCA	Protein kinase C, alpha
Bt.28125.1.S1_at	LOC613954	similar to RAB37, member RAS oncogene family
Bt.28098.1.S1_at	AMICA1	adhesion molecule, interacts with CXADR antigen 1
Bt.28056.1.S1_at	LOC781559	similar to enterocytin
Bt.28031.1.S1_s_at	LOC789287 /// SQSTM1	sequestosome 1 /// similar to Sequestosome 1
Bt.28027.1.S1_at	LOC513731 /// LOC618831 /// LOC785752 /// LOC789653 ///	T-cell receptor delta chain /// similar to bovine T cell receptor delta chain //
Bt.28022.1.A1_at	BOLA-NC1	Non-classical MHC class I antigen
Bt.28015.1.S1_at	LOC407171	Fc gamma 2 receptor
Bt.28007.2.A1_at	LOC407198	T cell receptor delta chain
Bt.28004.4.A1_at	---	T cell receptor delta chain variable region precursor (BVd1.23)
Bt.28004.2.S1_x_at	LOC505306	Hypothetical LOC505306
Bt.27993.1.S1_at	5htr1a	5-hydroxytryptamine 1A receptor
Bt.27989.1.S1_at	5htr2b	5-hydroxytryptamine 2B receptor
Bt.27987.1.A1_at	nk1R	tachikinin receptor 1
Bt.279.1.S1_at	LOC281812	fibroblast growth factor-binding protein (FGF-BP)
Bt.27883.1.S1_at	MGC155188	similar to Efs1
Bt.27882.1.S1_at	RECQL4	RecQ protein-like 4
Bt.27877.1.S1_at	LOC532964	similar to Myosin IF
Bt.27868.1.S1_at	LOC781667	similar to Kin of IRRE-like protein 1 precursor (Kin of irregular chiasm-like pr
Bt.27844.1.S1_at	LOC515433	similar to glucagon receptor
Bt.27816.3.S1_a_at	STAC3	SH3 and cysteine rich domain 3
Bt.27816.2.S1_a_at	STAC3	SH3 and cysteine rich domain 3
Bt.27815.1.S1_at	LOC509227	similar to src related tyrosine kinase
Bt.27784.2.S1_a_at	PPP1R10	protein phosphatase 1, regulatory (inhibitor) subunit 10
Bt.27731.1.A1_at	ABCG2 /// LOC505219	similar to ATP-binding cassette sub-family G member 2 (CD338 antigen) /// ATP-bi
Bt.27601.1.A1_at	LOC782354 /// SLC39A4	solute carrier family 39 (zinc transporter), member 4 /// similar to SLC39A4 pro
Bt.27547.1.A1_at	LOC509490	similar to eIF4E-binding protein 3
Bt.27535.1.A1_at	LOC783806	hypothetical protein LOC783806
Bt.27514.1.A1_at	LOC615299	hypothetical LOC615299
Bt.27486.1.A1_at	LOC786312	similar to Uncharacterized protein C20orf26
Bt.27481.1.A1_at	SPG3A	spastic paraplegia 3A (autosomal dominant)
Bt.27445.2.S1_at	LOC520376	similar to ELAV-like protein 3

5

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.27445.1.A1_at	LOC520376	similar to ELAV-like protein 3
Bt.27444.2.S1_at	LOC506508	similar to phospholipase B1
Bt.27421.2.S1_at	MGC152523	similar to rho/rac guanine nucleotide exchange factor (GEF) 2
Bt.27409.1.A1_at	LOC504406 /// LOC532419	similar to hydrocephalus inducing /// hypothetical LOC532419
Bt.27383.1.A1_at	MGC142877	similar to aarF domain containing kinase 1
Bt.27343.1.A1_at	LOC534114	similar to Rab3A-interacting molecule
Bt.27328.1.S1_at	UHRF1	ubiquitin-like, containing PHD and RING finger domains, 1
Bt.27319.2.S1_at	MGC151855	hypothetical LOC508022
Bt.27310.2.A1_at	LOC533526	similar to G1/S-specific cyclin-E1
Bt.27304.2.S1_a_at	MGC139492	similar to Poly(rC)-binding protein 3 (Alpha-CP3)
Bt.27292.1.S1_at	LOC617150	similar to ATP-binding cassette transporter C4
Bt.27270.1.A1_at	LOC526583	similar to NPAT
Bt.27245.1.A1_at	LOC527362	Similar to FLJ00128 protein
Bt.27219.1.A1_at	LOC540893	similar to heparan sulfate 3-O-sulfotransferase 6
Bt.27185.1.S1_at	POLR3F	Polymerase (RNA) III (DNA directed) polypeptide F, 39 kDa
Bt.27175.1.A1_at	---	Transcribed locus, strongly similar to NP_001014171.1 hypothetical protein LOC36
Bt.27093.1.S1_at	MGC157047	similar to zinc finger protein 189
Bt.27059.1.S1_at	LOC511050	similar to alpha-L-iduronidase
Bt.27048.1.A1_at	LOC518599	Similar to Lactase-like protein precursor (Klotho/lactase-phlorizin hydrolase-re
Bt.27001.2.S1_at	MGC139710	similar to CG18177-PB
Bt.26985.1.A1_at	LOC506540	similar to T cell leukemia/lymphoma 1
Bt.26973.1.S1_at	LOC504975	similar to tolloid-like 2 protein
Bt.26917.2.A1_at	LOC511497	Similar to arginyl aminopeptidase (aminopeptidase B)-like 1
Bt.26911.1.A1_at	LOC506674	similar to TAFII140 protein
Bt.26902.1.A1_at	GATAD2A	GATA zinc finger domain containing 2A
Bt.26896.1.S1_at	LOC533359	similar to MAX dimerization protein 3
Bt.26891.1.S1_at	LOC534348	similar to IgG Fc binding protein
Bt.26880.1.A1_at	LOC514524	similar to Leucine rich repeat containing 45
Bt.26855.1.S1_at	LOC506746	hypothetical LOC506746
Bt.26849.3.S1_at	LOC784605	similar to ADAM15 isoform 6a
Bt.26839.1.S1_at	LOC507057	similar to PHD finger protein 12 (PHD factor 1) (Pf1)
Bt.26824.1.A1_a_at	MRPL46	mitochondrial ribosomal protein L46
Bt.26822.1.A1_at	LOC510012	similar to SCL/TAL1 interrupting locus
Bt.26819.3.S1_at	FLJ36874	Hypothetical protein LOC537453
Bt.268.1.S1_at	F12 /// LOC785029	coagulation factor XII /// similar to Coagulation factor XII
Bt.26781.1.A1_at	MGC139340	similar to Ectoderm-neural cortex-1 protein (ENC-1) (p53-induced protein 10) (Nu
Bt.26769.1.S1_at	LOC531516	similar to GTPase, IMAP family member 8
Bt.26758.1.A1_at	LOC539500	similar to Zinc finger protein 710
Bt.26715.1.S1_at	ST14	suppression of tumorigenicity 14
Bt.26707.2.S1_at	LOC539236	similar to LY6G5B protein
Bt.26706.1.S1_at	LOC618116 /// LOC787378	similar to IQ motif containing with AAA domain
Bt.26688.2.S1_a_at	FRMD3	FERM domain containing 3
Bt.26678.1.S1_at	LOC789892	similar to BCR variant protein
Bt.26665.3.S1_at	LOC510748	similar to Pleckstrin homology domain containing, family A (phosphoinositide bin
Bt.26652.1.S1_at	LOC523793	similar to anchor protein
Bt.26649.1.A1_at	LOC783512 /// TST	thiosulfate sulfurtransferase (rhodanese) /// similar to Thiosulfate sulfurtrans
Bt.26604.1.S1_at	AGTRL1	angiotensin II receptor-like 1
Bt.26599.1.S1_a_at	ZNF414	zinc finger protein 414
Bt.26575.2.A1_at	BLR1	Burkitt lymphoma receptor 1
Bt.26562.2.S1_at	CCDC86	coiled-coil domain containing 86
Bt.26556.1.A1_at	LOC528050	Similar to glycine transporter GLYT2
Bt.26514.1.A1_at	OSBPL2	oxysterol binding protein-like 2
Bt.26472.1.A1_at	C-MOS	C-MOS protein
Bt.26470.1.S1_at	LOC524593	hypothetical LOC524593
Bt.26421.1.A1_at	LOC782416 /// LOC787497 /// NDUFAB1	NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1, 8kDa /// similar to
Bt.26399.1.A1_at	MGC166237	similar to EF-hand calcium binding protein 2
Bt.26387.1.A1_at	GRIK1	glutamate receptor, ionotropic, kainate 1
Bt.26350.1.A1_at	LOC529109	similar to cofactor required for Sp1 transcriptional activation, subunit 2, 150k
Bt.26349.1.A1_at	LOC513885	similar to Chromosome 12 open reading frame 26
Bt.26338.1.A1_at	---	Transcribed locus, weakly similar to XP_001115384.1 PREDICTED: hypothetical prot
Bt.26336.1.A1_at	NXP1	neurexophilin 1
Bt.26293.3.S1_at	LOC616292	hypothetical LOC616292
Bt.26229.1.A1_at	LOC507627	hypothetical LOC507627
Bt.26222.1.A1_at	LOC504995 /// LOC786521	similar to growth differentiation factor 3
Bt.26221.1.A1_at	---	Homo sapiens Similar to hypothetical gene supported by AL050367; AK022946 (MGC34
Bt.26169.1.A1_at	LOC786540	hypothetical protein LOC786540
Bt.26151.1.A1_at	LOC539328	similar to Protein 7 transactivated by hepatitis B virus X antigen (HBxAg)
Bt.26096.1.A1_at	LOC510218	similar to heart alpha-kinase
Bt.26088.1.A1_at	STXBP2	syntaxin binding protein 2
Bt.25975.1.A1_at	---	Transcribed locus, moderately similar to NP_001074391.1 hypothetical protein LOC
Bt.25908.3.S1_at	CCHCR1	coiled-coil alpha-helical rod protein 1
Bt.259.2.S1_a_at	PAG7	pregnancy-associated glycoprotein 7
Bt.25810.1.S1_at	MGC142865	similar to numb homolog (Drosophila)-like
Bt.25738.1.A1_at	MGC134360	similar to Protein Disulfide Isomerase family member (pdi-2)
Bt.25709.1.S1_at	LOC521616	similar to calcium channel gamma subunit 6
Bt.25700.1.A1_at	CLCN2	chloride channel 2
Bt.25682.1.A1_at	DIO1 /// LOC782446	deiodinase, iodothyronine, type I /// similar to type I iodothyronine deiodinase
Bt.25678.1.A1_at	---	Transcribed locus, strongly similar to XP_001000072.1 PREDICTED: similar to Exos
Bt.25670.1.A1_at	NFE2L2	Nuclear factor (erythroid-derived 2)-like 2

6

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.25641.2.S1_at	MGC143399	nuclear prelamins A recognition factor-like
Bt.25633.1.A1_at	LOC617133	similar to Regulator of G-protein signalling 22
Bt.25616.1.S1_at	LOC782069	hypothetical protein LOC782069
Bt.25570.1.S1_at	LOC516784	similar to bactericidal/permeability-increasing protein-like 2
Bt.2557.1.S1_at	IFRD2	interferon-related developmental regulator 2
Bt.25562.1.S1_at	---	Transcribed locus, moderately similar to NP_660337.3 WD repeat domain 90 [Homo s
Bt.25548.1.A1_at	LOC511770	hypothetical LOC511770
Bt.25544.1.A1_at	MGC139051	similar to tectorin beta
Bt.25541.1.A1_at	CCDC135	coiled-coil domain containing 135
Bt.25469.1.A1_at	MGC139293	similar to MDC3
Bt.25424.1.A1_at	LOC538817	hypothetical LOC538817
Bt.25414.1.A1_at	---	Transcribed locus, strongly similar to NP_006303.2 nuclear receptor co-repressor
Bt.25412.1.A1_at	NUSAP1	nucleolar and spindle associated protein 1
Bt.25405.1.A1_at	PLAC1	placenta-specific 1
Bt.25380.1.A1_at	LOC519193	similar to putative G protein-coupled receptor
Bt.25362.1.A1_at	---	Transcribed locus, strongly similar to XP_947066.1 PREDICTED: similar to Small V
Bt.25359.1.A1_at	LOC789937	Similar to WD and tetratricopeptide repeats protein 1
Bt.2529.1.S1_at	MT-2	metallothionein-2
Bt.2527.1.S1_at	LOC539203	Similar to dishevelled 3
Bt.25269.1.S1_at	LOC507139	similar to Gca protein
Bt.25247.1.A1_at	LOC786372	similar to 200 kDa antigen p200
Bt.25164.1.A1_at	LOC781222	hypothetical protein LOC781222
Bt.25133.1.A1_at	LOC787034	hypothetical protein LOC787034
Bt.25125.1.A1_at	LOC508574	similar to Kinesin family member 9
Bt.25102.1.S1_a_at	MGC139164	hypothetical LOC509649
Bt.25095.1.A1_at	LOC509596 /// LOC787462	similar to cation-transporting P5-ATPase
Bt.25073.1.A1_at	LOC616071	Hypothetical LOC616071
Bt.25055.1.A1_at	IPMK	inositol polyphosphate multikinase
Bt.25034.1.A1_at	MGC142439	similar to olfactory receptor, family 7, subfamily A, member 17
Bt.25023.1.A1_at	CLEC6A	C-type lectin domain family 6, member A
Bt.24992.1.S1_at	LOC618086	Similar to transmembrane protein 7
Bt.24990.1.S1_at	USP21	ubiquitin specific peptidase 21
Bt.24966.1.S1_at	CHAF1B	chromatin assembly factor 1, subunit B (p60)
Bt.24925.2.A1_at	RHAG	Rh-associated glycoprotein
Bt.24923.2.S1_a_at	LOC535060	hypothetical LOC535060
Bt.24850.1.S1_at	MGC157325	similar to copine-like protein
Bt.24836.1.A1_at	LOC514561	similar to retinoblastoma-associated factor 600 (RBAF600)
Bt.24743.1.S1_at	LOC521454	similar to solute carrier family 12, member 8
Bt.24694.2.S1_at	LOC511689	similar to KIAA1237 protein
Bt.24688.1.S1_at	MGC152294	similar to M83
Bt.24664.1.S1_at	LOC536439	similar to NAALADase II protein
Bt.24661.1.S1_at	LOC533455	similar to Sck
Bt.24645.1.A1_at	LOC613372	hypothetical LOC613372
Bt.24635.2.A1_at	IGFALS	insulin-like growth factor binding protein, acid labile subunit
Bt.24629.3.S1_at	LOC509859	similar to KIAA0342 protein
Bt.24594.2.S1_at	MGC139844	similar to malic enzyme 3, NADP(+)-dependent, mitochondrial
Bt.24594.1.A1_at	MGC139844	similar to malic enzyme 3, NADP(+)-dependent, mitochondrial
Bt.24542.2.S1_a_at	LOC512034	similar to neurotrypsin
Bt.24532.1.A1_at	MGC148783	similar to Interleukin 17 receptor B
Bt.24526.1.S1_at	LOC507318 /// LOC781116	hypothetical LOC507318 /// hypothetical protein LOC781116
Bt.24519.1.S1_at	LOC783266	similar to Hlcs
Bt.24517.1.S1_at	GPRC5B	G protein-coupled receptor, family C, group 5, member B
Bt.24516.2.A1_a_at	VSIG2	V-set and immunoglobulin domain containing 2
Bt.24499.1.A1_at	LOC618639	similar to potassium voltage-gated channel, subfamily H, member 8
Bt.24494.2.S1_at	LOC512321	hypothetical LOC512321
Bt.24490.2.S1_at	RPP38	ribonuclease P/MRP 38kDa subunit
Bt.24488.1.A1_at	LOC782819	similar to zinc finger protein 35
Bt.24485.1.S1_at	ZNF746	zinc finger protein 746
Bt.24455.2.A1_at	LOC510922	hypothetical LOC510922
Bt.24437.1.S1_at	MGC165851	similar to serine/threonine protein kinase
Bt.24430.1.S1_at	LOC529593	hypothetical LOC529593
Bt.24416.1.S1_at	MGC152089	similar to Rho GDP-dissociation inhibitor 3 (Rho GDI 3) (Rho-GDI gamma)
Bt.24411.1.A1_at	LOC618360	hypothetical LOC618360
Bt.24393.2.S1_at	MGC157235	similar to Def-6 protein
Bt.24218.1.S1_at	LOC515301	similar to Cdc6-related protein
Bt.24217.1.S1_at	NFE2	nuclear factor (erythroid-derived 2), 45kDa
Bt.242.1.S1_at	OPRM1	opioid receptor, mu 1
Bt.24157.1.A1_at	MGC152175	similar to DKFZP564O0823 protein
Bt.241.1.S1_at	NR2E3	nuclear receptor subfamily 2, group E, member 3
Bt.24023.1.A1_at	LOC654400	GATA-6
Bt.23998.1.A1_a_at	LOC524491	similar to cut-like 2
Bt.23953.1.A1_at	MGC126989	similar to Putative deoxyribose-phosphate aldolase (Phosphodeoxyriboaldolase) (D
Bt.23678.1.A1_at	LOC536537	Hypothetical LOC536537
Bt.23652.1.A1_at	APOB	apolipoprotein B
Bt.23513.1.S1_at	TAT	tyrosine aminotransferase
Bt.23375.1.S1_at	---	Transcribed locus, moderately similar to NP_115955.1 esophagus cancer-related ge
Bt.23367.2.S1_at	LOC505399	similar to hook1 protein
Bt.23367.1.S1_at	LOC505399	similar to hook1 protein
Bt.23294.1.A1_at	PDLIM3	PDZ and LIM domain 3
Bt.23250.4.A1_at	AHSG	Alpha-2-HS-glycoprotein
Bt.232.1.S1_at	SVS8	seminal vesicle secretion 8
Bt.23176.2.S1_a_at	IGF2	insulin-like growth factor 2
Bt.23094.6.A1_at	AKR1C3	aldo-keto reductase family 1, member C3 (3-alpha hydroxysteroid dehydrogenase, t
Bt.23094.3.S1_x_at	LOC782061	similar to AKR1C1 protein
Bt.23094.2.A1_x_at	LOC785762	similar to prostaglandin F synthase-like1 protein

7

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.23081.1.S1_at	---	Transcribed locus, weakly similar to XP_998493.1 PREDICTED: hypothetical protein
Bt.23042.1.S1_at	MT-1A	metallothionein-1A
Bt.22948.1.S1_s_at	KIR2DS1 /// KIR3DL1 /// KIR3DL2	killer cell immunoglobulin-like receptor, three domains, long cytoplasmic tail,
Bt.22948.1.S1_at	KIR3DL1	killer cell immunoglobulin-like receptor, three domains, long cytoplasmic tail,
Bt.22867.2.A1_at	BOLA-DQA1	histocompatibility complex, class II, DQ alpha, type 1
Bt.22846.1.S1_at	TSPAN33	tetraspanin 33
Bt.22843.3.S1_at	LOC515398	similar to Proprotein convertase subtilisin/kexin type 7
Bt.22801.1.S1_at	LOC507464	similar to keratin 15
Bt.22756.1.A1_at	MGC152033	Hypothetical LOC515055
Bt.22742.1.A1_at	LOC507595	Similar to My030 protein
Bt.22741.1.S1_at	LOC507243	similar to chloride channel form A
Bt.22727.1.S1_at	CLDN18	claudin 18
Bt.22696.1.A1_at	TMEM35	transmembrane protein 35
Bt.22642.1.A1_at	LOC530095	similar to diacylglycerol kinase iota
Bt.22639.2.S1_at	LOC618779	similar to NOL1/NOP2/Sun domain family 4 protein
Bt.22639.1.A1_at	LOC618779	similar to NOL1/NOP2/Sun domain family 4 protein
Bt.22586.1.A1_at	MGC129108	Similar to myo-inositol monophosphatase A3
Bt.22561.1.A1_at	RPLP0	ribosomal protein, large, P0
Bt.22525.1.A1_at	LOC540254	similar to DGCR8 protein
Bt.22422.1.S1_at	MGC127459	similar to small nuclear RNA activating complex, polypeptide 2, 45kDa
Bt.224.1.S1_at	LOC317699	seminal plasma 30K protein
Bt.22388.1.S1_at	FLJ10458	Notchless gene homolog
Bt.22371.2.S1_at	MOG	Myelin oligodendrocyte glycoprotein
Bt.22369.1.S1_at	MGC142472	similar to bromodomain containing protein 3
Bt.22334.1.S1_at	LOC616898	hypothetical protein LOC616898
Bt.22316.1.S1_at	IQCC	IQ motif containing C
Bt.22268.1.S1_at	LOC781073	similar to KIAA1831 protein
Bt.22237.1.A1_at	LOC538699	hypothetical LOC538699
Bt.22229.2.S1_at	MGC126900	similar to Proto-oncogene tyrosine-protein kinase LCK (P56-LCK) (LSK) (T cell-sp Transcribed locus, moderately similar to XP_944914.1 PREDICTED: similar to CG176
Bt.22206.1.S1_at	---	
Bt.22174.1.S1_at	LOC523661	similar to neural plakophilin-related arm-repeat protein (NPRAP)
Bt.22115.1.S1_at	LOC510792	similar to putative N-ATPase
Bt.22094.1.A1_at	MGC142386	similar to chromosome 9 open reading frame 26 (NF-HEV)
Bt.22088.3.S1_at	PFND4	prefoldin subunit 4
Bt.21997.2.A1_at	PPM1K	protein phosphatase 1K (PP2C domain containing)
Bt.21988.1.S1_at	LOC523257 /// LOC786973	hypothetical LOC523257 /// hypothetical protein LOC786973
Bt.21975.1.S1_at	PRF1	perforin 1 (pore forming protein)
Bt.21766.2.S1_at	MLF1	myeloid leukemia factor 1
Bt.21749.2.S1_at	LOC533805	similar to KIAA0467 protein
Bt.21749.1.S1_at	LOC533805	similar to KIAA0467 protein
Bt.21690.2.S1_at	TUT1	terminal uridylyl transferase 1, U6 snRNA-specific
Bt.21685.2.S1_at	LOC516875	Similar to phosphoinositide-binding proteins
Bt.21667.2.S1_a_at	LOC506936	similar to RPUSD2 protein
Bt.21648.1.S1_at	CIDEB	cell death-inducing DFFA-like effector b
Bt.21621.1.S1_at	TMED1	transmembrane emp24 protein transport domain containing 1
Bt.21604.2.S1_at	LOC534284	similar to senataxin
Bt.21483.2.A1_at	APC	adenomatosis polyposis coli
Bt.21459.1.S1_at	NCAPH2	non-SMC condensin II complex, subunit H2
Bt.21422.2.S1_at	LOC514230	hypothetical LOC514230
Bt.21401.1.S1_at	MGC137196	Similar to CG31803-PA
Bt.21365.1.S1_at	LOC513829	similar to Eukaryotic translation initiation factor 2-alpha kinase 4 (GCN2-like
Bt.21348.1.A1_at	LOC513601	similar to Chromosome 6 open reading frame 151
Bt.21341.1.S1_at	TNRC4	trinucleotide repeat containing 4
Bt.21333.1.A1_at	MGC126900	similar to Proto-oncogene tyrosine-protein kinase LCK (P56-LCK) (LSK) (T cell-sp
Bt.21310.1.S1_at	LOC508569	similar to Family with sequence similarity 98, member C
Bt.21284.2.S1_at	LOC506264	similar to Cysteine rich transmembrane BMP regulator 1 (chordin like)
Bt.21126.1.S1_at	SNCB	synuclein, beta
Bt.21088.1.S1_at	MGC152608	similar to macrophage-derived chemokine
Bt.21079.2.S1_at	LOC533008	similar to Solute carrier family 35, member F2
Bt.21056.1.S1_at	MGC142482	similar to Derlin-3 (Der1-like protein 3) (DERtrin 3)
Bt.21019.2.S1_at	LOC538483	hypothetical LOC538483
Bt.21013.1.S1_at	PLK3	polo-like kinase 3 (Drosophila)
Bt.20969.1.S1_at	PEMT	phosphatidylethanolamine N-methyltransferase
Bt.209.2.S1_at	LYZ	lysozyme (renal amyloidosis)
Bt.20872.3.S1_a_at	LOC783989	similar to phosphatidylinositol glycan anchor biosynthesis, class O
Bt.20866.1.A1_at	LIPC	Lipase, hepatic
Bt.20759.1.A1_at	---	Transcribed locus, strongly similar to NP_055554.1 BCL2-associated transcription
Bt.20736.1.S1_at	LOC522566	similar to Zinc finger protein PLAGL2 (Pleiomorphic adenoma-like protein 2)
Bt.20735.2.A1_at	LOC514182	Similar to CG10341-PA
Bt.2069.2.S1_at	MGC179370	Similar to Docking protein 2, 56kDa
Bt.20593.1.S1_at	MGC140018	similar to Peptidyl-prolyl cis-trans isomerase C (PPlase) (Rotamase) (Cyclophilin
Bt.20557.1.S1_at	---	Transcribed locus
Bt.20546.1.S1_a_at	LOC528487	similar to protein tyrosine phosphatase HD-PTP
Bt.20525.1.S1_at	MGC139756	similar to F-box only protein 2
Bt.20523.1.S1_at	PRSS16	Protease, serine, 16
Bt.20511.1.S1_at	LOC783943 /// MGC152121	similar to Ras guanine nucleotide dissociation stimulator A
Bt.20495.1.S1_at	LOC504985	similar to tuberin
Bt.20478.1.S1_at	LOC512021	similar to Rho guanine exchange factor 15
Bt.20431.3.S1_at	MGC140538	similar to Max interacting protein 1
Bt.20419.2.S1_a_at	---	Transcribed locus, strongly similar to XP_588451.3 PREDICTED: similar to NFBBD1 [
Bt.20399.1.S1_at	HSD17B13	hydroxysteroid (17-beta) dehydrogenase 13
Bt.20382.1.S1_at	MGC152539	similar to ankyrin repeat domain 29
Bt.20362.2.S1_at	LOC516567	similar to KIAA0365 protein
Bt.20330.1.S1_at	MGC139156	hypothetical LOC538575

8

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.20278.1.S1_at	LOC522721	similar to KIAA0385
Bt.20277.1.S1_at	LOC787696	similar to topoisomerase II
Bt.20243.3.A1_at	LOC783394 /// SLC25A26	solute carrier family 25, member 26 /// similar to solute carrier family 25, mem
Bt.20152.1.S1_at	LOC535381	similar to 85 kDa calcium-independent phospholipase A2
Bt.2013.1.S1_at	LOC539996	similar to semaphorin V
Bt.20093.1.S1_at	---	Transcribed locus
Bt.20057.1.S1_at	LOC505658 /// LOC509956	similar to cathepsin G
Bt.19958.1.A1_at	---	Transcribed locus, moderately similar to NP_035214.1 phosphatidylinositol 3-kinase
Bt.1984.1.S1_at	MGC10471	hypothetical protein MGC10471
Bt.19824.2.S1_at	FLJ14213	hypothetical protein FLJ14213
Bt.19796.1.S1_at	B3GALT2	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 2
Bt.19782.2.S1_a_at	IRAK1BP1	interleukin-1 receptor-associated kinase 1 binding protein 1
Bt.1978.1.S1_at	LOC614950 /// LOC617281 /// LOC784182	similar to T-cell receptor beta chain C region /// similar to T-cell receptor be
Bt.1978.1.S1_a_at	LOC509513 /// LOC614950 /// LOC617281 /// LOC784182 /// LOC784307	hypothetical LOC509513 /// similar to T-cell receptor beta chain C region /// si
Bt.19756.1.S1_at	APOB	apolipoprotein B
Bt.19574.1.A1_at	LOC536103	similar to putative 4 repeat voltage-gated ion channel
Bt.19568.1.A1_at	LOC515085	Similar to SH2 domain-containing phosphatase anchor protein 2a
Bt.19544.1.A1_at	MGC179444	similar to putative protein product of HYST1046
Bt.19509.1.A1_at	LOC505588	Similar to cordon-bleu homolog (mouse)
Bt.19501.1.A1_at	MGC140472	similar to Cytochrome P450 2C23 (CYP11C23) (Arachidonic acid epoxidase)
Bt.19419.1.A1_at	---	Transcribed locus, moderately similar to XP_942891.1 PREDICTED: similar to SET d
Bt.19386.1.A1_at	---	Transcribed locus
Bt.19333.2.A1_at	SLC35C2	solute carrier family 35, member C2
Bt.19304.1.A1_at	MGC142440	Similar to DAZ interacting protein 1
Bt.19281.2.S1_at	LOC515490	similar to Cdc42 GTPase-activating protein
Bt.19251.1.S1_at	LMO1	LIM domain only 1 (rhombotin 1)
Bt.19244.1.A1_at	SERPINB9	Serpin peptidase inhibitor, clade B (ovalbumin), member 9
Bt.19186.1.A1_at	---	Transcribed locus, strongly similar to NP_999035.1 antileukoproteinase [Sus scro
Bt.19109.1.A1_at	LOC788854	hypothetical protein LOC788854
Bt.19064.2.S1_at	MGC159696	similar to Biotinidase
Bt.19043.2.A1_at	MGC151539	Similar to beta(1,6)-N-acetylglucosaminyltransferase V
Bt.19006.2.A1_at	LOC504557	Similar to beta-ureidopropionase
Bt.18973.1.S1_a_at	MGC139025	hypothetical LOC506184
Bt.18959.1.A1_at	LOC515155	similar to LAG-3 protein
Bt.18853.1.A1_at	LOC790875	Hypothetical protein LOC790875
Bt.18832.1.S1_at	MGC142353	Similar to centrin 3
Bt.18821.1.A1_at	LOC513810	similar to RIKEN cDNA C230043N17 gene
Bt.18815.2.A1_at	LOC509768	GTPase-like protein
Bt.18776.1.S1_at	KIAA0101	KIAA0101 protein
Bt.18756.1.S1_at	CDC42SE2	CDC42 small effector 2
Bt.18748.1.A1_at	LOC505696	similar to Protein tyrosine phosphatase, receptor type, B
Bt.18653.1.A1_at	MGC133901	Similar to CG11760-PB
Bt.18585.1.S1_at	LOC504856	Similar to myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosop
Bt.18571.1.S1_at	MGC155295	similar to disks large-associated protein 4
Bt.18565.1.S1_at	LOC534714	Similar to zinc finger and BTB domain containing 40
Bt.18504.1.S1_at	MMP3	matrix metalloproteinase 3 (stromelysin 1, progelatinase)
Bt.18501.1.A1_at	LOC537171	similar to Diacylglycerol kinase beta (Diglyceride kinase beta) (DGK-beta) (DAG
Bt.18476.2.S1_at	IRF5	interferon regulatory factor 5
Bt.18466.1.A1_at	LOC513431	Hypothetical LOC513431
Bt.18435.2.S1_a_at	LOC508197	similar to KIAA0759 protein
Bt.18435.1.S1_at	LOC508197	similar to KIAA0759 protein
Bt.18347.1.A1_at	---	Transcribed locus, strongly similar to XP_922484.2 PREDICTED: similar to thrombo
Bt.18329.1.A1_at	LOC533491	Similar to human ras GTPase-activating protein, Gap1m
Bt.18323.1.A1_at	LOC509506	similar to Cytochrome P450, family 4, subfamily F, polypeptide 2
Bt.1828.1.A1_at	SLC27A3	solute carrier family 27 (fatty acid transporter), member 3
Bt.18260.1.A1_at	LOC515359	similar to carbonic anhydrase V
Bt.18241.1.A1_at	PPARA	Peroxisome proliferator-activated receptor alpha
Bt.1818.1.S1_at	LOC514360	similar to desmoplakin isoform II
Bt.1815.2.A1_at	MGC157300	Hypothetical LOC534625
Bt.18081.1.A1_at	KIF20A	kinesin family member 20A
Bt.18037.1.S1_at	LOC540860	hypothetical LOC540860
Bt.18016.1.A1_at	LOC782347	Similar to TUBA
Bt.17964.1.S1_at	LOC615386	similar to light ear protein
Bt.17957.1.A1_at	ICOS	inducible T-cell co-stimulator
Bt.17938.2.S1_at	MGC127503	Similar to Argininosuccinate lyase (Argininosuccinase) (ASAL)
Bt.17932.1.S1_at	LOC514613	similar to cyclin L ania-6a
Bt.17922.1.A1_at	MGC140268	Similar to ADP-sugar pyrophosphatase (Nucleoside diphosphate-linked moiety X mot
Bt.17901.1.S1_at	LOC526887	similar to RALBP1 associated Eps domain containing protein 2a
Bt.17879.1.A1_at	LOC515342	similar to lipase-like, ab-hydrolase domain containing 1
Bt.17857.1.A1_at	MGC151651	hypothetical LOC613490
Bt.1782.2.S1_at	MGC127999	similar to HSPC171 protein
Bt.17816.1.A1_at	LOC615443	Similar to BB128963 protein
Bt.17773.1.S1_at	GNGT2	Guanine nucleotide binding protein (G protein), gamma transducing activity polyp
Bt.17756.1.A1_at	LOC616498	similar to piggyBac transposable element derived 5
Bt.17654.1.A1_at	LOC781492	similar to NIPA-like domain containing 2
Bt.1763.1.S1_at	HAND1	heart and neural crest derivatives expressed 1
Bt.17570.2.A1_at	LOC539968	similar to RP11-438B23.1
Bt.17543.1.A1_at	LOC509065	hypothetical LOC509065
Bt.17433.1.S1_at	CHCHD5	Coiled-coil-helix-coiled-coil-helix domain containing 5

9

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.17372.1.A1_at	LOC505134	Similar to RNA adenosine deaminase
Bt.17314.1.S1_at	CLGN	calmegin
Bt.17242.1.A1_at	CYP2B	cytochrome P450 subfamily 2B
Bt.17232.1.A1_at	AVPR1A	arginine vasopressin receptor 1A
Bt.17200.1.A1_at	C5orf32	C5orf32 protein
Bt.17159.1.A1_at	---	Transcribed locus, strongly similar to NP_783573.3 brain-specific angiogenesis i
Bt.17105.1.A1_at	MGC160076	similar to Zinc finger, ZZ-type containing 3
Bt.17046.1.A1_at	LOC785410	similar to RLTPR protein
Bt.1697.2.S1_at	MGC142933	similar to Amyloid beta A4 precursor protein-binding family B member 3 (Fe65-lik
Bt.16957.1.A1_at	MRPL30	Mitochondrial ribosomal protein L30
Bt.16949.1.A1_at	FAM86A	Hypothetical protein LOC531984
Bt.16878.1.A1_at	LOC535214	similar to C2H2 type Kruppel-like zinc finger protein
Bt.16798.1.A1_at	GNAS1	Guanine nucleotide binding protein (G protein), alpha stimulating activity polyp
Bt.16676.1.A1_at	LOC784449	similar to KIAA1324 protein
Bt.16674.1.A1_at	LOC534614	hypothetical LOC534614
Bt.16646.1.S1_at	LOC785057	similar to F-box protein 44
Bt.166.1.S1_at	PENK	proenkephalin
Bt.16595.1.A1_at	LOC517284	Similar to Protein piccolo (Aczonin)
Bt.16483.2.A1_at	MGC142920	Similar to Zinc finger protein 567
Bt.16447.1.A1_at	LOC515330	Similar to myosin-Ix α
Bt.16427.1.S1_at	CCBP2	chemokine binding protein 2
Bt.16375.1.A1_at	LOC504591 /// LOC784995	similar to kinase suppressor of Ras-2
Bt.16353.1.A1_at	LOC529881	similar to CG6818-PA
Bt.16344.1.A1_at	LOC504288	similar to A-kinase anchor protein 13
Bt.16338.2.A1_at	MBL-A	mannose binding lectin, liver (A)
Bt.16275.1.A1_at	LOC529494	similar to KIAA1636 protein
Bt.16141.1.S1_at	CCNE2	cyclin E2
Bt.16128.1.S1_at	HDAC8	histone deacetylase 8
Bt.16101.1.S1_at	GNLY /// LOC780979	granulysin /// hypothetical protein LOC780979
Bt.16051.3.S1_at	LOC513279	similar to KIAA0595 protein
Bt.1605.3.S1_at	MGC138923	Similar to selenoprotein N, 1 isoform 1 precursor
Bt.16029.1.S2_at	FUT1	fucosyltransferase 1
Bt.16027.1.A1_at	LEPR	leptin receptor
Bt.15990.1.S1_at	SLC8A1	solute carrier family 8 (sodium/calcium exchanger), member 1
Bt.15984.1.S1_at	LOC782451 /// PAG12	pregnancy-associated glycoprotein 12 /// similar to pregnancy-associated glycopr
Bt.15958.2.A1_a_at	ABCB1 /// LOC781361 /// LOC785554	ATP-binding cassette, sub-family B (MDR/TAP), member 1 /// similar to Multidrug
Bt.15910.1.S1_at	LOC523429	Similar to interleukin 1 family, member 6 (epsilon)
Bt.15875.1.S1_at	TRADD	TNFRSF1A-associated via death domain
Bt.15767.1.A2_at	UGT1A1	UDP glucuronosyltransferase 1 family, polypeptide A1
Bt.15751.1.S1_at	LOC514185	similar to AMP deaminase
Bt.15675.1.S1_at	ADAMTS4	ADAM metalloproteinase with thrombospondin type 1 motif, 4
Bt.15667.2.S1_at	SREBF1	sterol regulatory element binding transcription factor 1
Bt.15569.1.A1_at	LOC782689	similar to ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3)-N-acetyl-galac
Bt.154.1.S1_at	CCL8 /// LOC788169	chemokine (C-C motif) ligand 8 /// similar to chemoattractant protein 2
Bt.1536.2.S1_at	LOC506727	similar to nuclear factor of kappa light polypeptide gene enhancer in B-cells in
Bt.1449.1.S1_at	LOC516332	similar to UDP-glucose:glycoprotein glucosyltransferase 1
Bt.14395.1.A1_at	C3orf57	hypothetical protein LOC780785
Bt.14326.2.A1_at	SMS	Spermine synthase
Bt.14304.2.S1_at	LOC539922	hypothetical LOC539922
Bt.14298.1.A1_at	ZDHHC1	Zinc finger, DHHC-type containing 1
Bt.14093.1.S1_at	---	Transcribed locus, strongly similar to NP_035251.2 polo-like kinase [Mus musculu
Bt.14083.1.A1_at	MASP1	Mannan-binding lectin serine peptidase 1 (C4/C2 activating component of Ra-react
Bt.14026.1.A1_at	BRCA1	Breast cancer 1, early onset
Bt.139.1.A1_at	ADAM2	ADAM metalloproteinase domain 2 (fertilin beta)
Bt.13880.2.S1_at	LOC504445	similar to Dickkopf-1 (hdck-1)
Bt.13860.2.A1_at	KDR	kinase insert domain receptor (a type III receptor tyrosine kinase)
Bt.13751.2.S1_at	GSTK1	glutathione S-transferase kappa 1
Bt.137.1.S1_at	ANGPT2	angiopoietin 2
Bt.13695.1.S1_at	MGRN1	mahogunin, ring finger 1
Bt.13670.1.S2_at	ALPL	alkaline phosphatase, liver/bone/kidney
Bt.13670.1.S1_at	ALPL	alkaline phosphatase, liver/bone/kidney
Bt.13466.1.S1_at	LOC533634	similar to oxysterol-binding protein-like protein 6
Bt.13448.2.S1_at	GNPAT	Glyceronephosphate O-acyltransferase
Bt.13310.1.S1_at	LOC782446	similar to type I iodothyronine deiodinase
Bt.13291.2.S1_at	LOC535254	similar to pogo transposable element with ZNF domain
Bt.13287.1.S1_at	AGXT2L1	alanine-glyoxylate aminotransferase 2-like 1
Bt.13278.2.S1_a_at	LOC504235	hypothetical LOC504235
Bt.13235.2.S1_at	MGC148992	Similar to RGC-32
Bt.13201.1.S1_at	DSC2	desmocollin 2
Bt.13159.1.A1_at	PTPRZ1	protein tyrosine phosphatase, receptor-type, Z polypeptide 1
Bt.13145.1.S1_at	ALDH5	aldehyde dehydrogenase 5, mitochondrial X
Bt.13142.1.A1_at	PRKCD	protein kinase C, delta
Bt.13136.1.S1_at	GDF5	growth differentiation factor 5
Bt.13122.1.S1_at	COL6A2	collagen, type VI, alpha 2
Bt.13122.1.A1_at	COL6A2	collagen, type VI, alpha 2
Bt.13121.1.S1_at	SHH	sonic hedgehog homolog (Drosophila)
Bt.13117.1.S1_at	AMELY	amelogenin, Y-linked
Bt.13073.1.S1_at	SERPINB2	serpin peptidase inhibitor, clade B (ovalbumin), member 2
Bt.13069.1.S1_at	CACNA1D	calcium channel, voltage-dependent, L type, alpha 1D
Bt.13055.1.A1_at	CACNA1L	alpha1I T-type calcium channel subunit
Bt.13044.1.A1_at	CLN2	ceroid-lipofuscinosis, neuronal 2, late infantile (Jansky-Bielschowsky disease)
Bt.13040.1.A1_at	HCRT	hypocretin (orexin) neuropeptide precursor
Bt.13033.1.A1_at	FOXL2	forkhead box L2

10

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.13003.15.A1_at	TRA@	T cell receptor, alpha
Bt.13003.11.S1_at	TRA@	T cell receptor, alpha
Bt.12990.1.S1_at	FGF8	fibroblast growth factor 8 (androgen-induced)
Bt.12932.1.S1_s_at	FGFR3	fibroblast growth factor receptor 3
Bt.12926.1.S1_at	LOC786429	similar to Lutropin subunit beta precursor (Luteinizing hormone subunit beta) (L
Bt.12907.2.S1_a_at	---	Transcribed locus, strongly similar to XP_221962.3 PREDICTED: similar to tweety
Bt.12891.1.S1_at	RRAD	Ras-related associated with diabetes
Bt.12849.1.S1_at	SLCO2B1	solute carrier organic anion transporter family, member 2B1
Bt.12836.1.S1_at	PROC	protein C (inactivator of coagulation factors Va and VIIIa)
Bt.12823.1.S1_at	VWF	von Willebrand factor
Bt.12818.3.A1_at	TSPY	testis-specific protein, Y-encoded
Bt.12810.1.S1_at	TLR9	toll-like receptor 9
Bt.12801.1.S1_at	ALOX15B	arachidonate 15-lipoxygenase, type B
Bt.12770.1.A1_at	SNCA	synuclein, alpha (non A4 component of amyloid precursor)
Bt.12764.1.S1_at	NADHL	NADP-dependent retinol dehydrogenase/reductase
Bt.12761.1.S1_at	ITGA2	integrin, alpha 2 (CD49B, alpha 2 subunit of VLA-2 receptor)
Bt.12689.1.A1_at	MGC155293	similar to vasoactive intestinal peptide receptor
Bt.12625.1.S1_at	LOC615883	similar to SLIT3
Bt.12561.3.S1_at	RHOF	ras homolog gene family, member F (in filopodia)
Bt.12510.1.S1_at	LOC509824	similar to Os08g0528700
Bt.12478.3.S1_a_at	C20ORF18	ubiquitin conjugating enzyme 7 interacting protein 3
Bt.12425.2.S1_at	LOC533229	similar to ETNK2 protein
Bt.12405.1.S1_at	LOC538276	similar to JAK3_HUMAN; JANUS KINASE 3; JAK-3; LEUKOCYTE JANUS KINASE; L-JAK
Bt.12379.1.S1_at	MGC139265	similar to Prostate tumor over expressed gene 1
Bt.12300.1.S1_at	MYH1	myosin, heavy chain 1, skeletal muscle, adult
Bt.12180.2.S1_at	EXOSC8	exosome component 8
Bt.12175.1.A1_at	CADPS	Ca2+-dependent secretion activator
Bt.12139.2.S1_at	ADPRHL2	ADP-ribosylhydrolase like 2
Bt.12065.1.S1_at	LOC618071	Hypothetical LOC618071
Bt.1206.1.S1_at	LOC510681	similar to B-box and SPRY domain containing
Bt.1187.1.S1_at	LOC514688	similar to protein phosphatase 1, regulatory subunit 15A
Bt.11853.1.S1_at	LOC508042	similar to UnpES
Bt.11847.1.A1_at	XIST	X (inactive)-specific transcript
Bt.11816.2.S1_at	MGC142695	similar to C04F5.8
Bt.11683.1.A1_at	---	Transcribed locus, moderately similar to XP_416866.1 PREDICTED: similar to prote
Bt.11444.1.S1_at	LOC614457	hypothetical LOC614457
Bt.11438.1.S1_at	LOC511094	similar to Troponin I, cardiac muscle (Cardiac troponin I)
Bt.11190.1.S1_at	PHKG2	phosphorylase kinase, gamma 2 (testis)
Bt.11180.1.A1_a_at	LRRN5	leucine rich repeat neuronal 5 precursor
Bt.1116.1.A1_at	MGC140191	similar to GABA-B receptor
Bt.11133.3.S1_at	MGC140764	similar to USE1-like protein (Hematopoietic stem/progenitor cells protein MDS032
Bt.11057.1.S1_at	LOC781091	hypothetical protein LOC781091
Bt.11044.1.S1_at	ARPP-21	cyclic AMP-regulated phosphoprotein, 21 kDa
Bt.11039.1.S1_at	LOC505497	similar to Qtrt1 protein
Bt.11004.1.S1_at	MYOZ3	myozenin 3
Bt.10954.1.S1_at	CD2	CD2 molecule
Bt.1088.1.S1_at	MGC127192	Hypothetical LOC510988
Bt.10878.1.S1_at	HPS1	Hermansky-Pudlak syndrome 1
Bt.10851.1.S1_at	MGC143149	similar to likely ortholog of kinesin light chain 2
Bt.10704.1.S1_at	LPPR2	lipid phosphate phosphatase-related protein type 2
Bt.10524.2.S1_at	ZNF821	zinc finger protein 821
Bt.1037.1.S1_at	REEP2	receptor accessory protein 2
Bt.10312.2.S1_at	TMEM148B	transmembrane protein 184B
Bt.10259.1.A1_at	LOC539449	similar to serum-inducible kinase
Bt.10194.1.A1_x_at	LOC404051	similar to thrombin inhibitor
Bt.10085.1.A1_at	MGC142726	similar to UDP-Gal:betaGal beta 1,3-galactosyltransferase polypeptide 7
Bt.10002.1.S1_at	LOC784163	similar to AP-3 complex beta3B subunit
Bt.9974.1.S1_at	CCL3L1	chemokine (C-C motif) ligand 3-like 1
Bt.9633.2.S1_at	LOC518540	similar to MEOX2
Bt.9560.1.S1_at	CCL20	chemokine (C-C motif) ligand 20
Bt.9455.1.A1_at	MGC152031	similar to CD5 antigen-like
Bt.9289.1.S1_at	LOC506812	similar to carnitine O-palmitoyltransferase
Bt.9288.2.A1_at	LOC510738	similar to FLJ00258 protein
Bt.9211.1.S1_at	APBB1IP	amyloid beta (A4) precursor protein-binding, family B, member 1 interacting prot
Bt.8678.1.A1_at	---	LERK-5 gene, partial sequence
Bt.8548.1.S1_at	ADIPOQ	adiponectin
Bt.836.1.S1_at	FAHD1 /// LOC787486	fumarylacetoacetate hydrolase domain containing 1 /// similar to Fumarylacetoace
Bt.8106.1.S1_at	NID1	nidogen 1
Bt.7425.1.S1_at	SDF1	stromal cell-derived factor 1
Bt.7319.1.S1_at	LOC509657	similar to protein tyrosine phosphatase, receptor type, K
Bt.7165.1.S1_at	CXCL6	chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2)
Bt.7066.1.S1_at	ALOX5AP	arachidonate 5-lipoxygenase-activating protein
Bt.6972.1.S1_at	KBTBD10	kelch repeat and BTB (POZ) domain containing 10
Bt.690.1.S1_at	LOC512018	similar to brother of CDO
Bt.6796.1.A1_at	MGC157214	hypothetical LOC524166
Bt.6542.1.S1_at	SLC22A5	solute carrier family 22 (organic cation transporter), member 5
Bt.6504.1.S1_at	LOC526200	similar to AIM1
Bt.611.1.S2_at	CXCL1	chemokine (C-X-C motif) ligand 1
Bt.610.1.A1_at	CXCL2	chemokine (C-X-C motif) ligand 2
Bt.5851.2.S1_at	SEP11	Septin 11
Bt.5522.1.S1_at	THBS2	thrombospondin 2
Bt.5395.1.S1_a_at	CSPG2	chondroitin sulfate proteoglycan 2 (versican)
Bt.5392.1.S1_at	CD36	CD36 molecule (thrombospondin receptor)
Bt.5193.2.S1_a_at	LOC517002	similar to uteroferrin
Bt.5193.1.S1_at	LOC517002	similar to uteroferrin
Bt.5180.1.S1_at	UCP2	uncoupling protein 2 (mitochondrial, proton carrier)

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.4846.1.S1_at	LOC506009	similar to novel transcript
Bt.4817.1.A1_at	MGC128478	similar to claudin 11
Bt.4732.1.S1_at	ALDH1A1	aldehyde dehydrogenase 1 family, member A1
Bt.4679.1.S1_at	FCGR2A	Fc fragment of IgG, low affinity Ila, receptor (CD32)
Bt.4482.2.S1_a_at	MSR1	macrophage scavenger receptor 1
Bt.4439.1.S1_at	PLA2G1B	phospholipase A2, group IB (pancreas)
Bt.4417.1.S1_at	CDH2	cadherin 2
Bt.4394.1.S1_at	GUCY1B3	guanylate cyclase 1, soluble, beta 3
Bt.4310.1.A1_at	MGC152252	similar to regulator of G-protein signalling 1
Bt.3870.1.S1_at	TTL3	Tubulin tyrosine ligase-like family, member 3
Bt.357.1.S1_at	S100A12	S100 calcium binding protein A12 (calgranulin C)
Bt.3540.1.S1_at	MGC139918	similar to Secreted frizzled-related protein 4 precursor (sFRP-4) (Frizzled prot
Bt.3402.3.A1_at	MGC165864	similar to Katanin p80 (WD repeat containing) subunit B 1
Bt.3374.1.A1_a_at	LOC517876	similar to AT rich interactive domain 2 (ARID, RFX-like)
Bt.29965.1.S1_at	---	Transcribed locus, strongly similar to XP_001257270.1 PREDICTED: similar to T ce
Bt.29946.1.S1_s_at	ANPEP	alanyl (membrane) aminopeptidase
Bt.29913.1.S1_at	G6PD	glucose-6-phosphate dehydrogenase
Bt.29772.1.A1_at	SLC8A1	solute carrier family 8 (sodium/calcium exchanger), member 1
Bt.29717.1.S1_a_at	GHR	growth hormone receptor
Bt.29697.1.S1_at	ART3	ADP-ribosyltransferase 3
Bt.29393.1.A1_at	ABHD5	abhydrolase domain containing 5
Bt.29264.1.A1_at	LOC522691	hypothetical LOC522691
Bt.2903.1.S1_at	CXADR	coxsackie virus and adenovirus receptor
Bt.28853.1.A1_at	LOC508297	similar to ankyrin repeat domain 43
Bt.28837.1.S1_at	LOC789978	Hypothetical protein LOC789978
Bt.28709.1.A1_at	LOC537873	hypothetical LOC537873
Bt.287.1.S1_at	RNASE6	ribonuclease, RNase A family, k6
Bt.28461.2.S1_a_at	INSR	insulin receptor
Bt.28258.1.S1_at	MGC138926	similar to intestinal peptide-associated transporter HPT-1
Bt.28243.2.S1_at	VNN1	vanin 1
Bt.27634.1.A1_a_at	LOC534112	similar to connector enhancer of KSR2A
Bt.27430.2.S1_at	LOC506029	similar to amyotrophic lateral sclerosis 2
Bt.27425.1.A1_a_at	EGFR	epidermal growth factor receptor (erythroblastic leukemia viral (v-erb-b) oncoge
Bt.27036.1.S1_at	CYP4F2	cytochrome P450, family 4, subfamily F, polypeptide 2
Bt.26983.1.S1_at	CASP1	caspase 1
Bt.26980.1.S1_at	LOC785895 /// LOC786146	hypothetical protein LOC785895 /// hypothetical protein LOC786146
Bt.26772.1.S1_at	MGC137966	similar to Protein FAM26B
Bt.26578.1.S1_at	MGC140507	similar to energy metabolism-related sodium-dependent high-affinity dicarboxylat
Bt.26426.1.A1_at	MGC159967	hypothetical LOC617625
Bt.26051.1.A1_at	LOC521326	similar to OTTHUMP00000065631
Bt.25316.1.A1_at	LOC523889	similar to type V P-type ATPase
Bt.24911.1.A1_at	LOC533620	similar to Ankyrin repeat domain-containing protein 26
Bt.24899.1.A1_at	LOC539563	similar to MAP/microtubule affinity-regulating kinase
Bt.24821.1.S1_at	MGC137561	similar to acyl-Coenzyme A binding domain containing 4
Bt.24770.1.S1_at	CORO7	coronin 7
Bt.24724.1.S1_at	LOC509296	similar to gasdermin-like
Bt.24550.1.S1_a_at	COMTD1	catechol-O-methyltransferase domain containing 1
Bt.24515.1.S1_at	LOC507082	Akt substrate AS250
Bt.24495.1.A1_at	LOC514322	similar to AarF domain containing kinase 4
Bt.24447.2.S1_at	F2RL2	coagulation factor II (thrombin) receptor-like 2
Bt.24447.1.S1_at	F2RL2	coagulation factor II (thrombin) receptor-like 2
Bt.24012.1.A1_at	LOC511531	similar to guanylate binding protein 1
Bt.23640.1.A1_at	TLR3	toll-like receptor 3
Bt.23640.1.A1_a_at	TLR3	Toll-like receptor 3
Bt.23499.1.S1_at	LOC786335	similar to muscle glycogen synthase
Bt.23354.1.S1_at	MGC126963	similar to epoxide hydrolase 1
Bt.23171.2.S1_at	PCBD1	pterin-4 alpha-carbinolamine dehydratase/dimerization cofactor of hepatocyte nuc
Bt.23126.1.S1_at	NOS2A	nitric oxide synthase 2A (inducible, hepatocytes)
Bt.23094.4.S1_at	LOC782922	similar to prostaglandin F synthetase II
Bt.23094.1.A1_at	AKR1C1	aldo-keto reductase family 1, member C1 (dihydrodiol dehydrogenase 1; 20-alpha (
Bt.23093.1.S1_at	CXCL3	chemokine (C-X-C motif) ligand 3
Bt.23002.1.S1_at	COX6A1	cytochrome c oxidase subunit VIa polypeptide 1
Bt.22699.1.S1_at	NFIA	nuclear factor I/A
Bt.22577.2.S1_at	MGC139420	similar to mitochondrial carrier protein MGC4399
Bt.22468.2.A1_at	MGC128008	hypothetical LOC510399
Bt.22384.1.A1_at	MGC139294	similar to immunoglobulin superfamily, member 4B
Bt.22359.2.A1_at	RIOK3	RIO kinase 3 (yeast)
Bt.22322.1.S1_at	LOC506412 /// LOC616035 /// LOC618238 /// SAA3	serum amyloid A 3 /// serum amyloid A-like /// hypothetical LOC616035 /// simila
Bt.22160.1.S1_at	MGC152609	similar to chromosome 1 open reading frame 26
Bt.22144.2.S1_at	MGC155130	similar to START domain-containing 5 protein
Bt.22144.1.A1_at	MGC155130	similar to START domain-containing 5 protein
Bt.22085.1.S1_at	---	Transcribed locus
Bt.22056.2.S1_a_at	MGC127615	similar to abhydrolase domain containing 1 (predicted)
Bt.22012.1.S1_at	---	Transcribed locus
Bt.21950.1.S1_at	LOC616732	similar to IL-10-inducible chemokine
Bt.21909.1.S1_at	LOC514831 /// LOC782775 /// LOC784320 /// MGC160062	hypothetical LOC514831 /// hypothetical LOC617160 /// hypothetical protein LOC78
Bt.218.1.S1_at	AKAP4	A kinase (PRKA) anchor protein 4
Bt.21331.2.S1_at	CCR5	chemokine (C-C motif) receptor 5
Bt.21192.2.A1_at	LOC613658	hypothetical LOC613658
Bt.21156.1.S1_at	LOC505802	similar to telomerase-associated protein TP-1
Bt.20890.1.S1_at	AMY2B	amylase, alpha 2B (pancreatic)
Bt.20861.2.S1_at	---	Transcribed locus, moderately similar to NP_032704.1 nuclear receptor coactivato

12

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.20683.1.S1_at	---	Transcribed locus, moderately similar to NP_001071470.1 eukaryotic translation i
Bt.20384.1.S1_at	MGC159638	similar to branched chain acyl-CoA oxidase
Bt.20372.1.S1_at	MGC139085	similar to paraoxonase 3
Bt.19818.1.A1_at	DDX9	Nuclear DNA helicase II
Bt.19281.1.S1_at	LOC526642	similar to WD repeat domain 59
Bt.19247.1.S1_at	SULT1C2	sulfotransferase family, cytosolic, 1C, member 2
Bt.18965.1.A1_at	LOC537901	Similar to Na+-driven Cl-HCO ₃ exchanger
Bt.18908.1.S1_at	MGC139688	Similar to heterogeneous nuclear ribonucleoprotein L-like
Bt.18889.1.S1_at	LAT2	linker for activation of T cells family, member 2
Bt.18801.1.A1_at	CREB1	CAMP responsive element binding protein 1
Bt.18689.2.A1_at	LOC538401	similar to Arylsulfatase B precursor (ASB) (N-acetylgalactosamine-4-sulfatase) (
Bt.18631.1.A1_at	SPRY4	Sprouty homolog 4 (Drosophila)
Bt.18492.1.A1_at	---	Transcribed locus, strongly similar to XP_001001712.1 PREDICTED: similar to zinc
Bt.18484.1.A1_at	NT5DC1	5'-nucleotidase domain containing 1
Bt.18349.1.A1_at	---	Transcribed locus, strongly similar to XP_582187.3 PREDICTED: hypothetical prote
Bt.18233.1.A1_s_at	BCL2	B-cell CLL/lymphoma 2
Bt.18075.1.A1_at	LOC616404	Similar to actin-related protein 3-beta
Bt.17766.1.S1_at	MGC160071	similar to Chromosome 3 open reading frame 23
Bt.17607.2.A1_at	PLD1	phospholipase D1, phosphatidylcholine-specific
Bt.17499.1.A1_at	LOC524684	similar to subtilisin-like proprotein convertase (EC 3.4.21.-) PACE4
Bt.17496.2.A1_at	LOC511508	Similar to KIAA0438
Bt.17386.1.A1_at	MGC152005	Similar to PABP1-dependent poly A-specific ribonuclease subunit PAN3
Bt.17349.1.A1_at	LOC537224	similar to KIAA0188
Bt.1658.1.S1_at	MKP-1	MAP kinase phosphatase-1
Bt.16568.2.A1_at	LOC538226	Hypothetical LOC538226
Bt.16514.1.S1_at	MGC127339	similar to cytochrome P450, family 4, subfamily v, polypeptide 2
Bt.16402.1.A1_at	STAT1	Signal transducer and activator of transcription 1
Bt.16382.1.A1_at	MGC155061	similar to calcitonin receptor-like receptor
Bt.16021.1.S1_at	CHRNA1	cholinergic receptor, nicotinic, alpha 1 (muscle)
Bt.15996.1.S2_at	ACAS2L	acetyl-Coenzyme A synthetase 2 (AMP forming)-like
Bt.15978.1.S1_at	MOCS1	molybdenum cofactor synthesis 1
Bt.15908.1.S1_at	LOC781892 /// METTL7A	methyltransferase like 7A /// hypothetical protein LOC781892
Bt.15842.1.S1_at	THRSP	thyroid hormone responsive (SPOT14 homolog, rat)
Bt.14570.2.S1_at	MGC137464	similar to 4-aminobutyrate aminotransferase, mitochondrial precursor ((S)-3-amin
Bt.14366.1.S1_at	LOC532209	Similar to AML1-EVI-1 fusion protein
Bt.1409.1.S1_at	MGC127860	similar to Protein CGI-38
Bt.13796.1.S1_at	LOC783399	similar to Equ c1
Bt.13708.2.S1_a_at	LOC781217	similar to ATM/ATR-Substrate Chk2-Interacting Zn ²⁺ -finger protein
Bt.13650.1.S1_at	LOC514078	similar to KIAA1119 protein
Bt.13556.1.S1_at	LOC514792 /// LOC788826	similar to H factor 1 (complement)
Bt.1345.1.S1_at	F2RL2	coagulation factor II (thrombin) receptor-like 2
Bt.13381.1.S1_at	MGC139113	similar to Cell death activator CIDE-3 (Cell death-inducing DFFA-like effector p
Bt.13345.1.A1_at	LOC784739	hypothetical protein LOC784739
Bt.13251.1.S1_at	MFNG	MFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase
Bt.132.1.S1_at	DEFB1	defensin, beta 1
Bt.13125.1.S1_s_at	BNBD-4 /// LOC783935 /// LOC786536	neutrophil beta-defensin 4 /// hypothetical protein LOC783935 /// similar to neu
Bt.13125.1.S1_at	LOC783935	hypothetical protein LOC783935
Bt.13096.1.A1_at	FIGF	c-fos induced growth factor (vascular endothelial growth factor D)
Bt.1300.1.S1_at	LOC509642	similar to oxidized-LDL responsive gene 2
Bt.12991.1.S1_at	FGF10	fibroblast growth factor 10
Bt.12991.1.A1_at	FGF10	fibroblast growth factor 10
Bt.12745.2.A1_at	ANTXR2	anthrax toxin receptor 2
Bt.12565.1.S1_at	MGC127362	similar to solute carrier family 31, member 2
Bt.12403.1.S1_at	MGC137880	similar to p76RBE protein
Bt.12319.1.S1_at	MGC139145	similar to Protein C11orf13 homolog
Bt.12301.1.S1_at	PTGER2	prostaglandin E receptor 2 (subtype EP2), 53kDa
Bt.12206.1.S1_x_at	BNBD-9-LIKE /// DEFB7 /// DEFB8	neutrophil beta-defensin-9 like peptide /// defensin beta 7 /// defensin beta 8
Bt.12081.1.S1_at	LOC782347	similar to TUBA
Bt.12010.2.S1_at	LOC512171	similar to ADAMTS1
Bt.11446.1.A1_at	LDB2	LIM domain binding 2
Bt.1116.2.S1_at	MGC140191	similar to GABA-B receptor
Bt.1115.1.S1_at	LOC533323	similar to cyclic nucleotide phosphodiesterase
Bt.10996.1.S1_at	GDPD2	glycerophosphodiester phosphodiesterase domain containing 2
Bt.10941.1.S1_at	LOC540550	similar to CHCR
Bt.10831.1.S1_at	LOC534996	similar to Tyrosine-protein kinase Lyn
Bt.10232.1.A1_at	MGC149024	Similar to PAR-6 beta
BtAffx.1.20.S1_at	RS620	regulator of G-protein signalling 20
Bt.9997.1.S1_at	LOC511958	similar to KIAA0056 protein
Bt.9982.1.S1_at	MGC128443	similar to proline-rich protein 3
Bt.9974.2.S1_at	CCL3L1	chemokine (C-C motif) ligand 3-like 1
Bt.9972.1.S1_at	ITGB6	integrin, beta 6
Bt.976.1.A1_at	ILF3	Interleukin enhancer binding factor 3
Bt.9704.1.S1_at	COX19	COX19 cytochrome c oxidase assembly homolog (S. cerevisiae)
Bt.9682.1.S1_at	LYZ1	lysozyme 1
Bt.9678.1.S1_at	---	Transcribed locus, strongly similar to XP_001254389.1 PREDICTED: hypothetical pr
Bt.9649.1.A1_at	LOC507169	similar to TRRAP protein
Bt.9599.1.A1_at	MGC128671	Similar to Inositol hexakisphosphate kinase 2 (InsP6 kinase 2) (Inositol hexakis
Bt.9460.1.S1_at	ELF1	E74-like factor 1 (ets domain transcription factor)
Bt.9416.1.S1_at	MGC143300	similar to CasL interacting molecule MICAL
Bt.9350.1.A1_at	LOC613472	similar to ganglioside-induced differentiation-associated protein 1
Bt.935.1.A1_at	LOC539354	similar to solute carrier family 35, member A4
Bt.9296.1.A1_at	LOC512486	similar to Interferon-induced guanylate-binding protein 1 (GTP-binding protein 1
Bt.9292.1.A1_at	LOC508406	similar to Chromosome 1 open reading frame 166
Bt.9268.1.S1_at	LOC537028	hypothetical LOC537028

13

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.9267.1.A1_at	APOBEC3F	apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3F
Bt.9263.1.S1_at	---	Transcribed locus, moderately similar to XP_001106673.1 PREDICTED: similar to zi
Bt.9241.1.A1_at	TBC1D20	TBC1 domain family, member 20
Bt.9233.1.A1_at	ADRM1	adhesion regulating molecule 1
Bt.9229.1.A1_at	LOC512949 /// LOC789693	hypothetical LOC512949 /// hypothetical protein LOC789693
Bt.9200.1.A1_at	MGC134424	Similar to CG5543-PA
Bt.9179.2.S1_at	LOC509283	similar to chromosome 17 open reading frame 27
Bt.9172.1.A1_at	LOC526702	similar to putative nuclear protein
Bt.9162.1.A1_at	CHORDC1	cysteine and histidine-rich domain (CHORD)-containing 1
Bt.9131.1.S1_at	LOC618514	similar to LAIR hlog
Bt.9128.1.A1_at	LOC509859	similar to KIAA0342 protein
Bt.9099.1.A1_at	MGC138130	Similar to small nuclear RNA activating complex, polypeptide 5, 19kDa
Bt.9071.1.S1_at	MGC139710	similar to CG18177-PB
Bt.9045.1.S1_at	RAVER1	ribonucleoprotein, PTB-binding 1
Bt.9044.1.S1_at	LOC538493	similar to chromosome 14 open reading frame 173
Bt.9034.1.S1_at	LOC538952	similar to Proline rich 15
Bt.9027.1.S1_at	NFKBIA	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, al
Bt.901.2.S1_a_at	LOC509354	similar to type 6 nucleoside diphosphate kinase NM23-H6
Bt.8979.1.A1_at	LOC538880	similar to cytoplasmic polyadenylation element binding protein CPEB2b
Bt.8902.2.S1_at	ICA1	islet cell autoantigen 1, 69kDa
Bt.8887.1.S1_at	LOC515078	similar to transmembrane protein 62
Bt.8850.1.S1_at	SARS2	seryl-tRNA synthetase 2
Bt.88.1.S1_at	CHRNA7	cholinergic receptor, nicotinic, alpha 7
Bt.8745.1.S1_at	MGC159813	hypothetical LOC535344
Bt.8699.1.S1_at	LOC540045	similar to zinc finger protein 385
Bt.8586.1.S1_at	LOC512149 /// LOC512150	similar to Myeloid-associated differentiation marker
Bt.8563.1.S1_at	LOC506370	similar to cytochrome b5 outer mitochondrial membrane precursor
Bt.8518.1.S1_at	LOC539768	similar to phosphodiesterase 8B4
Bt.8476.1.A1_at	DLX5	distal-less homeobox 5
Bt.8473.2.S1_at	PEX11B	peroxisomal biogenesis factor 11B
Bt.8435.1.S1_at	ACTA1	actin, alpha 1, skeletal muscle
Bt.8348.1.S1_at	LOC517133	hypothetical LOC517133
Bt.8316.1.S1_at	LOC782502	hypothetical protein LOC782502
Bt.8166.1.S1_at	CXXC5	CXXC finger 5
Bt.8128.1.S1_at	ETAA16	ETAA16 protein
Bt.8117.1.S1_at	MGC160050	similar to ULK2 protein
Bt.8090.2.S1_at	LOC513045	similar to Myb-binding protein 1A
Bt.7990.1.S1_at	LOC517259	similar to molecule interacting with Rab13
Bt.7894.1.S1_at	LOC531974	similar to mKIAA1151 protein
Bt.776.1.S1_at	LOC528990	similar to KIAA0690
Bt.7651.1.S1_at	ASB11	ankyrin repeat and SOCS box-containing 11
Bt.7639.1.S1_at	MGC142929	similar to CG11986-PA
Bt.763.1.S1_at	LOC514844	similar to expressed in synovial lining protein
Bt.7620.1.S1_at	ERCC6L	excision repair cross-complementing rodent repair deficiency, complementation gr
Bt.7619.1.S1_at	TTYH1	tweety homolog 1 (Drosophila)
Bt.7600.1.S1_at	LOC506900	histone H2A.I (H2A/I)
Bt.759.1.S1_at	SLC4A2	solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein
Bt.7561.1.S1_at	LOC781024 /// LOC781057 /// LOC781072 /// LOC781114 /// LOC781191 ///	hypothetical protein LOC781024 /// hypothetical protein LOC781057 /// hypothetic
Bt.7542.1.S1_at	BCL2A1	BCL2-related protein A1
Bt.7535.1.A1_at	DLST	dihydroliipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)
Bt.7484.1.S1_at	LOC504530	similar to FLJ00018 protein
Bt.7451.1.S1_at	MGC160130	hypothetical LOC617610
Bt.7447.1.A1_at	B3GALT2	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 2
Bt.737.1.S1_a_at	LIG3	ligase III, DNA, ATP-dependent
Bt.7272.1.S1_at	RNPEP	arginyl aminopeptidase (aminopeptidase B)
Bt.7263.1.S1_at	LOC510413	similar to PCAF associated factor 65 beta
Bt.7251.1.S1_at	B3GALT2	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 2
Bt.72.1.S1_at	MMP1	matrix metalloproteinase 1 (interstitial collagenase)
Bt.6980.1.S1_at	LOC790164	similar to 19A protein
Bt.6976.2.S1_at	SELPG	selectin P ligand
Bt.6963.1.A1_at	MGC152610	similar to Ecotropic viral integration site 2B
Bt.6842.1.S1_at	LOC520428	similar to Cdc14B2 phosphatase
Bt.6783.1.A1_at	LOC508660	hypothetical LOC508660
Bt.6705.1.S1_at	LOC527162	similar to TBC1 domain family, member 8
Bt.6680.3.S1_at	FKBP2 /// LOC783065	FK506 binding protein 2, 13kDa /// hypothetical protein LOC783065
Bt.6657.1.S1_at	LOC534891	similar to transmembrane protein 63B
Bt.6657.1.S1_a_at	LOC534891	similar to transmembrane protein 63B
Bt.6575.1.A1_at	---	Transcribed locus, strongly similar to XP_423069.1 PREDICTED: similar to phosph
Bt.6521.1.A1_at	MGC149024	similar to PAR-6 beta
Bt.6520.1.A1_at	LOC539144	similar to FRAT2
Bt.6261.1.S1_at	LOC614323	similar to carbonic anhydrase
Bt.6140.1.S1_at	LOC535992	similar to Rab11 interacting protein Rip11a
Bt.6105.1.S1_at	LOC619120	hypothetical LOC619120
Bt.6086.1.S1_at	ANK3	ankyrin 3, node of Ranvier (ankyrin G)
Bt.6020.1.S1_at	DNAJC11	DnaJ (Hsp40) homolog, subfamily C, member 11
Bt.6014.2.S1_at	RNF168	ring finger protein 168
Bt.6001.1.S1_s_at	LOC530342	similar to Chromosome 16 open reading frame 24
Bt.5858.1.S1_at	MGC139676	similar to Serine/threonine-protein kinase PAK 1 (p21-activated kinase 1) (PAK-1
Bt.5760.1.S1_at	MGC140597	similar to FtsJ homolog 3
Bt.5634.1.S1_at	SCAMP2	secretory carrier membrane protein 2
Bt.5603.2.S1_at	LOC534759	similar to G patch domain containing 8

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.5590.2.S1_at	PTPN2	Protein tyrosine phosphatase, non-receptor type 2
Bt.5589.1.S1_at	MGC142822	similar to SPATA20 protein
Bt.557.1.S1_at	SLC1A1	solute carrier family 1 (neuronal/epithelial high affinity glutamate transporter)
Bt.5563.1.S1_at	PCSK2	proprotein convertase subtilisin/kexin type 2
Bt.5496.2.S1_at	LOC511673	similar to methylmalonic aciduria type A
Bt.5445.3.A1_at	MGC137802	similar to tubulin, beta 6
Bt.5432.2.S1_at	TNIP1	TNFAIP3 interacting protein 1
Bt.5420.3.A1_at	PCP4L1	Purkinje cell protein 4 like 1
Bt.5413.2.S1_at	MGC137522	similar to glucocerebrosidase precursor
Bt.5413.1.S1_at	MGC137522	similar to glucocerebrosidase precursor
Bt.5403.1.S1_at	XDH	xanthine dehydrogenase
Bt.5401.1.S1_at	TGM2	transglutaminase 2 (C polypeptide, protein-glutamine-gamma-glutamyltransferase)
Bt.5381.2.S1_x_at	CSN2	casein beta
Bt.5287.1.S1_at	BCKDHA	branched chain keto acid dehydrogenase E1, alpha polypeptide
Bt.5259.1.S1_at	BIRC4BP	XIAP associated factor-1
Bt.5220.1.S1_at	SHBG	sex hormone-binding globulin
Bt.5121.1.S1_at	CASR	calcium-sensing receptor
Bt.5074.1.S1_at	LOC618226	Similar to SFPQ protein
Bt.5007.1.A1_at	LOC508098 /// LOC790292	hypothetical LOC508098 /// hypothetical protein LOC790292
Bt.50.1.S1_at	CD8A	CD8a molecule
Bt.4984.1.A1_a_at	MUTYH	mutY homolog (E. coli)
Bt.4950.1.S1_at	NDST2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2
Bt.4946.1.S1_at	RAC2	ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protei
Bt.4932.1.S1_at	TBC1D1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1
Bt.4911.1.S1_at	CPSF1	cleavage and polyadenylation specific factor 1
Bt.4909.1.S1_at	LOC511267	similar to START domain containing 3
Bt.4894.1.S1_at	CPSF3L	cleavage and polyadenylation specific factor 3-like
Bt.4863.1.S1_at	MGC128242	similar to neuronal protein
Bt.4856.1.S2_at	IL1B	interleukin 1, beta
Bt.4735.1.S1_at	ACACA /// LOC787813	acetyl-coenzyme A carboxylase alpha /// similar to acetyl-CoA-carboxylase
Bt.4709.1.S1_at	LOC782522 /// LOC782961 /// LOC788268 /// STAR	steroidogenic acute regulator /// similar to Steroidogenic acute regulatory prot
Bt.4648.1.S1_at	FANCC	Fanconi anemia, complementation group C
Bt.460.1.S1_s_at	LOC783512 /// TST	thiosulfate sulfurtransferase (rhodanese) /// similar to Thiosulfate sulfurtrans
Bt.445.1.S1_at	PDE6H	phosphodiesterase 6H, cGMP-specific, cone, gamma
Bt.4390.1.S1_at	TEK	TEK tyrosine kinase, endothelial (venous malformations, multiple cutaneous and m
Bt.4378.2.S1_a_at	ECE1	endothelin converting enzyme 1
Bt.4323.2.S1_at	AMZ2	archaemetzincins-2
Bt.4289.1.S1_at	LOC785621 /// TRA@	T cell receptor, alpha /// hypothetical protein LOC785621
Bt.425.1.S2_a_at	RBP3	retinol binding protein 3, interstitial
Bt.4232.2.S1_at	LOC508023	similar to KIAA1395 protein
Bt.4220.1.S1_at	LOC286844	pyruvate dehydrogenase phosphatase regulatory subunit precursor
Bt.4216.1.S1_at	PGF	placental growth factor, vascular endothelial growth factor-related protein
Bt.4111.1.A1_at	LOC510124	similar to OTTHUMP00000016605
Bt.4057.1.S1_at	MYH10	myosin, heavy chain 10, non-muscle
Bt.4010.1.S1_at	---	Transcribed locus, moderately similar to XP_851133.1 PREDICTED: similar to rever
Bt.3992.1.S1_at	PISD	phosphatidylserine decarboxylase
Bt.3981.2.S1_at	LOC788761	similar to C20orf94 protein
Bt.3923.1.S1_at	MGC155009	similar to Protein C21orf63 precursor (SUE21)
Bt.39.1.S1_at	MMP13	matrix metalloproteinase 13 (collagenase 3)
Bt.3885.5.S1_x_at	CLCA3	chloride channel, calcium activated, family member 3
Bt.3877.2.S1_a_at	CD37	CD37 molecule
Bt.3766.1.A1_at	MGC166276	hypothetical LOC520250
Bt.3753.3.A1_at	LOC534434	Similar to KIAA0614 protein
Bt.3704.1.S1_at	TCN2	transcobalamin II
Bt.3685.2.S1_at	LOC512915	Similar to zinc finger and BTB domain containing 17
Bt.3547.1.A1_at	MGC152116	similar to Stac protein (SRC homology 3 and cysteine-rich domain protein)
Bt.352.5.S1_a_at	PTGFR	prostaglandin F receptor (FP)
Bt.3516.1.S1_at	LOC527449	similar to mannosidase, alpha, class 2A, member 2
Bt.3414.2.A1_at	HRB	HIV-1 Rev binding protein
Bt.3361.1.S1_at	CDC42BPG	CDC42 binding protein kinase gamma
Bt.3339.2.S1_a_at	SEMA4A	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short
Bt.333.1.S1_at	TNP1	transition protein 1 (during histone to protamine replacement)
Bt.3317.1.A1_at	LOC523202	similar to cubilin
Bt.3309.1.A1_at	LOC535933	hypothetical LOC535933
Bt.3308.1.S1_at	MGC137396	similar to CG9339-PF
Bt.3300.1.S1_at	LOC511523	similar to SLC2A4 regulator
Bt.3245.1.S1_at	RHCG	Rh family, C glycoprotein
Bt.3221.2.S1_at	MBD1	Methyl-CpG binding domain protein 1
Bt.3221.1.A1_at	MBD1	Methyl-CpG binding domain protein 1
Bt.3201.1.S1_at	MGC139107	similar to Glutamate-rich WD-repeat protein 1
Bt.3199.3.S1_at	RUSC1	RUN and SH3 domain containing 1
Bt.3196.1.S1_at	STRA6	stimulated by retinoic acid gene 6 homolog
Bt.3170.3.S1_at	LOC517531	similar to Mitochondrial intermediate peptidase
Bt.3060.3.S1_at	LOC781477	hypothetical protein LOC781477
Bt.3015.2.S1_at	MGC157216	similar to HMGIC fusion partner-like 2
Bt.29964.1.S1_at	MGC140199	similar to Zinc finger protein 200
Bt.29962.3.S1_at	MAP3K12	mitogen-activated protein kinase kinase kinase 12
Bt.29957.2.S1_a_at	LOC786176 /// ZFP2	zinc finger protein 2 homolog /// similar to Kruppel-type zinc-finger protein
Bt.29907.2.S1_a_at	KLHDC8B	kelch domain containing 8B
Bt.2989.2.S1_at	LOC539494	similar to Solute carrier family 25 (mitochondrial carrier, Aralar), member 12

15

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.29845.1.A1_at	---	B11 cell-line anti-idiotypic Ig heavy chain V region (IgH)
Bt.29829.1.A1_at	NALP5	NACHT, leucine rich repeat and PYD containing 5
Bt.29804.1.S1_at	---	Clone 4 immunoglobulin heavy chain variable region (VH)
Bt.29752.1.S1_at	LOC613361	Hypothetical LOC613361
Bt.2973.3.A1_at	PDHB	Pyruvate dehydrogenase (lipoamide) beta
Bt.29621.1.S1_at	LOC533088	similar to glutathione peroxidase 2
Bt.29605.1.A1_at	LOC515218	Similar to SAPS3 protein
Bt.29569.2.S1_at	ZC3H8	zinc finger CCCH-type containing 8
Bt.29569.1.A1_at	ZC3H8	zinc finger CCCH-type containing 8
Bt.29563.1.A1_at	---	Transcribed locus, strongly similar to XP_622559.3 PREDICTED: similar to Adenoma
Bt.29530.1.S1_at	LOC781470 /// LOC781867	hypothetical protein LOC781470 /// similar to Pol; truncated polymerase
Bt.29480.1.S1_at	LOC517559	hypothetical LOC517559
Bt.29231.1.A1_at	MGC152225	Hypothetical LOC533952
Bt.29226.1.A1_at	LOC100125413	hypothetical protein LOC100125413
Bt.29152.1.S1_at	TSPAN12	tetraspanin 12
Bt.29086.1.S1_at	SVOPL	SVOP-like
Bt.29074.1.A1_at	MGC142645	Similar to SET and MYND domain containing 3
Bt.29035.1.A1_at	LOC539674	similar to B12 protein
Bt.28907.1.S1_at	NDUFS1	NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase
Bt.28904.1.A1_at	MGC139461	Similar to LBP-1c=transcription factor alpha-globin CP2 homolog (alternatively s
Bt.28896.1.S1_at	LOC781067	similar to jumonji domain containing 1C
Bt.28874.1.S1_at	LOC540004	similar to nucleoporin 98kD
Bt.28797.1.A1_at	CENP-N /// LOC783804	centromere protein N /// similar to Centromere protein N
Bt.28738.1.S1_at	ALPI	Alkaline phosphatase, intestinal
Bt.28718.1.A1_at	LOC538754	Similar to Protein phosphatase 1, regulatory (inhibitor) subunit 15B
Bt.28666.1.S1_at	LOC512168	similar to Transmembrane and coiled-coil domains 4
Bt.28626.1.S1_at	LOC521363	similar to Chromosome 2 open reading frame 3
Bt.28592.1.S1_at	LOC518260	similar to Paf1/RNA polymerase II complex component
Bt.28559.1.S1_a_at	DNASE1L1	deoxyribonuclease I-like 1
Bt.28532.1.S1_at	MMRN1	Multimerin 1
Bt.28487.1.A1_at	ART4	ADP-ribosyltransferase 4 (Dombrock blood group)
Bt.28403.1.A1_at	LOC783837	hypothetical protein LOC783837
Bt.28352.1.S1_at	CENPI	centromere protein I
Bt.28346.2.S1_at	BRRN1	barren homolog 1 (Drosophila)
Bt.28320.1.A1_at	LOC613826	hypothetical LOC613826
Bt.28250.1.A1_at	LOC508176	hypothetical LOC508176
Bt.28245.1.S1_at	MGC148361	similar to organic solute transporter beta
Bt.28240.1.S1_at	EPS8L3	EPS8-like 3
Bt.28234.1.S1_at	LOC781514	similar to FLJ00044 protein
Bt.28182.1.A1_at	RGS5	regulator of G-protein signaling 5
Bt.28165.1.A1_at	MGC154978	Similar to androgen-regulated serine protease TMPRSS2
Bt.28162.3.S1_at	PLN	phospholamban
Bt.28129.1.S1_at	ldlr	low density lipoprotein receptor
Bt.28020.1.A1_at	LOC407189	KERIA
Bt.28004.2.A1_a_at	LOC505306	Hypothetical LOC505306
Bt.27995.1.S1_at	adra2c	alpha-2C adrenergic receptor
Bt.27990.1.S1_at	5HTR2A	5-hydroxytryptamine receptor 2A
Bt.27940.1.A1_at	RHBG	Rh family, B glycoprotein
Bt.27874.2.S1_at	PTDSR	Phosphatidylserine receptor
Bt.27859.1.S1_at	LOC538956	hypothetical LOC538956
Bt.27816.1.S1_at	STAC3	SH3 and cysteine rich domain 3
Bt.27773.1.A1_at	LOC540258	similar to RNA binding motif protein 25
Bt.27622.1.A1_at	LOC538331	similar to myosin tail domain-containing protein
Bt.27584.1.S1_at	LOC538513	hypothetical LOC538513
Bt.27564.1.A1_at	LGP2	RNA helicase LGP2
Bt.27560.1.A1_at	LOC534432	hypothetical LOC534432
Bt.27537.1.A1_at	MAP1D	methionine aminopeptidase 1D
Bt.27458.1.A1_at	NR1H3	nuclear receptor subfamily 1, group H, member 3
Bt.27449.1.A1_at	LOC531405	similar to Sortilin-related VPS10 domain containing receptor 3
Bt.27423.1.S1_at	LOC539203	similar to dishevelled 3
Bt.27409.2.S1_at	LOC504406	similar to hydrocephalus inducing
Bt.27374.1.S1_at	LOC511212 /// LOC790064	hypothetical LOC511212 /// hypothetical protein LOC790064
Bt.27356.1.S1_at	MGC152577	similar to Chromatin assembly factor 1, subunit A (p150)
Bt.27242.2.S1_at	MGC151790	similar to nucleolar RNA-associated protein alpha
Bt.27223.2.S1_a_at	LOC508130	similar to Malonyl CoA:ACP acyltransferase (mitochondrial)
Bt.27212.1.A1_at	LOC783524	similar to cardiac muscle ryanodine receptor
Bt.27064.1.A1_at	LOC514726	similar to methionine-tRNA synthetase 2 precursor
Bt.27012.1.A1_at	LOC510408	similar to KIAA1092 protein
Bt.26993.1.S1_at	LOC514446	similar to see GenBank Accession Number U01184 for cDNA
Bt.26982.1.S1_at	LOC523815	similar to myeloid translocation gene-related protein 2 isoform MTG16a
Bt.26979.1.A1_at	MGC137696	similar to KIAA0517 protein
Bt.26935.3.S1_at	LOC790401 /// TAF13	TAF13 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 18kDa
Bt.26850.1.S1_at	LOC508443	similar to ATP-binding cassette sub-family G member 4
Bt.26786.1.S1_at	MGC139038	similar to RNF185 protein
Bt.26780.1.S1_at	LOC511191	similar to Golgi complex autoantigen golgin-97
Bt.26753.1.A1_at	LOC533403	Similar to protein inhibitor of activated STAT X isoform beta
Bt.26740.1.S1_at	LOC510032	similar to Transcription factor EB
Bt.26727.1.S1_at	DHDDS	dehydrodolichyl diphosphate synthase
Bt.26691.1.S1_a_at	TNFSF13	tumor necrosis factor (ligand) superfamily, member 13
Bt.26651.1.S1_at	LOC534619	similar to beta-1,3-N-acetylglucosaminyltransferase bGn-T4
Bt.26643.2.S1_at	LOC511168	similar to NFBD1
Bt.26640.1.S1_at	LOC784717	similar to ZNF239 protein
Bt.26623.1.S1_at	TTL3	tubulin tyrosine ligase-like family, member 3

16

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.26617.1.A1_at	LEP	leptin
Bt.26568.2.S1_a_at	LOC531049	similar to Putative eukaryotic translation initiation factor 3 subunit (eIF-3)
Bt.26510.1.S1_at	PLP1	proteolipid protein
Bt.26405.1.A1_at	MGC166351	Similar to KIAA0026
Bt.26315.1.A1_at	MGC137255	Hypothetical protein MGC137255
Bt.26312.1.A1_at	LOC528108	similar to Scavenger receptor class F member 2 precursor (Scavenger receptor exp
Bt.26293.1.A1_at	LOC616292	Hypothetical LOC616292
Bt.26272.1.S1_at	LOC507407	similar to Musculin (activated B-cell factor-1)
Bt.26271.1.A1_at	MGC143024	similar to fructosamine 3 kinase
Bt.26258.1.A1_at	MGC139179	similar to mitochondrial translation optimization 1 homolog
Bt.26234.1.A1_at	---	Transcribed locus, strongly similar to NP_065971.1 chromodomain helicase DNA bin
Bt.26184.1.S1_at	LOC540500	similar to UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetyl/galactosaminyl
Bt.26172.1.S1_at	MGC139845	similar to Rap2 interacting protein
Bt.26111.1.A1_at	KIAA1549	hypothetical protein LOC512679
Bt.26093.1.A1_at	ZFP341	zinc finger protein 341
Bt.26039.1.A1_at	LOC540964	similar to transcription elongation regulator 1
Bt.26037.1.A1_at	LOC534539	similar to bromodomain and WD repeat domain containing 3 variant BRWD3-A
Bt.25950.1.A1_at	ATP6V0B	ATPase, H+ transporting, lysosomal 21kDa, V0 subunit b
Bt.25948.1.A1_at	LOC512873	Similar to Deltex protein 1 (Deltex-1) (Deltex1) (hDXT1)
Bt.25888.1.A1_at	LOC785211	hypothetical protein LOC785211
Bt.25858.1.A1_at	NDUFA7	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 7, 14.5kDa
Bt.25834.1.A1_at	MELK	maternal embryonic leucine zipper kinase
Bt.25793.1.S1_at	LOC527701	similar to KIAA2019 protein
Bt.25783.1.A1_at	SP2	Sp2 transcription factor
Bt.25770.1.A1_at	APC	adenomatosis polyposis coli
Bt.25746.1.A1_at	MGC140754	hypothetical LOC508613
Bt.25724.1.A1_at	LOC613929	hypothetical LOC613929
Bt.25697.1.A1_a_at	CCR9	chemokine (C-C motif) receptor 9
Bt.25685.1.A1_at	ASPHD1	aspartate beta-hydroxylase domain containing 1
Bt.25673.1.A1_at	LOC615476	similar to actinfilin
Bt.25622.1.A1_at	VNN1	vanin 1
Bt.25617.1.A1_at	LOC526780	similar to ADAMTS-like 2
Bt.25609.1.A1_at	GPR61	G protein-coupled receptor 61
Bt.25596.1.A1_at	LOC615059	similar to huntingtin
Bt.25567.1.A1_at	MGC139640	similar to Amyloid beta A4 precursor protein-binding family B member 2 (Fe65-lik
Bt.25560.1.A1_at	MGC140383	similar to Skeletal muscle and kidney enriched inositol phosphatase
Bt.25509.1.A1_at	---	Transcribed locus, moderately similar to NP_982279.1 hypothetical protein LOC403
Bt.25501.1.A1_at	LOC505613	similar to BoWC1.1
Bt.25463.1.S1_at	OAT3	organic anion transporter 3
Bt.25416.1.A1_at	LOC538233	Similar to hSSH-1L
Bt.25388.1.A1_at	LOC527499	similar to P2X2B receptor
Bt.2537.1.S1_at	CHRNA3	cholinergic receptor, nicotinic, alpha 3
Bt.25344.1.S1_at	---	Transcribed locus, weakly similar to NP_062566.1 zinc finger protein 386 (Kruppe
Bt.25342.1.A1_at	MGC159591	similar to coiled-coil domain containing 132
Bt.25326.1.A1_at	RPH3AL	Rabphilin 3A-like (without C2 domains)
Bt.25305.1.A1_at	LOC790079	hypothetical protein LOC790079
Bt.25289.1.A1_at	MGC128518	Similar to CG14966-PA
Bt.25262.1.A1_at	LOC508660	hypothetical LOC508660
Bt.25214.1.A1_at	SPIN2	spindlin family, member 2
Bt.2510.1.A1_at	MGC166270	similar to SRp40-1
Bt.2509.1.S1_at	MEF2B	myocyte enhancer factor 2B
Bt.25084.1.S1_at	---	Transcribed locus, weakly similar to NP_001012749.1 hypothetical protein LOC2838
Bt.25083.1.A1_at	MGC128237	Similar to ubiquinol-cytochrome c reductase binding protein
Bt.25049.1.S1_at	LOC505068	similar to Translocation associated membrane protein 1-like 1
Bt.24912.1.A1_at	---	Transcribed locus, moderately similar to XP_937072.1 PREDICTED: hypothetical pro
Bt.2490.1.A1_at	AGP	alpha-1 acid glycoprotein
Bt.249.1.S1_at	NMT2	N-myristoyltransferase 2
Bt.24881.1.S1_at	LOC539690	similar to C1qR(p)
Bt.24832.1.A1_a_at	MGC142764	similar to 2-phosphodiesterase
Bt.24825.1.S1_at	CDH3	Cadherin 3, type 1, P-cadherin (placental)
Bt.24821.2.S1_a_at	MGC137561	similar to acyl-Coenzyme A binding domain containing 4
Bt.24813.2.S1_at	LOC787267 /// RTP4	receptor (chemosensory) transporter protein 4 /// similar to Receptor transporte
Bt.24811.1.A1_at	LOC515718	vav 2 protein
Bt.24808.1.A1_at	HUWE1	HECT, UBA and WWE domain containing 1
Bt.24807.1.S1_at	LOC540683	similar to vacuolar protein sorting 13D
Bt.24780.1.S1_at	LOC783538	similar to modulator recognition factor 2 (MRF2)
Bt.24697.1.A1_at	LOC541246	similar to Kinesin-like protein KIF3A (Microtubule plus end-directed kinesin mot
Bt.24690.1.S1_at	LOC505073	similar to RP11-334J6.1
Bt.24642.1.A1_at	LOC526505 /// LOC785905	similar to Ankyrin repeat domain-containing protein 26
Bt.24629.1.S1_at	LOC509859	similar to KIAA0342 protein
Bt.24569.1.A1_at	LOC517240	similar to KIAA1345 protein
Bt.24565.3.A1_a_at	LOC507256	similar to RAI16 protein
Bt.24559.1.A1_at	CD1D	CD1D antigen, d polypeptide
Bt.24554.1.S1_at	LOC507268	hypothetical LOC507268
Bt.24525.1.S1_at	LOC531863	similar to FLJ00174 protein
Bt.24501.1.A1_at	LOC539689	similar to Cartilage paired-class homeoprotein 1
Bt.24478.1.S1_at	LOC540132	Similar to TNE5
Bt.24412.1.S1_at	MGC139150	Hypothetical LOC540648
Bt.24394.1.S1_at	---	Transcribed locus, moderately similar to XP_001158686.1 PREDICTED: SA hypertensi
Bt.24370.1.A1_at	CXorf45	hypothetical protein LOC515282
Bt.24233.1.S1_at	NSF	N-ethylmaleimide-sensitive factor
Bt.24219.1.A1_at	LOC540563	similar to ash1 (absent, small, or homeotic)-like
Bt.24069.1.A1_at	LOC617565	Similar to Ocil/Clrb-like protein
Bt.24008.1.A1_at	MGC165775	similar to solute carrier 19A3

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.23968.1.S1_at	LOC782635	similar to KIAA1040 protein
Bt.23857.2.S1_at	MGC157214	hypothetical LOC524166
Bt.23857.1.A1_at	MGC157214	hypothetical LOC524166
Bt.23801.1.A1_at	LOC519409	Similar to origin recognition complex subunit 5 homolog
Bt.23650.1.S1_at	PRKRIP1	PRKR interacting protein 1
Bt.23600.2.A1_at	TMEM93	Transmembrane protein 93
Bt.23588.1.S1_at	LOC539235	similar to casein kinase 2, beta subunit
Bt.23585.1.S1_at	GDNF	glial cell derived neurotrophic factor
Bt.23571.2.A1_at	LOC534896	similar to centrosome-associated protein 350
Bt.23267.1.S1_at	LYVE-1	lymphatic vessel endothelial hyaluronan receptor 1
Bt.23152.1.S1_at	RETN	resistin
Bt.23106.1.S1_at	HN1 /// MGC127173	hematological and neurological expressed 1 /// similar to hematological and neur
Bt.23078.1.S1_at	LOC783510	similar to diacylglycerol kinase zeta
Bt.23030.2.A1_at	LOC518806	Similar to KIAA0840 protein
Bt.22998.1.S1_at	SLC5A6	solute carrier family 5 (sodium-dependent vitamin transporter), member 6
Bt.22982.1.A1_at	RTN1	reticulon 1
Bt.22872.1.A1_at	NGFR	nerve growth factor receptor
Bt.22871.1.A1_at	ANK1	ankyrin 1, erythrocytic
Bt.22856.1.S1_at	LOC787355 /// NEF3	neurofilament, medium polypeptide /// neurofilament triplet M protein
Bt.22809.2.S1_at	DFFB	DNA fragmentation factor, 40kDa, beta polypeptide (caspase-activated DNase)
Bt.22766.2.S1_at	MGC152480	similar to KIAA0156
Bt.22735.1.S1_at	MGC151530	similar to synaptotagmin-like 2
Bt.2268.1.S1_at	LASS4	LAG1 homolog, ceramide synthase 4
Bt.22574.1.S1_at	AMD1	Adenosylmethionine decarboxylase 1
Bt.22499.2.S1_at	MGC133722	hypothetical LOC505437
Bt.22499.1.S1_at	MGC133722	hypothetical LOC505437
Bt.22466.2.S1_at	MGC140624	Similar to Septin-8
Bt.22431.1.S1_at	LOC787244	similar to LOC285193 protein
Bt.22415.2.A1_at	LOC512863	similar to Sialic acid binding Ig-like lectin 5
Bt.22320.3.S1_at	TARDBP	TAR DNA binding protein
Bt.22320.2.S1_at	TARDBP	TAR DNA binding protein
Bt.223.1.S1_at	AMBN	ameloblastin (enamel matrix protein)
Bt.22290.1.S1_at	ESAM	endothelial cell adhesion molecule
Bt.22275.1.A1_at	LOC506604	similar to HEM45
Bt.2222.2.S1_at	LOC537096	similar to WD repeat and FYVE domain containing 3
Bt.2217.1.S1_at	APBB1	amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65)
Bt.22150.2.S1_at	LZTFL1	leucine zipper transcription factor-like 1
Bt.22106.2.S1_at	MGC139676	similar to Serine/threonine-protein kinase PAK 1 (p21-activated kinase 1) (PAK-1
Bt.22086.2.A1_at	ALDH7A1	aldehyde dehydrogenase 7 family, member A1
Bt.22072.1.A1_at	MBNL2	Muscleblind-like 2
Bt.2203.1.S1_at	ABHD12	abhydrolase domain containing 12
Bt.22006.1.S1_at	LOC527362	similar to FLJ00128 protein
Bt.22001.1.A1_at	MGC143168	hypothetical LOC512635
Bt.21993.1.A1_at	---	Transcribed locus, moderately similar to XP_342030.2 PREDICTED: similar to Expre
Bt.21989.1.A1_at	THRAP4	thyroid hormone receptor associated protein 4
Bt.21964.1.S1_at	ACS	1-aminocyclopropane-1-carboxylate synthase
Bt.21937.1.A1_at	LOC539495	hypothetical LOC539495
Bt.21907.1.S1_at	MGC165906	hypothetical LOC512477
Bt.21861.2.A1_at	MGC139330	similar to Carbohydrate sulfotransferase 9 (N-acetylgalactosamine-4-O-sulfotrans
Bt.21842.1.A1_at	LOC535064	similar to U2 small nuclear RNA auxiliary factor 1-like 2
Bt.21833.2.S1_at	MGC152436	hypothetical LOC516995
Bt.21789.1.S1_at	LOC617344	Similar to SH3 binding protein 3BP2
Bt.21775.2.S1_at	LOC513377	similar to Rho guanine nucleotide exchange factor 1
Bt.21759.1.S1_at	MGC165687	similar to gamma-butyrobetaine 2-oxoglutarate dioxygenase
Bt.21669.1.A1_at	ZNF274	Zinc finger protein 274
Bt.21630.1.S1_at	DNAJB5	DnaJ (Hsp40) homolog, subfamily B, member 5
Bt.21504.1.A1_at	LOC540351	similar to Zyg-11 homolog B (C. elegans)-like
Bt.21475.3.S1_a_at	LOC786013	similar to Ded protein
Bt.21448.2.S1_at	LOC528038	similar to mFLJ00098 protein
Bt.21430.1.S1_at	MGC166357	similar to Synovial apoptosis inhibitor 1, synoviolin
Bt.21413.2.S1_at	MGC151768	similar to Solute carrier family 44, member 2
Bt.214.1.S1_at	DDEF1	development and differentiation enhancing factor 1
Bt.21336.2.S1_a_at	MAD2L2	MAD2 mitotic arrest deficient-like 2 (yeast)
Bt.21249.1.S1_at	LOC509555	similar to CDNA sequence BC046404
Bt.21247.1.S1_at	---	Transcribed locus, moderately similar to NP_064327.1 poly (A) polymerase beta (t
Bt.21228.1.A1_a_at	PAXIP1	PAX interacting (with transcription-activation domain) protein 1
Bt.21225.1.S1_at	LOC514364	similar to eyes absent 3
Bt.21223.1.S1_at	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide
Bt.21165.1.A1_at	MGC152214	similar to gamma tubulin ring complex protein (76p gene)
Bt.21099.2.S1_at	MGC143052	similar to Breast cancer metastasis-suppressor 1-like
Bt.2105.1.S1_at	LOC535935	similar to large tumor suppressor 1
Bt.21039.1.A1_at	LOC507449	similar to Dexamethasone-induced Ras-related protein 1
Bt.21037.2.S1_at	MGC157143	similar to Transcription factor 7 (T-cell specific, HMG-box)
Bt.21034.1.A1_at	LOC511350	hypothetical LOC511350
Bt.21009.1.S1_at	LOC532887	similar to phosphoinositol 3-phosphate-binding protein-2
Bt.2096.2.S1_at	LOC505206	similar to pincher
Bt.2092.1.S1_at	LOC506953	similar to Integrin alpha-7 precursor
Bt.20835.1.A1_at	LOC525143	Similar to PI-3-kinase-related kinase SMG-1
Bt.20742.1.A1_at	LOC508405	similar to ankyrin repeat domain protein 17
Bt.20712.1.A1_at	LOC790501	Hypothetical protein LOC790501
Bt.20709.1.A1_at	LOC789017	similar to ras responsive element binding protein 1
Bt.20687.2.A1_at	LOC510651	hypothetical LOC510651
Bt.20652.1.A1_at	LOC790246 /// MAP1D	methionine aminopeptidase 1D /// similar to Methionine aminopeptidase 1D
Bt.20600.2.A1_a_at	MINA	MYC induced nuclear antigen
Bt.20584.1.S1_at	MGC127609	similar to NAD(P) dependent steroid dehydrogenase-like

18

AH Huang *et al.*, (2010) Eur Cell Mater 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.20549.2.S1_at	MGC142862	similar to Regulator of G-protein signaling 19 (RGS19) (G-alpha interacting prot
Bt.20533.1.S1_at	ZA20D3	zinc finger, A20 domain containing 3
Bt.20532.1.S1_at	PSMB9	proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional pep
Bt.20505.1.S1_at	LOC532427	similar to tigger transposable element derived 2
Bt.20423.1.S1_at	LOC540021	similar to polyhomeotic 1-like
Bt.20394.1.A1_at	MGC148818	similar to Kruppel-like factor 13
Bt.20368.2.S1_at	MGC134421	hypothetical LOC540543
Bt.20352.1.S1_at	SEP2	Septin 2
Bt.20343.2.S1_a_at	LOC506146	similar to mammalian unc13-4
Bt.20322.2.S1_at	WDR18	WD repeat domain 18
Bt.20320.1.S1_at	DKFZP761P1121	similar to Ser/Thr-rich protein T10 in DGCR region
Bt.20311.2.S1_at	LOC787681	similar to peptidyl-prolyl cis-trans isomerase E
Bt.20310.1.S1_at	LOC505572	similar to dedicator of cytokinesis 5
Bt.20244.1.S1_at	MGC166124	similar to CAAX prenyl protein protease RCE1
Bt.20198.1.S1_at	LOC526529	similar to spindle pole body protein spc98 homolog GCP3
Bt.20189.1.S1_at	MGC148378	similar to KIAA0082
Bt.20146.1.S1_at	ATP2B4	ATPase, Ca++ transporting, plasma membrane 4
Bt.2007.2.S1_at	LOC525750	similar to tetratricopeptide repeat domain 32
Bt.20045.1.A1_at	LOC534212	similar to arylacetamide deacetylase-like 1
Bt.20043.3.A1_at	DUSP14	Dual specificity phosphatase 14
Bt.20043.2.S1_at	DUSP14	dual specificity phosphatase 14
Bt.20019.1.S1_at	LOC530692	unc-13 B-like protein
Bt.20008.2.S1_at	NUDT17	nudix (nucleoside diphosphate linked moiety X)-type motif 17
Bt.19994.1.S1_at	LOC789597	similar to PDZ domain-containing guanine nucleotide exchange factor PDZ-GEF2
Bt.19954.1.A1_at	ERCC3	excision repair cross-complementing rodent repair deficiency, complementation gr
Bt.199.1.S1_at	PNOC	prepronociceptin
Bt.19889.1.A1_at	IGSF1	immunoglobulin superfamily, member 1
Bt.19810.1.A1_at	MGC166311	hypothetical LOC540970
Bt.19781.1.A1_at	MGC137859	similar to Ubiquitin ligase protein DZIP3 (DAZ-interacting protein 3) (RNA-bindi
Bt.1978.10.S1_a_at	TRB@	T cell receptor, beta cluster
Bt.19754.1.A1_at	---	Transcribed locus, moderately similar to XP_001255373.1 PREDICTED: hypothetical
Bt.19702.1.S1_at	LYPD1	LY6/PLAUR domain containing 1
Bt.19681.1.A1_at	LOC538547	Hypothetical LOC538547
Bt.19629.2.S1_at	HSPH1	heat shock 105kDa/110kDa protein 1
Bt.19614.1.A1_at	LIPC	lipase, hepatic
Bt.19612.1.S1_at	LOC541096	Similar to pad-1-like
Bt.19611.1.S1_at	LOC512135	Hypothetical LOC512135
Bt.1960.2.S1_a_at	LOC616609	similar to Y38F2AL.2
Bt.19564.1.A1_at	LOC540109	similar to transducer of regulated CREB protein 3
Bt.19563.1.A1_at	TCP11L1	t-complex 11 (mouse)-like 1
Bt.19552.1.A1_at	LOC614987	similar to LOC220416 protein
Bt.1953.3.S1_at	LOC515593	similar to microtubule-associated protein 1A
Bt.19500.2.A1_at	MGC137400	Similar to splicing factor 3B, 14 kDa subunit
Bt.19482.1.A1_at	LOC504698	similar to transferrin receptor
Bt.19405.1.A1_at	LOC782774	similar to G-protein coupled receptor GPR86
Bt.19370.1.A1_at	---	Transcribed locus, strongly similar to XP_871659.1 PREDICTED: hypothetical prote
Bt.19338.2.A1_at	LOC790072	hypothetical protein LOC790072
Bt.19309.1.S1_at	LOC616742	similar to Ephrin-A5 precursor (EPH-related receptor tyrosine kinase ligand 7) (
Bt.19241.1.A1_at	LOC508899	similar to Nuclear receptor coactivator 6
Bt.19220.1.A1_at	LOC510341	similar to AHNAK nucleoprotein
Bt.19199.1.A1_at	DCLK1	Doublecortin-like kinase 1
Bt.19093.1.S1_at	LOC535075	Similar to aldehyde dehydrogenase 1A2
Bt.1908.1.S1_at	LOC536558	similar to heat shock 70kDa protein 4
Bt.19079.1.A1_s_at	LOC785805	Hypothetical protein LOC785805
Bt.19059.1.A1_at	LOC504792	Similar to TBP-associated factor 1
Bt.19053.1.A1_at	LOC534067	similar to ubiquitin specific protease 34
Bt.18968.1.A1_at	MGC137317	similar to Protein C6orf165
Bt.18851.1.S1_at	NRBF1	nuclear receptor binding factor 1
Bt.18835.2.S1_at	CARS	cysteinyl-tRNA synthetase
Bt.18802.1.A1_at	LMO7	LIM domain 7
Bt.18751.1.S1_at	LOC533289	similar to type II phosphatidylinositol-4-phosphate 5-kinase 53K
Bt.18744.2.A1_at	WBP4	WW domain binding protein 4 (formin binding protein 21)
Bt.18718.1.S1_at	LOC514189	hypothetical LOC514189
Bt.18640.1.A1_at	VT11A	Vesicle transport through interaction with t-SNAREs homolog 1A
Bt.18564.1.A1_at	LOC509744	alcohol dehydrogenase LOC509744
Bt.18546.1.A1_at	LOC508931	similar to Zinc finger protein 624
Bt.18512.1.A1_at	---	Transcribed locus, strongly similar to XP_342147.2 PREDICTED: similar to minichr
Bt.18469.1.S1_at	LOC784517	hypothetical protein LOC784517
Bt.18460.1.A1_at	MGC142807	Similar to alpha/beta hydrolase domain containing protein 3
Bt.18414.1.S1_at	GK	glycerol kinase
Bt.18392.1.A1_at	AMBIP	alpha-1-microglobulin/bikunin precursor
Bt.18320.1.A1_at	---	Transcribed locus, strongly similar to NP_033801.4 ankyrin repeat and FYVE domai
Bt.18290.1.A1_at	LOC506182	similar to Tnf receptor-associated factor 3
Bt.18253.1.A1_at	LOC518313	similar to glutamate receptor interacting protein 1
Bt.18221.2.A1_s_at	LOC524692	Similar to KIAA0299
Bt.18196.1.S1_at	MGC128572	similar to mitochondrial Rho 1
Bt.1815.3.S1_at	MGC157300	Hypothetical LOC534625
Bt.18139.1.A1_at	LOC617808	hypothetical LOC617808
Bt.18126.1.A1_at	PRICKLE1	prickle homolog 1
Bt.18119.1.A1_at	FAF1	Fas (TNFRSF6) associated factor 1
Bt.18105.1.A1_at	LOC786620	hypothetical protein LOC786620
Bt.18101.1.A1_at	MGC148570	similar to olfactomedin related ER localized protein
Bt.18043.1.S1_at	LOC526616	similar to mKIAA1856 protein
Bt.1801.3.S1_at	TSPAN31	Tetraspanin 31
Bt.18002.2.S1_at	ZNF470	zinc finger protein 470
Bt.1797.1.S1_at	LOC506830	hypothetical LOC506830
Bt.17969.1.A1_at	MGC140375	similar to PP203

19

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.17964.2.A1_s_at	---	Transcribed locus, weakly similar to NP_690054.1 light ear protein isoform b [Ho]
Bt.17948.2.A1_at	LOC513153	hypothetical LOC513153
Bt.17933.1.A1_at	LOC515358	Hypothetical LOC515358
Bt.17871.1.S1_a_at	LOC510737	similar to RNA binding protein DEF-3
Bt.17852.1.A1_at	LOC506353	Similar to KIAA0166
Bt.1780.1.S1_at	CTBP1	C-terminal binding protein 1
Bt.1774.1.S1_at	LOC513493	similar to myosin IXB
Bt.17734.1.A1_at	MGC157341	hypothetical LOC613974
Bt.17670.1.A1_at	LOC517995	similar to GPRIN family member 3
Bt.17669.1.S1_a_at	LOC522670	similar to I-REL
Bt.17656.1.A1_at	IL17	interleukin 17 (cytotoxic T-lymphocyte-associated serine esterase 8)
Bt.17637.3.A1_at	MGC139640	Similar to Amyloid beta A4 precursor protein-binding family B member 2 (Fe65-lik
Bt.17581.2.S1_at	LOC506952	similar to Methyltransferase-like protein 7B
Bt.17510.1.A1_at	PAM	Peptidylglycine alpha-amidating monooxygenase
Bt.17492.1.S1_at	MGC166379	similar to transcriptional regulatory protein p54
Bt.17473.2.S1_at	RPE	ribose-5-phosphate-3-epimerase
Bt.17460.1.A1_at	LOC540117	similar to SLIT and NTRK-like family, member 2
Bt.17440.1.A1_at	MGC139708	similar to G+C-rich promoter-binding protein
Bt.17402.1.S1_at	MGC157323	Similar to Tripeptidyl peptidase II
Bt.17357.1.A1_at	LOC513610	Similar to CRSP3
Bt.17310.2.A1_at	LOC514509	similar to Agmatine ureohydrolase (agmatinase)
Bt.17229.1.A1_at	LOC539807	similar to KIAA1404 protein
Bt.17213.1.A1_at	SLC10A1	solute carrier family 10 (sodium/bile acid cotransporter family), member 1
Bt.17172.1.S1_at	GJA5	gap junction protein, alpha 5
Bt.17158.1.S1_at	LOC512933	similar to KIAA0753
Bt.17144.1.A1_s_at	LOC536676	similar to putative acetyltransferase
Bt.17124.1.A1_s_at	NUDT14	nudix (nucleoside diphosphate linked moiety X)-type motif 14
Bt.17096.2.A1_at	SYCP3	synaptonemal complex protein 3
Bt.17045.1.A1_at	LOC506159	similar to G protein-coupled receptor 52
Bt.17026.1.S1_at	LOC504245	similar to Rho GTPase activating protein 17
Bt.17.1.S1_at	PRP6	prolactin-related protein 6 /// prolactin-related protein VI
Bt.16985.1.S1_at	ELMO1	engulfment and cell motility 1
Bt.16958.1.A1_at	LOC788422	Hypothetical protein LOC788422
Bt.16889.1.A1_at	LTB4R	leukotriene B4 receptor
Bt.1682.1.S1_at	LOC534620	similar to serine/threonine kinase
Bt.16794.1.A1_at	LOC527607	Similar to elongation factor Tu GTP binding domain containing 1
Bt.16784.1.S1_at	LOC527394	similar to pygopus 1
Bt.16776.1.S1_at	LOC540422	similar to tigger transposable element derived 5
Bt.16725.1.S1_at	MGC152289	similar to ubiquitin-conjugating enzyme RIG-B
Bt.16652.1.A1_at	LOC510507	similar to cholesterol 7alpha-hydroxylase
Bt.16602.1.A1_at	PRPF38A	PRP38 pre-mRNA processing factor 38 (yeast) domain containing A
Bt.16594.1.A1_at	LOC505073	similar to RP11-334J6.1
Bt.16585.1.A1_at	MGC142680	Similar to PHD finger protein 6
Bt.16534.1.A1_at	DCTN2	Dynactin 2 (p50)
Bt.16521.2.A1_at	LOC615147	hypothetical LOC615147
Bt.16521.1.S1_at	LOC615147	hypothetical LOC615147
Bt.16464.1.A1_at	LOC784987	hypothetical protein LOC784987
Bt.16412.1.S1_a_at	FAA	fumarylacetoacetate hydrolase
Bt.16407.1.A1_at	NSF	N-ethylmaleimide-sensitive factor
Bt.16372.1.A1_at	LOC535887	similar to pantothenate kinase 1alpha
Bt.16338.1.S1_at	MBL-A	mannose binding lectin, liver (A)
Bt.16326.3.S1_at	LOC616626	hypothetical LOC616626
Bt.16271.2.A1_at	LOC514797	similar to macrophage C-type lectin Mincle
Bt.16212.2.S1_at	LOC617368	Hypothetical LOC617368
Bt.16210.1.S1_at	PRPSAP1	Phosphoribosyl pyrophosphate synthetase-associated protein 1
Bt.16188.2.S1_at	CYYR1	cysteine/tyrosine-rich 1
Bt.1616.1.A1_at	ECSOD	extracellular superoxide dismutase
Bt.16149.2.A1_at	MGC143009	hypothetical protein LOC783805
Bt.161.1.S2_at	DSG1	desmoglein 1
Bt.16077.1.S1_at	MGC140177	similar to receptor activity-modifying protein
Bt.1605.2.S1_at	MGC138923	similar to selenoprotein N, 1 isoform 1 precursor
Bt.1593.1.S1_at	SEZ6L2	seizure related 6 homolog (mouse)-like 2
Bt.15912.1.S1_at	LOC767910	placenta-specific 8
Bt.15890.1.S1_at	APOA4	apolipoprotein A-IV
Bt.15873.1.A1_at	MGC157081	similar to Nuclear pore complex protein Nup93 (Nucleoporin Nup93) (93 kDa nucleo
Bt.15866.3.S1_a_at	LOC784219	similar to nucleoporin 214kDa
Bt.15828.2.S1_at	LOC521857	similar to G-protein-coupled receptor induced protein GIG2
Bt.15769.1.S1_at	MGC139596	hypothetical LOC534262
Bt.15733.1.A1_at	LOC510012	similar to SCL/TAL1 interrupting locus
Bt.15732.1.S1_at	MGC157216	similar to HMGIC fusion partner-like 2
Bt.15531.1.S1_at	MGC142841	similar to tuberin-like protein 1
Bt.15466.1.A1_at	UNC50	unc-50 homolog
Bt.14921.1.A1_at	MGC137188	similar to Collagen alpha 1(X) chain precursor
Bt.1472.1.S1_at	IKBKE	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon
Bt.14676.1.S1_at	LOC540789	similar to poly (ADP-ribose) polymerase family, member 14
Bt.1463.1.S1_at	LOC504245	similar to Rho GTPase activating protein 17
Bt.146.1.S1_at	BNBD-4	neutrophil beta-defensin 4
Bt.1458.1.S1_at	MGC138036	similar to phosphoglucomutase 5
Bt.1436.1.S1_at	LOC788843	similar to pregnancy-associated glycoprotein 11
Bt.14165.1.S1_at	MGC133533	hypothetical LOC512692
Bt.14136.1.A1_at	ENDOD1	endonuclease domain containing 1
Bt.14000.1.S1_at	LOC789594	Hypothetical protein LOC789594
Bt.13927.2.S1_at	MGC134318	similar to Protein C22orf8
Bt.13894.1.S1_at	LOC527699	Similar to kalirin, RhoGEF kinase
Bt.13886.1.S1_at	LOC534067	Similar to ubiquitin specific protease 34
Bt.13868.1.S1_at	OCLN	occludin
Bt.13834.1.S1_at	LOC504698	similar to transferrin receptor
Bt.13810.1.S1_at	MGC152593	hypothetical LOC617594

20

AH Huang *et al.*, (2010) *Eur Cell Mater* 19: 72-95 (Supplementary Table 2 – 22pages)



<http://www.ecmjournal.org>

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.13809.1.S1_at	LOC511191	similar to Golgi complex autoantigen golgin-97
Bt.13791.1.A1_at	LOC508196	similar to KIAA0476 protein
Bt.13645.2.S1_at	MGC159622	Hypothetical LOC513649
	HF1 ///	
Bt.13556.1.S1_a_at	LOC788826	H factor 1 (complement) /// similar to H factor 1 (complement)
Bt.13553.2.S1_at	SPCS3	signal peptidase complex subunit 3
Bt.13549.2.S1_at	SRRP130	splicing factor, arginine/serine-rich 130
Bt.13549.1.A1_at	SRRP130	splicing factor, arginine/serine-rich 130
Bt.13484.1.A1_at	PPP1R3C	protein phosphatase 1, regulatory (inhibitor) subunit 3C
Bt.13478.1.A1_at	MGC155164	similar to LSM10, U7 small nuclear RNA associated
Bt.13470.3.S1_a_at	LOC787630	hypothetical protein LOC787630
Bt.13428.2.S1_at	FBP2	fructose-1,6-bisphosphatase 2
Bt.13427.1.S1_at	LOC781315	similar to C5orf25 protein
Bt.13410.1.S1_at	MGC160087	similar to ribosomal protein S6 kinase, 90kDa, polypeptide 3
Bt.1341.1.S1_at	LOC527172	hypothetical LOC527172
Bt.13390.1.A1_at	DECR1	2,4-dienoyl CoA reductase 1, mitochondrial
Bt.13375.1.S1_at	MGC128216	similar to S-adenosylmethionine synthetase alpha and beta forms (Methionine aden
Bt.13370.3.S1_at	LOC527459	similar to rapamycin insensitive companion of mTOR; rictor
Bt.13294.1.A1_at	LOC510378	similar to Transmembrane protein 161B
Bt.13147.1.A1_at	B4GALT5	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 5
Bt.13142.1.A1_x_at	PRKCD	protein kinase C, delta
Bt.13139.1.S1_at	TRPC3	transient receptor potential cation channel, subfamily C, member 3
Bt.13115.2.S1_at	P2RX7	purinergic receptor P2X, ligand-gated ion channel, 7
Bt.13115.1.S1_at	P2RX7	purinergic receptor P2X, ligand-gated ion channel, 7
Bt.13111.1.S1_at	FGFR4	fibroblast growth factor receptor 4
Bt.13094.1.A1_at	TXNRD3	thioredoxin reductase 3
Bt.13087.1.S1_at	CD6	CD6 molecule
Bt.13084.1.S1_at	MET	met proto-oncogene (hepatocyte growth factor receptor)
Bt.12952.2.A1_at	DNASE1	deoxyribonuclease I
Bt.12943.1.S1_at	LGTN	ligatin
Bt.12936.1.S1_at	CATHL5	cathelicidin 5
Bt.12894.1.S1_at	MGC159470	similar to transcript expressed during hematopoiesis 2
Bt.12871.1.S1_at	LOC788113	hypothetical protein LOC788113
Bt.12867.3.S1_at	LOC786496	similar to zinc finger protein 318
Bt.1284.1.S1_at	FLAD1	FAD1 flavin adenine dinucleotide synthetase homolog (S. cerevisiae)
Bt.12803.1.S1_at	PPARA	peroxisome proliferator-activated receptor alpha
Bt.12773.1.S1_at	SLC2A8	solute carrier family 2, (facilitated glucose transporter) member 8
Bt.1275.1.S1_at	LOC517354	similar to fractalkine
Bt.12744.1.S1_at	LOC510329	hypothetical LOC510329
Bt.12710.2.S1_at	MAP4K1	mitogen-activated protein kinase kinase kinase kinase 1
	LOC539069 ///	
Bt.12569.1.A1_at	LOC789470	similar to copper amine oxidase
Bt.12431.1.S1_at	LOC504649	similar to Sorting nexin-19
Bt.1242.1.S1_at	ATP5F1	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit C1 (subunit 9)
Bt.12293.1.S1_at	LOC786485	similar to limbin
Bt.12217.1.S1_at	NTRK2	Neurotrophic tyrosine kinase, receptor, type 2
Bt.12063.1.S1_at	LOC514537	similar to protocadherin 7
Bt.12010.1.S1_at	LOC512171	similar to ADAMTS1
Bt.1194.1.S1_at	LOC518086	similar to CANT1 protein
Bt.11885.1.S1_a_at	MGC139596	hypothetical LOC534262
Bt.11869.1.S1_at	LOC785548	hypothetical protein LOC785548
Bt.1184.1.S1_at	APEX2	APEX nuclease (apurinic/apryrimidinic endonuclease) 2
Bt.1180.2.A1_at	LOC529373	similar to monocytic leukaemia zinc finger protein
Bt.1180.1.A1_at	LOC529373	similar to monocytic leukaemia zinc finger protein
Bt.11797.3.A1_at	MGC148776	Hypothetical LOC535746
Bt.11763.2.S1_at	---	Transcribed locus, strongly similar to XP_213362.3 PREDICTED: similar to Camta2
Bt.11761.1.A1_at	LOC528972	similar to retinoic acid induced 1
Bt.1176.1.A1_at	MGC151719	similar to cell division cycle protein 23
Bt.11751.1.A1_at	---	Transcribed locus, strongly similar to XP_230006.3 PREDICTED: similar to Hypothe
Bt.11656.1.S1_at	CGN	cingulin
Bt.11651.1.A1_at	SCAND1	SCAN domain containing 1
Bt.11580.1.S1_at	LOC539650	similar to IGF-II mRNA-binding protein 3
Bt.11532.1.A1_at	CRYGB	crystallin, gamma B
	LOC614417 ///	
Bt.11525.3.S1_at	LOC787851	similar to RNA-binding protein with multiple splicing (RBP-MS) /// similar to RB
	LOC616483 ///	
Bt.11417.1.A1_at	LOC787261	similar to translation initiation factor eIF4A I
Bt.11368.1.A1_at	LOC541061	similar to 43 kD receptor-associated protein of the synapse Transcribed locus, moderately similar to XP_343493.2 PREDICTED: similar to Arpp2
Bt.11362.1.A1_at	---	
Bt.11277.2.S1_at	LOC789590	similar to ZKD family zinc finger C
Bt.11277.1.A1_at	LOC524085	similar to Solute carrier family 41, member 3
Bt.11195.1.S1_at	PLUNC	palate, lung and nasal epithelium carcinoma associated
Bt.11182.2.S1_at	GCFC	GC-rich sequence DNA-binding factor homolog
Bt.11126.2.A1_at	MGC137397	Similar to Phosphatidylcholine-sterol acyltransferase precursor (Lecithin-choles
Bt.11124.1.S1_at	VPS25	vacuolar protein sorting 25 homolog (S. cerevisiae)
Bt.11100.1.S1_at	LOC509260	Similar to nuclear DEAF-1 related transcriptional regulator
Bt.11017.1.S1_at	LOC540504	similar to Nesprin-2 (Nuclear envelope spectrin repeat protein 2) (Syne-2) (Syna
Bt.11010.1.S1_at	ATP6V0D2	ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d2
Bt.10953.2.S1_at	MGC128409	Similar to TSC22 domain family protein 1 (Transforming growth factor beta 1 indu
Bt.10878.2.S1_a_at	HPS1	Hermansky-Pudlak syndrome 1
Bt.10604.1.A1_at	FYN	FYN oncogene related to SRC, FGR, YES
Bt.1054.1.S1_at	LOC522521	similar to KIAA0521 protein
Bt.10524.3.S1_at	ZNF821	zinc finger protein 821
Bt.10374.3.A1_at	VPS33B	Vacuolar protein sorting 33 homolog B (yeast)
Bt.10261.1.S1_at	LOC525095	similar to Phosphatidylinositol glycan anchor biosynthesis, class N
Bt.10180.1.A1_at	LOC524813	similar to forkhead box F1
Bt.10140.1.S1_at	LOC510456	hypothetical LOC510456
Bt.10124.1.S1_at	LOC513129	hypothetical LOC513129

Table 1: Complete list of genes that were up-regulated (> 3-fold) at week 6 with dynamic compressive loading compared to CM+ free-swelling control.

Bt.10087.1.A1_at	LOC509257	similar to KIAA0672 gene product
Bt.10077.1.S3_at	LOC789216	similar to interferon regulatory factor 1
Bt.10046.2.S1_a_at	KLHDC2	kelch domain containing 2
Bt.10033.1.S1_at	LOC541118	similar to GW182 autoantigen
Bt.100.1.S1_at	ADRB2	adrenergic, beta-2-, receptor, surface