

Table S1. Genes showed alterations in expression in the skin of *Lhx2*^{-/-} mice versus wild-type controls in microarrays and association of *Lhx2* with the corresponding promoter regions in CHIP-on-chip assay

Adhesion/extracellular matrix

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
-------------	----------------	------------------	-------------	---

Downregulated

Perp	PERP; TP53 apoptosis effector	NM_022032	-11.02	-7081
Dsc1	desmocollin 1	NM_013504	-4.38	-991
Adamts1	ADAMTS-like 1	NM_029967	-2.87	-5027
Mmrn1	multimerin 1	XM_284198	-2.6	-3368
Col9a1	collagen; type IX; alpha 1	NM_007740	-2.47	-4226
Ush2a	Usher syndrome 2A (autosomal recessive; mild) homolog (human)	NM_021408	-2.3	-117
Fgl1	fibrinogen-like protein 1	AK083397	-2.04	-8158
Siglech	sialic acid binding Ig-like lectin H	NM_178706	-1.91	-117
Cntn3	contactin 3	NM_008779	-1.84	-117

Upregulated

Fgg	fibrinogen gamma chain	NM_133862	44.77	-1125
Ibsp	integrin binding sialoprotein	NM_008318	40.38	4505
C8b	complement component 8; beta polypeptide	NM_133882	31.22	142
Crp	C-reactive protein; pentraxin-related	NM_007768	28.1	-3270
Gja3	gap junction protein; alpha 3	AK053849	27.24	-117
Cldn8	claudin 8	NM_018778	22.23	59979
Nrxn1	neurexin I	NM_020252	21.92	4692
A2m	alpha-2-macroglobulin	NM_175628	20.61	-117
Vit	Vitrin	NM_028813	20.3	2310
F11	coagulation factor XI	NM_028066	16.12	1606
Gpm6a	glycoprotein m6a	S65735	14.01	-9739
Col10a1	collagen; type X; alpha 1	NM_009925	13.52	801
Col19a1	collagen; type XIX; alpha 1	NM_007733	13.24	-353
Fgb	fibrinogen beta chain	NM_181849	12.33	-1427
Rhag	Rhesus blood group-associated A glycoprotein	NM_011269	12.16	-4645
Anks1b	ankyrin repeat and sterile alpha motif domain containing 1B	XM_001003400	11.57	-117
Upk2	uroplakin 2	NM_009476	11.22	-117
Spp1	secreted phosphoprotein 1	NM_009263	10.24	-5677
Pcdhb7	protocadherin beta 7	NM_053132	10.2	225

Vnn1	vanin 1	NM_011704	9.88	148250
Olfml2b	olfactomedin-like 2B	NM_177068	9.69	-1687
Clec14a	C-type lectin domain family 14; member a	NM_025809	8.61	-117
Fat4	FAT tumor suppressor homolog 4 (Drosophila)	AK034552	8.04	-117
Cdh22	cadherin 22	NM_174988	7.96	2293
Clec4a2	C-type lectin domain family 4; member a2	NM_011999	7.34	-186
Tnn	tenascin N	NM_177839	7.2	-5025
Cntnap2	contactin associated protein-like 2	NM_025771	7.2	-117
Lrfn5	leucine rich repeat and fibronectin type III domain containing 5	AK083920	7.17	-598
Thbs4	thrombospondin 4	NM_011582	6.98	-117
C6	complement component 6	NM_016704	6.18	-117
Gja5	gap junction protein; alpha 5	NM_008121	5.83	-117
Cfhr1	complement factor H-related 1	NM_015780	5.79	-3372
Cdh20	cadherin 20	NM_011800	5.75	-117
Alb	Albumin	NM_009654	5.4	-4057
Ctnna2	catenin (cadherin associated protein); alpha 2	NM_009819	5.37	-117
Gp2	glycoprotein 2 (zymogen granule membrane)	NM_025989	5.09	-117
Fcgr1	Fc receptor; IgG; high affinity I	NM_010186	4.97	-7197
Kera	Keratocan	NM_008438	4.87	-4868
Vsig4	V-set and immunoglobulin domain containing 4	NM_177789	4.34	-8131
Lrrn1	leucine rich repeat protein 1; neuronal	NM_008516	4.34	1566
Siglec1	sialic acid binding Ig-like lectin 1; sialoadhesin	NM_011426	3.88	745
Cldn17	claudin 17	NM_181490	3.7	83280
Nphs1	nephrosis 1 homolog; nephrin (human)	NM_019459	3.36	2927
Cntn6	contactin 6	NM_017383	3.17	-2476
Pcdhb15	protocadherin beta 15	NM_053140	3.05	638
Lum	Lumican	NM_008524	2.83	-4868
Lypd1	Ly6/Plaur domain containing 1	NM_145100	2.69	-5818
Vcan	Versican	AK087780	2.54	7703
Mug1	murinoglobulin 1	NM_008645	2.53	394
Pcdh20	protocadherin 20	NM_178685	2.45	2440
Pcdhb6	protocadherin beta 6	NM_053131	2.44	725
Cdh17	cadherin 17	NM_019753	2.31	-117
Lrrc33	leucine rich repeat containing 33	NM_146069	2.22	670
Cd84	CD84 antigen	NM_013489	2.2	-4331
Vsig1	V-set and immunoglobulin domain containing 1	NM_030181	2.1	-117
Itm2a	integral membrane protein 2A	NM_008409	2.06	-7212

Siglec5	sialic acid binding Ig-like lectin 5	NM_145581	1.74	2219
---------	--------------------------------------	-----------	------	------

Apoptosis

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Upregulated				
Bcl2l14	BCL2-like 14 (apoptosis facilitator)	NM_025778	6.73	-3910
Xrn1	5'-3' exoribonuclease 1	NM_011916	3.57	971
Casp1	caspase 1	NM_009807	2.72	-734

Cell cycle

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Pak3	p21 protein (Cdc42/Rac)-activated kinase 3	NM_008778	-2.93	-117
Upregulated				
Sesn1	sestrin 1	NM_001013370	5.01	9048
Dbc1	deleted in bladder cancer 1 (human)	NM_019967	4.38	-4295
Cgrrf1	cell growth regulator with ring finger domain 1	NM_026832	1.97	-7155

Cytoskeleton/cell differentiation and motility

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Sprr2d	small proline-rich protein 2D	NM_011470	-53.58	2468
Lor	Loricrin	NM_008508	-20.32	-4374
Lce1c	late cornified envelope 1C	NM_028622	-17.78	-117
Lce1a2	late cornified envelope 1A2	NM_028625	-11.1	-4374
Dnalc1	dynein; axonemal; light chain 1	NM_028821	-7.76	195
Lce1i	late cornified envelope 1I	NM_029667	-4.82	34966
Dnahc9	dynein; axonemal; heavy chain 9	AK044263	-4.65	113910
Myoz3	myozenin 3	NM_133363	-3.93	-1371

Gabarap1	gamma-aminobutyric acid (GABA) A receptor-associated protein-like 1	NM_020590	-3.88	127
Lce1h	late cornified envelope 1H	NM_026335	-3.68	-1897
Lce1e	late cornified envelope 1E	NM_026811	-3	-4374
Krtap13	keratin associated protein 13	NM_010671	-2.86	-2785
Dnahc11	dynein; axonemal; heavy chain 11	NM_010060	-2.13	-117
Strn	striatin; calmodulin binding protein	AK032712	-1.97	-2243
Upregulated				
Tspyl4	TSPY-like 4	NM_030203	47.7	3124
Sst	Somatostatin	NM_009215	44.49	-7301
Krt25	keratin 25	NM_133730	27.08	5286
Spnb1	spectrin beta 1	NM_013675	20.29	743
Krtap8-1	keratin associated protein 8-1	AK133727	19.75	-4100
Krtap13-1	keratin associated protein 13-1	NM_183189	17.84	-21
Myh4	myosin; heavy polypeptide 4; skeletal muscle	NM_010855	16.78	-227
Krtap6-1	keratin associated protein 6-1	NM_010672	12.89	-19039
Frdm5	FERM domain containing 5	NM_172673	12.89	-5534
Dtna	dystrobrevin alpha	NM_010087	12.26	-1558
Ttn	Titin	NM_011652	9.61	-2619
Eya4	eyes absent 4 homolog (Drosophila)	AK081454	9.56	-4146
Coro1a	coronin; actin binding protein 1A	NM_009898	9.48	-2738
Krtap16-7	keratin associated protein 16-7	NM_028621	8.54	6448
Krtap3-3	keratin associated protein 3-3	NM_025524	8.27	-3430
Kif12	kinesin family member 12	NM_010616	6.59	-4002
Tmod2	tropomodulin 2	NM_001038710	6.42	10677
Lrrcc1	leucine rich repeat and coiled-coil domain containing 1	NM_028915	6.25	3027
Sntg2	syntrophin; gamma 2	NM_172951	6.24	-5489
Krtap16-4	keratin associated protein 16-4	NM_130873	6.21	-2
Lmod2	leiomodulin 2 (cardiac)	NM_053098	5.83	398
Ambn	Ameloblastin	NM_009664	5.08	-3134
Ift74	intraflagellar transport 74 homolog (Chlamydomonas)	NM_026319	4.7	4772
Dysf	Dysferlin	NM_001077694	4.03	-22
Nek3	NIMA (never in mitosis gene a)-related expressed kinase	NM_011848	3.84	-618

3				
Wasf1	WASP family 1	NM_031877	3.69	7624
Scin	Scinderin	NM_009132	3.19	-5378
Ndn	Necdin	NM_010882	3.13	-117
Myot	Myotilin	NM_001033621	2.82	2215
Odam	odontogenic; ameloblast associated	NM_027128	2.64	-1293
Fmn2	formin 2	NM_019445	2.54	4916
Spnb2	spectrin beta 2	NM_175836	2.33	-232
Myl1	myosin; light polypeptide 1	NM_021285	2.27	-8043
Fez1	fasciculation and elongation protein zeta 1 (zygin I)	BC029629	2.25	-1082
Snca	synuclein; alpha	NM_001042451	2.08	-89
Tubb2b	tubulin; beta 2B	NM_023716	2.05	-3258
Lce1l	late cornified envelope 1L	NM_028628	1.84	-2202
Nedd9	neural precursor cell expressed; otherally down-regulated gene 9	NM_017464	1.81	2954
Klhl1	kelch-like 1 (Drosophila)	NM_053105	1.7	-117

Metabolism

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Hbb-y	hemoglobin Y; beta-like embryonic chain	NM_008221	-172.94	-4061
Ch25h	cholesterol 25-hydroxylase	NM_009890	-21.22	-4679
Hecw2	HECT; C2 and WW domain containing E3 ubiquitin protein ligase 2	NM_172655	-18.3	-6410
Slc4a7	solute carrier family 4; sodium bicarbonate cotransporter; member 7	NM_001033270	-13.27	-117
Slc7a11	solute carrier family 7 (cationic amino acid transporter; y+ system); member 11	NM_011990	-11.27	-117
Pde4b	phosphodiesterase 4B; cAMP specific	NM_019840	-7.09	142
Lipm	lipase; family member M	NM_023903	-5.67	-13613
Abca5	ATP-binding cassette; sub-family A (ABC1); member 5	NM_147219	-4.62	3156
A930038C07Rik	RIKEN cDNA A930038C07 gene	NM_172399	-4.51	-137

Dse	dermatan sulfate epimerase	NM_172508	-4.26	-4146
Lipk	lipase; family member K	NM_172837	-4.21	-117
Slc15a2	solute carrier family 15 (H+/peptide transporter); member 2	NM_021301	-4.04	-353
Adss	adenylosuccinate synthetase; non muscle	NM_007422	-2.75	-1712
Hebp2	heme binding protein 2	NM_019487	-2.67	-673
Fut9	fucosyltransferase 9	NM_010243	-2.61	-7531
Neu3	neuraminidase 3	NM_016720	-2.6	-117
Hdhd1a	haloacid dehalogenase-like hydrolase domain containing 1A	NM_026108	-2.48	-2715
Rnf133	ring finger protein 133	NM_198251	-2.34	-749
Esd	esterase D/formylglutathione hydrolase	NM_016903	-2.2	-117
Has1	hyaluronan synthase1	NM_008215	-2.15	-117
Mast4	microtubule associated serine/threonine kinase family member 4	AK090136	-2.01	1246
Lnpep	leucyl/cystinyl aminopeptidase	NM_172827	-1.93	-4549
Hba-a1	hemoglobin alpha; adult chain 1	NM_008218	-1.91	-4127
Agpat5	1-acylglycerol-3-phosphate O-acyltransferase 5 (lysophosphatidic acid acyltransferase; epsilon)	NM_026792	-1.83	-6778
Parp8	poly (ADP-ribose) polymerase family; member 8	NM_001081009	-1.83	-2834
Vat1	vesicle amine transport protein 1 homolog (T californica)	NM_012037	-1.83	1046
Lamp3	lysosomal-associated membrane protein 3	NM_177356	-1.8	-6370
Upregulated				
Acox2	acyl-Coenzyme A oxidase 2; branched chain	NM_053115	117.3	-117
Cyp2c29	cytochrome P450; family 2; subfamily c; polypeptide 29	NM_007815	103.33	-8500
Chi3l3	chitinase 3-like 3	NM_009892	103.33	-547
Acsm1	acyl-CoA synthetase medium-chain family member 1	NM_054094	62.5	-1303
Reg3g	regenerating islet-derived 3 gamma	NM_011260	58.45	-117
Gc	group specific component	NM_008096	50.83	-1097
Akr1c6	aldo-keto reductase family 1; member C6	NM_030611	45.63	-4900
Slc10a1	solute carrier family 10 (sodium/bile acid cotransporter family); member 1	NM_011387	42.05	-117
Aldob	aldolase B; fructose-bisphosphate	NM_144903	38.24	3690
Nrsn1	neurensin 1	NM_009513	37.61	-337

Gsta3	glutathione S-transferase; alpha 3	NM_001077353	37.32	-3971
Car1	carbonic anhydrase 1	NM_009799	36.34	-2202
Gulo	gulonolactone (L-) oxidase	NM_178747	34.9	-1205
Cyp2c70	cytochrome P450; family 2; subfamily c; polypeptide 70	NM_145499	34.21	471
Cyp3a16	cytochrome P450; family 3; subfamily a; polypeptide 16	NM_007820	34.12	-2272
Chi3l4	chitinase 3-like 4	NM_145126	32.66	-547
Otor	Otoraplin	NM_020595	30.92	-2493
Cyp1b1	cytochrome P450; family 1; subfamily b; polypeptide 1	NM_009994	30.75	-1843
Cyp2e1	cytochrome P450; family 2; subfamily e; polypeptide 1	NM_021282	30.2	479
Slc9a2	solute carrier family 9 (sodium/hydrogen exchanger); member 2	AK077026	29.79	-13136
Bbox1	butyrobetaine (gamma); 2-oxoglutarate dioxygenase 1 (gamma-butyrobetaine hydroxylase)	NM_130452	24.99	749
Gucy1b3	guanylate cyclase 1; soluble; beta 3	NM_017469	24.55	-117
Fmo5	flavin containing monooxygenase 5	NM_010232	24.35	-501
Sult1d1	sulfotransferase family 1D; member 1	NM_016771	21.1	-238
Lctf	lactase-like	NM_145835	19.72	2219
Cp	Ceruloplasmin	NM_007752	18.1	-3046
Dpysl4	dihydropyrimidinase-like 4	NM_011993	17.04	1975
Gucy1a3	guanylate cyclase 1; soluble; alpha 3	NM_021896	16.97	-1427
Magel2	melanoma antigen; family L; 2	AK086725	15.3	-117
Clec5a	C-type lectin domain family 5; member a	NM_021364	14.83	-117
Trdn	Triadin	ENSMUST00000050626	14.5	3124
Necab1	N-terminal EF-hand calcium binding protein 1	NM_178617	14.1	447
6430573F11Rik	RIKEN cDNA 6430573F11 gene	NM_176952	14.09	-36090
Chia	chitinase; acidic	NM_023186	12.68	-4728
Olfm3	olfactomedin 3	NM_153157	12.39	-3697
Abat	4-aminobutyrate aminotransferase	AK083062	11.75	-1291
Wscd1	WSC domain containing 1	NM_177618	11.68	-5824
Slc40a1	solute carrier family 40 (iron-regulated transporter); member 1	NM_016917	11.03	-117
Hpgd	hydroxyprostaglandin dehydrogenase 15 (NAD)	NM_008278	10.37	14250
Lipf	lipase; gastric	NM_026334	9.89	-3183
St8sia3	ST8 alpha-N-acetyl-neuraminide alpha-2;8-	NM_009182	8.67	-2528

	sialyltransferase 3			
Aadac	arylacetamide deacetylase (esterase)	NM_023383	8.65	-3791
Sult1c2	sulfotransferase family; cytosolic; 1C; member 2	NM_026935	8.39	-3611
Fmo1	flavin containing monooxygenase 1	AK034946	8.33	-5446
Pik3c2g	phosphatidylinositol 3-kinase; C2 domain containing; gamma polypeptide	NM_207683	7.43	340
Kctd8	potassium channel tetramerisation domain containing 8	NM_175519	6.79	-117
Kel	Kell blood group	NM_032540	6.75	771
Cyp4x1	cytochrome P450; family 4; subfamily x; polypeptide 1	AK038526	6.5	447
Arsb	arylsulfatase B	NM_009712	6.47	-3651
Ampd1	adenosine monophosphate deaminase 1	NM_001033303	6.45	-7318
Hyal5	hyaluronoglycosaminidase 5	NM_028957	6.3	-4031
Chodl	Chondrolectin	NM_139134	6.08	3343
Kynu	kynureninase (L-kynurenine hydrolase)	NM_027552	5.77	-6005
Aldh1a1	aldehyde dehydrogenase family 1; subfamily A1	NM_013467	5.67	-117
Plce1	phospholipase C; epsilon 1	NM_019588	5.49	-117
Sulf1	sulfatase 1	NM_172294	5.47	-4622
Alox5	arachidonate 5-lipoxygenase	NM_009662	5.2	2170
Sucnr1	succinate receptor 1	NM_032400	5.01	-3791
Dpyd	dihydropyrimidine dehydrogenase	NM_170778	5	-3904
St8sia5	ST8 alpha-N-acetyl-neuraminide alpha-2;8-sialyltransferase 5	NM_153124	4.87	-5750
Has2	hyaluronan synthase 2	NM_008216	4.79	-2619
Fabp7	fatty acid binding protein 7; brain	NM_021272	4.74	-3103
Pcp4	Purkinje cell protein 4	NM_008791	4.67	-716
Cyp2d22	cytochrome P450; family 2; subfamily d; polypeptide 22	NM_019823	4.6	-117
Hs3st1	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	NM_010474	4.48	-3677
Plscr2	phospholipid scramblase 2	NM_008880	4.47	-117
G6pc2	glucose-6-phosphatase; catalytic; 2	NM_021331	4.37	2835
Galnt5	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 5	ENSMUST00000028171	4.14	4175
Dhrs7c	dehydrogenase/reductase (SDR family) member 7C	AK003267	3.94	-5574
Aldh1a2	aldehyde dehydrogenase family 1; subfamily A2	NM_009022	3.94	-4295
Mgll	monoglyceride lipase	NM_011844	3.65	-22

Mamdc2	MAM domain containing 2	NM_174857	3.57	1013
Galnt13	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 13	NM_173030	3.55	-1791
Slc43a1	solute carrier family 43; member 1	NM_001081349	3.47	-3460
0610007P08Rik	RIKEN cDNA 0610007P08 gene	NM_001013608	3.4	-4619
Pcca	propionyl-Coenzyme A carboxylase; alpha polypeptide	NM_144844	3.16	-117
Sardh	sarcosine dehydrogenase	NM_138665	3.14	-3906
Asf1b	ASF1 anti-silencing function 1 homolog B (S. cerevisiae)	NM_024184	3	2861
Ugt2a3	UDP glucuronosyltransferase 2 family; polypeptide A3	NM_028094	2.98	-2593
Mlana	melan-A	CF723683	2.83	-31957
Adh1	alcohol dehydrogenase 1 (class I)	NM_007409	2.74	-4883
Pomt2	protein-O-mannosyltransferase 2	NM_153415	2.7	-117
Mdh1b	malate dehydrogenase 1B; NAD (soluble)	NM_029696	2.61	-2979
Large	like-glycosyltransferase	NM_010687	2.6	-492
Dlat	dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase complex)	NM_145614	2.59	-117
Dclk3	doublecortin-like kinase 3	NM_172928	2.53	-2640
Clca3	chloride channel calcium activated 3	NM_017474	2.52	3968
Steap4	STEAP family member 4	NM_054098	2.45	597
Snx7	sorting nexin 7	NM_029655	2.42	-7968
Ppt1	palmitoyl-protein thioesterase 1	NM_008917	2.41	2431
Slc12a6	solute carrier family 12; member 6	NM_133649	2.36	-1603
Hck	hemopoietic cell kinase	NM_010407	2.35	-1240
Neu2	neuraminidase 2	NM_015750	2.34	25441
Fh1	fumarate hydratase 1	NM_010209	2.33	3587
Aldh6a1	aldehyde dehydrogenase family 6; subfamily A1	NM_134042	2.32	-117
Oat	ornithine aminotransferase	NM_016978	2.3	-3471
Hsd17b11	hydroxysteroid (17-beta) dehydrogenase 11	NM_053262	2.3	4811
Phactr1	phosphatase and actin regulator 1	NM_001005748	2.27	-362
Ndufb7	NADH dehydrogenase (ubiquinone) 1 beta subcomplex; 7	NM_025843	2.15	-5752
Cyp2r1	cytochrome P450; family 2; subfamily r; polypeptide 1	NM_177382	2.11	320
Cryl1	crystallin; lambda 1	NM_030004	2.09	-4204
Ddc	dopa decarboxylase	NM_016672	2.04	130233

St8sia4	ST8 alpha-N-acetyl-neuraminide alpha-2;8-sialyltransferase 4	NM_009183	2.02	-3676
Enox1	ecto-NOX disulfide-thiol exchanger 1	NM_172813	2.01	-117
Mtmr7	myotubularin related protein 7	NM_001040699	1.98	-3341
Itih5	inter-alpha (globulin) inhibitor H5	NM_172471	1.94	-5114
Enpp2	ectonucleotide pyrophosphatase/phosphodiesterase 2	NM_015744	1.94	-117
Dgkk	diacylglycerol kinase kappa	AK081332	1.94	1336
Pdia5	protein disulfide isomerase associated 5	NM_028295	1.82	-7910
Loxl3	lysyl oxidase-like 3	NM_013586	1.82	-127
Hsd17b4	hydroxysteroid (17-beta) dehydrogenase 4	NM_008292	1.76	-7019
Retnlg	resistin like gamma	NM_181596	1.75	1424
Gnb3	guanine nucleotide binding protein (G protein); beta 3	NM_013530	1.73	-1904
Slc16a12	solute carrier family 16 (monocarboxylic acid transporters); member 12	NM_172838	1.7	-117

Proteolysis

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Mme	membrane metallo endopeptidase	NM_008604	-18.44	-15628
Serpinb6c	serine (or cysteine) peptidase inhibitor; clade B; member 6c	AF425084	-10.52	-3258
Serpinb11	serine (or cysteine) peptidase inhibitor; clade B (ovalbumin); member 11	NM_025867	-5.25	1058
Cpa6	carboxypeptidase A6	NM_177834	-3.85	-7196
4930486L24Rik	RIKEN cDNA 4930486L24 gene	NM_178098	-3.83	1837
Serpinb9	serine (or cysteine) peptidase inhibitor; clade B; member 9	NM_009256	-3.48	3224
Clec4d	C-type lectin domain family 4; member d	NM_010819	-3.41	-1683
Adam29	a disintegrin and metallopeptidase domain 29	NM_175939	-2.8	-1798
Rab5a	RAB5A; member RAS oncogene family	NM_025887	-2.73	-4645
Adam32	a disintegrin and metallopeptidase domain 32	NM_153397	-2.51	-2776
Abl2	v-abl Abelson murine leukemia viral oncogene homolog 2 (arg; Abelson-related gene)	U40827	-2.17	-1774
Serpinb13	serine (or cysteine) peptidase inhibitor; clade B	NM_172852	-1.93	31587

	(ovalbumin); member 13			
Upregulated				
Serpina3k	serine (or cysteine) peptidase inhibitor; clade A; member 3K	ENSMUST00000043058	355.37	-5407
Proz	protein Z; vitamin K-dependent plasma glycoprotein	AK005011	233.94	-3965
Ms4a3	membrane-spanning 4-domains; subfamily A; member 3	NM_133246	33.25	-117
Ms4a6b	membrane-spanning 4-domains; subfamily A; member 6B	NM_027209	32.11	-7265
Klkb1	kallikrein B; plasma 1	NM_008455	30.33	-6906
Spink3	serine peptidase inhibitor; Kazal type 3	NM_009258	27.94	-3939
Fpr2	formyl peptide receptor 2	NM_008039	23.71	-3002
Ccl12	chemokine (C-C motif) ligand 12	NM_011331	22.05	-585
Angptl3	angiopoietin-like 3	NM_013913	16.91	-1995
Arhgap20	Rho GTPase activating protein 20	NM_175535	14.24	-24498
Serpini2	serine (or cysteine) peptidase inhibitor; clade I; member 2	NM_026460	13.73	45020
Odz3	odd Oz/ten-m homolog 3 (Drosophila)	NM_011857	13.4	-5364
Ctsg	cathepsin G	NM_007800	12.96	-6902
Htra3	HtrA serine peptidase 3	NM_030127	12.19	-117
Serpina10	serine (or cysteine) peptidase inhibitor; clade A (alpha-1 antiproteinase; antitrypsin); member 10	AK050552	10.86	5648
Agtr1a	angiotensin II receptor; type 1a	NM_177322	8.16	2852
Agtr2	angiotensin II receptor; type 2	NM_007429	7.61	-1158
Lpar4	lysophosphatidic acid receptor 4	NM_175271	6.77	-3488
Iigp1	interferon inducible GTPase 1	NM_021792	6.54	-3132
Ppbb	pro-platelet basic protein	NM_023785	6.3	-6427
Ceacam1	carcinoembryonic antigen-related cell adhesion molecule 1	NM_001039186	6.24	-4739
Lonrf2	LON peptidase N-terminal domain and ring finger 2	AK013739	5.91	-1805
Dpp6	dipeptidylpeptidase 6	NM_010075	5.68	-7106
Tfpi2	tissue factor pathway inhibitor 2	NM_009364	5.52	-1241
Tspan12	tetraspanin 12	NM_173007	5.2	-1527
Plcl2	phospholipase C-like 2	NM_013880	4.32	-117

Fabp4	fatty acid binding protein 4; adipocyte	NM_024406	4.18	-5690
Uchl1	ubiquitin carboxy-terminal hydrolase L1	NM_011670	3.96	28853
Adamts12	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif; 12	NM_175501	3.84	-189
Farp2	FERM; RhoGEF and pleckstrin domain protein 2	NM_145519	3.19	-2355
Adamts5	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif; 5 (aggrecanase-2)	NM_011782	3.18	-117
Tmeff2	transmembrane protein with EGF-like/follistatin-like domains 2	NM_019790	2.98	-3773
Tiam2	T-cell lymphoma invasion and metastasis 2	NM_011878	2.83	-282
Fbxw8	F-box and WD-40 domain protein 8	NM_172721	2.62	1874
Serpinf1	serine (or cysteine) peptidase inhibitor; clade F; member 1	NM_011340	2.48	3575
Capn6	calpain 6	AK048028	1.97	-4212
Klk1b11	kallikrein 1-related peptidase b11	NM_010640	1.83	385

Signalling

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Ccl2	chemokine (C-C motif) ligand 2	NM_011333	-34.39	-585
Rln1	relaxin 1	NM_011272	-10.12	-117
Slc6a17	solute carrier family 6 (neurotransmitter transporter); member 17	NM_172271	-9.85	-6150
Akt3	thymoma viral proto-oncogene 3	NM_011785	-8.87	-117
Clic5	chloride intracellular channel 5	NM_172621	-7.67	-7756
Il22ra2	interleukin 22 receptor; alpha 2	NM_178258	-7.66	-1645
Il1f5	interleukin 1 family; member 5 (delta)	NM_019451	-7.59	-28
Olf1226	olfactory receptor 1226	NM_146967	-6.44	-2178
Uts2r	urotensin 2 receptor	NM_145440	-4.96	-3992
Olf1691	olfactory receptor 691	NM_147061	-4.59	2568
Ifnab	interferon alpha B	BC116864	-4.24	-117
Olf1155	olfactory receptor 1155	NM_146643	-4.2	-3545

Olfr1231	olfactory receptor 1231	NM_146454	-3.98	-5932
Il17re	interleukin 17 receptor E	NM_145826	-3.89	346
Nebl	Nebulette	AK036214	-3.86	-6453
Olfr898	olfactory receptor 898	NM_146871	-3.66	-858
Olfr1351	olfactory receptor 1351	NM_147040	-3.59	-117
Olfr380	olfactory receptor 380	NM_147025	-3.55	-3449
Olfr291	olfactory receptor 291	NM_146415	-3.47	652
Olfr1056	olfactory receptor 1056	NM_147018	-3.41	-3210
Tmc1	transmembrane channel-like gene family 1	AF417579	-3.34	-5474
Klri2	killer cell lectin-like receptor family I member 2	NM_177155	-3.3	-2244
Olfr183	olfactory receptor 183	NM_146485	-3.29	-5002
Tmem35	transmembrane protein 35	NM_026239	-3.24	-5664
Olfr905	olfactory receptor 905	NM_146804	-3.15	-7848
Igf2bp2	insulin-like growth factor 2 mRNA binding protein 2	NM_183029	-3.04	114903
Vamp1	vesicle-associated membrane protein 1	NM_009496	-3.02	-1683
Olfr23	olfactory receptor 23	NM_010970	-2.98	-1367
Olfr1209	olfactory receptor 1209	NM_146461	-2.92	-3444
Olfr1294	olfactory receptor 1294	NM_146885	-2.9	-117
Olfr1467	olfactory receptor 1467	NM_146691	-2.89	-442
Glr2	glycine receptor; alpha 2 subunit	NM_183427	-2.85	-174
Slc26a3	solute carrier family 26; member 3	AK035716	-2.82	-20826
Olfr160	olfactory receptor 160	NM_030553	-2.78	-117
Olfr821	olfactory receptor 821	NM_146776	-2.72	-1656
Iqcb1	IQ calmodulin-binding motif containing 1	NM_177128	-2.67	-117
Klrk1	killer cell lectin-like receptor subfamily K; member 1	AF054819	-2.64	-6772
Nts	Neurotensin	NM_024435	-2.62	1305
Olfr665	olfactory receptor 665	NM_146814	-2.55	513
Olfr996	olfactory receptor 996	NM_146437	-2.41	-117
Rxfp2	relaxin/insulin-like family peptide receptor 2	NM_080468	-2.4	-4523
Olfr1133	olfactory receptor 1133	NM_146351	-2.28	255
Olfr554	olfactory receptor 554	NM_146325	-2.27	1380
Olfr348	olfactory receptor 348	NM_146944	-2.25	707
Olfr689	olfactory receptor 689	NM_146750	-2.25	2415

Teddm1	transmembrane epididymal protein 1	NM_178244	-2.25	9185
Ifna12	interferon alpha 12	NM_177361	-2.24	-117
Olfr466	olfactory receptor 466	NM_146819	-2.23	-1158
Cpne8	copine VIII	NM_025815	-2.21	-7622
Olfr980	olfactory receptor 980	NM_147106	-2.21	-6840
Rxfp3	relaxin family peptide receptor 3	NM_178717	-2.2	-1225
Grem2	gremlin 2 homolog; cysteine knot superfamily (Xenopus laevis)	NM_011825	-2.19	-117
Bdnf	brain derived neurotrophic factor	NM_007540	-2.15	-2462
Olfr985	olfactory receptor 985	NM_146855	-2.15	-117
Olfr1278	olfactory receptor 1278	NM_146394	-2.14	-933
Olfr678	olfactory receptor 678	NM_146758	-2.11	-752
Gpr156	G protein-coupled receptor 156	NM_153394	-2.1	-1353
Gngt1	guanine nucleotide binding protein (G protein); gamma transducing activity polypeptide 1	NM_010314	-2.09	1642
Olfr1388	olfactory receptor 1388	NM_146467	-2.07	-2925
Olfr488	olfactory receptor 488	NM_146732	-2.07	-1044
Olfr99	olfactory receptor 99	NM_146515	-2.05	-2698
Pde7a	phosphodiesterase 7A	NM_008802	-2.04	-547
Olfr552	olfactory receptor 552	NM_147102	-2.03	1380
Slc6a11	solute carrier family 6 (neurotransmitter transporter; GABA); member 11	NM_172890	-2.02	345
Tacr3	tachykinin receptor 3	NM_021382	-1.97	-6389
Il31	interleukin 31	AK005939	-1.97	-117
Htr4	5 hydroxytryptamine (serotonin) receptor 4	NM_008313	-1.96	-2528
Nrg3	neuregulin 3	NM_008734	-1.96	-117
Procr	protein C receptor; endothelial	NM_011171	-1.95	-654
Ptger4	prostaglandin E receptor 4 (subtype EP4)	NM_008965	-1.94	-1002
Olfr782	olfactory receptor 782	NM_001011797	-1.9	-5514
Olfr1234	olfactory receptor 1234	NM_146973	-1.9	-1535
Olfr1250	olfactory receptor 1250	NM_146965	-1.87	-3163
Olfr165	olfactory receptor 165	NM_146466	-1.83	-5065
Olfr1019	olfactory receptor 1019	NM_147015	-1.83	-3135
Wnt6	wingless-related MMTV integration site 6	M89800	-1.78	-7973

Ralgds	ral guanine nucleotide dissociation stimulator	NM_009058	-1.78	-117
Olf1290	olfactory receptor 1290	NM_146262	-1.75	-117
Olf124	olfactory receptor 124	NM_147062	-1.75	150531
Olf145	olfactory receptor 45	NM_146963	-1.74	-1784
Upregulated				
Scg3	secretogranin III	NM_009130	64.14	-117
Lect2	leukocyte cell-derived chemotaxin 2	NM_010702	52.07	-2845
Calb1	calbindin 1	NM_009788	49.71	-2534
Klb	klotho beta	NM_031180	47.62	352
Syt1	synaptotagmin I	NM_009306	46.55	2130
Clca6	chloride channel calcium activated 6	NM_207208	42.65	69627
Mstn	Myostatin	NM_010834	33.29	2524
Chgb	chromogranin B	NM_007694	28.32	986
Anxa10	annexin A10	NM_011922	26.24	2131
Arpp21	cyclic AMP-regulated phosphoprotein; 21	AK041940	24.72	-7854
Fstl5	follicle-stimulating-like 5	NM_178673	24.36	-1426
Pdgfd	platelet-derived growth factor; D polypeptide	NM_027924	22.42	1582
Gpr65	G-protein coupled receptor 65	NM_008152	21.07	-117
Ptprr	protein tyrosine phosphatase; receptor type; R	NM_011217	21.01	-3750
Snap25	synaptosomal-associated protein 25	M22012	19.9	849
Kcnn2	potassium intermediate/small conductance calcium-activated channel; subfamily N; member 2	NM_080465	17.85	-3491
Slc5a11	solute carrier family 5 (sodium/glucose cotransporter); member 11	NM_146198	17.62	-3280
Ttc30a1	tetratricopeptide repeat domain 30A1	NM_030188	15.94	-7468
Kcnj10	potassium inwardly-rectifying channel; subfamily J; member 10	NM_001039484	15.63	-4625
Dlg2	discs, large homolog 2 (Drosophila)	NM_011807	15.53	-117
Slc12a1	solute carrier family 12; member 1	U61381	15.43	-2139
Erc2	ELKS/RAB6-interacting/CAST family member 2	NM_177814	15.3	-821
Rab9b	RAB9B; member RAS oncogene family	NM_176971	13.86	-2431
Epha3	Eph receptor A3	NM_010140	10.77	-3123
Scg2	secretogranin II	NM_009129	10.52	23937

Rgs8	regulator of G-protein signalling 8	NM_026380	10.29	-1700
Pclo	piccolo (presynaptic cytomatrix protein)	NM_001110796	10.04	-4260
Gabbr1	gamma-aminobutyric acid (GABA) A receptor; subunit beta 1	NM_008069	10.03	2971
Acvr1c	activin A receptor; type IC	NM_001033369	9.7	-2341
Trem14	triggering receptor expressed on myeloid cells-like 4	NM_172623	9.41	2551
Gpr85	G protein-coupled receptor 85	NM_145066	9.11	-1904
Gbp6	guanylate binding protein 6	NM_145545	9.04	-4883
Ppp1r1c	protein phosphatase 1; regulatory (inhibitor) subunit 1C	AK051449	8.82	-3460
P2ry13	purinergic receptor P2Y; G-protein coupled 13	NM_028808	8.19	-1371
Ghrl	Ghrelin	NM_021488	7.99	-1904
Gpr88	G-protein coupled receptor 88	NM_022427	6.75	-2466
Csmd3	CUB and Sushi multiple domains 3	NM_001081391	6.71	-117
Calcr	calcitonin receptor	NM_007588	6.61	-7077
Elmo1	engulfment and cell motility 1; ced-12 homolog (C. elegans)	NM_080288	6.34	-5298
Rassf6	Ras association (RalGDS/AF-6) domain family member 6	NM_028478	6.26	-2461
Rttm	Rotatin	NM_175542	5.61	-3014
Sema3d	sema domain; immunoglobulin domain (Ig); short basic domain; secreted; (semaphorin) 3D	NM_028882	5.49	96378
C1qtnf9	C1q and tumor necrosis factor related protein 9	NM_183175	5.47	-117
Olfir744	olfactory receptor 744	NM_001011738	5.37	-4251
Ins2	insulin II	NM_008387	5.31	3053
Csf3r	colony stimulating factor 3 receptor (granulocyte)	NM_007782	5.12	1031
Camk2b	calcium/calmodulin-dependent protein kinase II; beta	NM_007595	5.03	-6752
Opn5	opsin 5	NM_181753	4.97	3937
Avpr1a	arginine vasopressin receptor 1A	NM_016847	4.92	-1129
Khdrbs2	KH domain containing; RNA binding; signal transduction associated 2	NM_133235	4.81	-743
Epha5	Eph receptor A5	NM_007937	4.78	-3281
Scn3b	sodium channel; voltage-gated; type III; beta	NM_153522	4.74	71212
Ihh	Indian hedgehog	NM_010544	4.53	-2379
Npsr1	neuropeptide S receptor 1	NM_175678	4.34	-4153

Rgs7bp	regulator of G-protein signalling 7 binding protein	NM_029879	4.25	1093
Gabrg2	gamma-aminobutyric acid (GABA) A receptor; subunit gamma 2	NM_008073	4.21	-7904
4632428N05Rik	RIKEN cDNA 4632428N05 gene	NM_028732	3.95	-4008
Adora3	adenosine A3 receptor	AK013534	3.9	-117
Gpr37	G protein-coupled receptor 37	ENSMUST00000054867	3.87	-8171
Gabra2	gamma-aminobutyric acid (GABA) A receptor; subunit alpha 2	NM_008066	3.84	-117
Mrgprb2	MAS-related GPR; member B2	NM_175531	3.78	-21570
Prkg1	protein kinase; cGMP-dependent; type I	NM_011160	3.63	-117
Gabrg1	gamma-aminobutyric acid (GABA) A receptor; subunit gamma 1	NM_010252	3.58	-117
Slc6a20a	solute carrier family 6 (neurotransmitter transporter); member 20A	AK080979	3.57	-117
Il1f6	interleukin 1 family; member 6	NM_019450	3.54	-1604
Ifi47	interferon gamma inducible protein 47	NM_008330	3.52	-690
Prkcq	protein kinase C; theta	NM_008859	3.51	-7749
Olf128	olfactory receptor 128	NM_206816	3.4	-4320
Hhip	Hedgehog-interacting protein	NM_020259	3.28	-492
Arhgap24	Rho GTPase activating protein 24	NM_146161	3.27	4505
Sh2d1b1	SH2 domain protein 1B1	NM_012009	3.08	-1687
Grm3	glutamate receptor; metabotropic 3	NM_181850	3.05	-4427
Syp	Synaptophysin	NM_009305	3.01	4323
Adcy2	adenylate cyclase 2	NM_153534	2.96	-117
Syt4	synaptotagmin IV	NM_009308	2.82	-117
Synpr	Synaptoporin	NM_028052	2.81	2200
Gpr135	G protein-coupled receptor 135	NM_181752	2.8	-6001
Ms4a6c	membrane-spanning 4-domains; subfamily A; member 6C	NM_028595	2.8	-38
Dact1	dapper homolog 1; antagonist of beta-catenin (xenopus)	AK077691	2.79	-1923
Slitrk1	SLIT and NTRK-like family; member 1	NM_199065	2.77	-4597
Olf1134	olfactory receptor 1134	NM_147030	2.75	255
Ifi205	interferon activated gene 205	AK036386	2.7	-117
Taar9	trace amine-associated receptor 9	NM_001010831	2.65	-7491

Tmem100	transmembrane protein 100	NM_026433	2.65	-1153
Rgs17	regulator of G-protein signalling 17	NM_019958	2.58	-117
A630033H20Rik	RIKEN cDNA A630033H20 gene	NM_175442	2.56	1730
Gbp2	guanylate binding protein 2	NM_010260	2.51	-117
Olfr1352	olfactory receptor 1352	NM_147071	2.45	-2732
Chrd	Chordin	NM_009893	2.4	-117
Cabp2	calcium binding protein 2	NM_013878	2.38	-6860
Olfr1123	olfactory receptor 1123	NM_146350	2.38	-3405
Rims1	regulating synaptic membrane exocytosis 1	NM_001012625	2.32	-1594
Olfr1245	olfactory receptor 1245	NM_146788	2.3	-670
Olfr508	olfactory receptor 508	NM_146773	2.27	770
Umodl1	uromodulin-like 1	NM_177465	2.22	-3890
Olfr390	olfactory receptor 390	NM_146347	2.21	10333
Sln	Sarcosin	AK009809	2.13	2626
Slco1a6	solute carrier organic anion transporter family; member 1a6	NM_023718	2.12	1613
Ranbp17	RAN binding protein 17	NM_023146	2.11	-2599
Olfr609	olfactory receptor 609	NM_147082	2.1	-4400
Plscr1	phospholipid scramblase 1	NM_011636	2.07	-3767
Olfr1255	olfactory receptor 1255	NM_146977	2.05	-2462
Bpil3	bactericidal/permeability-increasing protein-like 3	NM_199303	2.04	-654
Cd209e	CD209e antigen	NM_130905	1.87	6578
Tmtc4	transmembrane and tetratricopeptide repeat containing 4	NM_028651	1.86	637
Olfr541	olfactory receptor 541	NM_146962	1.82	-6312
Gpr34	G protein-coupled receptor 34	NM_011823	1.81	-3833
Ccl11	chemokine (C-C motif) ligand 11	NM_011330	1.8	-585
Olfr642	olfactory receptor 642	NM_146329	1.78	-475
Olfr895	olfactory receptor 895	NM_146875	1.77	-117
Syt4	synaptotagmin-like 4	NM_013757	1.76	-775
Olfr295	olfactory receptor 295	NM_146851	1.7	-4470

Transcription

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to
-------------	----------------	------------------	-------------	---------------------------

				TSS (nearest peak) (bp)
Downregulated				
Fos	FBJ osteosarcoma oncogene	NM_010234	-12.63	195
Egr2	early growth response 2	NM_010118	-6.09	-117
Rfx3	regulatory factor X; 3 (influences HLA class II expression)	NM_011265	-5.03	-3978
Fgf1	fibroblast growth factor 1	NM_010197	-4.01	-117
Zfp330	zinc finger protein 330	NM_145600	-2.44	-734
Neurod4	neurogenic differentiation 4	NM_007501	-2.07	-798
Erf	Ets2 repressor factor	NM_010155	-2	-4499
Zfp677	zinc finger protein 677	NM_172486	-1.99	-3158
Prdm5	PR domain containing 5	NM_027547	-1.77	-4447
Upregulated				
Dmrt2	doublesex and mab-3 related transcription factor 2	NM_145831	36	-117
Lhx8	LIM homeobox protein 8	NM_010713	15.57	-2399
Tcfec	transcription factor EC	NM_031198	14.78	-3855
Luzp2	leucine zipper protein 2	NM_178705	14.72	-7916
Neurod6	neurogenic differentiation 6	NM_009717	13.25	-117
Lhx6	LIM homeobox protein 6	AJ000337	9.04	-4545
Sox13	SRY-box containing gene 13	NM_011439	8.52	-6538
Maml2	mastermind like 2 (Drosophila)	XM_001481278	8.06	-742
Gfi1b	growth factor independent 1B	NM_008114	7.6	-7306
Lin28b	lin-28 homolog B (C. elegans)	AK044904	7.14	-117
Lix1	limb expression 1 homolog (chicken)	NM_025681	7.01	-117
Fbxo40	F-box protein 40	AK036684	4.52	-353
Limch1	LIM and calponin homology domains 1	NM_001001980	4.09	-2494
Myf6	myogenic factor 6	NM_008657	3.96	-12192
Pparg	peroxisome proliferator activated receptor gamma	NM_011146	3.9	-117
Runx1t1	runt-related transcription factor 1; translocated to; 1 (cyclin D-related)	NM_009822	3.53	4639
Zfp161	zinc finger protein 161	NM_009547	3.51	-8565
Mef2c	myocyte enhancer factor 2C	NM_025282	3.1	-80
Zfp58	zinc finger protein 58	M28513	3.09	-6801

Zfp595	zinc finger protein 595	NM_177622	2.94	2843
Meox2	mesenchyme homeobox 2	NM_008584	2.82	-1279
Mkx	mohawk homeobox	NM_177595	2.72	-3826
Tox	thymocyte selection-associated high mobility group box	NM_145711	2.55	194
Robo1	roundabout homolog 1 (Drosophila)	NM_019413	2.33	-5178
Zfp275	zinc finger protein 275	NM_031494	2.18	-4218
Ctbp1	C-terminal binding protein 1	NM_013502	1.93	-117
Msc	Musculin	NM_010827	1.84	-7889
Bsx	brain specific homeobox	NM_178245	1.84	71212

Unannotated

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
4930555F03Rik	RIKEN cDNA 4930555F03 gene	AK042788	-25.56	-6871
Ccdc14	coiled-coil domain containing 14	AK090294	-8.55	-379
1700049L16Rik	RIKEN cDNA 1700049L16 gene	AV045951	-5.64	3703
Rps23	ribosomal protein S23	NM_024175	-4.29	-499
Gramd3	GRAM domain containing 3	NM_026240	-4.24	992
E030010A14Rik	RIKEN cDNA E030010A14 gene	NM_183160	-4.02	-15773
Ttc14	tetratricopeptide repeat domain 14	NM_025978	-3.08	-6263
BC030307	cDNA sequence BC030307	NM_001003939	-2.96	-906
Mphosph10	M-phase phosphoprotein 10 (U3 small nucleolar ribonucleoprotein)	NM_026483	-2.92	-4227
2310008H04Rik	RIKEN cDNA 2310008H04 gene	NM_146068	-2.54	-6490
2810403A07Rik	RIKEN cDNA 2810403A07 gene	NM_028814	-2.36	1188
Hspbap1	Hspb associated protein 1	NM_175111	-2.21	-1516
Heca	headcase homolog (Drosophila)	BC094026	-2.1	-1900
4930578N16Rik	RIKEN cDNA 4930578N16 gene	NM_001077684	-2.09	-1201
Gm94	predicted gene 94	NM_001033280	-2.01	20759
1700023F06Rik	RIKEN cDNA 1700023F06 gene	BC100507	-1.93	-5045
D630037F22Rik	RIKEN cDNA D630037F22 gene	NM_001033385	-1.91	1857
Ccdc52	coiled-coil domain containing 52	NM_144550	-1.83	1333

Ldoc1	leucine zipper; down-regulated in cancer 1	NM_001018087	-1.78	-3120
4921530L21Rik	RIKEN cDNA 4921530L21 gene	NM_025733	-1.78	-117
2810007J24Rik	RIKEN cDNA 2810007J24 gene	NM_175250	-1.7	-4822
Upregulated				
Rnase1	ribonuclease; RNase A family; 1 (pancreatic)	NM_011271	65.26	-3253
Rufy3	RUN and FYVE domain containing 3	NM_027530	38.13	-4057
Smgc	submandibular gland protein C	NM_198927	34.96	-189
1700019D03Rik	RIKEN cDNA 1700019D03 gene	NM_144953	34.11	-1279
Dlgap3	discs; large (Drosophila) homolog-associated protein 3	NM_198618	33.21	-3964
E030002O03Rik	RIKEN cDNA E030002O03 gene	NM_172905	20.07	-4547
Rag1	recombination activating gene 1	NM_009019	19.16	511
AW551984	expressed sequence AW551984	NM_178737	13.01	-5923
Sval1	seminal vesicle antigen-like 1	NM_027832	13	-2934
A1747448	expressed sequence A1747448	NM_001033199	12.19	50495
Scml2	sex comb on midleg-like 2 (Drosophila)	NM_133194	10.86	-900
D930028M14Rik	RIKEN cDNA D930028M14 gene	AK142847	10.18	-3773
4933403F05Rik	RIKEN cDNA 4933403F05 gene	NM_153794	10.07	-1696
Ms4a7	membrane-spanning 4-domains; subfamily A; member 7	NM_001025610	9.29	-117
6720456H20Rik	RIKEN cDNA 6720456H20 gene	NM_172600	8.49	-5982
Peg12	paternally expressed 12	NM_013788	8.33	5635
1600014C10Rik	RIKEN cDNA 1600014C10 gene	NM_028166	8.29	822
A730017C20Rik	RIKEN cDNA A730017C20 gene	NM_173759	7.98	1704
Ttc30b	tetratricopeptide repeat domain 30B	NM_028235	7.4	-1201
Cpne4	copine IV	NM_028719	6.91	-4353
1700012B09Rik	RIKEN cDNA 1700012B09 gene	NM_029306	6.73	-5715
Tsga14	testis specific gene A14	NM_031998	6.61	-4625
Samd9l	sterile alpha motif domain containing 9-like	XM_620286	5.87	3658
Sobp	sine oculis-binding protein homolog (Drosophila)	NM_175407	5.48	-117
Nup205	nucleoporin 205	AK014419	5.15	-7802
5830405N20Rik	RIKEN cDNA 5830405N20 gene	NM_183264	5.15	-1656
Neil3	nei like 3 (E. coli)	AK031027	4.89	-1863
Ttc29	tetratricopeptide repeat domain 29	NM_183096	4.65	-7818

2410066E13Rik	RIKEN cDNA 2410066E13 gene	BC042507	4.23	126
1810009J06Rik	RIKEN cDNA 1810009J06 gene	NM_023707	4.02	-117
1110006G14Rik	RIKEN cDNA 1110006G14 gene	XM_001478810	3.82	-1303
C530028O21Rik	RIKEN cDNA C530028O21 gene	NM_175696	3.78	-1683
6330403K07Rik	RIKEN cDNA 6330403K07 gene	NM_134022	3.54	-1532
3110047P20Rik	RIKEN cDNA 3110047P20 gene	XM_132047	3.5	-3271
Ttc12	tetratricopeptide repeat domain 12	NM_172770	3.5	-117
Nap1l5	nucleosome assembly protein 1-like 5	NM_021432	3.34	-6271
2810032G03Rik	RIKEN cDNA 2810032G03 gene	AK029678	3.03	-5282
lqsec3	IQ motif and Sec7 domain 3	NM_001033354	2.94	-3577
1700086L19Rik	RIKEN cDNA 1700086L19 gene	XM_358420	2.92	-779
Popdc3	popeye domain containing 3	NM_024286	2.76	-4314
1700012B07Rik	RIKEN cDNA 1700012B07 gene	AK132924	2.72	2957
1700054O13Rik	RIKEN cDNA 1700054O13 gene	NM_026096	2.67	-117
Mrps11	mitochondrial ribosomal protein S11	NM_026498	2.35	-6292
0610040J01Rik	RIKEN cDNA 0610040J01 gene	NM_029554	2.28	-3271
Casd1	CAS1 domain containing 1	NM_145398	2.24	-3371
4933428M09Rik	RIKEN cDNA 4933428M09 gene	AK016974	2.01	-1782
Nap1l3	nucleosome assembly protein 1-like 3	NM_138742	1.87	1636
3110070M22Rik	RIKEN cDNA 3110070M22 gene	AK014250	1.85	3039
Tsen2	tRNA splicing endonuclease 2 homolog (S. cerevisiae)	AK044190	1.73	443
Tdrd7	tudor domain containing 7	NM_146142	1.72	-117

Hair follicle stem cells-associated genes

Gene symbol	Gene full name	Accession Number	Fold change	ChIP on chip: distance to TSS (nearest peak) (bp)
Downregulated				
Cd34	CD34 antigen	NM_133654	-9.94	-117
Tcf7l2 (Tcf4)	Transcription factor 7-like 2	NM_009333	-5.16	-3370
Sox9	SRY-box containing gene 9	NM_011448	-4.44	-1927
Upregulated				
Lgr5	leucine rich repeat containing G protein coupled receptor 5	NM_010195	9.62	-2123
S100a9	S100 calcium binding protein A9 (calgranulin B)	NM_009114	3.25	-5897