

Table S2. Genes upregulated in *or<sup>l</sup>* mutants by microarray analysis

UNIQID	Unigene	Name	E12.5	E12.5 swap	E13.5-1	E13.5-1 swap	E13.5-2	E13.5-2 swap
	Mm.36217	Transcription Factor EC (TFEC)	6.65	11.11	4.23	4.35	3.86	3.85
AI852420	Mm.39913	Leucine rich repeat protein 3, neuronal	3	2.38	3.93	3.03	4.03	3.23
AI851397	Mm.4504	Gap junction membrane channel protein alpha 1	3.34	2.78	2.46	1.89	3.27	2.63
AI843797	Mm.196110	Hemoglobin alpha, adult chain 1	2.23	1.85	2.02	1.59	3.77	3.33
AI845279	Mm.200924	RIKEN cDNA 2700084L06 gene	2.32	1.69	2.45	1.39	4.06	2.44
AI854349	Mm.28405	serum/glucocorticoid regulated kinase	2.6	2.22	2.28	1.75	2.57	2.78
AI845477	Mm.170515	I-kappa B alpha chain mRNA	2.24	1.59	2.13	1.49	4.11	2.5
AI847573	Mm.288626	Protease, serine 25	1.73	1.18	2.07	1.23	4.59	2.86
AI838302	Mm.4426	Cd63 antigen	1.4	1.75	2.36	2.27	2.83	2.86
	Mm.16340	Fibroblast growth factor receptor 2	2.53	3.03	1.41	1.49		
AI845640	Mm.26101	RIKEN cDNA D430039N05 gene	2.58	3.03	1.93	1.75	1.59	1.47
AI838762	Mm.276220	hemoglobin, beta adult major chain	1.62	1.18	1.93	1.22	3.75	2.27
AI845491	Mm.14796	microsomal glutathione S-transferase 1	2.5	1.92	2.15	1.79	1.75	1.45
AI835174	Mm.224836	carbonic anhydrase 14	2.37	1.92	1.85	1.85	1.88	1.56
AI851848	Mm.4514	aldehyde dehydrogenase family 1, subfamily A1	1.36	1.09	2.09	1.59	3.19	2.04
AI846734	Mm.22701	Growth arrest specific 1	2.43	2.13	1.67	1.49	1.9	1.33
AI838156	Mm.156583	carbonic anhydrase 8	1.21	1.18	1.67	1.22	3.75	1.89
AI848419	Mm.89136	H3 histone, family 3A	1.71	1.45	2.32	1.61	2.09	1.59
AI852943	Mm.38496	chondroitin sulfate proteoglycan 5	1.76	1.41	1.67	1.49	2.3	1.82
AI854206	Mm.27816	Hexosaminidase B	1.67	1.64	1.85	1.47	2.13	1.69
AI834768	Mm.274892	RIKEN cDNA 1810027I20 gene	2.06	1.61	1.54	1.28	1.97	1.85
	Mm.4733	Cyclin-dependent kinase inhibitor 2A (p16 INK4a)	1.72	1.33	2.16	1.52	2.1	1.52
AI842572	Mm.2241	Rho, GDP dissociation inhibitor (GDI) beta	1.44	2	1.5	2	1.57	1.75
AI845761	Mm.37613	RIKEN cDNA 2010319C14 gene	1.19	1.35	1.94	1.45	2.42	1.92
AI853186	Mm.22220	fatty acid binding protein 3, muscle and heart	1.51	2.04	1.14	2.38	1.26	1.85
AI850915	Mm.198803	UDP-glucose ceramide glucosyltransferase	2.07	2.33	1.26	1.43	1.49	1.61
AI836483	Mm.22699	selenoprotein P, plasma, 1	1.72	1.35	1.9	1.45	2.04	1.69
AI849606	Mm.2135	folate receptor 1 (adult)	1.64	1.67	1.14	2	1.54	2.08
AI853837		EST	2.73	2.5	1.36	1.16	1.28	1.04
AI851910	Mm.100923	dystrobrevin alpha	2.11	2.63	1.35	1.61	1.07	1.33
	Mm.1571	Cadherin 11	2.1	2.04	1.67	1.35	1.44	1.35
AI845827	Mm.29391	RIKEN cDNA 1110007F23 gene	1.57	1.43	1.53	1.54	1.91	1.85
AI853444	Mm.204	RIKEN cDNA 2610042L04 gene	2.98	2.38	1.28	1.12	1.18	0.91
AI851001	Mm.578	Insulin-like growth factor binding protein 5	2.48	2.04	1.2	1.32	1.36	1.41
AI850263	Mm.486	Lysosomal membrane glycoprotein 2	1.52	1.49	1.62	1.39	2.05	1.67
AI836560	Mm.20948	transcobalmin II (Tcn2)	1.51	1.27	1.51	1.41	2.07	1.89
AI842286	Mm.27856	protein tyrosine phosphatase, receptor type, K	1.74	1.82	1.38	1.72	1.38	1.56
AI851745	Mm.29027	SPARC-like 1 (mast9, hev1n)	1.23	1.96		1.67	1.51	0
AI853697	Mm.182434	Follistatin-like	1.4	1.54	1.1	1.23	2.05	2.13
AI851210	Mm.34108	RIKEN cDNA C030003H22 gene	1.88	2	1.39	1.45	1.41	1.28
AI854781	Mm.44814	Transcription factor XLMO1 homolog	1.69	1.39		1.43	1.53	1.75
AI848129	Mm.154529	RIKEN cDNA 6430520M22 gene	2.15	2.08	1.24	1.39	1.27	1.1
AI840291	Mm.260244	D430021N15 product:unknown EST	1.66	1.59	1.14	1.69	1.25	1.92
AI854164	Mm.40243	EST	1.18	1.47	1.86	1.75	1.48	1.52
	Mm.2423	Procollagen, type II, alpha 1	1.42	1.32	1.91	1.64	1.52	1.27
AI838713	Mm.12715	RIKEN cDNA 2310016C16 gene	1.55	1.1	1.74	1.16	2.11	1.32
AI845303	Mm.24873	nucleolar protein family A, member 1	1.35	1.61	1.24	1.45	2.13	1.2
AI843783	Mm.658	solute carrier family 25, member 5	1.85	1.12	1.54	1.06	2.09	1.33
AI846715	Mm.37938	spondin 1, (f-spondin) extracellular matrix protein	1.75	1.23		1.09	1.94	1.43
AI841883		EST	1.41	1.04		1	2.49	1.45
	Mm.3918	ATP-binding cassette, sub-family A (ABC1), member 4 (ABCR)	1.22	1.19	0.77	0.83	2.28	2.56
AI851312	Mm.27230	RNA binding motif, single stranded interacting protein 1	1.36	1.75	1.43	1.49	1.37	1.39
AI849044	Mm.28144	apoptosis related protein APR-3	1.32	1.28	1.61	1.82	1.55	1.22
AI834785	Mm.142760	RIKEN cDNA E130016I23 gene	1.28	1.27	1.65	1.37	1.67	1.45
	Mm.3608	Paired box gene 6 (Pax6)	1.04	1.22	1.69	1.39	1.83	1.54
AI845199	Mm.22699	selenoprotein P, plasma, 1	1.45	1.15	1.28	1.56	1.67	1.52
AI848342	Mm.30064	gamma-aminobutyric acid receptor associated protein	1.46	1.19	1.61	1.54	1.55	1.28
	Mm.168789	Cyclin-dependent kinase inhibitor 1C (p57)	1	1.06	1.69	1.41	1.77	1.64
AI854333	Mm.121878	tropomyosin 1, alpha	1.37	1.43	1.45	1.72	1.18	1.43
AI836902	Mm.24118	Glutathione S-transferase, theta 2	1.43	1.16	1.7	1.23	1.86	1.22
AI841689	Mm.29658	chemokine-like factor super family 3	1.26	1.22	1.24	2.04	1.2	1.54
AI846379	Mm.213114	RIKEN cDNA 9130423L19 gene	1.48	1.2	1.52	1.15	1.74	1.41
AI853807	Mm.22271	smt3-specific isopeptidase 1	1.51	1.56	1.27	1.45	1.25	1.41
	Mm.201322	Activity-dependent neuroprotective protein (ADNP)	1.66	1.49	1.17	1.75	1.24	1.14
		Paired box gene 2 (Pax2)	1.29	1.06	1.58	1.33	1.83	1.39
AI845968	Mm.7046	Protective protein for beta-galactosidase	1.56	1.28	1.18	1.35	1.31	1.69
AI850677	Mm.34977	neuron navigator 1	1.84	1.41	1.51	1.12	1.35	1.11
AI849964	Mm.40272	RIKEN cDNA 9930033H14 gene	1.3	1.22	1.45	1.59	1.38	1.33
AI850370	Mm.119265	RIKEN cDNA 9430020K16 gene	1.65	1.67	1.27	1.32	1.17	1.2
AI850161	Mm.28771	RIKEN cDNA 1110035H23 gene	1.19	1.3	1.24	1.45	1.41	1.61
AI835916	Mm.158897	RIKEN cDNA 2900027G03 gene	1.64	1.25	1.44	1.28	1.43	1.16
AI847949	Mm.248937	RIKEN cDNA 0610007H07 gene	1.3	1.23	1.35	1.25	1.59	1.49
AI844522	Mm.1945	phosphatidylinositol-4-phosphate 5-kinase, type 1 alpha	1.5	1.3	1.51	1.22	1.41	1.28
AI842777	Mm.65357	leucine-rich repeat LGI family, member 1	1.33	1.35	1.54	1.37	1.18	1.45

AI845880	Mm.260164	L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain	1.15	1.11	1.64	1.19	1.68	1.45
AI844804	Mm.197518	lysosomal-associated protein transmembrane 4B	1.42	1.52	1.31	1.27	1.31	1.41
AI853088	Mm.182434	Follistatin-like	1.29	1.52	1.19	1.3	1.36	1.59
AI854552	Mm.951	interferon-induced protein with tetratricopeptide repeats 3	1.02	1.75	1.35	1.32	1.35	1.35
AI851746	Mm.30155	ATPase, H+ transporting, V0 subunit C	1.24	1.37	1.34	1.35	1.44	1.43
AI854095	Mm.139166	IMAGE:5006616, mRNA	1.63	2.63	1.01	1.2	0.63	1.06
AI848876	Mm.22673	Fc receptor, IgE, high affinity I, gamma	1.27	1.3	1.38	1.2	1.57	1.45
AI846973		EST	1.39	1.18	1.39	1.19	1.66	1.37
AI839644	Mm.7500	Ferritin light chain 1	1.35	1.16	1.74	1.27	1.59	1.08
AI854232	Mm.8154	Imprinted and ancient	1.56	1.3	1.33	1.12	1.51	1.25
AI842171	Mm.230635	Heme oxygenase (decycling) 1	0.89	1.43	1.32	1.49	1.46	1.49
AI847838	Mm.11218	Ercc3	1.08	1.35	1.54	1.54	1.13	1.45
AI854187	Mm.16340	Fibroblast growth factor receptor 2	1.34	1.72	1.07	1.37	1.08	1.52
AI842667	Mm.684	Cathepsin C	1.25	1.35	1.25	1.54	1.15	1.56
AI842767	Mm.28099	Sterol O-acyltransferase 1	1.42	1.3	1.18	1.47	1.36	1.39
AI839581	Mm.259670	Porcupine homolog (Drosophila)	1.23	1.18	1.52	1.33	1.38	1.39
AI839138	Mm.77432	thioredoxin interacting protein	1.14	1.3	1.6	1.54	1.13	1.33
AI850126	Mm.43660	Palmitoyl-protein thioesterase	1.35	1.28	1.18	1.32	1.38	1.54
AI846363	Mm.260164	L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain	1.13	1.18	1.42	1.43	1.36	1.54
AI846398	Mm.141021	RIKEN cDNA 1110004C05 gene	1.47	1.23	1.44	1.3	1.39	1.23
AI850638	Mm.270278	thyrotroph embryonic factor	1.11	1.47	1.11	1.59	1.18	1.28
AI838693	Mm.22699	selenoprotein P, plasma, 1	1.4	1.27	1.42	1.27	1.37	1.28
AI850670	Mm.206505	Tissue inhibitor of metalloproteinase 2	1.45	1.32	1.37	1.59	1.05	1.23
AI851537	Mm.20829	Epithelial membrane protein 3	0.97	1.22	1.41	1.59	1.3	1.43
AI849556	Mm.25248	expressed sequence AA960558	1.34	1.61	1.18	1.45	1.11	1.25
AI849135	Mm.4948	RIKEN cDNA 1110048B16 gene	1.49	1.56	1.22	1.35	1.07	1.14
AI848880	Mm.381	Adipose differentiation related protein	1.34	1.28	1.36	1.27	1.32	1.27
AI852792	Mm.29648	Degenerative spermatocyte homolog (Drosophila)	1.15	1.32	1.35	1.09	1.53	1.41
AI838435	Mm.34087	RIKEN cDNA A730024A03 gene	1.37	1.39	1.36	1.41	1.32	1.01
AI850788	Mm.140496	RIKEN cDNA 1110001M20 gene	1.24	1.14	1.45	1.27	1.55	1.23
AI847599	Mm.28362	Immunoglobulin heavy chain 6	1.18	1.35	1.31	1.41	1.38	1.25
AI844356	Mm.38055	esterase 10	1.15	1.45	1.3	1.45	1.36	1.18
AI850349	Mm.14530	RAB1, member RAS oncogene family	1.42	1.28	1.08	1.52	1.12	1.47
AI843750	Mm.7821	Tumor protein D52-like 1	1.17	1.43	1.32	1.52	1.16	1.18
AI847007	Mm.25203	NCK-associated protein 1	1.45	1.39	1.45	1.25	1.19	1.04
AI847927		EST	1.34	1.49	1.07	1.52	1.04	1.32
AI852636	Mm.18494	MAP kinase kinase 3	1.21	1.35	1.27	1.04	1.5	1.41
AI852449	Mm.12559	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	1.24	1.06	1.4	1.14	1.65	1.3
AI844604	Mm.3126	Four and a half LIM domains 1	1.48	1.15	1.26	1.45	1.27	1.19
AI843396		EST	1.4	1.2	1.37	1.02	1.63	1.19
AI851074	Mm.17958	recombination activating gene 1 gene activation	1.14	1.1	1.56	1.28	1.37	1.37
AI845824	Mm.104920	Sorbitol dehydrogenase 1	1.09	1.1	1.59	1.35	1.62	1.08
AI844081	Mm.49689	sarcospan	1.17	1.67	1.35	1.14	1.19	1.32

Genes listed are those upregulated at least 1.3-fold. Genes listed without unique IDs are full-length clones from within our laboratory. Unigene numbers and full names are indicated. Data points include one E12.5 sample and two E13.5 samples with associated color swaps.