

## Supplemental Data

Table S1. Primer Sequences Used for Real-time PCR

<b>Primer Name</b>	<b>Forward Primer</b>	<b>Reverse Primer</b>
CD48	AGTTCTCAGGCAGGCTCTCA	TAGCGCAGGTCTCACTCTGA
CD8B1	AAGGGAAGACCCCAAGTTGT	ATGAATGGGCAGATTGCTTC
CNOT6L	TGGAAGCTCAGAAGGGAGAA	TTTCTACACCTGCCCAAAGG
CR1	TCTTCCTGGGATGACAATCA	CCAATTGGCTCCAGATTCC
CXCL2	GACGGCAGGGAAATGTATGT	TGTTGACCACACACTGTGAAA
CXCL3	TGGGAGACCATAATGTGTCAG	TGATCCACTAATTGCTTGCAT
GAL	CAGGTCATTCAGCGACAAGA	TGGACCTGTCAAAGCTTCT
HEPH	TGCTCCAGGTCAAGGAATAGA	TGGCAATGTCACTTGATTGTC
IL12A	TGATGGATCCTAAGAGGCAGA	TCAAGGGAGGATTTTTGTGG
MYTIL	ATTGGGGCCACTTTCTACT	TAATCAGGGACGATGCTGCT
POU1F1	GTGGGAGCAAATGAAAGGAA	TCAGCCATCCTCATGATCTC
SOD2	GAAAAGGCCCGTGATTTAG	TTCTGTGTGTCAGATGTTGC
SULT1C1	GTCCCAGCCAGAAGAATCTC	ATGGGCATTAGACGTGATCC

CD48, CD48 antigen (B-cell membrane protein); SOD2, superoxide dismutase 2; CR1, complement component receptor 1; CXCL2, chemokine (C-X-C motif) ligand 2; CD8B1, CD8 antigen, beta polypeptide; IL12A, interleukin 12A; CNOT6L, CCR4-NOT transcription complex, subunit 6-like; GAL, galanin; HEPH, hephaestin; MYT1L, myelin transcription factor 1-like; POU1F1, POU domain, class 1, transcription factor 1; SULT1C1, sulfotransferase family, cytosolic, 1C, member; CXCL3, chemokine (C-X-C motif) ligand 3

Table S2. List of Mn-altered Genes Encoding Transporters

<b>Gene Name</b>	<b>Fold Change</b>	<b>Common</b>	<b>Genbank</b>	<b>Description</b>
242541_at	2.7	ABCA9	AV692159	ATP-binding cassette, sub-family A (ABC1), member 9
205678_at	2.2	AP3B2	NM_004644	adaptor-related protein complex 3, beta 2 subunit
209546_s_at	3.6	APOL1	AF323540	apolipoprotein L, 1
221653_x_at	3.0	APOL2	BC004395	apolipoprotein L, 2
207434_s_at	2.0	FXVD2	NM_021603	FXVD domain containing ion transport regulator 2
233059_at	2.6	KCNJ3	AK026384	potassium inwardly-rectifying channel, subfamily J, member 3
215656_at	2.1	LMAN2	AK025041	lectin, mannose-binding 2
231295_at	2.3	ME3	BE326351	malic enzyme 3, NADP(+)-dependent, mitochondrial
1563228_x_at	2.6	MGC15523	BC020925	hypothetical protein MGC15523
204722_at	2.2	SCN3B	AW007335	sodium channel, voltage-gated, type III, beta
1563708_at	5.2	SFXN5	AL833454	sideroflexin 5
237106_at	2.2	SLC11A2	AI051244	solute carrier family 11, member 2
217691_x_at	2.2	SLC16A3	AA853175	solute carrier family 16, member 3
1552694_at	2.4	SLC2A13	NM_052885	solute carrier family 2, member 13
1557185_at	3.0	TPCN1	BU630557	two pore segment channel 1

237069_s_at	6.3	TRPM1	AI277662	transient receptor potential cation channel, subfamily M, member 1
219360_s_at	5.2	TRPM4	NM_017636	transient receptor potential cation channel, subfamily M, member 4
1555931_at	2.2	TSGA10	AW590897	testis specific, 10
241705_at	0.4	ABCA5	AI568925	ATP-binding cassette, sub-family A (ABC1), member 5
205771_s_at	0.5	AKAP7	AL137063	
210192_at	0.2	ATP8A1	AB013452	ATPase, Class I, type 8A, member 1
205770_at	0.4	GSR	NM_000637	glutathione reductase
222659_at	0.4	IPO11	AK001696	importin 11
234304_s_at			AL162083	
1557770_at			BC043163	
204939_s_at	0.3	PLN	NM_002667	phospholamban
204940_at				
226268_at	0.5	RAB21	AI309554	member RAS oncogene family
220955_x_at	0.4	RAB23	NM_016277	member RAS oncogene family
226259_at	0.3	SEC15L1	AL137438	SEC15-like 1
228497_at	0.4	SLC22A15	AI279062	solute carrier family 22, member 15
206830_at	0.3	SLC4A10	NM_022058	solute carrier family 4
212797_at	0.4	SORT1	BE742268	sortilin 1
1555291_at	0.4	TRPV3	AY118267	transient receptor potential cation channel, subfamily V, member 3
224441_s_at	0.4	USP45	BC005991	Homo sapiens ubiquitin specific protease 45, mRNA
231585_at	0.4	VPS13A	AI680723	vacuolar protein sorting 13A

*Table S3. List of Mn-altered Genes Encoding Functions Involved in Development*

<u>Gene Name</u>	<u>Fold Change</u>	<u>Common</u>	<u>Genbank</u>	<u>Description</u>
213931_at	2.3		AI819238	transcription repressor Id-2
235922_at	2.1		AW629304	CDNA fis clone
204539_s_at	3.0	CELSR1	NM_014246	cadherin, EGF LAG seven-pass G-type receptor 1
239738_at	2.5	DACH2	AW780006	dachshund homolog 2
221681_s_at	2.0	DSPP	AF094508	dentin phosphoryn
1564876_s_at	2.3	FOXP2	AF467252	forkhead box P2
214020_x_at	3.2	ITGB5	BE138575	integrin, beta 5
221841_s_at	3.2	KLF4	BF514079	Kruppel-like factor 4
1554544_a_at	2.4	MBP	L18865	CDNA clone
216188_at	2.1	MYCNOS	BC002892	v-myc myelocytomatosis viral related oncogene
205610_at	3.6	MYOM1	NM_003803	myomesin 1 (skelemin)
206879_s_at	2.4	NRG2	NM_013982	neuregulin 2
233626_at	4.3	NRP1	AK024580	neuropilin 1
213131_at	2.2	OLFM1	R38389	cDNA clone
1559400_s_at	5.4	PAPPA	BG620958	
1566740_at	2.3	PLCE1	AK025366	phospholipase C, epsilon 1
207846_at	8.7	POU1F1	NM_000306	POU domain, class 1, transcription factor 1

228923_at	2.2	S100A6	AW166825	S100 calcium binding protein A6
37004_at	2.3	SFTPB	J02761	surfactant, pulmonary-associated protein B
1558331_at	2.2	SIRT2	BG722779	Sirtuin
206634_at	3.4	SIX3	NM_005413	sine oculis homeobox homolog 3
207710_at	4.3	SPRL1B	NM_014357	small proline rich-like (epidermal differentiation complex) 1B
1559840_s_at	2.6	TBX18	BC040697	T-box 18
215686_x_at	9.6	TFAP2B	AL031224	transcription factor AP-2 beta
1555931_at	2.2	TSGA10	AW590897	testis specific, 10
231879_at	0.2	COL12A1	AL096771	
206100_at	0.4	CPM	NM_001874	carboxypeptidase M
206012_at	0.2	EBAF	NM_003240	endometrial bleeding associated factor
207327_at	0.3	EYA4	NM_004100	eyes absent homolog 4
201539_s_at	0.4	FHL1	U29538	four and a half LIM domains 1
216417_x_at	0.3	HOXB9	X16172	Human HOX-2.5
36920_at	0.5	MTM1	U46024	myotubular myopathy 1
205247_at	0.4	NOTCH4	AI743713	Notch homolog 4
233565_s_at	0.4	SDCBP2	AL136531	Syndecan binding protein 2
239515_at	0.4	SPA17	BE502264	sperm autoantigenic protein 17
200916_at	0.5	TAGLN2	NM_003564	transgelin 2
205694_at	0.3	TYRP1	NM_000550	tyrosinase-related protein 1
221176_x_at	0.5	WBSCR23	NM_025042	GTF2I repeat domain containing 1

*Table S4. List of Mn-altered Genes Encoding Signal Transducers\**

<b><u>Gene Name</u></b>	<b><u>Fold Change</u></b>	<b><u>Common</u></b>	<b><u>Genbank</u></b>	<b><u>Description</u></b>
241854_at	3.7		AI129699	cDNA clone
216113_at	4.3	ABI2	AF070566	abl interactor 2
1568612_at	2.9	GABRG2	BC036030	gamma-aminobutyric acid (GABA) A receptor, gamma 2
214240_at	9.1	GAL	AL556409	galanin
230498_at	3.8	GPR24	AI934819	G protein-coupled receptor 24
243296_at	3.2	PBEF1	AA873350	pre-B-cell colony enhancing factor 1
210941_at	3.4	PCDH7	AB006756	BH-protocadherin (brain-heart)
224212_s_at	2.2	PCDHA6	AF169689	protocadherin alpha 5
202388_at	2.1	RGS2	NM_002923	regulator of G-protein signalling 2, 24kDa
210270_at	2.9	RGS6	AF156932	regulator of G-protein signalling 6
210847_x_at	2.7	TNFRSF25	AF026071	tumor necrosis factor receptor superfamily, member 25
205771_s_at	0.5	AKAP7	AL137063	
1558214_s_at	0.4	CTNNA1	BG330076	catenin, alpha 1, 102kDa
1554411_at	0.3	CTNNB1	AB062292	catenin, beta 1, 88kDa
209957_s_at	0.4	NPPA	M30262	natriuretic peptide precursor A
203110_at	0.4	PTK2B	U43522	PTK2B protein tyrosine kinase 2 beta
214443_at	0.4	PVR	NM_006505	poliovirus receptor

209070_s_at	0.4	RGS5	AI183997	regulator of G-protein signalling 5
1555725_a_at	0.3	RGS5	AF493929	regulator of G-protein signalling 5
208048_at	0.1	TACR1	NM_015727	tachykinin receptor 1
206943_at	0.5	TGFBR1	NM_004612	transforming growth factor, beta receptor I

\*This table lists signal transducers besides those appeared already in Tables 2, 4, S3.

*Table S5. List of Mn-altered Genes Encoding Transcriptional Regulators*

<u>Gene Name</u>	<u>Fold Change</u>	<u>Common</u>	<u>Genbank</u>	<u>Description</u>
1565913_at	2.5		H59257	cDNA clone YR04D03
235616_at	3.3	C20orf17	AI694059	chromosome 20 ORF 17
1569355_at	10	CSEN	BC019877	calsenilin, presenilin binding protein, EF hand transcription factor
238869_at	2.9	HIF1A	AA913703	hypoxia-inducible factor 1, alpha subunit
221841_s_at	3.2	KLF4	BF514079	Kruppel-like factor 4 (gut)
241485_at	4.8	MYT1L	BE671048	myelin transcription factor 1-like
1554633_a_at			AF036943	
211466_at	2.2	NFIB	U70862	nuclear factor I/B
239825_at	0.3	ATF6	R17746	brain 1NIB cDNA clone
230636_s_at	0.4	BTEB1	AI458659	basic transcription element binding protein 1
210175_at	0.4	C2orf3	BC000853	chromosome 2 open reading frame 3
233054_at	0.3	CNOT2	AL137674	CCR4-NOT transcription complex, subunit 2
207654_x_at	0.5	DR1	NM_001938	down-regulator of transcription 1
212418_at	0.5	ELF1	M82882	E74-like factor 1
242656_at	0.3	GTF2H1	AI377688	general transcription factor IIH
218525_s_at	0.4	HIF1AN	NM_017902	hypoxia-inducible factor 1, alpha subunit inhibitor
228278_at	0.4	NFIX	AI817698	nuclear factor I/X
244704_at	0.5	NFYB	AW083948	neuronal thread protein
235844_at	0.3	PHTF1	AW517261	putative homeodomain transcription factor 1

\*This table lists transcriptional regulators besides those appeared already in Tables 2, 4-6, S3 and S4.