MafA is required for postnatal proliferation of pancreatic β-cells

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Supporting Information Legends

Table S1-S5

Table S1. Genes that were downregulated in the islets of *MafA* KO mice

Probe set	Gene	Gene symbol	Fold increase (WT/KO)	
			Set 1	Set 2
1418783_at	transient receptor potential cation channel, subfamily M, member 5	*Trpm5*	14.9	26.0
1434354_at	monoamine oxidase B	*Maob*	8.6	7.0
1424118_a_at	SPC25, NDC80 kinetochore complex component, homolog (S.	*spc25*	8.6	n.d.
1417336_a_at	synaptotagmin-like 4 / granuphilin	*Sytl4*	8.0	14.9
1439816_at	predicted gene 10567	*Gm10567*	7.5	n.d.
1441991_at	cDNA sequence BC039632	*BC039632*	7.0	n.d.
1416561_at	glutamic acid decarboxylase 1	*Gad1*	6.5	n.d.
1435456_at	tetratricopeptide repeat domain 28	*TTC28*	6.1	n.d.
1417443_at	family with sequence similarity 151, member A	*Fam151a*	5.7	n.d.
1419584_at	tetratricopeptide repeat domain 28	*TTC28*	5.7	n.d.
1453568_at	death-associated protein-like 1	*Dapl1*	5.3	n.d.
1422837_at	sciellin	*Scel*	4.9	2.1
1436075_at	secreted frizzled-related sequence protein 5	*Sfrp5*	4.9	n.d.
1451478_at	angiopoietin-like 7	*angptl7*	4.6	n.d.
1418774_a_at	ATPase, Cu++ transporting, alpha polypeptide	*Atp7a*	4.6	n.d.
1454984_at*	leukemia inhibitory factor receptor	*Lifr*	4.6	n.d.
1448627_s_at	PDZ binding kinase	*Pbk*	4.6	n.d.
1433653_at	family with sequence similarity 20, member A	*Fam20a*	4.3	n.d.
1424547_at	carbonic anhydrase 10	*Car10*	4	n.d.
1451096_at	NADH dehydrogenase (ubiquinone) Fe-S protein 2	*ndufs2*	4	n.d.
1448552_s_at	prolactin receptor	*Prlr*	4	2.6
1457254_x_at	RIKEN cDNA 6330442E10 gene	*Tmem229b*	4	6.1
1424291_at	similar to nucleoporin 93; nucleoporin 93	*Nup93*	4	2.1
1448552_s_at	transmembrane protein 206	*Tmem206*	4	n.d.
1440888_at*	oxytocin receptor	*Oxtr*	3.7	n.d.
1429206_at	Rho-related BTB domain containing 1	*Rhobtb1*	3.7	n.d.
1424131_at	collagen, type VI, alpha 3	*Col6a3*	3.5	n.d.
1416123_at	cyclin D2	*Ccnd2*	3.5	4.3
1417160_s_at	extracellular proteinase inhibitor	*exp1*	3.5	n.d.
1444027_at	solute carrier family 30 (zinc transporter), member 8	*Slc30a8*	3.5	n.d.
1423640_at	synaptoporin	*Synpr*	3.5	4.3
1418176_at*	vitamin D receptor	*Vdr*	3.5	n.d.
1423948_at	BCL2-associated athanogene 2	*Bag2*	3.3	n.d.
1452198_at*	lysine (K)-specific demethylase 2B	*kdm2b*	3.3	n.d.
1421396_at	proprotein convertase subtilisin/kexin type 1	*Pcsk1*	3.3	n.d.
1449067_at*	solute carrier family 2 (facilitated glucose transporter), member 2	*Slc2a2*	3.3	n.d.
1434326_x_at	coronin, actin binding protein, 2B	*Coro2b*	3.0	n.d.
1423690_s_at	G-protein signaling modulator 1 (AGS3-like, C. elegans)	*Gpsm1*	3.0	n.d.
1459861_s_at	predicted gene 12397	*Gm12397*	3.0	n.d.
1416868_at	cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)	*Cdkn2c*	2.8	n.d.
1444139_at	DNA-damage-inducible transcript 4-like	*Ddit4l*	2.8	n.d.
1417457_at	similar to cyclin-dependent kinase regulatory subunit 2 (CKS-2);	*Loci00044750*	2.8	n.d.
1441439_at	urocortin 3	*Ucn3*	2.8	n.d.
1425250_a_at	solute carrier family 14 (urea transporter), member 2	*Slc14a2*	n.d.	7.0
1422826_at	insulin-like growth factor binding protein, acid-labile subunit	*Igfals*	n.d.	6.1
1435971_at	regulating synaptic membrane exocytosis 3	*Rims3*	n.d.	4.6
1434709_at	neuron-glia-CAM-related cell adhesion molecule	*Nrcam*	n.d.	4
1438211_s_at	D site albumin promoter binding protein	*Dbp*	n.d.	3.7
1448929_at	coagulation factor XIII, A1 subunit	*F13a1*	n.d.	3.7
1416795_at	crystallin, lambda 1	*Cryl1*	n.d.	3.5
1434548_at	serine incorporator 3	*Serinc3*	n.d.	3.2
1451389_at	DnaJ (Hsp40) homolog, subfamily C, member 24	*Dnajc24*	n.d.	3.2
1416297_s_at	regenerating islet-derived 3 beta	*Reg3b*	n.d.	3.0
1440147_at	leucine-rich repeat LGI family, member 2	*Lgi2*	n.d.	3.0
1440859_at	A kinase (PRKA) anchor protein 6	*Akap6*	n.d.	2.8
1439106_at	zinc finger protein 462	*Zfp462*	n.d.	2.8
1434510_at	3'-phosphoadenosine 5'-phosphosulfate synthase 2	*Papss2*	n.d.	2.8

Table S2. Genotyping primers used in this study

Mice	Primers		Product size (bp)
MafA KO (mutant)	Forward	TCTGTTTCAGTCGGATGACCTCCTCCTTGC	310
	Reverse	CGATTGTCTGTTGTGCCCAGTC	
Wild-type	Forward	TATGAGGCCTTCCGGGGTCAGAGCTTC	500
	Reverse	CGATTGTCTGTTGTGCCCAGTC	

Table S3. Primers used to clone the indicated promoters or to mutagenize the *mPrlr* promoter

Name	Primers		Product size (bp)
mPrlr-1	Forward	TCTTACGCGTGCTAGCAGGCAAGGAAAGAAAACCGTGAAG	2359
	Reverse	CCGGAATGCCAAGCTTTGAGCCCCGTGTAAAATCCAGA	
mPrlr-2	Forward	TCTTACGCGTGCTAGCGTCCACCTCAGCCACCAGAAGC	1304
	Reverse	CCGGAATGCCAAGCTTTGAGCCCCGTGTAAAATCCAGA	
mPrlr-3	Forward	TCTTACGCGTGCTAGCTTTCCTCTGACTCCTCCTCCTTCC	608
	Reverse	CCGGAATGCCAAGCTTTGAGCCCCGTGTAAAATCCAGA	
mPrlr-5	Forward	TAGTGAACAAGTGCACCGAGTTGAG	2348
	Reverse	TGCACTTGTTCACTAGAGGAGGAGTC	
mPrlr-6	Forward	CCGGGAGTACCTTGTCCACCTTTTC	2348
	Reverse	ACAAGGTACTCCCGGATCCGTTTCGC	
mPrlr-8	Forward	GAGCAGAATATACAAGTTCTAAGCA	1742
	Reverse	TTGTATATTCTGCTCACTGTCTCCAA	
mPrlr-9	Forward	TTGTATATTCTGCTCACTGTCTCCAA	2094
	Reverse	TCTATTTTAGTTATCTCTGAACAGGT	
mPrlr-11	Forward	AGCTTCTTGCGGCTGGCGACGGCAGA	2348
	Reverse	CAGCCGCAAGAAGCTCAACTCGGTG	

Table S4. TaqMan probes used in this study

Gene symbols	Gene	ID	Species
MafA	v-maf musculoaponeurotic fibrosarcoma oncogene homolog A (avian)	Mm00845209_s1	*Mus musculus*
Prlr	prolactin receptor	Mm00599957_m1	*Mus musculus*
Ccnd2	cyclin D2	Mm00438070_m1	*Mus musculus*
Slc2a2	solute carrier family 2 (facilitated glucose transporter), member 2 (Glut2)	Mm00446229_m1	*Mus musculus*
Vdr	vitamin D receptor	Mm00437297_m1	*Mus musculus*
Slc30a8	solute carrier family 30 (zinc transporter), member 8 (ZnT8)	Mm00555793_m1	*Mus musculus*
Kdm2b	lysine (K)-specific demethylase 2B	Mm01194587_m1	*Mus musculus*
Dapl1	death associated protein-like 1	Mm01271524_m1	*Mus musculus*
Gck	glucokinase	Mm00439129_m1	*Mus musculus*
Kcnj11	potassium inwardly rectifying channel, subfamily J, member 11	Mm00440050_s1	*Mus musculus*
Abcc8	ATP-binding cassette, sub-family C (CFTR/MRP), member 8	Mm00803450_m1	*Mus musculus*
MafB	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein B (avian)	Mm00627481_s1	*Mus musculus*
Jak2	Janus kinase 2	Mm01208489_m1	*Mus musculus*
Stat5A	signal transducer and activator of transcription 5A	Mm03053818_s1	*Mus musculus*
Stat5B	signal transducer and activator of transcription 5B	Mm00839889_m1	*Mus musculus*
Ccnd1	cyclin D1	Mm00432359_m1	*Mus musculus*
Ccnd3	cyclin D3	Mm01612362_m1	*Mus musculus*
Cdkn1a	cyclin-dependent kinase inhibitor 1A (p21)	Mm00432448_m1	*Mus musculus*
Cdkn1b	cyclin-dependent kinase inhibitor 1B (p27)	Mm00438168_m1	*Mus musculus*
Cdkn1c	cyclin-dependent kinase inhibitor 1C (p57)	Mm00438170_m1	*Mus musculus*
MafA	v-maf musculoaponeurotic fibrosarcoma oncogene homolog A (avian)	Rn00845206_s1	*Rattus norvegicus*
Prlr	prolactin receptor	Rn00561795_m1	*Rattus norvegicus*
Ins1	insulin 1	Rn02121433_g1	*Rattus norvegicus*
Ins2	insulin 2	Rn01774648_g1	*Rattus norvegicus*

Table S5. Antibodies used in this study

Antigen	Species	Manufacturer	Catalog number	Use
Insulin	Guinea pig	Millipore	AB3440	Staining
BrdU	Mouse	Dako	M 0744	Staining
Prlr	Rabbit	Santa Cruz	sc-20992	Immunoblot
Stat5	Rabbit	Santa Cruz	sc-836	Immunoblot
Stat5B	Rabbit	Invitrogen	71-2500	Immunoblot/staining
Phosphorylated Stat5	Rabbit	Invitrogen	71-6900	Immunoblot
Phosphotyrosine	Mouse	BD Transduction	610000	Immunoblot
Ccnd2	Rabbit	Santa Cruz	sc-593	Immunoblot
Actin	Mouse	Millipore	MAB1501R	Immunoblot
β-Catenin	Mouse	BD Transduction	610153	Staining