

SUPPLEMENTARY TABLES

Supplementary Table 1. Major gross pathologies identified at necropsy.

Tissue	Pathology	Wt (52/ %)	Wt T4 (14/ %)	Pax8 +/- (17/ %)	Pax8 +/- T4 (18/ %)	Pax8 -/- (8/ %)	Pax8 -/- T4 (5/%)
Heart	Enlarged	4/ 8%	1/ 7%	1/ 7%	4/ 22%	0/ 0%	0/ 0%
Kidney	Necrotic	4/ 8%	0/ 0%	1/ 7%	0/ 0%	0/ 0%	0/ 0%
Liver	Cancer	9/ 17%	0/ 0%	8/ 47%*	0/ 0%	0/ 0%	0/ 0%
	Enlarged	14/ 27%	0/ 0%	9/ 53%	2/ 11%	0/ 0%	0/ 0%
Spleen	Enlarged	9/ 17%	0/ 0%	7/ 41%	3/ 17%	0/ 0%	0/ 0%

The percentage of mice presenting with various pathologies is represented. * p < 0.05 compared to Wt. Analysed using Fisher's Exact Test.

Supplementary Table 2. List of the most modulated transcripts in pancreatic islets isolated from Pax8 +/- and Wt mice.

Gene Symbol	Fold Change	p-value
<i>Scgn</i>	30.08	0.0253
<i>Gm11096</i>	28.36	0.0035
<i>Pcsk1n</i>	15.77	0.0450
<i>Slc2a5</i>	12.74	0.0440
<i>Mlxipl</i>	12.64	0.0461
<i>Wdr83os</i>	12.49	0.0310
<i>Abat</i>	12.43	0.0202
<i>Slc25a42</i>	11.52	0.0277
<i>Insrr</i>	11.46	0.0420
<i>Cfap126</i>	11.24	0.0204
<i>Serpini2</i>	-10.51	0.0278
<i>Galnt3</i>	-10.7	0.0335
<i>Erol1</i>	-10.99	0.0183
<i>Tm4sf1</i>	-13.3	0.0471
<i>Igfbp3</i>	-16.46	0.0464
<i>Ak4</i>	-21.78	0.0363
<i>Hmox1</i>	-24.1	0.0341
<i>Reg2</i>	-29.21	0.0465
<i>Pfkfb3</i>	-31.12	0.0393
<i>Slc2a1</i>	-42.5	0.0461

Supplementary Table 3. Antibodies used in this study.

Antibody	Dilution	Vendor	Catalog number
Alexa fluor 647 donkey anti-mouse	1:800	Thermofisher	Cat# A-31571, RRID:AB_162542):
Alexa fluor 555 donkey anti-rabbit	1:800	Thermofisher	Cat# A-31572, RRID:AB_162543
Alexa fluor 488 donkey anti-goat	1:800	Thermofisher	Cat# A-11055, RRID:AB_2534102
Anti-insulin	1:500	Sigma-Aldrich	Cat# I2018, RRID:AB_260137
Anti-insulin	1:500	Santa Cruz Biotechnology	Cat# sc-9168, RRID:AB_2126540
Anti-glucagon	1:150	Cell Signaling	Cat# 2760, RRID:AB_659831
Anti-glucagon	1:100	Sigma-Aldrich	Cat# G2654, RRID:AB_259852
Anti-somatostatin	1:150	Santa Cruz Biotechnology	Cat# sc-7819, RRID:AB_2302603
Anti-pSer473 Akt	1:500	Cell Signaling	Cat# 9271, RRID:AB_329825
Anti-Akt	1:1000	Cell Signaling	Cat# 9272, RRID:AB_329827
Anti-Gapdh	1:1000	Cell Signaling	Cat# 2118, RRID:AB_561053
Anti-pThr172 Ampk	1:1000	Cell Signaling	Cat# 2535, RRID:AB_331250
Anti-Ampk	1:1000	Cell Signaling	Cat# 2532, RRID:AB_330331
Anti-Lc3b	1:1000	Cell Signaling	Cat# 2775, RRID:AB_915950)
Anti-Ucp2	1:200	Santa Cruz Biotechnology	Cat# sc-6526, RRID:AB_2213582
Anti-Vdac1	1:1000	Abcam	Cat# ab15895, RRID:AB_2214787
Anti-Pgc1- α	1:1000	Santa Cruz Biotechnology	Cat# sc-517380, RRID:AB_2755043
Anti- cytochrome <i>c</i> oxidase subunit Va	1:1000	Molecular probes	Cat# A21363, RRID:AB_1501848
Anti- cytochrome <i>c</i> oxidase subunit I	1:1000	Molecular probes	Cat# A-6403, RRID:AB_221582
Anti-4hne	1:1000	Millipore	Cat# 393206-100UL, RRID:AB_211975
Anti-Fas	1:200	Santa Cruz Biotechnology	Cat# sc-55580, RRID:AB_2231427
Anti-Acaa2	1:200	Santa Cruz Biotechnology	Cat# sc-100847, RRID:AB_2219392
Anti-Ccl2	1:200	ENZO	Cat# ALX-804-549-C100, RRID:AB_2050978
Anti-NfkB	1:1000	Abcam	Cat# ab32536, RRID:AB_776751
Anti-pSer536 NfkB	1:1000	Cell Signaling	Cat# 3033, RRID:AB_331284
Anti-Sod1	1:2000	Abcam	Cat# ab13498, RRID:AB_300402
Anti-Gst	1:1000	Sigma-Aldrich	Cat# G1160, RRID:AB_259845
Anti-Gadd153	1:200	Santa Cruz Biotechnology	Cat# sc-575, RRID:AB_631365
Anti-Myh7	1:150	Santa Cruz Biotechnology	Cat# sc-53090, RRID:AB_2147279
HRP-goat anti-rabbit	1:5000	Sigma-Aldrich	Cat# A0545, RRID:AB_257896
HRP-rabbit anti-mouse	1:5000	Sigma-Aldrich	Cat# A9044, RRID:AB_258431
HRP-IgG κ light chain binding protein anti-mouse	1:1000	Santa Cruz Biotechnology	Cat# sc-516102, RRID:AB_2687626
HRP-donkey anti-goat	1:2000	Jackson ImmunoResearch Labs	Cat# 705-036-147, RRID:AB_2340392

Supplementary Table 4. Primers used for RT-PCR in this study.

Gene	Forward primer sequence	Reverse primer sequence
Mouse mtNd1	5'-CCTATCACCCCTGCCATCAT-3'	5'-GAGGCTGTTGCTTGTGTGAC-3'
Mouse nPecam	5'-ATGGAAAGCCTGCCATCATG-3'	5'-TCCTTGTTGTTTCAGCATCAC-3'
Mouse Pgc1- α	5'-GGGTCAGAGGAAGAGATAAAGTTG-3'	5'-CACCAAACCCACAGAAAACAG-3'
Mouse Pax8	5'-GTTTGAGCGGCAGCATTAC-3'	5'-GTAAGGGCAGTGGGTACAGC-3'
Mouse Rps29	5'-GGAGTCACCCACGGAAGTT-3'	5'-CATGTTTCAGCCCGTATTTGC-3'
Mouse Ucp2	5'-GCTTGGGATCCTGGAACGT-3'	5'-GGCAGCCATTAGGGCTCTTT-3'
Mouse Srebp1-c	5'-GCATGCCATGGGCAAGTAC-3'	5'-AGCATCTCCTGCGCACTCA-3'
Mouse Srebp2	5'-ACCGGTCCTCCATCAACG-3'	5'-CCAGGTCGATGCCCTTCA-3'
Mouse Fasn	5'-TCCTGAATCAGCCCACG-3'	5'-ACACCCATGAGCGAGTCC-3'
Mouse Cd36	5'-CACAGACGCAGCCTCCTT-3'	5'-TGGATTCTGGAGGGGTGA-3'
Mouse Socs2	5'-GTAAGGGCAGTGGGTACAGC-3'	5'-GGTAAAGGGAGTCCCCAGA-3'
Mouse Il-1 β	5'-AACTGTTGGTGAGGAATGTGG-3'	5'-GGTCCTGTCCCTCTTGTTTTCA-3'
Mouse Tnf- α	5'-CCCTCACACTCAGATCATCTTCT-3'	5'-GCTACGACGTGGGCTACAG-3'
Mouse Cpt1	5'-AGACAAGAACCCCAACATCC-3'	5'-CAAAGGTGTCAAATGGGAAGG-3'
Mouse Lcad	5'-GGTGAAAACGGAATGAAAGG-3'	5'-GGCAATCGGACATCTTCAAG-3'
Mouse Mead	5'-TGTTAATCGGTGAAGGAGCAG-3'	5'-CTATCCAGGGCATACTTCGTG-3'
Mouse Atp5a1	5'-CATTGGTGATGGTATTGCGC-3'	5'-TCCCAAACACGACAACCTCC-3'
Mouse Cox5b	5'-ACCCTAATCTAGTCCCGTCC-3'	5'-CAGCCAAAACCAGATGACAG-3'
Mouse Uqcrc1	5'-ATCAAGGCACTGTCCAAGG-3'	5'-TCATTTTCCTGCATCTCCCG-3'
Mouse Ndufab5	5'-GGACCGAGTTCTGTATGTCTTG-3'	5'-AAACCCAAATTCGTCTTCCATG-3'
Mouse Cish	5'-GCATAGCCAAGACGTTCTCC-3'	5'-AATGTACCCTCCGGCATCTT-3'