

Table S1. Summary of antibodies utilized for immunofluorescence staining

Primary antibodies			
Antigen	Species	Source	Dilution
Sox9	Rabbit	Chemicon	1:1000
Glucagon (Gcg)	Goat	Santa Cruz	1:1000
Glucagon (Gcg)	Mouse	Sigma	1:5000
Insulin (Ins)	Guinea Pig	Dakocytomation	1:1000
Pancreatic Polypeptide	Rabbit	Dakocytomation	1:2000
Somatostatin	Rabbit	Dakocytomation	1:3000
Ptf1a	Rabbit	B. Breant, INSERM-Paris	1:3000
Tcf2	Goat	Santa Cruz	1:200*
Prox1	Rabbit	Covance Research Products	1:3000
Amylase	Rabbit	Sigma	1:500
Ngn3	Guinea Pig	(Henseleit et al., 2005)	1:1000
GFP	Rat	C. Kioussi, Oregon State University, OR, USA	1:1000
GFP	Rabbit	Invitrogen	1:1000
Pdx1	Guinea Pig	C. Wright, Vanderbilt University, TN, USA	1:10,000
Nkx6.1	Mouse	BCBC clone 2023	1:500
Mucin-1 (Muc1)	Armenian hamster	Lab Vision	1:200
Osteopontin (Spp1)	Goat	R&D Systems	1:1000
DBA	(Biotinylated)	Vector Laboratories	1:500*
E-cadherin (Ecad)	Rat	Sigma	1:1000
E-cadherin (Ecad)	Rabbit	Cell Signaling	1:500
β -catenin (β -Cat)	Rabbit	Cell Signaling	1:500
CD133	Rat	eBiosciences	1:1000
Acetylated- α -tubulin	Mouse	Sigma	1:3000
Pkd2	Rabbit	Santa Cruz	1:500
ZO-1	Rabbit	Invitrogen	1:100
Rbp-jk	Rabbit	Proteintech Group	1:500
Notch1	Sheep	R&D Systems	1:200
Notch2	Goat	R&D Systems	1:200
Dll1	Sheep	R&D Systems	1:200
Jagged1	Goat	Santa Cruz	1:500
NICD1	Rabbit	Abcam	1:500*
NICD2	Rat	Developmental Studies Hybridoma Bank	1:50**
NICD2	Rabbit	Chemicon	1:1000**
Hes1	Rabbit	T. Sudo, Toray Industries, Tokyo	1:5000**
Hes1	Rabbit	N. Brown, Cincinnati Children's Hospital Medical Center, OH, USA	1:1000*
Hes1	Rat	MBL international	1:500

Secondary antibodies			
Antigen	Conjugation	Source	Dilution
Rabbit/Goat/Mouse/Guinea Pig/Rat	Alexa-488	Invitrogen	1:2000
Rabbit/Goat/Mouse/Guinea/Armenian Hamster Pig	Cy3	Jackson ImmunoResearch	1:2000
Rabbit/Goat/Mouse/Guinea Pig/Armenian Hamster	Cy5	Jackson ImmunoResearch	1:500
Rabbit/Goat/Rat/mouse	Biotinylated	Vector Laboratories	1:250

*A biotin-conjugated secondary antibody followed by streptavidin amplification was used.

**Tyramide signal amplification (TSA) was used as per manufacturer's instructions (Invitrogen).

Table S2. Primers used in plasmid construction and qRT-PCR

Primer	Sequence (5'-3')
BamHI-mNgn3-F	CGTAGGATCCATGGCGCCTCATCCCTTGGAT
BglII-mNgn3-R	AGATCTTCACAAGAAGTCTGAACACC
mSox9-F	AGACTCACATCTCTCCTAATGCT
mSox9-R	ACGTCGGTTTTGGGAGTGG
mNgn3-F	AATGATCGGGAGCGCAATCG
mNgn3-R	CGCAGGGTCTCGACCTTTG
mHes1-F	GACGGCCAATTTGCCTTC
mHes1-R	GAGTCCGAAGTGAGCGAGGA

Table S3. Quantification of Sox9- and Hes1-expressing cells in pancreatic explants from *Sox9-eGFP* embryos at E12.5 cultured for three days in the presence of γ -secretase inhibitor-IX (GSI-IX)

Experimental groups	Sox9⁺ cells (% of Ecad⁺ cells*)	Hes1⁺ cells (% of β-catenin⁺ cells*)
Control explants	52.7 \pm 5.2 (461 cells counted)	34.4 \pm 8.1 (612 cells counted)
Explants +1 μ M GSI-IX	43.1 \pm 5.6 (796 cells counted)	15.6 \pm 2.8 (778 cells counted)
Explants +5 μ M GSI-IX	18.5 \pm 4.3 (677 cells counted)	6.8 \pm 2.5 (739 cells counted)
Explants +10 μ M GSI-IX	13.2 \pm 2.7 (620 cells counted)	4.7 \pm 1.9 (557 cells counted)

*Co-staining was performed using rabbit anti-Sox9 and rat anti-E-cadherin or rat anti-Hes1 and rabbit anti- β -catenin antibodies, respectively.

Table S4. Sox9-regulated genes in ducts

Complete list of genes with a greater than 1.5-fold change

Decreased in <i>Sox9</i> -deficient pancreata		Increased in <i>Sox9</i> -deficient pancreata	
Gene symbol	Fold change	Gene symbol	Fold change
<i>Sox9</i>	-5.6	<i>Slc15a2</i>	3.0
<i>Slc28a3</i>	-5.5	<i>Atf3</i>	2.8
<i>Pkd2</i>	-3.7	<i>Tnfrsf12a</i>	2.7
<i>Gm905</i>	-3.2	<i>Dsg2</i>	2.2
<i>Sdc4</i>	-2.7	<i>Tmprss2</i>	2.2
<i>Lrp6</i>	-2.5	<i>Pik3ap1</i>	2.2
<i>Fmo2</i>	-2.5	<i>Cnksr3</i>	2.1
<i>Fgfr4</i>	-2.4	<i>Itgb6</i>	2.1
<i>Ces3</i>	-2.2	<i>Pdgfd</i>	2.1
<i>Spp1</i>	-2.2	<i>1700025G04Rik</i>	2.0
<i>Fmol1</i>	-2.2	<i>Onecut1</i>	1.9
<i>Gabrp</i>	-2.1	<i>Jun</i>	1.8
<i>Hisppd2a</i>	-2.1	<i>Arid5b</i>	1.8
<i>Ppp1r1b</i>	-2.1	<i>Tcfcp2l1</i>	1.7
<i>BC030476</i>	-2.1	<i>Sbf2</i>	1.7
<i>Wnk2</i>	-2.0	<i>Lamc2</i>	1.7
<i>Zfp704</i>	-1.9	<i>Fer1l3</i>	1.7
<i>Mgam</i>	-1.8	<i>Chrnbl</i>	1.7
<i>Ildr1</i>	-1.8	<i>3110050N22Rik</i>	1.7
<i>Tmem45a</i>	-1.8	<i>Cyr61</i>	1.7
<i>Tesc</i>	-1.8	<i>Cxadr</i>	1.6
<i>Mgst1</i>	-1.8	<i>Lcor</i>	1.6
<i>Mod1</i>	-1.8	<i>Cald1</i>	1.6
<i>A830059I20Rik</i>	-1.7	<i>Tns1</i>	1.6
<i>Ncald</i>	-1.7	<i>Rdh10</i>	1.6
<i>8430419L09Rik</i>	-1.7	<i>Slc2a2</i>	1.6
<i>App</i>	-1.7	<i>Tshz2</i>	1.6
<i>Prdm16</i>	-1.7	<i>Cxcl16</i>	1.6
<i>Spink4</i>	-1.7	<i>Nsdhl</i>	1.6
<i>Kcnn4</i>	-1.7	<i>Cdc42ep1</i>	1.6
<i>Nkx2-2</i>	-1.7	<i>Nedd4</i>	1.6
<i>Krt23</i>	-1.6	<i>Ror1</i>	1.6
<i>Smoc1</i>	-1.6	<i>Pdgfa</i>	1.6
<i>Zdhhc2</i>	-1.6	<i>Junb</i>	1.6
<i>BC021891</i>	-1.6	<i>Pkhd1</i>	1.6
<i>Epb4.111</i>	-1.6	<i>Sash1</i>	1.5
<i>Hpgd</i>	-1.6	<i>Ier3</i>	1.5
<i>Tinagl</i>	-1.5	<i>Zc3h11a</i>	1.5
<i>Ccdc68</i>	-1.5	<i>Smg6</i>	1.5
<i>Arl15</i>	-1.5	<i>Stk3</i>	1.5
<i>Dtx4</i>	-1.5		
<i>Pcyt1b</i>	-1.5		
<i>Adcy2</i>	-1.5		