

Supplementary information

Gata4 is critical to maintain gut barrier function and mucosal integrity following epithelial injury

David Lepage, Élise Bélanger, Christine Jones, Sarah Tremblay, Joannie Allaire, Joannie Bruneau, Claude Asselin, Nathalie Perreault, Alfredo Menendez, Fernand-Pierre Gendron and Francois Boudreau

Supplementary Figure legends

Figure S1. Indomethacin does not affect jejunum epithelial cell proliferation in Gata4 mutant mice. PCNA positive cells were detected by immunofluorescence on the jejunum of control **(a)** and *Gata4*^{ΔIEC} **(b)** mice that were sacrificed 24 h after indomethacin injection. Original magnification: 2.5X. **(c)** The ratio of PCNA-positive cells was expressed in percentage of total number of crypt cells and was averaged from 8 individual crypts of a total of 3 different mice per group.

Figure S2. Transcriptomic analysis predicts increased epithelial cell death in the jejunum of Gata4 mutant mice following indomethacin treatment. Total RNA was isolated from the jejunum of control and *Gata4*^{ΔIEC} mice that were sacrificed after indomethacin injection (n=3 per group) and probes for hybridization with Illumina BeadChips were generated. Genes were then filtered for up- or down-regulation of expression of a minimum of 2.0-fold with a *P* value ≤ 0.05 and gene signature datasets were analyzed by the Ingenuity Pathway Analysis tool. **(a)** Categories and functions annotations were associated with a p-value, activation state and number of different

molecules found to be modulated in these categories. **(b)** 26 molecules were found to be modulated (up in red and down in green) and associated with predicted increases of epithelial cell death. The color quantification scale of dotted lines associated with biological functions covers between orange (increased state) and blue (decreased state).

Figure S3. Transcriptomic analysis predicts decreased immune cell trafficking in the

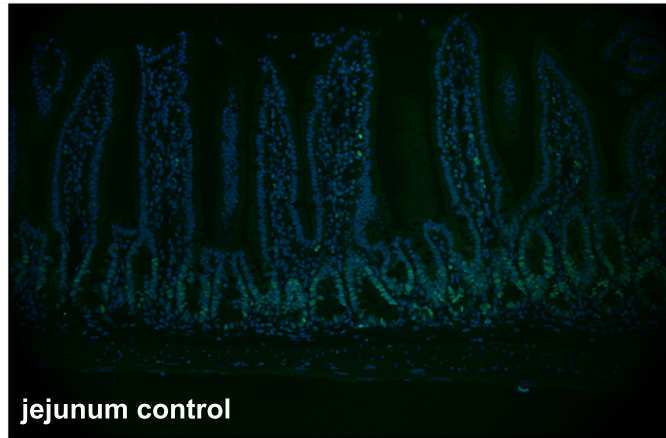
jejunum of *Gata4* mutant mice following indomethacin treatment. Total RNA was isolated from the jejunum of control and *Gata4*^{ΔIEC} mice that were sacrificed after indomethacin injection (n=3 per group) and probes for hybridization with Illumina BeadChips were generated. Genes were then filtered for up- or down-regulation of expression of a minimum of 2.0-fold with a *P* value ≤ 0.05 and gene signature datasets were analyzed by the Ingenuity Pathway Analysis tool.

(a) Categories and functions annotations were associated with a p-value, activation state and number of different molecules found to be modulated in these categories. **(b)** 34 molecules were found to be modulated (up in red and down in green) and associated with predicted decreases of immune cell trafficking. The color quantification scale of dotted lines associated with biological functions covers between orange (increased state) and blue (decreased state).

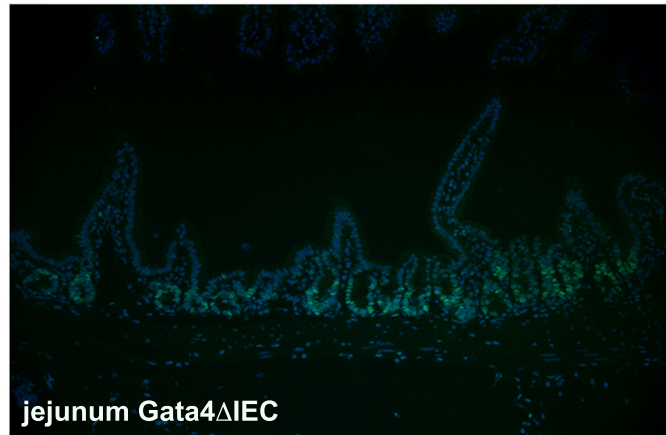
Figure S4. ZO-1 localization remains unchanged in the jejunum of *Gata4* mutant mice.

Immunofluorescence detection of ZO-1 on jejunum sections prepared from controls and *Gata4*^{ΔIEC} mice. Original magnification: 10X.

a



b



c

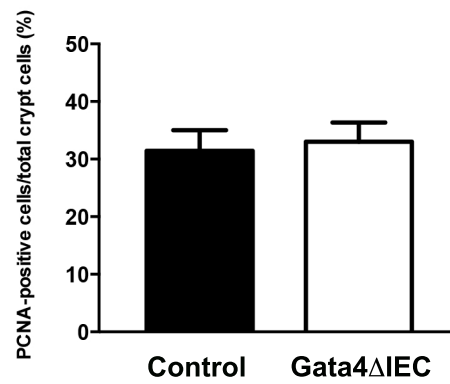


Figure S1. Lepage et al.

A

Categories	Diseases or Functions Annotation	p-Value	Predicted Activation State	Activation z-score	# Molecules
Cell Death and Survival	necrosis	1,86E-07		1,664	93
Cell Death and Survival, Gastrointestinal Disease, Hepatic System Disease	cell death of hepatocytes	5,66E-07	Increased	2,251	14
Cell Death and Survival	cell death	7,76E-07		1,479	111
Cell Death and Survival, Gastrointestinal Disease, Hepatic System Disease	cell death of liver cells	2,68E-06		1,691	15
Cell Death and Survival, Respiratory Disease	apoptosis of lung cells	6,61E-06		0,896	7
Cell Death and Survival	cell death of epithelial cells	7,60E-06	Increased	2,233	26
Cell Death and Survival, Gastrointestinal Disease, Hepatic System Disease	necrosis of liver	1,06E-05		1,488	16
Cell Death and Survival	necrosis of epithelial tissue	3,00E-05		1,954	28
Cell Death and Survival	apoptosis	3,14E-05		1,594	86
Cell Death and Survival, Gastrointestinal Disease, Hepatic System Disease	apoptosis of hepatocytes	9,71E-05		1,659	10
Cell Death and Survival, Gastrointestinal Disease, Hepatic System Disease	apoptosis of liver cells	9,74E-05		1,052	11
Cell Death and Survival	cell death of enteroendocrine cells	1,44E-04			3
Cell Death and Survival	necrosis of kidney	2,41E-04		1,497	18
Cell Death and Survival	apoptosis of connective tissue cells	3,04E-04		0,375	15
Cell Death and Survival	apoptosis of epithelial cells	3,57E-04		1,392	15
Cell Death and Survival	cell death of kidney cells	3,96E-04		1,332	17
Cell Death and Survival, Respiratory Disease	cell death of pneumocytes	4,04E-04		1,982	4
Cell Death and Survival	cell death of tumor cell lines	6,02E-04		1,561	51
Cell Death and Survival	cell death of splenocytes	6,51E-04		0,447	5
Cell Death and Survival, Cellular Compromise, Reproductive System Development	cytotoxicity of gonadal cell lines	7,89E-04			2
Cell Death and Survival, Respiratory Disease	quantity of apoptotic pneumocytes	7,89E-04			2
Cell Death and Survival	cell death of colon	1,09E-03			3
Cell Death and Survival	apoptosis of tumor cell lines	1,16E-03		1,702	41
Cell Death and Survival	cell death of striatal neurons	1,31E-03		0,468	5
Cell Death and Survival, Embryonic Development	apoptosis of embryonic cell lines	1,32E-03	Increased	2,043	10
Cell Death and Survival, Embryonic Development	cell death of embryonic cell lines	1,49E-03		1,965	12
Cell Death and Survival	cell death of endocrine cells	1,51E-03		1,461	7
Cell Death and Survival	delay in initiation of removal of cells	1,56E-03			2
Cell Death and Survival	necrosis of colon	1,56E-03			2
Cell Death and Survival	cell death of kidney cell lines	1,66E-03		1,595	14
Cell Death and Survival, Respiratory Disease	apoptosis of pneumocytes	2,06E-03			3
Cell Death and Survival	opsonization	2,47E-03			3
Cell Death and Survival	cell death of islet cells	3,19E-03		1,461	6
Cell Death and Survival	quantity of apoptotic cells	3,57E-03		0,6	6
Cell Death and Survival	apoptosis of kidney cell lines	3,90E-03		1,336	11
Cell Death and Survival	cell death of pericytes	6,00E-03			3
Cell Death and Survival	apoptosis of uterine cell lines	6,97E-03			2
Cell Death and Survival	opsonization of cells	6,97E-03			2
Cell Death and Survival	cell death of intestinal cells	8,30E-03			4

B

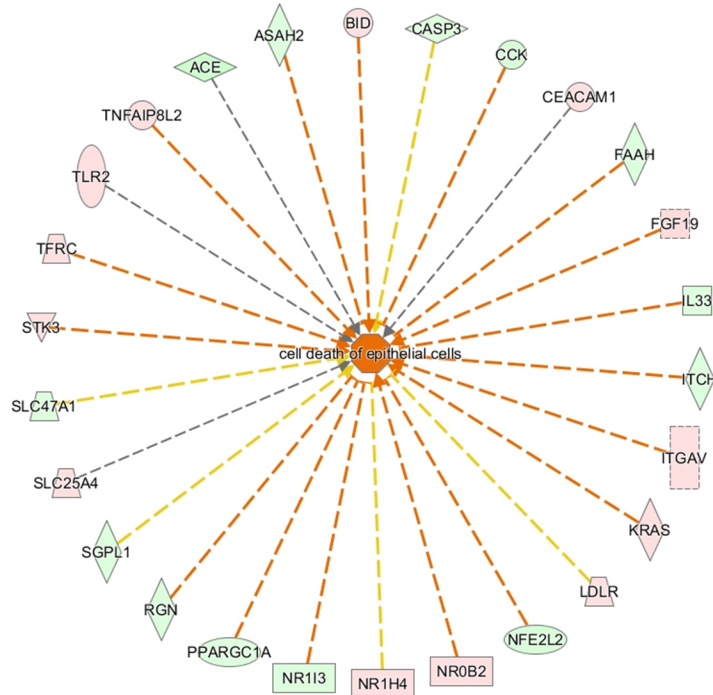
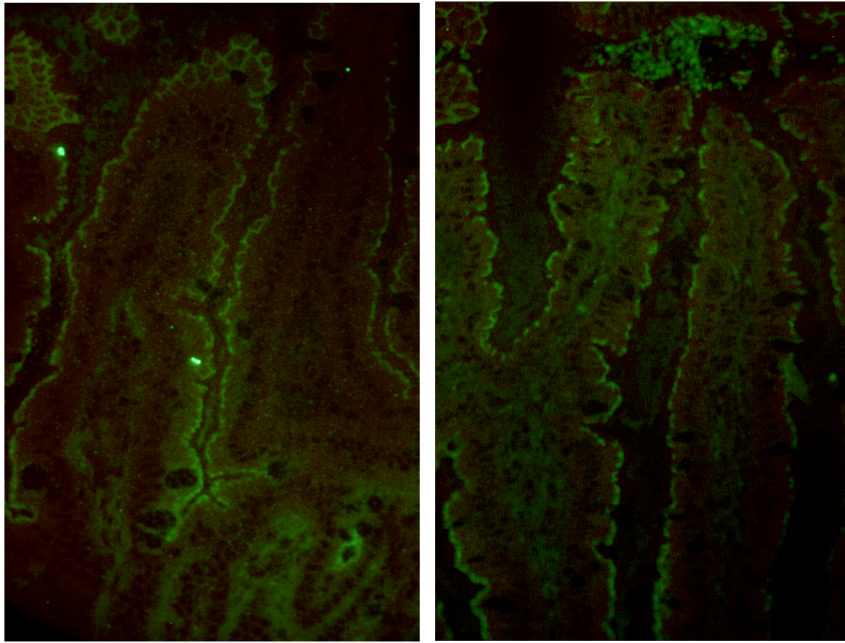


Figure S2. Lepage et al.



Controls

Gata4^{ΔIEC}

Figure S4. Lepage et al.

Table S1. Comparative gene transcript expression of junctional molecules in the jejunum of *Gata4*^{ΔIEC} and control mice (n=6 for each group).

Gene transcript	Fold difference (<i>Gata4</i> ^{ΔIEC} /control)	<i>P</i> value (Student T-test)
Claudin-1	1.17 ± 0.1	0.16
Claudin-2	6.59 ± 0.52	0.0001
Claudin-3	1.56 ± 0.06	0.0006
ZO-1	1.26 ± 0.07	0.01
JAM-1	1.28 ± 0.08	0.05
Occludin	1.24 ± 0.04	0.02
E-Cadherin	1.45 ± 0.08	0.007

Table S2. Comparative gene transcript expression of inflammatory molecules in the jejunum of *Gata4*^{ΔIEC} and control mice (n=6 for each group).

Gene transcript	Fold difference (<i>Gata4</i> ^{ΔIEC} /control)	<i>P</i> value (Student T-test)
Icam1	1.43 ± 0.12	0.02
Cx3cr1	1.55 ± 0.26	0.05
Il-1β	0.62 ± 0.04	0.08
Cd5	1.67 ± 0.52	0.30
Cd69	1.54 ± 0.34	0.19
Il-1βr	1.15 ± 0.10	0.54
Il-23a	0.64 ± 0.13	0.22
Ccl20	1.19 ± 0.44	0.74
Ccr6	1.06 ± 0.55	0.92
Cxcl1	1.08 ± 0.22	0.82
Il-21	0.46 ± 0.15	0.29
Ccr4	0.46 ± 0.15	0.20
Cd25	1.27 ± 0.26	0.36
Cxcr4	1.39 ± 0.43	0.43
Foxp3	0.79 ± 0.26	0.51
Inf-γ	1.57 ± 0.41	0.33
Il-10	1.11 ± 0.14	0.60
Il-12p35	0.63 ± 0.22	0.60
Il-12p40	1.38 ± 0.22	0.42
Il-13	0.02 ± 0.01	0.15
Il-17	1.72 ± 0.90	0.54
Il-2	0.87 ± 0.21	0.67
Il-23r	1.73 ± 0.38	0.12
Il-24	0.67 ± 0.08	0.17
Tgfβ	1.11 ± 0.16	0.61
Tnfα	1.63 ± 0.34	0.15

Field	Change	Value	ID	Symbol	Enzyme Gene Name	Location	Type(s)
-13.036		3.79E-06	Adora2b	ADORA2B	adenosine A2b receptor	Plasma Membrane	G-protein coupled receptor
-9.473		4.35E-02	Slc2a2	SLC2A2	solute carrier family 2 (facilitated glucose transporter), member 2	Plasma Membrane	transporter
-9.335		5.74E-05	Slc2a1	SLC2A1	solute carrier family 2 (concentrative nucleoside transporter), member 1	Plasma Membrane	transporter
-8.886		1.53E-04	Gm776	Gm776	predicted gene 766	Other	other
-6.223		5.30E-05	Apoc2	APOC2	apolipoprotein C-II	Extracellular Space	transporter
-6.883		4.92E-05	Sphk1	SPHK1	sphingosine kinase 1	Cytoplasm	kinase
-5.656		1.9E-02	Bst1	BST1	bone marrow stromal cell antigen 1	Plasma Membrane	transporter
-5.334		6.88E-05	Apoc2	APOC2	apolipoprotein C-II	Extracellular Space	transporter
-5.301		3.22E-04	Slc22a5	SLC22A5	solute carrier family 25, member 45	Cytoplasm	transporter
-5.234		4.86E-05	Enpp7	ENPP7	ectonucleotide pyrophosphatase/phosphodiesterase 7	Plasma Membrane	enzyme
-5.020		7.89E-05	Acot12	ACOT12	acyl-CoA thioesterase 12	Cytoplasm	enzyme
-4.871		9.15E-04	Cac2	CAC2	carbonic anhydrase II	Cytoplasm	enzyme
-4.841		8.83E-08	Rec8	REC8	REC8 meiotic recombination protein	Nucleus	other
-4.723		3.47E-05	Enpp7	ENPP7	ectonucleotide pyrophosphatase/phosphodiesterase 7	Plasma Membrane	enzyme
-4.645		2.62E-04	Apoa4	APOA4	apolipoprotein A-IV	Extracellular Space	transporter
-4.552		1.01E-05	Tim38	TRIM38	tripartite motif containing 38	Other	other
-4.503		6.83E-02	Rbp2	RBP2	retinol binding protein 2, cellular	Other	other
-4.407		2.78E-04	Slc2a2	SLC2A2	solute carrier family 2 (facilitated glucose transporter), member 2	Plasma Membrane	transporter
-4.047		6.12E-05	Rbp2	RBP2	retinol binding protein 2, cellular	Other	other
-3.824		2.54E-02	Asb1	ASB1	ankyrin repeat and SOCS box containing 11	Nucleus	transporter regulator
-3.809		2.78E-03	Fam151a	FAM151A	family with sequence similarity 151, member A	Extracellular Space	other
-3.777		6.45E-04	Cop3	COP3	calpain 13	Other	other
-3.731		2.90E-05	Ltb4r1	LTBR4R	leukotriene B4 receptor	Plasma Membrane	G-protein coupled receptor
-3.611		4.73E-05	Tim38	TRIM38	tripartite motif containing 38	Other	other
-3.503		3.23E-03	Fam151a	FAM151A	family with sequence similarity 151, member A	Extracellular Space	other
-3.378		4.80E-04	Adh1	ADH1C	alcohol dehydrogenase 1C (class I), gamma polypeptide	Cytoplasm	enzyme
-3.235		4.83E-04	Cyp202b3	CYP202B3	cytochrome P450, family 2, subfamily b, polypeptide 23	Other	other
-3.233		2.47E-04	Adh1	ADH1C	alcohol dehydrogenase 1C (class I), gamma polypeptide	Cytoplasm	enzyme
-3.220		2.95E-04	Slc16a6	SLC16A6	solute carrier family 16, member 6	Plasma Membrane	transporter
-3.188		1.78E-04	Tlco2	TLCO2	TLCO domain containing 2	Other	other
-3.181		7.12E-04	Poa3	POA3	protoporphyrin oxidase	Extracellular Space	peptidase
-3.160		6.29E-05	Sefc4l2	SEFC4L2	SEF14C2-like 2 (S. cerevisiae)	Extracellular Space	transporter
-3.156		1.83E-03	S100a8	S100A8	S100 calcium binding protein A8	Cytoplasm	other
-3.127		5.09E-04	Slc22a2	SLC22A2	solute carrier family 2 (facilitated glucose transporter), member 2	Plasma Membrane	transporter
-3.089		8.96E-05	Slc1a3	SLC1A3	solute carrier family 1 (glial high affinity glutamate transporter), member 3	Plasma Membrane	transporter
-3.081		4.64E-04	S100a9	S100A9	S100 calcium binding protein A9	Cytoplasm	other
-3.070		1.70E-03	Rdn2	RDN2	D-3-hydroxybutyrate dehydrogenase, type 2	Plasma Membrane	enzyme
-2.991		3.49E-04	Glpd2	GLYPD2	glycolipid transfer protein domain containing 2	Other	other
-2.962		5.55E-05	Elmo2	ELMO2	engulfment and cell motility 2	Cytoplasm	transporter
-2.931		1.08E-03	Apoa4	APOA4	apolipoprotein A-IV	Extracellular Space	transporter
-2.929		8.77E-05	Ltb4r2	LTBR4R	leukotriene B4 receptor 2	Plasma Membrane	G-protein coupled receptor
-2.928		4.02E-04	Rse1	RSE1	R-nucleosidase, ecto (CD73)	Plasma Membrane	phosphatase
-2.878		1.34E-04	Cda	CDA	cytidine deaminase	Nucleus	enzyme
-2.839		8.20E-05	Lmcd1	LMCD1	LIM and cysteine-rich domains 1	Other	transporter regulator
-2.823		9.28E-04	Gm156	Gm156	predicted gene 156	Other	other
-2.761		2.21E-04	Ccdc114	CCDC114	coiled-coil domain containing 114	Extracellular Space	other
-2.752		1.36E-02	Cyp202b1	CYP202B1	cytochrome P450, family 2, subfamily C, polypeptide 18	Other	other
-2.725		3.91E-05	Prrs12	PRRS12	pleckstrin homology domain containing, family F (with FYVE domain) member 1	Extracellular Space	peptidase
-2.701		8.01E-03	Plekha1	PLEKH1	LIM and cysteine-rich domains 1	Cytoplasm	transporter regulator
-2.702		8.14E-05	Lmcd1	LMCD1	LIM and cysteine-rich domains 1	Cytoplasm	enzyme
-2.712		2.04E-03	Cyp202b2	CYP202B2	cytochrome P450, family 2, subfamily d, polypeptide 26	Cytoplasm	enzyme
-2.711		4.03E-04	Tlco2	TLCO2	TLCO domain containing 2	Other	other
-2.686		1.01E-03	Tcpv5	TCPV5	T cell receptor gamma, variable 5	Other	other
-2.684		6.19E-05	Vsk1	VSK1	visual system homeobox 1	Nucleus	transporter regulator
-2.684		1.12E-04	Unc53a	UNC53A	unc-53 homolog A (C. elegans)	Plasma Membrane	transporter
-2.680		1.43E-03	Apoa4	APOA4	GAMP responsive element binding protein 3-like 3	Extracellular Space	transporter
-2.661		1.98E-04	Ceb3l3	CEB3L3	GAMP responsive element binding protein 3-like 3	Extracellular Space	transporter
-2.650		7.19E-05	Oca2	OCA2	OCA2 domain containing 2	Cytoplasm	other
-2.642		5.54E-04	Z21407116Rik	Z21407116Rik	Z21407116 gene	Other	other
-2.627		8.23E-04	Gpr151	GPR151	G-protein-coupled receptor 151	Plasma Membrane	G-protein coupled receptor
-2.603		8.33E-05	Cmt1	CMT1	creatine kinase, mitochondrial 1, ubiquitous	Cytoplasm	kinase
-2.592		1.41E-03	Slc16a8	SLC16A8	solute carrier family 16, member 8	Plasma Membrane	transporter
-2.586		7.28E-05	Gde1	GDE1	glycerophosphodiester phosphodiesterase 1	Other	enzyme
-2.582		8.71E-05	Prrc2	PRRC2	proteoglycan 2, bone marrow (natural killer cell activator, eosinophil granule major basic protein)	Extracellular Space	transporter
-2.579		1.51E-04	Ttrif2/Ttrif22	TTRIF2	tumor necrosis factor receptor superfamily, member 22	Plasma Membrane	transmembrane receptor
-2.523		1.02E-04	Gde1	GDE1	glycerophosphodiester phosphodiesterase 1	Other	enzyme
-2.498		7.51E-05	Oca2	OCA2	OCA2 domain containing 2	Cytoplasm	other
-2.485		1.61E-04	Tll2	TLL2	tubulin tyrosine ligase-like family, member 2	Other	other
-2.481		1.48E-05	Mdh2	MDH2	malate dehydrogenase 2, NAD (mitochondrial)	Cytoplasm	enzyme
-2.468		9.52E-03	Cyp202b6	CYP202B6	cytochrome P450, family 2, subfamily d, polypeptide 26	Plasma Membrane	G-protein coupled receptor
-2.456		1.11E-04	Lypd1	LYPD1	LYBPLAUR domain containing 1	Plasma Membrane	G-protein coupled receptor
-2.453		1.04E-02	Cyp202b6	CYP202B6	cytochrome P450, family 2, subfamily d, polypeptide 26	Plasma Membrane	G-protein coupled receptor
-2.441		3.98E-04	Ntse	NTSE	5'-nucleotidase, ecto (CD73)	Plasma Membrane	phosphatase
-2.411		1.55E-04	Pak97	PAK97	progesterin and adipoQ receptor family member VII	Plasma Membrane	other
-2.407		2.15E-04	Tmem86a	TMEM86A	transmembrane protein 86a	Plasma Membrane	other
-2.391		4.76E-04	Usp18	USP18	ubiquitin specific peptidase 18	Cytoplasm	peptidase
-2.390		1.32E-02	Csm2c3	CSDMC3	gandemic C	Cytoplasm	other
-2.387		1.31E-04	Soc2	SOCC	short coiled-coil protein	Extracellular Space	growth factor
-2.386		1.30E-04	Muc4	MUC4	mucin 4, cell surface associated	Extracellular Space	glycoprotein
-2.379		5.96E-03	Ilf8	ILF8	interleukin 18 (interferon-gamma-inducing factor)	Extracellular Space	cytokine
-2.378		1.55E-04	Prrs12	PRRS12	pleckstrin homology domain containing, family F (with FYVE domain) member 1	Extracellular Space	peptidase
-2.365		1.83E-04	Apoc3	APOC3	apolipoprotein C-III	Extracellular Space	transporter
-2.362		6.44E-04	Tcpv4	TCPV4	T cell receptor gamma, variable 4	Other	other
-2.354		1.95E-04	Hbch	HCH	3-hydroxybutyryl-CoA lyase	Cytoplasm	enzyme
-2.339		3.33E-04	Gstk1	GSTK1	glutathione S-transferase kappa 1	Cytoplasm	enzyme
-2.316		1.64E-03	Galt	GALT	galactose-1-phosphate uridylyltransferase	Cytoplasm	enzyme
-2.310		3.45E-04	Gstk1	GSTK1	glutathione S-transferase kappa 1	Cytoplasm	enzyme
-2.290		1.08E-04	Scamp5	SCAMP5	secretory carrier membrane protein 5	Cytoplasm	other
-2.279		1.89E-04	Cnm2	CNM2	cognin 2	Plasma Membrane	transporter
-2.258		2.30E-04	Pcd3	PLCD3	phospholipase C, delta 3	Cytoplasm	enzyme
-2.254		1.81E-04	Muc4	MUC4	mucin 4, cell surface associated	Extracellular Space	growth factor
-2.220		5.22E-04	Sytl2	SYTL2	Rap guanine nucleotide exchange factor (GEF) 6	Plasma Membrane	other
-2.218		1.88E-03	T17005501Rik	T17005501Rik	transmembrane-like 2	Other	other
-2.188		3.82E-04	Plekha1	PLEKH1	pleckstrin homology domain containing, family F (with FYVE domain) member 1	Cytoplasm	transporter regulator
-2.181		7.91E-04	Timp1	TIMP1	TIMP metalloproteinase inhibitor 1	Other	other
-2.164		2.14E-04	Tha1	THA1	threonine aldolase 1	Cytoplasm	phosphatase
-2.157		2.50E-03	Nudt5	NUDT5	nucleoside diphosphate linked moiety X-type motif 5	Other	phosphatase
-2.155		1.71E-03	Cxcl3	CXCL3	chemokine (C-X-C motif) ligand 3	Plasma Membrane	transporter
-2.149		1.22E-03	Slc22a2	SLC22A2	solute carrier family 2 (concentrative nucleoside transporter), member 2	Plasma Membrane	transporter
-2.136		5.76E-03	Hoxa9	HXA9	homeobox A9	Nucleus	transporter regulator
-2.117		7.39E-04	Unc53a	UNC53A	unc-53 homolog A (C. elegans)	Plasma Membrane	transporter
-2.115		1.22E-03	Altha1	ALTHA1	aldose 1-epimerase 4, family member A1	Cytoplasm	enzyme
-2.113		2.54E-04	Slc5a9	SLC5A9	solute carrier family 5 (sodium/sugar cotransporter), member 9	Plasma Membrane	transporter
-2.113		6.53E-03	Srpb	SNRBP	small nuclear ribonucleoprotein polypeptides B and B1	Nucleus	other
-2.108		1.91E-03	Hvcn1	HVCN1	hygrogen voltage-gated channel 1	Plasma Membrane	ion channel
-2.108		1.38E-03	Nova1	NOVA1	neuro-oncological ventral antigen 1	Nucleus	other
-2.095		1.19E-02	Bgalts	BGALTS	UDP-Gal beta(1-6)GalNAc-6S transferase, polypeptide 5	Cytoplasm	enzyme
-2.077		1.22E-02	Nbeal1	NBEAL1	neurobeachin-like 1	Other	other
-2.073		1.42E-04	Timem83	TMEM83	transmembrane protein 83	Other	other
-2.072		4.35E-02	Cyp202b2	CYP202B2	cytochrome P450, family 2, subfamily d, polypeptide 26	Plasma Membrane	G-protein coupled receptor
-2.071		5.56E-03	Orf1221	ORF1221	orf1221	Other	other
-2.070		6.22E-04	Hsp2d	HSP2D	heat shock protein 22 domain containing protein kinase 2	Nucleus	kinase
-2.057		1.02E-03	Hilp2	HILP2	high density lipoprotein binding protein 2	Nucleus	transporter
-2.049		2.33E-03	Necab1	NECAB1	N-terminal EF-hand calcium binding protein 1	Cytoplasm	other
-2.048		1.46E-04	Mmp9	MMP9	matrix metalloproteinase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)	Extracellular Space	peptidase
-2.040		3.01E-04	4933422H2ORik	4933422H2ORik	RIKEN cDNA 4933422H02 gene	Other	other
-2.039		2.08E-04	Soc2	SOCC	short coiled-coil protein	Cytoplasm	other
-2.038		1.17E-02	Gtra3	GLRA3	glycylglycyltransferase	Plasma Membrane	ion channel
-2.028		1.81E-03	Timp1	TIMP1	TIMP metalloproteinase inhibitor 1	Other	other
-2.020		2.78E-02	Csm2c3	CSDMC3	gandemic C	Extracellular Space	other
-2.011		2.18E-04	Slc5a9	SLC5A9	solute carrier family 5 (sodium/sugar cotransporter), member 9	Plasma Membrane	transporter
-2.001		5.79E-02	Vpreb2	VPREB2	pre-B cell lymphocyte gene 1	Plasma Membrane	transporter
-2.000		6.28E-03	Bdnf	BDNF	brain-derived neurotrophic factor	Extracellular Space	growth factor
-2.004		2.77E-04	Scn	SCN	scandium	Cytoplasm	other
-2.000		1.07E-02	Gals	GAL3	galactosyltransferase (L)-oxidase	Cytoplasm	enzyme
-2.009		2.57E-04	Ppy6	P2RY6	pyridinergic receptor P2Y6, G-protein coupled, 6	Plasma Membrane	G-protein coupled receptor
-2.009		4.29E-02	Pfif1	PFI1	perforin 1 (pore forming protein)	Cytoplasm	enzyme
-2.010		4.86E-04	Mett7b	METTL7B	methyltransferase like 7B	Other	peptidase
-2.013		6.83E-03	Usp13	USP13	ubiquitin specific peptidase 13 (isopeptidase T-3)	Other	peptidase
-2.015		4.59E-03	Nudt4	NUDT4	nucleoside diphosphate linked moiety X-type motif 4	Other	phosphatase
-2.017		4.17E-03	Ly8a	LY8A	lymphocyte antigen 6 complex, locus A	Plasma Membrane	transporter
-2.022		4.70E-02	Dt1	DT1	down-regulator of transcription 1, TBP-binding (negative cofactor 2)	Other	transporter regulator
-2.022		3.53E-04	Pmkv	PMKV	phosphomevalonate kinase	Cytoplasm	enzyme
-2.030		3.08E-04	Orf1178	ORF1178	orf1178	Plasma Membrane	G-protein coupled receptor
-2.032		6.87E-03	Sncg2	SNCG2	solute carrier family 11 (proton-coupled divalent metal ion transporter), member 2	Plasma Membrane	transporter
-2.036		2.22E-02	Igfb2	IGFB2	integrin beta 2-like	Plasma Membrane	transporter

2193	1.67E-02	Meel	MAEL	matronin spermatogenic transposon attenuator	Cytoplasm	other
2194	2.03E-04	Piprd	Piprd	protein tyrosine phosphatase, receptor type, D	Plasma Membrane	phosphatase
2198	4.17E-04	Grp1	GRP1	glutamate receptor interacting protein 1	Plasma Membrane	transcription regulator
2198	1.63E-04	Atz9b1	ATZ9B1	ATPase, Ca ²⁺ transporting, plasma membrane 1	Plasma Membrane	transporter
2198	3.69E-02	Tpr	TPR	transcribed promoter region, nuclear basket protein	Nucleus	transporter
2200	3.39E-04	Hmgcr	HMGCR	3-hydroxy-3-methylglutaryl-CoA reductase	Nucleus	enzyme
2202	3.88E-04	Ghrl	GHRL	ghrelin/obestatin prepropeptide	Extracellular Space	growth factor
2210	1.84E-02	Psoir1c2	PSORS1C2	psoriasis susceptibility 1 candidate 2	Extracellular Space	other
2212	1.33E-02	Sypl1-ps1	Sypl1-ps1	synaptosomal complex protein 1, pseudogene 1	Other	other
2216	3.77E-03	Gk4	GRK4	G protein-coupled receptor kinase 4	Plasma Membrane	kinase
2224	4.53E-04	Cap2	CAP2	CAP, adenylate cyclase-associated protein, 2 (yeast)	Plasma Membrane	enzyme
2225	7.27E-04	Tst	TST	trichostatin A sulfotransferase (hydrolase)	Cytoplasm	enzyme
2229	1.45E-02	Ef4e1b	EFA4E1B	eukaryotic translation initiation factor 4E family member 1B	Other	enzyme
2243	1.98E-04	Atk	ATK	adenosine kinase	Other	kinase
2243	4.73E-04	Mti	MTIE	metallothionein 1E	Cytoplasm	other
2247	6.79E-04	Ghrl	GHRL	ghrelin/obestatin prepropeptide	Extracellular Space	growth factor
2249	3.51E-03	Akr1c19	Akr1c19	aldoketo reductase family 1, member C19	Other	other
2255	1.97E-04	Aldoc	ALDOC	aldolase C, fructose-bisphosphate	Cytoplasm	enzyme
2258	1.98E-02	Tsf12	Tsf12	transcription factor 12	Nucleus	transcription regulator
2268	2.78E-03	4930430A15Rik	4930430A15Rik	RIKEN cDNA 4930430A15 gene	Nucleus	transcription regulator
2271	2.99E-04	Fbxo32	Fbxo32	F-box protein 32	Cytoplasm	enzyme
2273	5.62E-03	4933403008Rik	4933403008Rik	RIKEN cDNA 4933403008 gene	Cytoplasm	enzyme
2280	1.82E-04	Hsd17b7	HSD17B7	hydroxysteroid (17-beta) dehydrogenase 7	Cytoplasm	enzyme
2283	1.72E-02	F8	WDHR1	WD repeat domain 18	Cytoplasm	enzyme
2286	1.36E-02	Or382	OR382	olfactory receptor 382	Plasma Membrane	G-protein coupled receptor
2287	5.34E-04	Uglt1a6b	UGT1A6B	UDP glucucosyltransferase 1 family, polypeptide A6	Cytoplasm	enzyme
2290	1.64E-04	Papsr1	PAPSS1	3'-phosphoadenosine 5'-phosphatase synthase 1	Cytoplasm	enzyme
2295	2.35E-04	Piscr1	PISC1	phospholipid scramblase 1	Plasma Membrane	enzyme
2296	5.64E-04	Nlr1b	WDHR1	WD repeat domain 18	Cytoplasm	enzyme
2302	1.03E-03	Alah1a1	ALDH1A1	aldehyde dehydrogenase 1 family, member A1	Cytoplasm	enzyme
2309	6.40E-03	Gulf1	GULF1	GULF1 GTPase homolog (S. cerevisiae)	Cytoplasm	other
2313	1.07E-04	Tfpi	TFPI	tissue factor pathway inhibitor (proteinase-associated coagulation inhibitor)	Extracellular Space	other
2314	1.39E-02	Taf7	TAF7	TAF7 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 59kDa	Nucleus	transcription regulator
2317	1.39E-02	Taf7	TAF7	TAF7 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 59kDa	Nucleus	transcription regulator
2324	2.92E-04	Hoxb7	Hoxb7	homeobox B7	Nucleus	transcription regulator
2340	2.46E-04	Pmm2	PRMT2	protein arginine methyltransferase 2	Nucleus	enzyme
2350	1.27E-02	Tmem65	TMEM65	transmembrane protein 65	Cytoplasm	enzyme
2354	2.95E-02	Dct	DC1	dopachrome tautomerase	Cytoplasm	enzyme
2356	7.09E-03	Alg3	ATG3	autophagy related 3	Cytoplasm	enzyme
2369	1.06E-04	Papsr1	PAPSS1	3'-phosphoadenosine 5'-phosphatase synthase 1	Cytoplasm	enzyme
2370	3.78E-02	Serpin3k	Serpin3k	serpin (or cysteine) peptidase inhibitor, clade A, member 3K	Extracellular Space	other
2380	6.40E-04	Nr2	IPR2	inositol 1,4,5-trisphosphate receptor, type 2	Cytoplasm	ion channel
2383	1.97E-03	Sic2a20b	SIC2A20B	solute carrier family 6 (neurotransmitter transporter), member 20B	Plasma Membrane	transporter
2410	1.29E-02	Cpb2	CPB2	carboxypeptidase B2 (plasma)	Extracellular Space	peptidase
2411	8.02E-03	Camk2a	CAMK2A	calcium/calmodulin-dependent protein kinase II alpha	Extracellular Space	enzyme
2420	2.42E-02	Or292	OR292	olfactory receptor 297	Plasma Membrane	G-protein coupled receptor
2427	1.09E-03	Rnat	RNAT	indolethylamine N-methyltransferase	Cytoplasm	enzyme
2460	3.72E-04	Or771	OR771	olfactory receptor 771	Plasma Membrane	G-protein coupled receptor
2494	3.39E-02	Ank1	ANKK1	ankyrin repeat and kinase domain containing 1	Cytoplasm	kinase
2500	2.15E-04	Hyl3	TYR13	tyrosinase family member 3	Cytoplasm	ion channel
2510	7.74E-04	Ssl4	SSTR4	serotonergic receptor 4	Plasma Membrane	G-protein coupled receptor
2512	4.72E-02	Abllm1	ABL1M1	actin binding LIM protein 1	Cytoplasm	other
2518	1.32E-03	Fah2	FA2H	fatty acid 2-lyase	Cytoplasm	enzyme
2519	1.47E-04	Fbxo32	Fbxo32	F-box protein 32	Cytoplasm	enzyme
2537	3.92E-03	Tmem2	TMEM2	T cell immunoglobulin and mucin domain containing 2	Plasma Membrane	enzyme
2543	7.77E-03	Cpb2	CPB2	carboxypeptidase B2 (plasma)	Extracellular Space	peptidase
2564	3.45E-02	Cyp2c70	CYP2C70	cytochrome P450, family 2, subfamily C, polypeptide 70	Cytoplasm	enzyme
2579	2.27E-02	Erm1	ERN1	erythrocyte reticulum to nucleus signaling 1	Cytoplasm	enzyme
2581	3.60E-02	Serpin10	SERPINA10	serpin peptidase inhibitor, clade A (alpha-1 antitrypsinase, antitrypsin), member 10	Extracellular Space	other
2588	9.17E-08	Mps1	MPS1	mercaptopyruvate sulfurtransferase	Extracellular Space	enzyme
2604	1.32E-04	Pmp22	PMP22	peripheral myelin protein 22	Plasma Membrane	enzyme
2634	1.44E-02	Slic1b3	SLIC1B3	solute carrier organic anion transporter family, member 1B3	Plasma Membrane	transporter
2653	1.92E-04	Krt84	KRT84	keratin 84	Cytoplasm	other
2654	1.38E-04	Xrnp2p2	XPMP2P2	X-ray aminopeptidase (aminopeptidase P) 2, membrane bound	Plasma Membrane	peptidase
2678	2.15E-04	Uglt2b	UGT2B	UDP glucucosyltransferase 2 family, polypeptide B7	Cytoplasm	enzyme
2686	1.54E-03	Or128	OR128	olfactory receptor 128	Plasma Membrane	G-protein coupled receptor
2688	4.76E-02	Itih4	ITIH4	inter-alpha-trypsin inhibitor heavy chain family, member 4	Extracellular Space	other
2701	1.11E-02	Tbx15	TBX15	T-box 15	Nucleus	transcription regulator
2736	9.84E-05	Tceb1	TCEB1	transcription elongation factor A (SII)-like 8	Other	other
2742	5.62E-04	Fhl1	FHL1	four and a half LIM domains 1	Plasma Membrane	phosphatase
2754	5.99E-04	Fhl1	FHL1	four and a half LIM domains 1	Cytoplasm	other
2765	1.99E-04	Nsdhl	NSDHL	NAD(P) dependent steroid dehydrogenase-like	Cytoplasm	enzyme
2771	5.05E-05	Ocm	OCM	oncomodulin	Cytoplasm	enzyme
2800	7.70E-05	Pibf1	PIBF1	progestosterone immunomodulatory binding factor 1	Nucleus	other
2807	1.82E-02	Vepp1	VERP1	ventricular zone expressed PH domain-containing 1	Other	other
2814	3.31E-04	Cpn1	CPN1	carboxypeptidase N, polypeptide 1	Extracellular Space	peptidase
2814	3.72E-04	Piprd	Piprd	protein tyrosine phosphatase, receptor type, D	Plasma Membrane	phosphatase
2835	4.57E-04	3300005001Rik	3300005001Rik	RIKEN cDNA 3300005001 gene	Other	other
2867	4.45E-04	Fhl1	FHL1	four and a half LIM domains 1	Cytoplasm	other
2869	1.19E-04	Nsdhl	NSDHL	NAD(P) dependent steroid dehydrogenase-like	Cytoplasm	enzyme
2877	1.46E-02	Cyp2e1	CYP2E1	cytochrome P450, family 2, subfamily E, polypeptide 1	Cytoplasm	enzyme
2880	1.50E-04	Hoxb7	Hoxb7	homeobox B7	Cytoplasm	enzyme
2901	1.58E-04	Nsdhl	NSDHL	NAD(P) dependent steroid dehydrogenase-like	Nucleus	transcription regulator
2907	1.82E-02	Itih1	ITIH1	inter-alpha-trypsin inhibitor heavy chain 1	Extracellular Space	enzyme
2924	1.19E-04	Xrnp2p2	XPMP2P2	X-ray aminopeptidase (aminopeptidase P) 2, membrane bound	Plasma Membrane	peptidase
2954	5.81E-05	9130024F11Rik	9130024F11Rik	RIKEN cDNA 9130024F11 gene	Other	other
2973	7.95E-05	Piscr1	PISC1	phospholipid scramblase 1	Plasma Membrane	enzyme
3016	3.91E-03	Mtmr8	MTMR8	myotubularin related protein 6	Plasma Membrane	phosphatase
3109	9.38E-04	Cyp2c55	CYP2C55	cytochrome P450, family 2, subfamily C, polypeptide 55	Cytoplasm	enzyme
3189	1.79E-04	E2k4.1k4	EPK14A	erythrocyte membrane protein band 4.1 like 4A	Extracellular Space	enzyme
3205	7.98E-05	Slc13a2	SLC13A2	solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 2	Plasma Membrane	transporter
3208	3.34E-05	Fgfp1	FGF1P1	fibroblast growth factor binding protein 1	Extracellular Space	other
3217	1.28E-04	Uglt2b	UGT2B	UDP glucucosyltransferase 2 family, polypeptide B7	Cytoplasm	enzyme
3220	1.14E-04	Rasd2	RASD2	RASD family, member 2	Cytoplasm	enzyme
3291	4.81E-05	Cyp51a1	CYP51A1	cytochrome P450, family 51, subfamily A, polypeptide 1	Cytoplasm	enzyme
3257	4.42E-05	Cab1e1	CABLE1	CsB5 and Abl enzyme substrate 1	Nucleus	enzyme
3310	5.48E-03	Ttr	TTR	transthyretin	Extracellular Space	transporter
3336	8.52E-05	4732465J04Rik	4732465J04Rik	RIKEN cDNA 4732465J04 gene	Other	other
3379	9.40E-05	Ab3bp	ABI3BP	ABI family, member 3 (NESR1) binding protein	Extracellular Space	other
3423	2.96E-04	Tmem2	TMEM2	T cell immunoglobulin and mucin domain containing 2	Plasma Membrane	enzyme
3437	3.56E-03	Uglt1a2	UGT1A2	UDP glucucosyltransferase 1 family, polypeptide A3	Cytoplasm	enzyme
3569	4.18E-02	Map3	MAP3	major urinary protein 1	Plasma Membrane	other
3573	8.08E-05	Bex4	BE4	brain expressed, X-linked 4	Extracellular Space	other
3587	3.58E-02	Itih4	ITIH4	inter-alpha-trypsin inhibitor heavy chain family, member 4	Cytoplasm	other
3591	9.72E-05	Pks9	PKS9	proprotein convertase subtilisin/kexin type 9	Extracellular Space	peptidase
3628	1.41E-04	Ef4ebp3	EFA4EBP3	eukaryotic translation initiation factor 4E binding protein 3	Cytoplasm	other
3640	2.82E-02	Kne1	KNE1	kiningsen 1	Extracellular Space	other
3629	4.36E-02	Fga	FGA	fortrogen alpha chain	Extracellular Space	transporter
3646	5.59E-05	Slc13a1	SLC13A1	solute carrier family 13 (sodium/sulfate symporter), member 1	Plasma Membrane	transporter
4093	3.79E-05	Lam3	LAMB3	laminin, beta 3	Extracellular Space	transporter
4085	4.54E-05	Pmp22	PMP22	peripheral myelin protein 22	Plasma Membrane	transporter
4353	4.15E-02	Pnlp	PNLP	pancreatic lipase	Extracellular Space	enzyme
4355	2.99E-05	Zdhc19	ZDHHC19	zinc finger, DHHC-type containing 19	Cytoplasm	enzyme
4493	4.13E-02	Hpx	HPX	hemopexin	Extracellular Space	transporter
4500	3.79E-02	Map2	MAP2	major urinary protein 1	Extracellular Space	other
4535	1.34E-04	Hmgcs2	HMGCS2	3-hydroxy-3-methylglutaryl-CoA synthase 2 (mitochondrial)	Cytoplasm	enzyme
5033	1.40E-03	Cif2	CIF2	cifin 2 (muscle)	Other	other
5087	4.04E-05	Hspb1	HSPB1	heat shock 27kDa protein 1	Cytoplasm	other
5338	3.60E-05	Pk3ap1	PK3AP1	phosphoinositide-3-kinase adaptor protein 1	Cytoplasm	other
5361	6.81E-05	Csta3	CSTA3	glutathione S-transferase alpha 3	Cytoplasm	enzyme
5406	3.53E-05	Bex4	BE4	brain expressed, X-linked 4	Cytoplasm	other
5445	4.93E-03	Sytn	SYCN	syncoilin	Extracellular Space	other
6319	1.83E-05	Gcn1	GCN1	guanosaminyl (N-acetyl) transferase 1, core 2	Extracellular Space	enzyme
6444	4.42E-04	Serpin1b	SERPINA1	serpin peptidase inhibitor, clade A (alpha-1 antitrypsinase, antitrypsin), member 1	Extracellular Space	other
6532	5.98E-04	Serpin1b	SERPINA1	serpin peptidase inhibitor, clade A (alpha-1 antitrypsinase, antitrypsin), member 1	Extracellular Space	other
6893	1.45E-05	Gcn1	GCN1	guanosaminyl (N-acetyl) transferase 1, core 2	Cytoplasm	enzyme
7573	3.13E-02	Serpin4	SERPINA4	SERP4 domain containing 4	Other	other
7756	2.40E-04	Serpin1b	SERPINA1	serpin peptidase inhibitor, clade A (alpha-1 antitrypsinase, antitrypsin), member 1	Extracellular Space	other
7870	1.85E-04	Serpin1b	SERPINA1	serpin peptidase inhibitor, clade A (alpha-1 antitrypsinase, antitrypsin), member 1	Extracellular Space	other
8121	2.21E-05	Cubn	CUBN	cubilin (retinol) factor-cobalamin receptor	Plasma Membrane	transmembrane receptor
9371	6.31E-06	Slc40a1	SLC40A1	solute carrier family 40 (iron-regulated transporter), member 1	Plasma Membrane	transporter
12336	6.94E-06	Deb37	Deb37	defensin beta 37	Extracellular Space	other

Table S4. Primers used for qPCR analysis of gene transcripts

Claudin-1	
Up	5'-GCCATCTACGAGGGACTGTGGA-3'
Dw	5'-TGCCAATTACCATCAAGGCTCGG-3'
Claudin-2	
Up	5'-GCCACCCACAGATACTTGTAAGGAG-3'
Dw	5'-TTCGGAGCCTGTTTGCTTGTCG-3'
Claudin-3	
Up	5'-CCTTGCTGTGTTGCTCCTGCC-3'
Dw	5'-CTCAGACGTAGTCCTTGCGGTC-3'
ZO-1 (TJP1)	
Up	5'-TGCAGAGACAATAGCATTCTCCAC-3'
Dw	5'-TAGCTCCACGGGCTTCAGGAAC-3'
Jam-1 (F11R)	
Up	5'-TGGATATGGGACAGCCATGAGGT-3'
Dw	5'-GCTATAGGCAAACCAGACGCCA-3'
Occludin	
Up	5'-GGAACACATTTATGATGAACAGCCCC-3'
Dw	5'-CGCTTGCCATTCACCTTGCCAT-3'
E-cadherin	
Up	5'-ACCAAAGTGACGCTGAAGTCCAT-3'
Dw	5'-GATGGGAGGGATGACCCAGTCT-3'
Icam1	
Up	5'-CTGCTACCTGCACTTTGCCCTG-3'
Dw	5'-AGGCTTCTCTGGGATGGATGGAT-3'
Cx3cr1	
Up	5'-GAGTATGACGATTCTGCTGAGG-3'
Dw	5'-CAGACCGAACGTGAAGACGAG-3'
Il-1β	
Up	5'-TAGCCCGCACTGAGGTCTTT-3'
Dw	5'-AGCAATGTGCTGGTGCTTCA-3'
Cd5	
Up	5'-CCCCACAGGAGTGAACCAGAACA-3'
Dw	5'-TGGATAAGCAGACAGGTGAGAGTTCC-3'
Cd69	
Up	5'-ACTTCTTCTCCACCACAACCAAGAGT-3'
Dw	5'-GCCCAATCCAATGTTCCAGTTCACC-3'
Il-1βr	
Up	5'-TCGCTATCCGTTTATCTGTGTTGTTAAGAA-3'
Dw	5'-TGTAGCCGTGAGGATGATAAAGCCC-3'

Il-23a

Up 5'-CCCGTATCCAGTGTGAAGATGGTTGT-3'
Dw 5'-TCCCCTTTGAAGATGTCAGAGTCAAGC-3'

Ccl20

Up 5'-GCCTCTCGTACATACAGACGC-3'
Dw 5'-CCAGTTCTGCTTTGGATCAGC-3'

Ccr6

Up 5'-CCTGGGCAACATTATGGTGGT-3'
Dw 5'-CAGAACGGTAGGGTGAGGACA-3'

Cxcl1

Up 5'-CTGGGATTCACCTCAAGAACATC-3'
Dw 5'-CAGGGTCAAGGCAAGCCTC-3'

Il-21

Up 5'-GGACCCTTGTCTGTCTGGTAG-3'
Dw 5'-TGTGGAGCTGATAGAAGTTCAGG-3'

Ccr4

Up 5'-TCCCCTCGTGCTCTGCA-3'
Dw 5'-TGC GTGTAAGAGGAGCTGGAC-3'

Cd25

Up 5'-TTGTCTGGGCAGAACTGTGTCT-3'
Dw 5'-GCTCCAGGAGTTTCCTAAGCAA-3'

Cxcr4

Up 5'-AGCATGACGGACAAGTACC-3'
Dw 5'-GATGATATGGACAGCCTTACAC-3'

Foxp3

Up 5'-GGCCCTTCTCCAGGACAGA-3'
Dw 5'-GCTGATCATGGCTGGGTTGT-3'

Ifn- γ

Up 5'-CAGCAACAGCAAGGCGAAA-3'
Dw 5'-GCTGGATTCCGGCAACAG-3'

Il-10

Up 5'-TTTGAATTCCCTGGGTGAGAAG-3'
Dw 5'-TGCTCCACTGCCTTGCTCTT-3'

Il-12p35

Up 5'-CACGCTACCTCCTCTTTTTGG-3'
Dw 5'-TTTTCTCTGGCCGTCTTCAC-3'

Il-12p40

Up 5'-GGTGCAAAGAAACATGGACTTG-3'
Dw 5'-GACAGAGACGCCATTCCACAT-3'

Il-13

Up 5'-GTGTCTCTCCCTCTGACCCTTAA-3'
Dw 5'-GAGATGTTGGTCAGGGAATCC-3'

II-17

Up 5'-TCCAGAAGGCCCTCAGACTAC-3'
 Dw 5'-TGTGGTGGTCCAGCTTTCC-3'

II-2

Up 5'-CCCAGGATGCTCACCTTCAA-3'
 Dw 5'-CCGCAGAGGTCCAAGTTCAT-3'

II-23r

Up 5'-GCCAAGAAGACCATTCCTCGA-3'
 Dw 5'-TCAGTGCTACAATCTTCTTCAGAGGACA-3'

II-24

Up 5'-CTCCACTCTGGCCAACAACCTT-3'
 Dw 5'-CACCAAAGCGACTTCTGTATCC-3'

Tgf β

Up 5'-GGACCCTGCCCCCTATATTTG-3'
 Dw 5'-GCTTGCGACCCACGTAGTAG-3'

Tnf α

Up 5'-AGGCGGTGCCTATGTCTCA-3'
 Dw 5'-GGGTCTGGGCCATAGAAGTCTG-3'

Table S5. Primers used for qPCR analysis of ChIPs experiments**Site 1**

mClau2prom-331up1 5'-TGACATTTTGGCTCTACTTCCA-3'
 mClau2prom-157dw1 5'-CAGGCTCAAGAAGGCATCTA-3'

Site 2

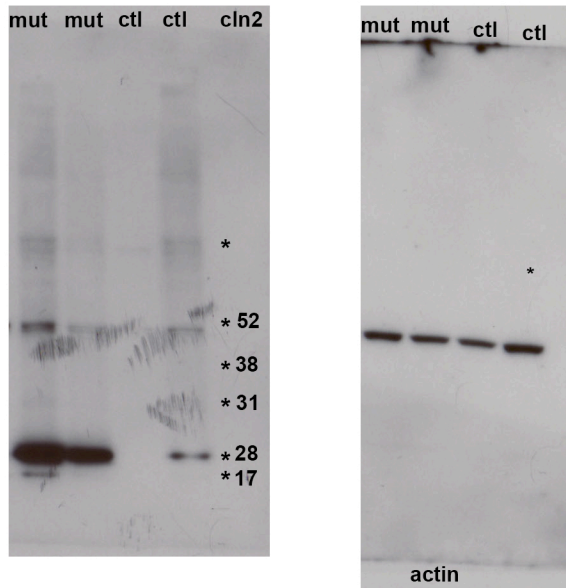
mClau2prom-1706up3 5'-ATTACCCAGGGATGTTGGT-3'
 mClau2prom-1528dw3 5'-GGAGGGGGTTAGGATTTAGC-3'

Site 3 (-1775 to -1762)

mClau2prom-18186up5 5'-TGGTGGAAATGAGAAACACAA-3'
 mClau2prom-1707dw5 5'-CCTTGACACCCTGTGCCTAT-3'

Negative region

mouseIL1 β (-398)-FWD 5'-CCAAACTCCAAGTCAAAGC-3'
 mouseIL1 β (-197)-REV 5'-TGGTGGAAATGGGCATTATT-3'



Full length gels for claudin-2 and actin blots displayed in Figure 2b.