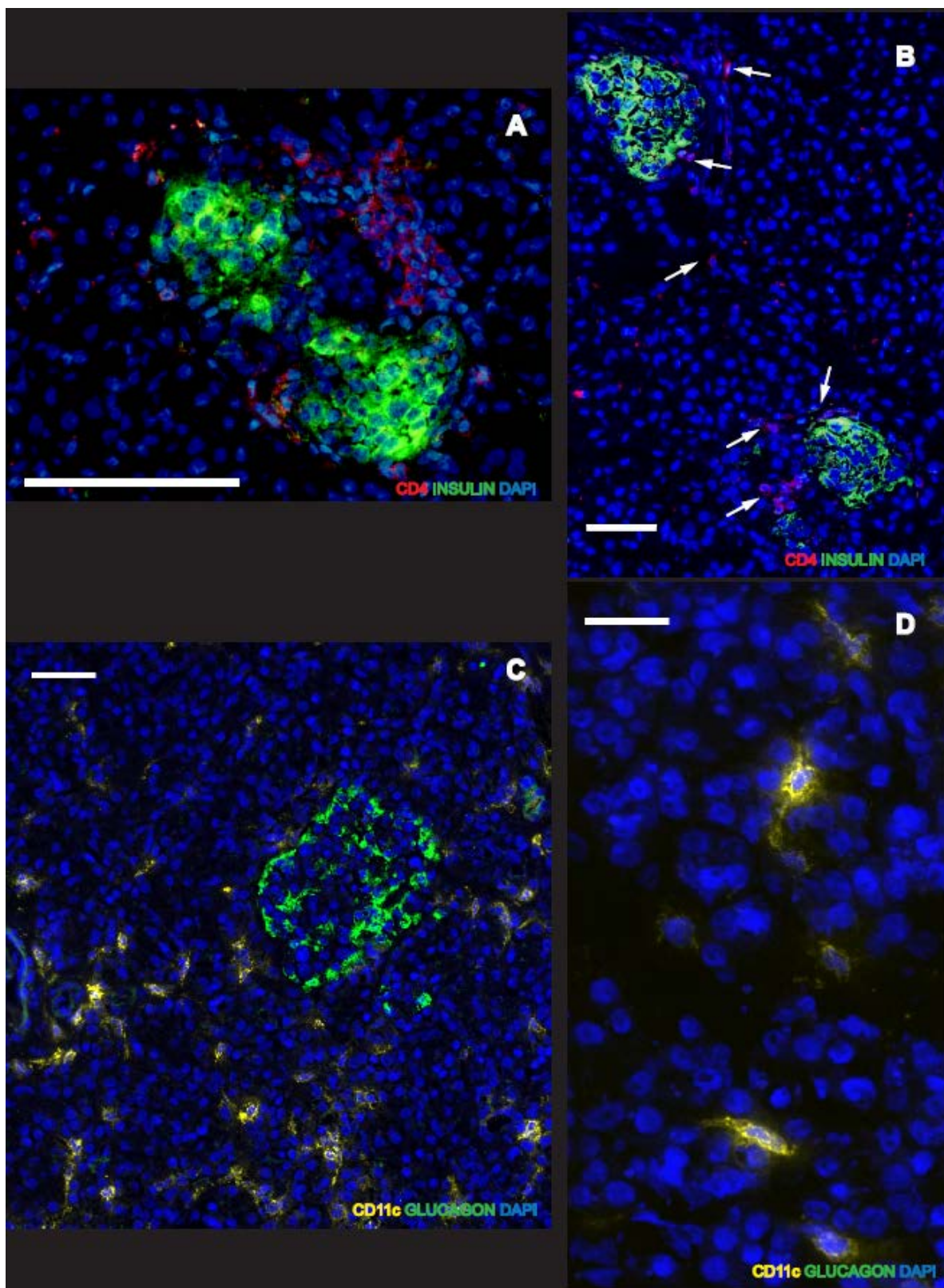


SUPPLEMENTARY DATA

**Supplementary Figure 1.** Quantification of CD4+ and CD11c+ cells in pancreatic tissue sections. Frozen pancreas sections from T1D donors (A–D) were stained for insulin and/or glucagon and CD4 (A, B) or CD11c (C, D). Images C and D were acquired using a BIOREVO BZ-9000 slide scanner system (Keyence, Osaka, Japan). Bars, 50  $\mu$ m.



## SUPPLEMENTARY DATA

**Supplementary Table 1.** Extended donor information. Autoab Pos, autoantibody positive donor. T1D, type 1 diabetic donor. T2D, type 2 diabetic donor. Age and duration of disease are expressed in years unless otherwise indicated; BMI, body mass index; Cpeptide is expressed in ng/ml; time ICU, time spent in the Intensive Care Unit; ZnT8A, zinc transporter 8 autoantibodies; IA-2A, intracytoplasmic domain of the tyrosine phosphatase IA-2 autoantibodies; mIAA, micro assay for insulin autoantibodies; GADA, glutamic acid decarboxylase 65 autoantibodies. – indicates not determined or not available.

SUPPLEMENTARY DATA

nPOD ID	Donor Type	Gender	Age	BMI	Duration	C-Peptide	Time ICU	Cell type analyzed	Regions analyzed	Clinical History	Histopathology by nPOD
6044	Autoab Pos	Male	41.4	27.4	-	13.55	-	CD8	Body, Tail	GADA+	Ins+/Gluc+ islets, normal sizes and distribution
6123	Autoab Pos	Female	23.2	17.6	-	2.01	4	CD8, CD4, CD11c	Head, Body, Tail	GADA+	Ins+ islets, various sizes
6147	Autoab Pos	Female	23.8	32.9	-	3.19	3	CD8, CD11c	Body	GADA+	Ins+/Gluc+ normal islets. No infiltrates
6151	Autoab Pos	Male	30	24.2	-	5.49	2	CD8, CD4, CD11c	Head	GADA+	Ins+/Gluc+ islets. No infiltrates observed
6154	Autoab Pos	Female	48.5	24.5	-	<0.05	4	CD8	Head, Body, Tail	GADA+	Ins+ (very weak)/Gluc+ islets, plentiful. Very mild, multifocal CD3+ infiltrates acinar regions and interstitial. Moderate fatty infiltrates acinar regions
6156	Autoab Pos	Male	40	19.9	-	13.34	3	CD8, CD4, CD11c	Head, Body, Tail	GADA+	Ins+/Gluc+ normal islets. Very mild peri-duct and acinar infiltrates CD3+
6158	Autoab Pos	Male	40.3	29.7	-	0.51	3	CD8, CD4, CD11c	Head, Body, Tail	GADA+ mIAA+	Ins+/Gluc+. Exocrine atrophy, mild. Focal mild chronic pancreatitis
6167	Autoab Pos	Male	37	26.3	-	5.43	3	CD8	Head, Body, Tail	IA-2A+ ZnT8A+	Ins+/Gluc+ islets, normal. No infiltrates. Mild acinar fat
6170	Autoab Pos	Female	34.4	36.9	-	4.29	7	CD8, CD4, CD11c	Head	GADA+, Hypertension	Ins+/Gluc+ islets. Slight acinar atrophy and fatty replacement. No infiltrates other than 1 foci of chronic pancreatitis
6171	Autoab Pos	Female	4.3	14.8	-	8.95	4	CD8, CD4, CD11c	Body, Tail	GADA+	Ins+/Gluc+ islets. No infiltrates other than very mild pancreatitis
6181	Autoab Pos	Male	31.9	21.9	-	0.06	2	CD8	Head, Body, Tail	GADA+	Ins+/Gluc+ islets, normal. No infiltrates.
6184	Autoab Pos	Female	47.5	27	-	3.42	6	CD8	Head, Body, Tail	GADA+	Ins+/Gluc+ islets, normal. Very mild CD3 infiltrate in acinar region.
6197	Autoab Pos	Male	22	-	-	17.48	3	CD8, CD4, CD11c	Head, Body, Tail	GADA+ IA-2A+	Ins+/Gluc+ islets, plentiful. insulinitis (rare). Islet hyperemia. Mild, multifocal chronic pancreatitis.
6213	Autoab Pos	Female	24	39.4	-	11.54	2	CD8, CD4, CD11c	Body	-	Ins+/Gluc+. Mild fibrosis and mild. Infrequent mild islet hypertrophy (large islets). Fatty infiltrate acinar regions mild to moderate depending on lobule. No acute pancreatitis.
6024	No diabetes	Male	21	27.8	-	3.52	-	CD8	Tail	Negative	Normal islets
6073	No diabetes	Male	19.2	36	-	0.69	3	CD8, CD4, CD11c	Tail	Negative	Ins+/Gluc+ islets; mild, multifocal parenchymal mixed infiltrate. Endocrine staining intensity weaker than normal.
6075	No diabetes	Male	16	14.9	-	2.94	5	CD8	Tail	Negative	Normal islet morphologies and beta/alpha cell distributions. No islet infiltrates though mild, multi focal CD3+ infiltrates in acinar and ducts.
6091	No diabetes	Male	27.1	35.6	-	7.71	-	CD8	Body, Tail	Negative	Normal islets. Degree of fatty infiltrate moderate. No infiltrates identified.
6095	No diabetes	Male	40	-	-	-	9	CD8	Head, Tail	Negative	Ins+ islets, reduced numbers.
6096	No diabetes	Female	16	-	-	2.97	4	CD8	Head, Body, Tail	Negative	Ins+ normal islets. Very mild, multifocal chronic pancreatitis.
6098	No diabetes	Male	17.8	22.8	-	1.41	1	CD8, CD4, CD11c	Head	Negative	Normal islets, few with vascular stasis.

SUPPLEMENTARY DATA

nPOD ID	Donor Type	Gender	Age	BMI	Duration	C-Peptide	Time ICU	Cell type analyzed	Regions analyzed	Clinical History	Histopathology by nPOD
6099	No diabetes	Male	14.2	30	-	5.37	2	CD8	Head	Negative	Normal islets. Mild, CD3+ pancreatitis.
6104	No diabetes	Male	41	20.5	-	20.55	3	CD8, CD4, CD11c	Body	Negative	Ins+/Gluc+ islets. Mild adipose infiltration exocrine regions.
6134	No diabetes	Male	26.7	20.1	-	3.59	2	CD8, CD4, CD11c	Head, Body, Tail	Negative	Ins+ islets plentiful.
6137	No diabetes	Female	8.9	24.2	-	12.13	3	CD8, CD4, CD11c	Body	Negative	Ins+ islets. Mild fatty infiltrate. No inflammatory infiltrates.
6144	No diabetes	Female	7.5	16.3	-	1.27	23	CD8, CD4, CD11c	Head, Tail	Negative	Ins+/Gluc+ islets, normal.
6153	No diabetes	Male	15.2	20.5	-	8.38	-	CD8, CD4, CD11c	Body	Negative	Ins+/Gluc+ islets, numerous. Insulin intensity weak. Autolysis in head and body regions. No infiltrates islets or exocrine.
6160	No diabetes	Male	22.1	23.9	-	0.4	2	CD8, CD4, CD11c	Body	Negative	Ins+/Gluc+ islets present, all sizes. No infiltrates.
6165	No diabetes	Female	45.8	25	-	4.45	4	CD8, CD4, CD11c	Head,Body	Negative	Ins+/Gluc+ numerous islets, normal sizes. No infiltrates. Mild acinar fat.
6026	T1D	Male	22.4	24.1	14	<0.05	-	CD8	Head, Tail	Retinopathy and neuropathy	Ins- islets. Mild to moderate atrophy.
6031	T1D	Male	39	24.5	35	<0.05	1	CD8, CD4, CD11c	Head	mIAA+	Ins- islets. Moderate atrophy islets and acinar regions. Moderate to severe (focally) chronic pancreatitis, fibrosis.
6038	T1D	Female	37.2	30.9	20	0.2	6	CD8, CD4, CD11c	Head	Hypertension	Ins+/Gluc+ islets. No infiltrates. Mild to moderate acinar atrophy and fatty infiltration.
6039	T1D	Female	28.7	23.4	12	<0.05	4	CD8, CD4, CD11c	Head	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins-/Gluc +. Islet atrophy. Possible insulinitis diffuse-mild peri and intra-islet CD3+.
6045	T1D	Male	26.4	23.1	8	<0.05	11	CD8	Tail	ZnT8A+ mIAA+	Ins-/Gluc+ islets, numerous; Mild, multifocal infiltrates, intra and extra acinar; diffuse, mild acinar atrophy.
6054	T1D	Female	35	30.4	30	<0.05	2	CD8	Tail	mIAA+	Ins- islets, islet number decreased. Chronic pancreatitis, mild, multifocal infiltrates (some CD3+) with mild periductal fibrosis.
6061	T1D	Male	28	22.1	23	<0.05	10	CD8	Head, Body, Tail	mIAA+	Ins-/Gluc+ islets with no infiltrates. Periductal fibrosis.
6062	T1D	Male	10.7	21.9	6	-	5	CD8	Head, Body, Tail	No serum	Ins- islets. Insulinitis and also CD3+ infiltrates primarily acinar region and parenchyma (focal). Acinar atrophy and periductal fibrosis.
6063	T1D	Male	4.4	23.8	3	<0.05	1	CD8	Head, Body, Tail	Plasma available, no serum	Ins- islets. Islets w/ possible insulinitis. Infrequent CD3+ acinar infiltrates.
6064	T1D	Female	19.6	22.6	10	<0.05	3	CD8	Body, Tail	GADA+ IA-2A+ ZnT8A+	Ins- islets. Acute pancreatitis (PMN).
6067	T1D	Female	32.6	26.8	8	<0.05	4	CD8	Head, Body, Tail	Negative	Ins- islets. Mild chronic pancreatitis.
6069	T1D	Male	22.9	28.8	7	-	10	CD8	Body, Tail	No serum available	Ins+ islets. Acinar atrophy and fibrosis. CD3+ mild, diffuse acinar regions.
6076	T1D	Male	25.8	18.8	15	<0.05	7	CD8	Head, Body, Tail	GADA+ mIAA+	Ins- islets. Rare insulinitis. CD3+ cells indicative of mild, diffuse chronic pancreatitis. Mild to moderate atrophy and fibrosis.
6077	T1D	Female	32.9	22	19	<0.05	3	CD8	Head, Body, Tail	mIAA+	Ins- islets. Multifocal, mild CD3+ acinar and peri-ductal infiltrates. Multifocal, moderate acinar atrophy.
6081	T1D	Male	31.4	28	15	0.24	8	CD8, CD4, CD11c	Body, Tail	Negative	Ins+ islets. Mild to moderate chronic pancreatitis.

## SUPPLEMENTARY DATA

nPOD ID	Donor Type	Gender	Age	BMI	Duration	C-Peptide	Time ICU	Cell type analyzed	Regions analyzed	Clinical History	Histopathology by nPOD
6083	T1D	Female	15.2	18.4	11	<0.05	2	CD8	Head	mIAA+	Ins- islets. Islet atrophy severe; acute necrotizing pancreatitis.
6084	T1D	Male	14.2	26.3	4	<0.05	3	CD8, CD4, CD11c	Body, Tail	mIAA+	Ins+ islets by nPOD, Ins- in our lab. Lobular adipose infiltration. No infiltrates.
6087	T1D	Male	17.5	21.9	4	<0.05	2	CD8	Head, Body, Tail	ZnT8A+ mIAA+. GI resection, cataracts, glaucoma, hypertension, congestive heart failure	Ins-/Gluc+. Mild, focal islet infiltrates some are CD3+ while others CD3 negative. No pancreatitis or exocrine atrophy.
6088	T1D	Male	31.2	27	5	<0.05	1	CD8	Head, Body, Tail	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins+/Gluc+ islets by nPOD, Ins- in our lab. Insulinitis. Chronic pancreatitis mild, CD3+, periductular. Acinar atrophy moderate, with mild fibrosis and fatty infiltration.
6113	T1D	Female	13.1	-	1	-	5	CD8, CD4, CD11c	Body	mIAA+	Ins+ (reduced)/Gluc+ islets. Insulinitis. Lobular islet heterogeneity. Islet atrophy with mild acinar atrophy (heterogeneous).
6119	T1D	Male	27.8	19.4	14	<0.05	3	CD8	Body	GADA+ mIAA+. Concurrent autoimmune diseases	Ins-/Gluc+ reduced numbers with atrophy including acinar. Mild, multifocal acinar infiltrates, mostly CD3+ and peri-vascular.
6143	T1D	Female	32.6	26.1	7	<0.05	4	CD8	Body	IA-2A+ mIAA+	Ins-/Gluc+ islets, atrophic. No infiltrates.
6152	T1D	Female	29.6	30.1	12	<0.05	11	CD8	Head, Body, Tail	ZnT8A+. History of multiple episodes of DKA	Ins-/Gluc+ islets. Severe exocrine atrophy secondary to moderate chronic pancreatitis.
6180	T1D	Male	27.1	25.9	11	<0.05	6	CD8, CD4, CD11c	Tail	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins-/Gluc+, rare Ins+ islet (Tail). Islet and acinar atrophy, moderate to focally severe. Acinar region has mild diffuse CD3+.
6195	T1D	Male	19.2	23.7	5	<0.05	1	CD8, CD4, CD11c	Head	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins+ (rare)/Gluc+ islets. Insulinitis present small number of islets. Mostly small Gluc+ only islets (pseudotrophic islets) with single alpha cells. Moderate acinar atrophy with chronic pancreatitis, multifocal, mild.
6198	T1D	Female	22	23.1	3	<0.05	21	CD8, CD4, CD11c	Tail	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins+/Gluc+ islets. Diffuse mild insulinitis (increase in CD3+ cells/islet rather than focal aggregates). Mild diffuse chronic pancreatitis. Mild acinar atrophy and ductular proliferation.
6209	T1D	Female	5	-	0.25	0.1	-	CD8, CD4, CD11c	Head	IA-2A+ ZnT8A+ mIAA+	Ins+ (reduced)/Gluc+ islets with insulinitis. No pancreatitis. Moderate autolysis.
6211	T1D	Female	24	24.4	4	<0.05	7	CD8, CD4, CD11c	Body	GADA+ IA-2A+ ZnT8A+ mIAA+	Ins+(reduced)/Gluc+ islets, numerous. Very mild chronic pancreatitis, infrequent, lobular.
6212	T1D	Male	20	29.1	5	<0.05	4	CD8, CD11c	Head	mIAA+	Ins+(reduced)/Gluc+ islets. Insulinitis- 1-2 islets, mild (>6 CD3+ cells).
6224	T1D	Female	21	22.8	1.5	<0.05	-	CD8, CD4, CD11c	Body	Negative. DKA. Diagnosed with T1D during pregnancy	Ins+ (reduced numbers and intensity)/Gluc+ islets with occasional insulinitis (body, tail). Focal acute pancreatitis.
6228	T1D	Male	13	17.4	0	0.1	-	CD8, CD4, CD11c	Head	GADA+ IA-2A+ ZnT8+	Ins+/Gluc+ Islets of various morphologies including normal appearing, fibrotic, degenerating, and with insulinitis. Some pseudotrophic (glucagon+ only) islets. Very mild, multifocal exocrine atrophy. Very mild, multifocal mononuclear infiltrates (chronic pancreatitis).

## SUPPLEMENTARY DATA

nPOD ID	Donor Type	Gender	Age	BMI	Duration	C-Peptide	Time ICU	Cell type analyzed	Regions analyzed	Clinical History	Histopathology by nPOD
6028	T2D	Male	33.2	30.2	17	22.4	3	CD8	Head	Hypertension, high cholesterol, endstage renal disease	Ins+ islets, variable intensity, most islets positive. Very mild, diffuse CD3+ acinar infiltrates.
6059	T2D	Female	18.8	39.1	0.25	10.68	4	CD8	Tail	DKA 3 months prior with acute renal failure	Ins+ islets. CD3+ foci intra-acinar and periductular. Mild acinar atrophy and pancreatic adipose tissue.
6110	T2D	Female	20.7	40	0	0.58	8	CD8, CD4, CD11c	Tail	Gestational diabetes in past, Father had diabetes	Ins+ (reduced)/Gluc+ islets. No infiltrates except one small foci.
6127	T2D	Female	44.8	30.4	10	0.08	2	CD8, CD11c	Head, Body, Tail	mIAA+	Ins+ (reduced)/Gluc+ islets. Mild adiposity exocrine regions.
6139	T2D	Female	37.2	45.4	1.5	0.6	4	CD8, CD4, CD11c	Head, Body	Mother had T2D	Ins+ islets, plentiful with nuclear polymorphism. Minimal fibrosis. No pancreatitis.
6142	T2D	Female	29.8	34.4	14	0.19	4	CD8, CD11c	Head, Body, Tail	mIAA+	Ins+ islets (reduced). Multifocal, mild amyloid. Moderate acinar atrophy, fibrosis, and ductular dysplasia.
6149	T2D	Female	39.3	29.1	16	11.55	3	CD8, CD4, CD11c	Head, Body, Tail	GADA+. History of gestational diabetes	Ins+/Gluc+ islets numerous, some hypertrophied. Moderate acinar atrophy. Periductal and acinar infiltrates, mild.
6176	T2D	Male	45.1	25.3	20	-	9	CD8, CD4, CD11c	Head, Body, Tail	Negative for GADA and IA2A. DKA at admission	Ins+ (weak)/Gluc+ islets, numerous but small sized. Mild acinar atrophy.
6185	T2D	Male	46	41.4	15	26.42	3	CD8	Body	Negative	Ins+/Gluc+ (greatly elevated)
6188	T2D	Male	36.1	30.6	0	3.45	4	CD8, CD4, CD11c	Body, Tail	Negative	Ins+/Gluc+ islets. No infiltrates or amyloid observed.
6189	T2D	Female	48.5	36.1	26	1.85	7	CD8, CD4, CD11c	Body	mIAA+	Ins+/Gluc+ numerous islets. Rare amyloid in islets. Very mild chronic pancreatitis with occasional exocrine atrophy, fatty replacement.