SUPPLEMENTAL MATERIAL

Pancreas tissue slices from organ donors enable in situ analysis of type 1 diabetes pathogenesis

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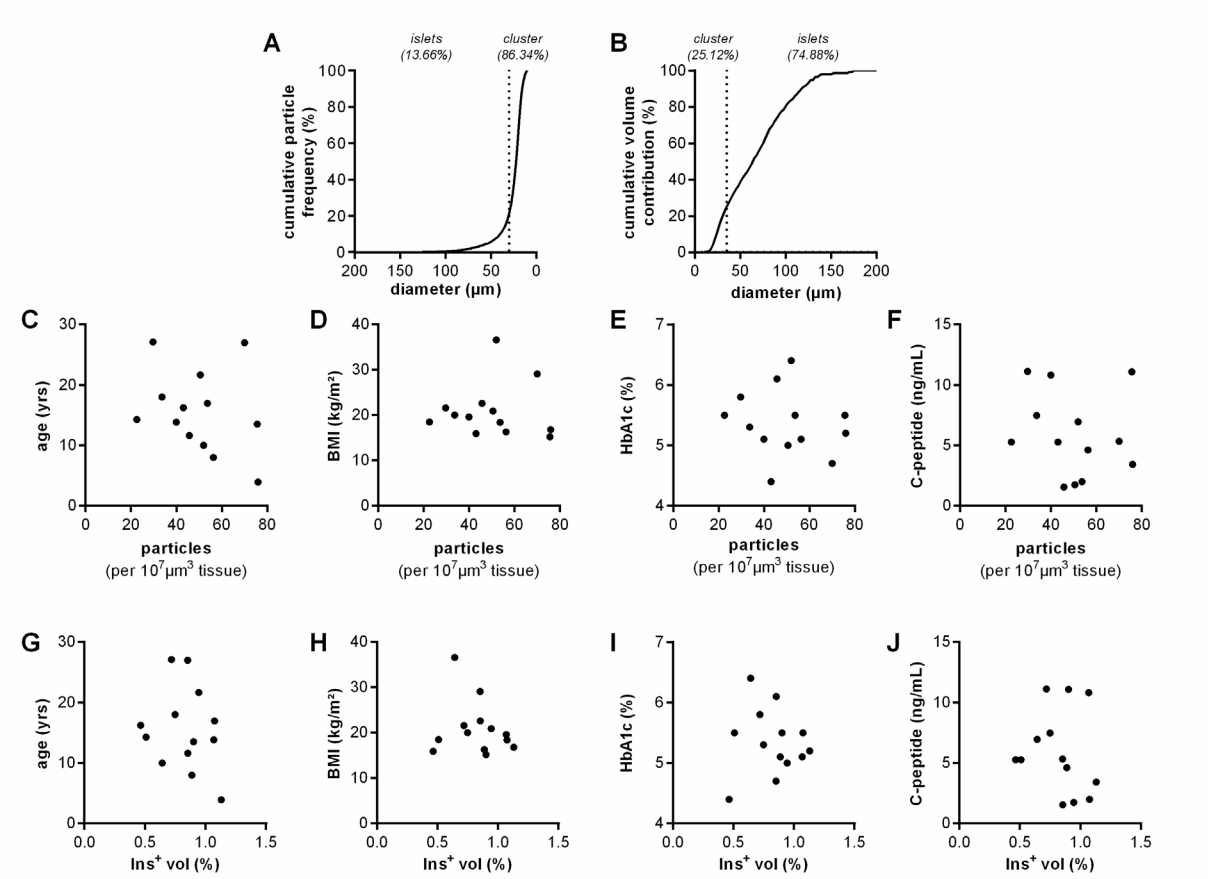

Supplemental Figure 1. Endocrine cell volume distribution and regression analyses
(**A**) Cumulative frequency distribution of all endocrine objects found in studied pancreas tissue slices by diameter.
(**B**) Cumulative volume contribution of all endocrine objects found in studied pancreas tissue slices by diameter. Dotted line indicates the separation of small cell clusters (≤ 10 cells) and islets (>11 cells).
(**C-F**) Correlation analysis of endocrine object counts against age (**C**), BMI (**D**), HbA1c (**E**) and plasma C-peptide (**F**).
(**G-J**) Correlation analysis of total Ins^+ volume in % of total slice volume against age (**G**), BMI (**H**), HbA1c (**I**) and plasma C-peptide (**J**).

POD CaseID	Age (y)	T1D diabetes duration (y)	Histopathology Report - nPOD
6456	30.49	0	Ins+ islets, numerous with range in sizes and compact morphologies. Low numbers of insulin-negative islets and also insulitis present (aggregates and peri-islet). Rare islet hyperplasia (>500um). No exocrine infiltrates. HLA class I- low to moderate islet infiltrating lymphocytes otherwise normal low levels.
6469	27.06	1.5	Ins+/Gluc+ islets are in majority though with varying numbers between pancreas regions and lobules within sections. Single beta-cells observed in exocrine regions or in in islets or as clusters. Normal numbers of islets with regular morphology (spherical profiles). Insulitis present- <8 islets overall with peri-islet CD3+ cells in low numbers. Islet fibrosis, mild. Mild global CD3+ exocrine infiltrates all regions. Mild focal interstitial fibrosis, acinar atrophy, and duct obstruction.
6472	10.25	4	Ins+/Gluc+ islets, lobular distribution in 1 paraffin block and rare islets in other blocks. Majority of islets are INS- with irregular morphologies and reduced numbers in most blocks. Insulitis in INS+ (majority) and INS- islets. Moderate increases in acinar Ki67+ cell numbers and mild increase in islet Ki67+ cell numbers. Mild to moderate diffuse exocrine CD3+ infiltrates. Elevated to hyperexpression of HLA-I in INS+ islets of blocks 02 and 05. Focal mixed polymorphonuclear and mononuclear infiltrates in one block (06). 01 and 02 blocks contain ventral lobe eg. PanHead region.
6459	20.95	10	Ins-/Gluc+ islets, reduced numbers, mostly small to medium sized, diffuse morphologies (irregular outlines). Variable moderate exocrine atrophy. None to very mild CD3+ exocrine and periductal infiltrates.

Supplemental Table 1. Histopathology reports of the nPOD OPPC Aperio database for the studied T1D cases