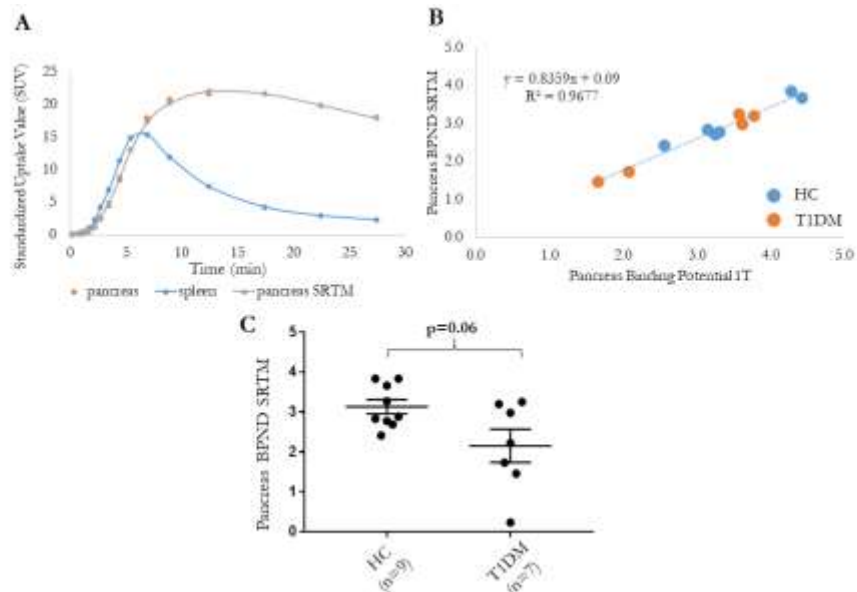


Supplemental Table 1 – Antibody characteristics

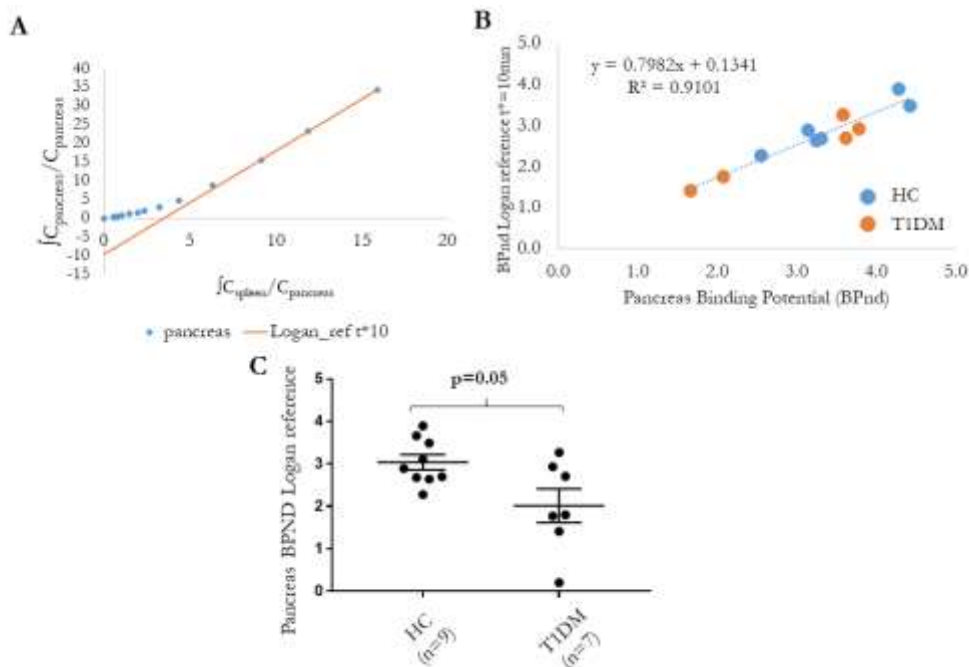
Antibody	Dilution	Manufacturer / #	Fluorochrome	Host / Clonality
Anti Human Insulin	1:100	Invitrogen / 53976980	AF 488	Mouse monoclonal
Anti Human Somatostatin	1:100	Boster / PA2054	None	Rabbit polyclonal
Anti Human Glucagon	1:100	Boster / MA1047	None	Mouse monoclonal
Anti Polypeptide Y	1:100	Santa Cruz / sc-514155	AF 546	Mouse Monoclonal
Anti Human D3DR	1:200	Santa Cruz sc-136170	AF 594	Mouse Monoclonal
Anti Human D3DR	1:200	Santa Cruz sc-136170	None	Mouse Monoclonal
Anti Human D2DR	1:200	Santa Cruz sc-5303	AF 647	Mouse Monoclonal
Anti Human D2DR	1:200	Santa Cruz sc-5303	None	Mouse Monoclonal
Anti Rabbit IgG	1:2000	Sigma Aldrich/ SAB4600426 / SAB4600389	CF 568 or CF 488	Goat polyclonal
Anti Mouse IgG	1:2000	Sigma Aldrich/ SAB4600309 / SAB4600056	CF568 or CF488	Goat polyclonal

Supplemental Table 2 Effect of scan duration (t_{\max}) on distribution volume (V_T) estimation and nondisplaceable binding potential (BP_{ND}) in pancreas and spleen. Mean \pm SD of V_T and BP_{ND} .

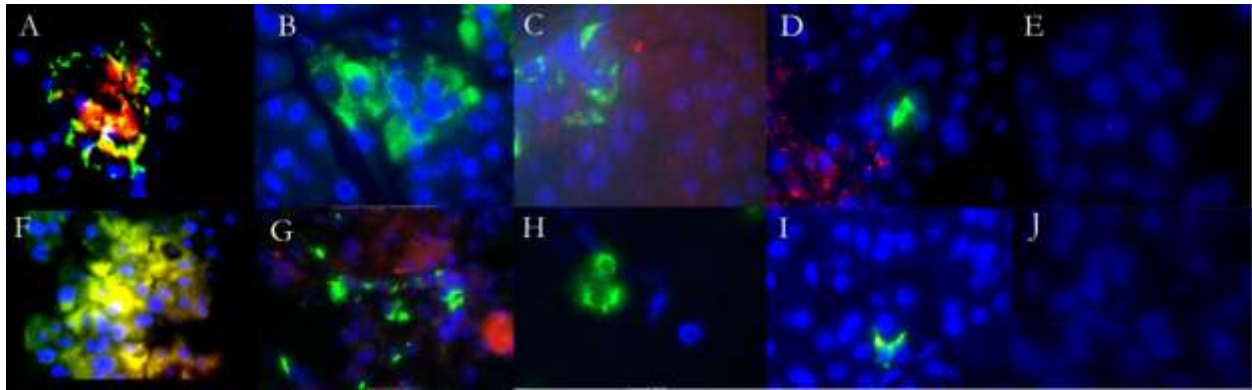
^{11}C-(+)-PHNO Pancreas Distribution Volume (V_T)				
t_{\max}	120min	60min	45min	30min
HC (n=6)	25.4 \pm 3.1	25.5 \pm 3.4	25.6 \pm 3.6	26.1 \pm 4.1
T1DM (n=5)	22.7 \pm 6.2	22.9 \pm 6.6	22.9 \pm 6.8	22.9 \pm 7.3
HC COV (%)	12.1	13.4	14.2	15.8
^{11}C-(+)-PHNO Spleen Distribution Volume (V_T)				
t_{\max}	120min	60min	45min	30min
HC (n=6)	5.9 \pm 0.8	5.9 \pm 0.8	5.9 \pm 0.8	5.9 \pm 0.8
T1DM (n=5)	5.9 \pm 1.1	5.9 \pm 1.1	5.9 \pm 1.1	5.9 \pm 1.1
HC COV (%)	13.2	13.2	13.3	13.4
^{11}C-PHNO Pancreas Binding Potential (BP_{ND})				
t_{\max}	120min	60min	45min	30min
HC (n=6)	3.3 \pm 0.7	3.4 \pm 0.7	3.4 \pm 0.7	3.5 \pm 0.7
T1DM (n=5)	2.9 \pm 1.0	2.9 \pm 1.0	2.9 \pm 1.0	2.9 \pm 1.0
HC COV (%)	20.1	20.7	21.0	20.5



Supplemental Figure 1 A) Representative Pancreas and Spleen simplified reference tissue model (SRTM) fits for t_{\max} 30min **B)** Correlation of 1TC model (t_{\max} 30min) pancreas BP_{ND} values with pancreas BP_{ND} SRTM (t_{\max} 30min) with spleen as reference region (HC – blue dots, T1DM – orange dots) **C)** Dot plot of SRTM Pancreas BP_{ND} (t_{\max} 30min). Mean \pm SEM



Supplemental Figure 2 A) Representative Logan reference fit for t_{\max} 30min and t^* 10min **B)** Correlation of 1TC model (t_{\max} 30min) pancreas non displaceable binding potential BP_{ND} values with Pancreas BP_{ND} Logan graphical analysis reference region model (t_{\max} 30min and t^* 10min) with spleen as reference region (HC – blue dots, T1DM – orange dots) **C)** Dot plot of Logan graphical analysis reference region model pancreas BP_{ND} (t_{\max} 30min and t^* 10min). Mean \pm SEM



Supplemental Figure 3 Immunohistochemistry co-localization of dopamine-3 receptor (DRD3) (**A-D**) and dopamine-2 receptor (DRD2) (**F-I**) with insulin, somatostatin, glucagon and polypeptide Y. DAPI stain (blue) indicates cell nuclei. **A**) DRD3 (red) and insulin (green) in HC **B**) DRD3 (red) and somatostatin (green) in HC **C**) DRD3 (red) and glucagon (green) in HC **D**) DRD3 (red) and polypeptide Y (green) in HC **E**) T1DM subject with DRD3 (red) and insulin (green). **F**) DRD2 (red) and insulin (green) in HC **G**) DRD2 (red) and somatostatin (green) in HC **H**) DRD2 (red) and glucagon (green) in HC **I**) DRD2 (red) and polypeptide Y (green) in HC **J**) T1DM subject with DRD2 (red) and insulin (green).