

Supplementary Figures

Supplementary Figure 1

Characterization of antibodies-

A-B- PC1/3 antibodies labeled intestinal L cells.: A- PC1/3 from Abcam (green), GLP-1 (red); B- PC1/3 from D.F Steiner (green), GLP-1(red). Note yellow cytoplasm in L cells (arrowheads). C-
F-Variation in staining intensity for PC1/3 with antibodies from two different sources-. In some tissues, similar expression level was obtained with antisera from Steiner (C) and Abcam (D); this is illustrated in Figs C and D, which show islets of donor #6335 double-labeled for insulin and C-PC1/3 (Steiner) or D (Abcam). Figs E and F show islets of donor #6017 immunostained for insulin (red) and either Steiner' PC1/3 (E) or Abcam PC1/3(F). Note the presence of significant difference in staining intensity between the two islets. In addition, only the Steiner PC1/3 antibody revealed the presence of PC1/3+IN- (green) cells (E). **G-H-Variable sensitivity of antibodies to PC2-** G- section immunostained for PC2 (antibody from Cell Signaling) and insulin illustrates that this antibody has a higher sensitivity for PC2 present in alpha than in beta cells. H- section double-labeled for insulin (red) and PC2 from DF Steiner. Note the presence of few double-label (yellow) cells in G and that the number of these cells increased in H.

Supplementary Figure 2

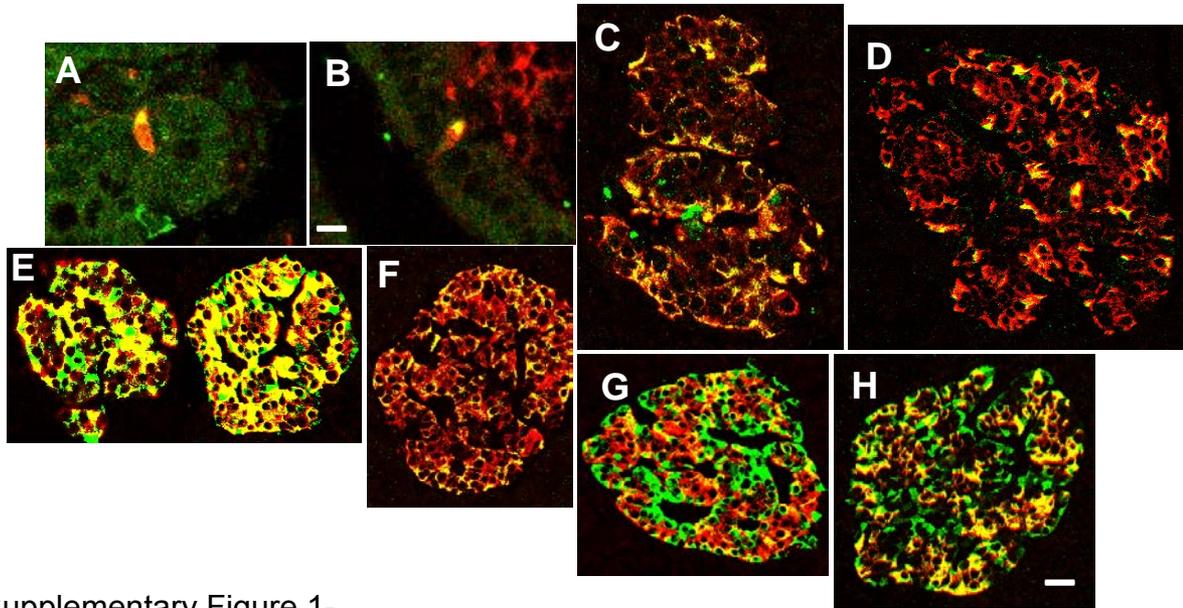
Approach Used to Measure Fluorescent Intensity of PC2 or CPE in beta cells using Image J-

This figure illustrates an islet immunostained for insulin (red) and PC2 (green). An area is first demarcated using the freehand tool of Image J (A), the red fluorescence is eliminated (B) and the intensity of the green fluorescence measured.

Supplementary Figure 3

Antibody to PC1/3 labels somatostatin but not GLP-1 cells.

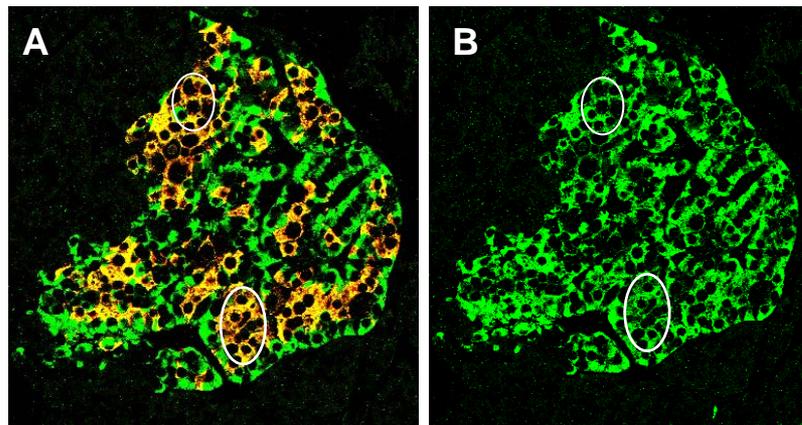
Islet of control (A) and of T2D donor (B) double-labeled for GLP-1(red) and PC3/1(green). Note the absence of doubly labeled (yellow) cells. Islet of control (C) and of T2D (D) stained for somatostatin (red) and PC1/3(green). Double-labeled cells are yellow. Bar: 20um. Insert in C illustrates a SOM+PC3/1+ cell (yellow) and a SOM'PC3/1+ cell (green).



Supplementary Figure 1-

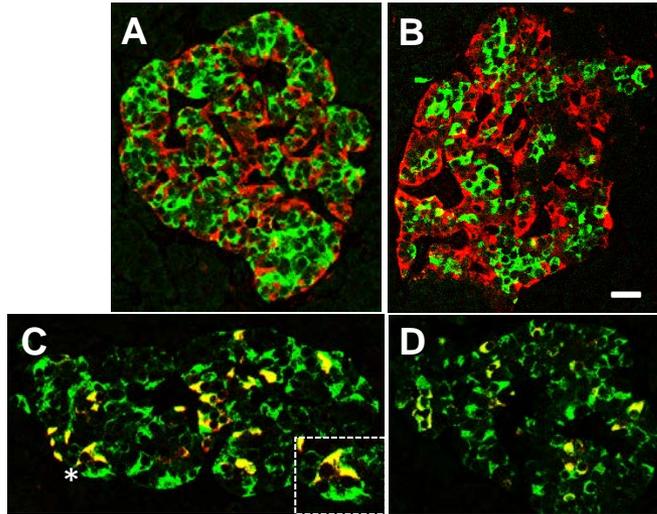
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Supplementary Figure 2

Approach Used to Measure Fluorescent Intensity of PC2 or CPE in beta cells using Image J- This figure illustrates an islet immunostained for insulin (red) and PC2 (green). An area is first demarcated using the freehand tool of Image J (A), the red fluorescence is eliminated (B) and the intensity of the green fluorescence measured.



Supplementary Figure 3

Antibody to PC1/3 labels somatostatin but not GLP-1 cells.

Islet of control (A) and of T2D donor (B) double-labeled for GLP-1(red) and PC3/1(green). Note the absence of doubly labeled (yellow) cells. Islet of control (C) and of T2D (D) stained for somatostatin (red) and PC1/3(green). Double-labeled cells are yellow. Bar: 20um. Insert in C illustrates a SOM+PC3/1+ cell (yellow) and a SOM-PC3/1+ cell (green).