



**ESM Fig. 1.** Representative islets from non-diabetic subjects (a - c) and type 2 diabetic subjects (d - f). Alpha-cells are stained in red and beta-cells in brown. Note the variability in the proportion of the two types of cells, and the localization of alpha-cells in both periphery and center of the islets, where they are often adjacent to vessels. Scale bars = 100  $\mu$ m.