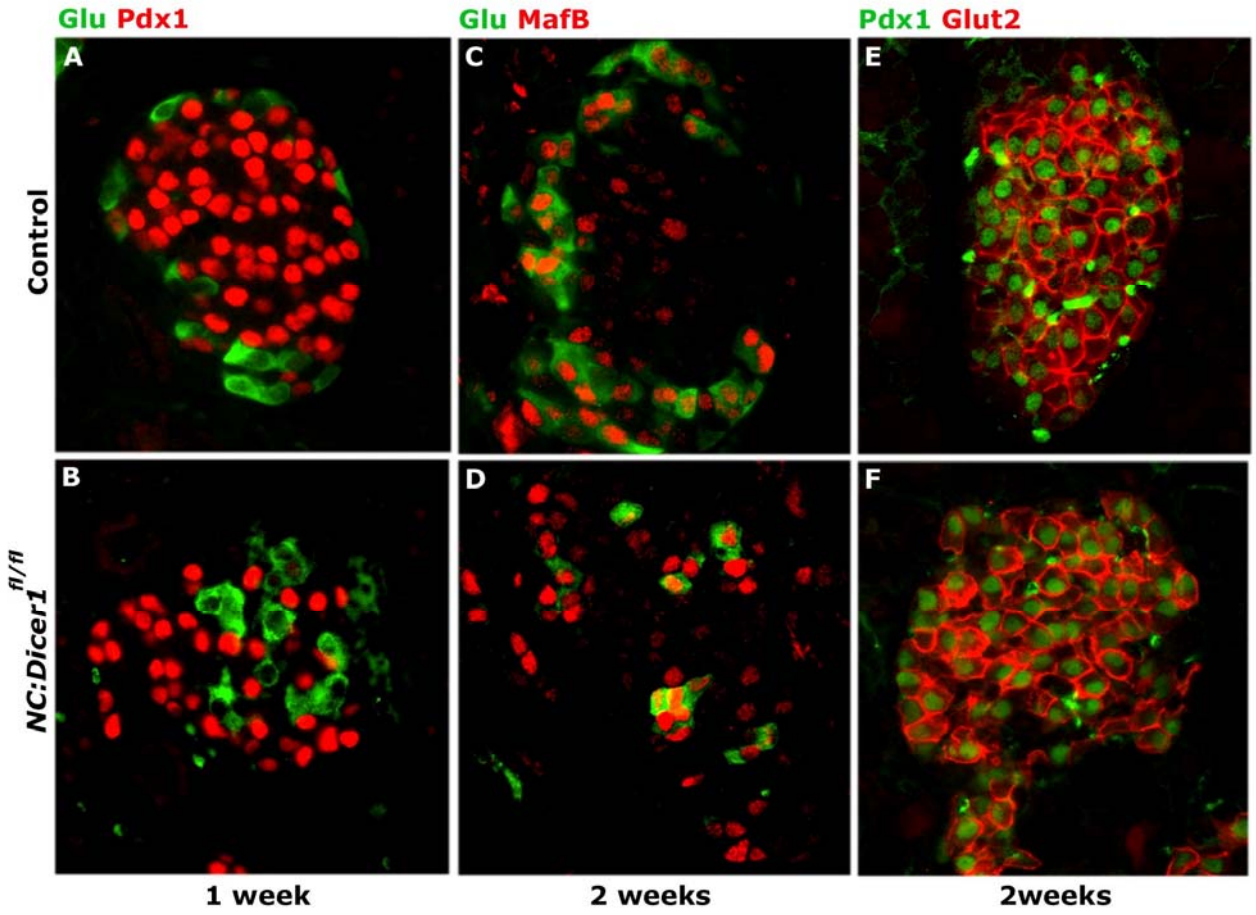
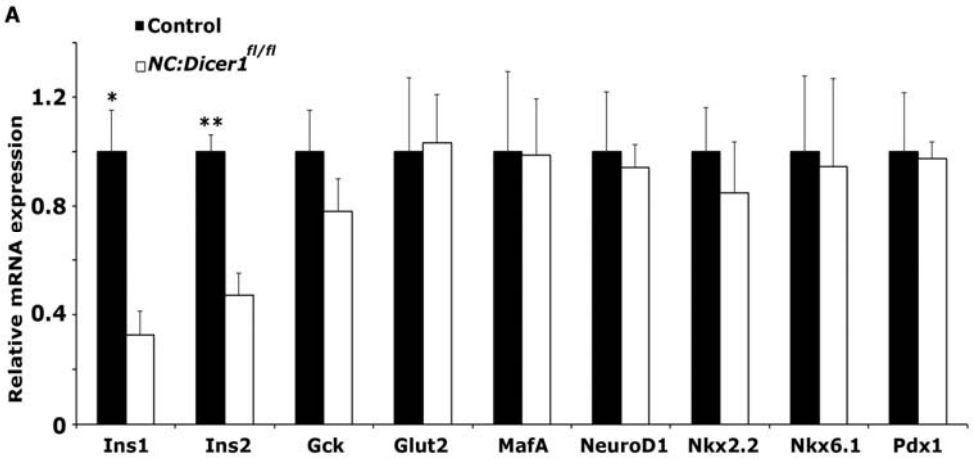
SUPPLEMENTARY DATA

Supplementary Figure 1. Endocrine gene expression in mutant NC:*Dicer1*$^{fl/fl}$ islets A-B: Representative pancreatic section (n=3) from 1-week-old control and mutant NC:*Dicer1*$^{fl/fl}$ mice co-immunostained for Glucagon (Glu; green) and Pdx1 (red) showing altered organization of α-cells within islet core. C-D: Immunostaining of pancreatic sections (n=3) from 2-week-old control and mutant NC:*Dicer1*$^{fl/fl}$ mice for glucagon and MafB reveals the prevalence of MafB-positive Glucagon-negative α-cells in the mutant mice. E-F: Immunostaining of control and mutant NC:*Dicer1*$^{fl/fl}$ pancreatic sections (n=3) for Pdx1 (green) and Glut2 (red) at 2 weeks reveals no difference in Glut2 expression. In all cases, at least two to three pancreas sections were used for each animal.



SUPPLEMENTARY DATA

Supplementary Figure 2. Regulation of β-cell genes in mutant NC:*Dicer1*$^{fl/fl}$. A: Real-time qPCR analysis of β-cell gene transcripts from RNA isolated from pancreas of control and mutant NC:*Dicer1*$^{fl/fl}$ mice at P7. The expression levels of Gck, Glut2, MafA, NeuroD1, Nkx2.2, Nkx6.1 and Pdx1 is unchanged whereas Ins1 and Ins2 expression is significantly decreased. Expression levels in control were set as one arbitrary unit. All data points represent means ± SEM of at least 3 biologically independent experiments. * P<0.05, ** P<0.01.



Supplementary Figure 3. Representative montage of pancreatic sections (n=3) from 6-week-old control and mutant NC:*Dicer1*$^{fl/fl}$ mice co-immunostained for insulin (green, A, B) and Dapi (blue A, B) showing an almost total loss of β-cells at 6 weeks in the mutant mice.