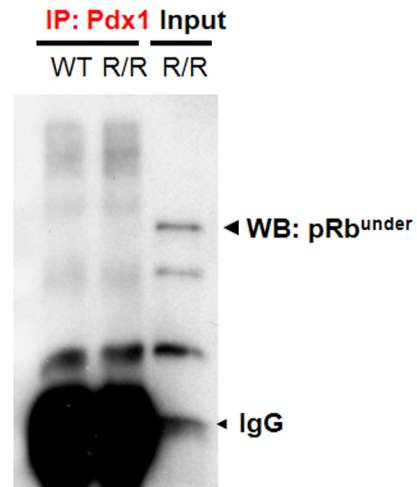
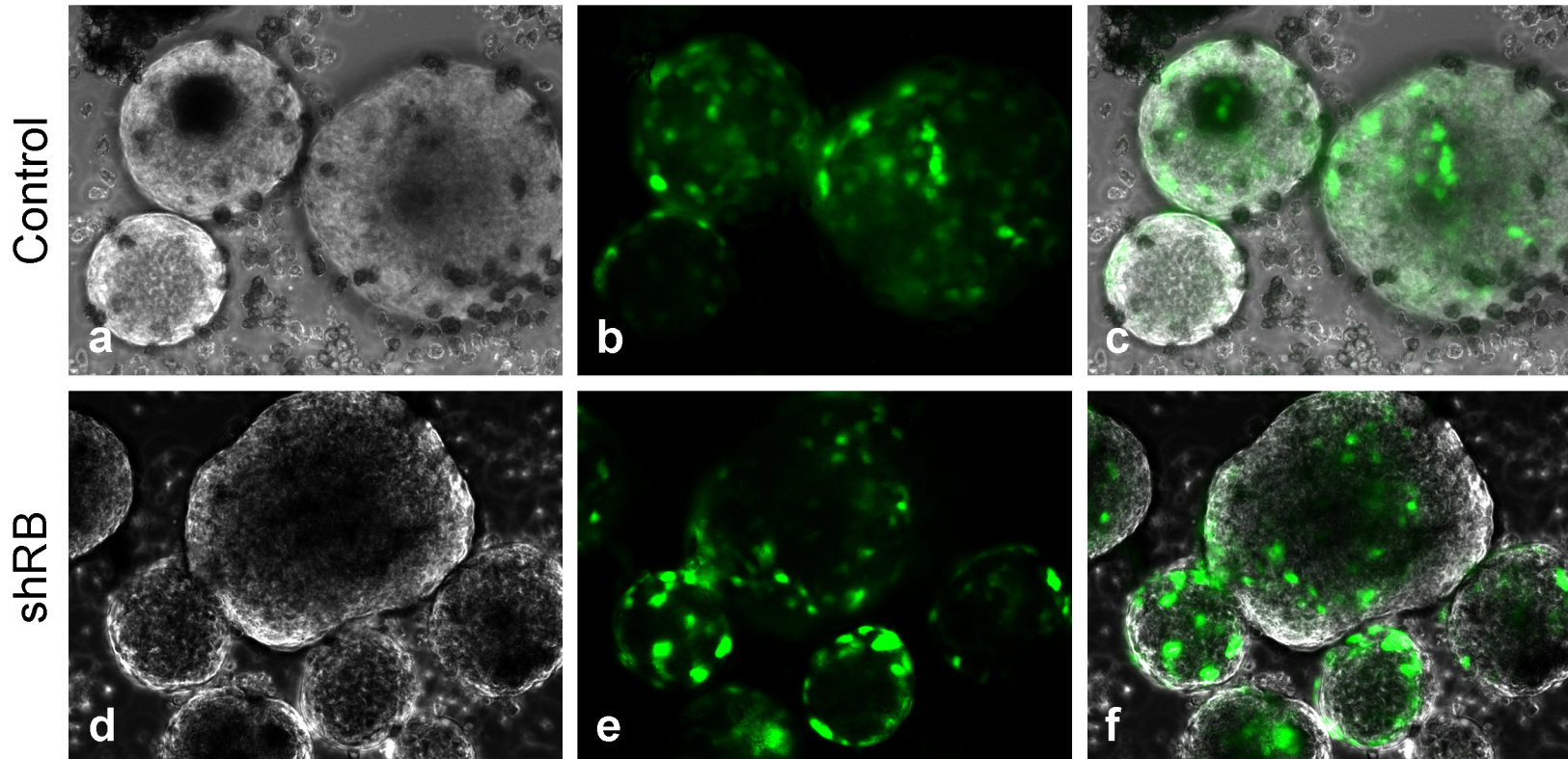


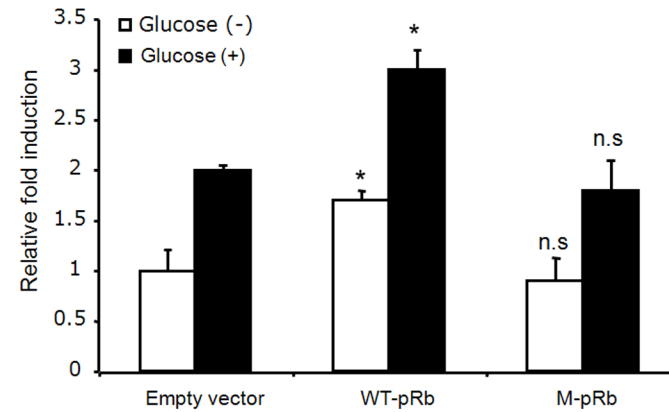
Supplementary Figure 1. **A**, Expression levels of RB, Pdx-1 and tubulin proteins in MIN6 and β-HC9 cells assayed by immunoblot analyses. **B**, Endogenous Pdx-1 proteins were immunoprecipitated from MIN6 and β-HC9 cells followed by immunoblotting with antibodies specific to underphosphorylated RB, total RB (that detects phospho and non-phospho RB), and Pdx-1. Control IgG immunoprecipitations were also performed and subjected to identical western blot assays. Input lanes are shown as control. Arrows indicate the hyper and under-phosphorylated forms of RB. Note that Pdx-1 appears to associate with the slower migrating hyperphosphorylated form of RB. In contrast, little to no Pdx-1 interacts with the underphosphorylated RB.



Supplementary Figure 2. Protein extracts from Cdk4 wild-type (WT) and Cdk4R24C/R24C (R/R) islets were immunoprecipitated with anti-Pdx-1 antibodies (in the same reaction as shown in Main Fig 2d) followed by immunoblot with anti-under phospho-RB antibodies. No RB/Pdx-1 complexes were observed in either type of islet protein lysate. Input lane shows underphospho RB.

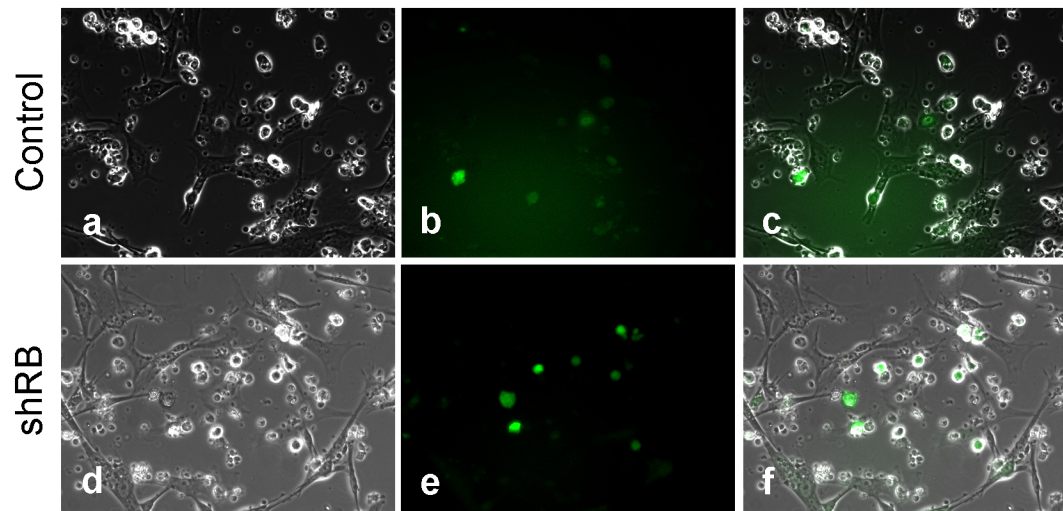


Supplementary Figure 3. Pancreases were harvested and islets were isolated from normal (CD1) mice and cultured 48h hours before lentivirus infection in RPMI. The distribution was 200-250 islets per condition for RNA and 350-400 islets per condition for protein. For the knockdown of Rb, lentiviruses of GFP-tagged control and shRb were infected into islets. For estimating the efficiency of infection, imaging of these islets 72 h after infection was performed using a inverted microscope Axio Observer.Z1 (Zeiss). Phase contrast (*a*, *d*), lentivirus-infected (GFP signal; *b*, *e*), and merged (*c*, *f*) images are shown.



Supplementary Figure 4. MIN6 cells in 6-well plates were transfected with 1 μ g of pGL3INS2.9-Luc reporter plasmid (hINS-Luc with/without Renilla luciferase) with 0.5 μ g of WT-pRb or phospho-mutant pRb (M-pRb) expression vectors in no glucose medium. One day after the transfection, medium was replaced with/without medium containing 25 mM glucose for 24 h before harvesting. Reporter activity was normalized to total protein and to Renilla luciferase activity with average of triplicates shown.

*, $p < 0.05$ and *n.s.*, not significant



Supplementary Figure 5. Embryonic pancreases were harvested at E14.5 and digested with 0.2 mg/ml of Liberase RI (Roche) for 8 min at 37°C. The digested pancreatic rudiments are referred as fetal pancreatic (FP) cells. FP cells derived from pancreases of normal wild-type mice at E14.5 were grown in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% fetal bovine serum (GIBCO) and 1% penicillin-streptomycin. Cells were plated in 24-well tissue culture plates 24 h before infection. For the knockdown of Rb, lentiviruses of GFP-tagged control and shRb were infected into cells. For estimating the efficiency of infection on these cells, imaging of these cells 72 h after infection using an inverted microscope Axio Observer.Z1 (Zeiss) was performed. Phase contrast (a, d), lentivirus-infected (GFP signal; b, e), and merged (c, f) images are shown.