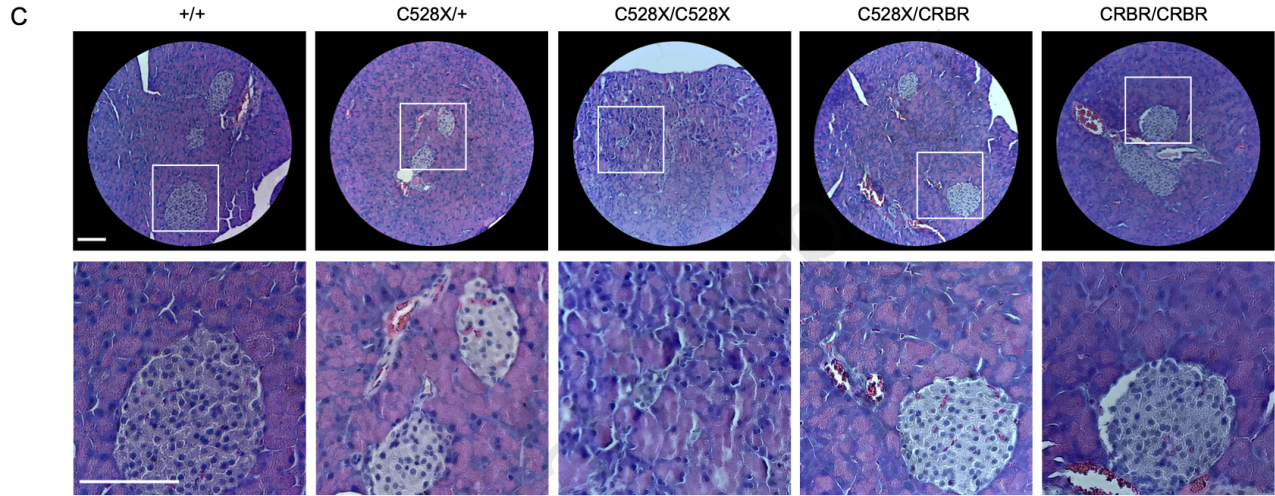
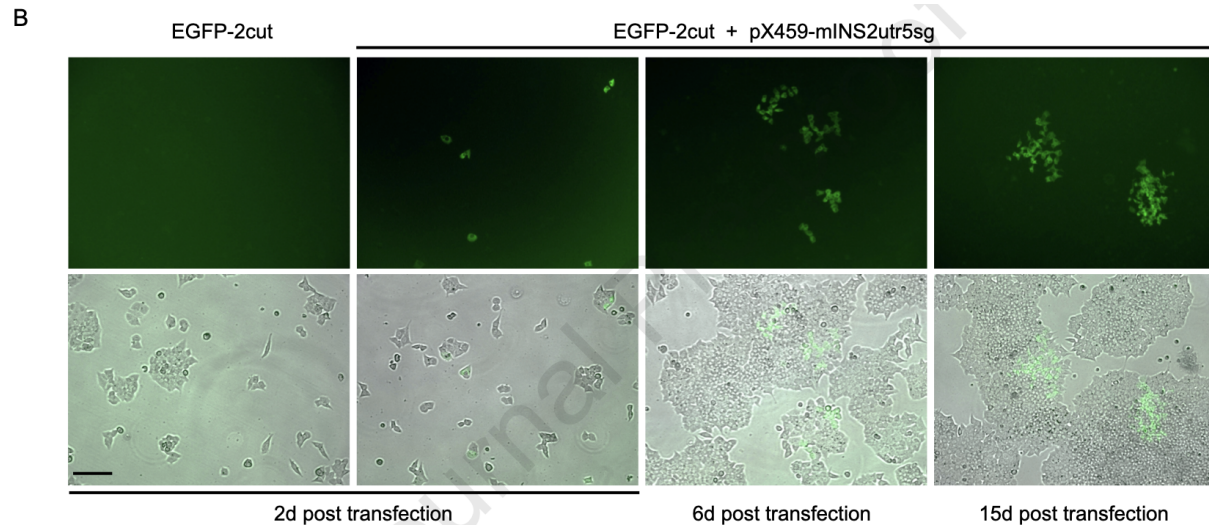


GFP imaging and histological analysis

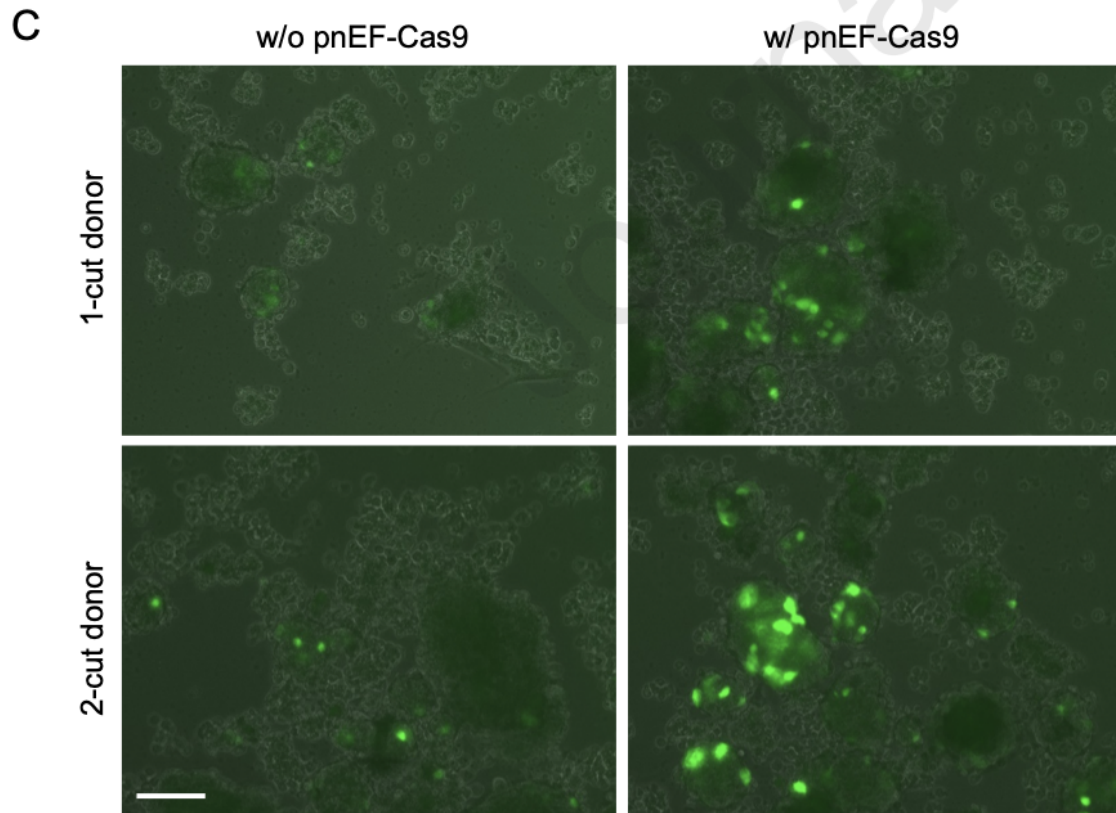
MIN6 cells and human islets were imaged as live cultures and images were captured using the FITC and Transillumination channels of the ECHO **Revolve** microscope and the associated software (Echo Labs, San Diego, CA). Whole pancreata were harvested and paraffin embedded as previously described²⁶. Sectioned (6µm in thickness) slides were dewaxed, and Hematoxylin and Eosin stained by Leica Autostainer ST5010 XL (Wetzlar, Germany). Bright field images were captured with the ECHO **Revolve** microscope.



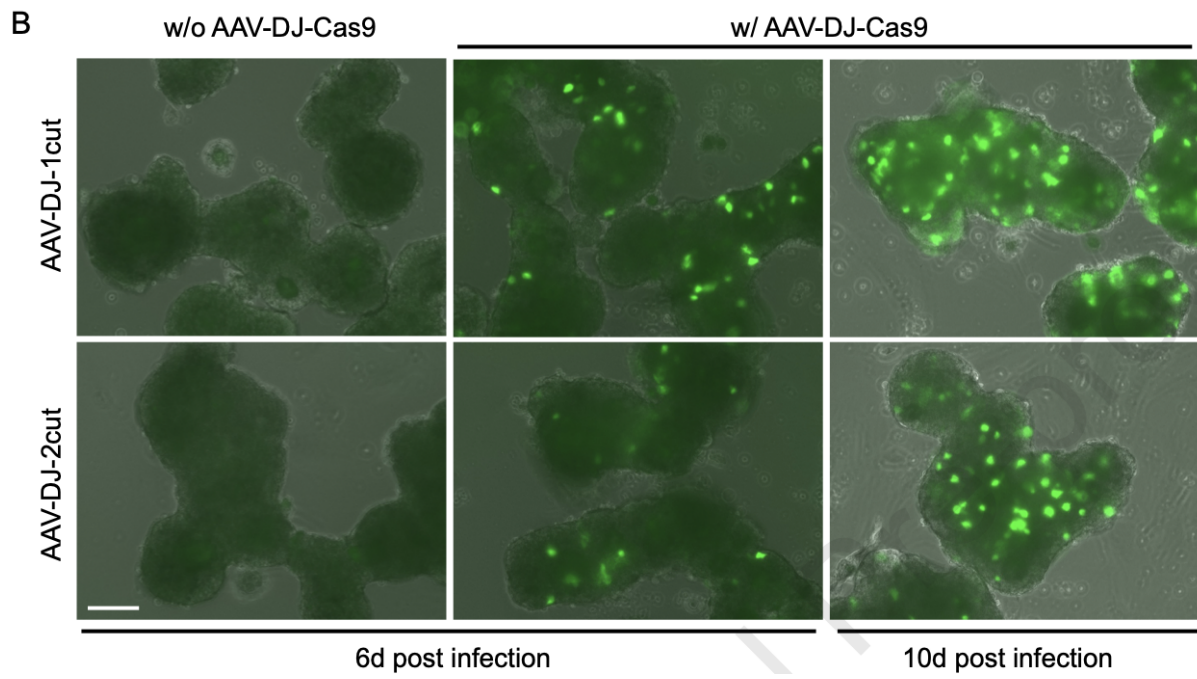
C. Representative Hematoxylin and Eosin staining images from the pancreas of (P62), (P53), (P34), Perk (P46), and Perk (P46) mice. The Perk pancreas had typical Perk KO defects such as very small islets with reduced beta cell mass. The disorganized acinus structure contained some degranulated cells (white), clear halos around the nuclei, and gaps between acinar cells. Bright field, 20× objective; scale bar, 100µm.



B and C. MIN6 cells (1×10⁶ cells) were electroporated with 1µg of EGFP-2cut donor with or without 1µg of pX459-mINS2utr5sg in 100µL using Nucleofector V Kit in two replicates. Cells were imaged (B) as live cultures 2d, 6d, and 15d post-transfection at 10× objective; scale bar, 100µm.



C. Six-day post-transfection, human islets were imaged (C) as live cultures at 10× objective; scale bar, 100μm.



Human islets were imaged (B) 6d and 10d post- infection as live cultures at 10× objective; scale bar, 100µm.