

**ESM Fig. 2**: Expression of PW1 in pancreas of PW1<sup>+/pat-</sup> and WT mouse. Immunostaining of (a) PW1 (red), PDX1 (blue) and (b) AMYLASE (green), INS (red), GCG (blue) shows normal cytoarchitecture of pancreas from PW1<sup>+/pat-</sup> 8 weeks old mice. (c) PW1 is expressed in PDX1<sup>+</sup>PTF1A<sup>+</sup> cells of E9.5 embryonic pancreas. Nuclear staining: DAPI (white). Scale bars: 100μm. (d) Infection of Min6 cells with LeShPw1 (MOI 100) decreased the level of PW1 protein as compared to control virus transduced cells. SP1, a ubiquitously expressed transcription factor, was used as quality control.