

Supplemental information

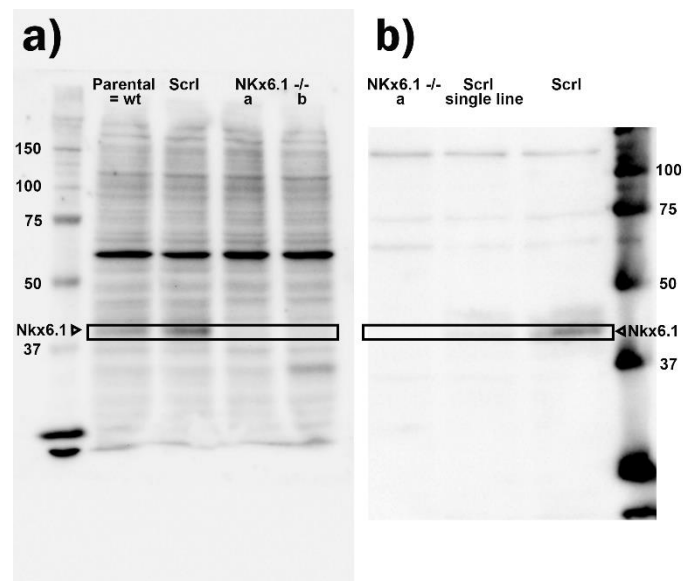
CRISPR/Cas9 deletion of „ β -cell specifying“ transcription factor Nkx6.1 in INS-1E cells does not prevent insulin secretion

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Figure S1 a) The lack of Nkx6.1 transcript in lines *a* and *b* of Nkx6.1^{-/-} cells



Two exemplar Western blots in panel **a**) (the square section of which was used for Figure 1b) and panel **b**) using *anti*-Nkx6.1 antibody show the Nkx6.1 protein of 44-46 kDa in wt (i.e. parental) INS1-E cells and cells pooled from 50 single-cell colonies transfected with nonsense sgRNA sequence (Scrl) as well as an example of one such a single line („Scrl single line“). Numbers describe molecular weight of the used standards.

Figure S1 b) Procedure of CRISPR/Cas9 gene editing of INS-1E cells

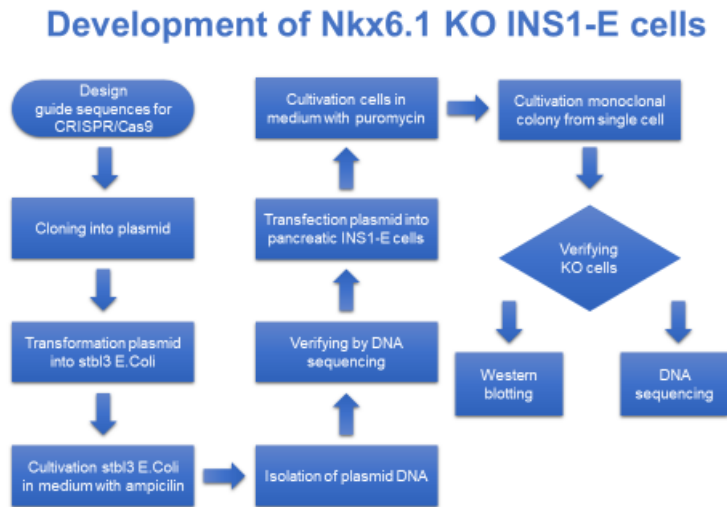


Figure S2 Exemplar expression of a slow variant of GCaMP6 fluorescence probe

Confocal microscopy image of wt INS-1E cells illustrating GCaMP6 emission at 510 nm is shown, when excited at with at 480 nm.

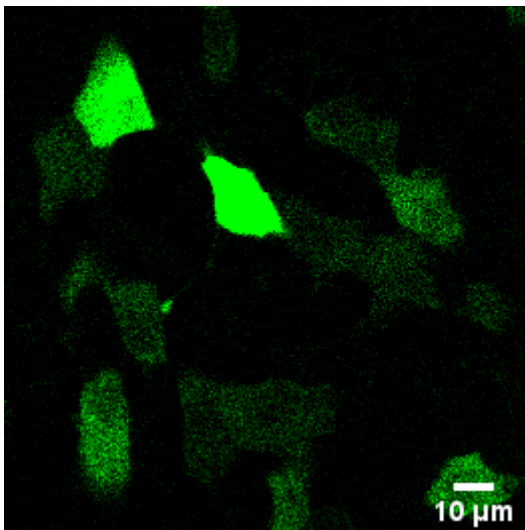


Fig.S3 Selected most pronounced changes of transcripts in Nkx6.1- ablated INS-1E cells

Panels (a–c) show the most pronounced changes in transcripts for (a) pyruvate carboxylase, (*Pcx*); (b) endoplasmic reticulum oxidoreductase-1 β (*Ero11b*); (c) nuclear receptor subfamily-4 group A member-1 (*Nr4a1*).

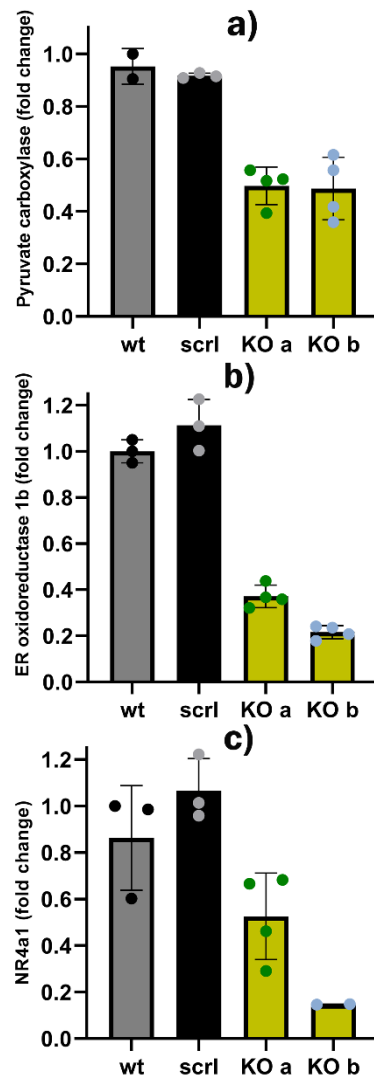
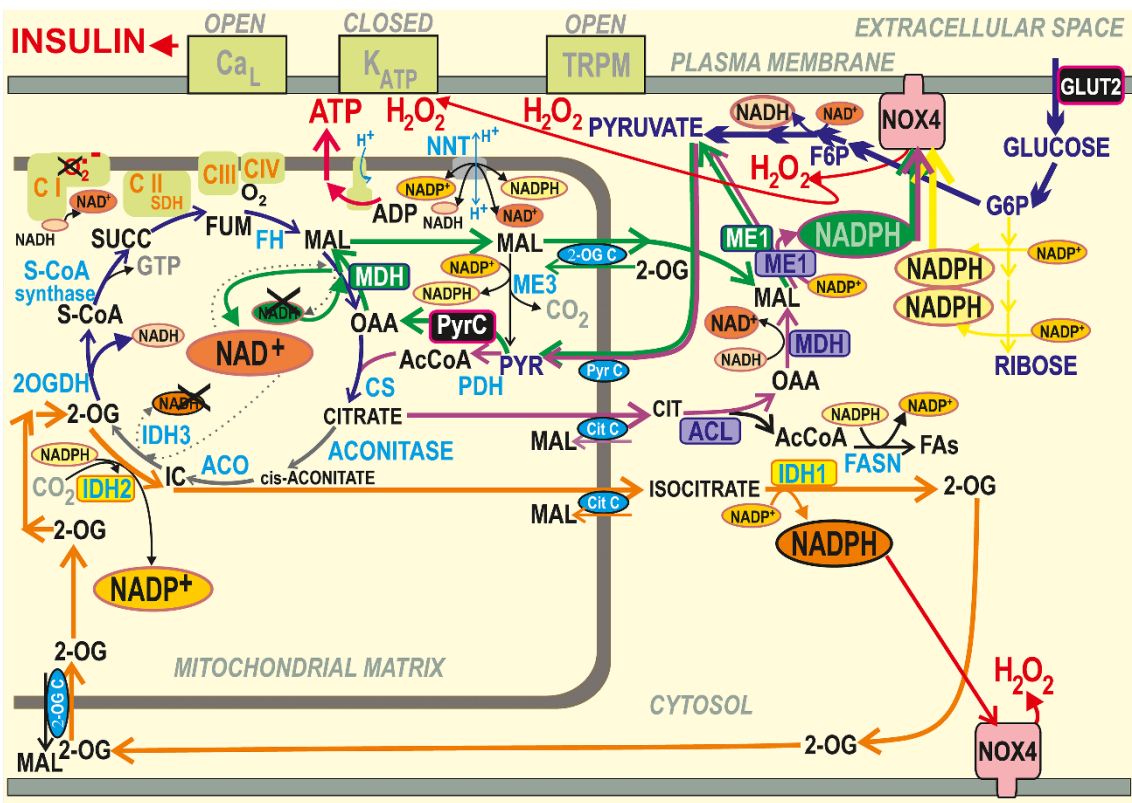


Fig.S4 Schemes of metabolic fluxes with and without participation of pyruvate carboxylase

A wt cells



B Nkx6.1 ablation

