

Supplemental Material to:

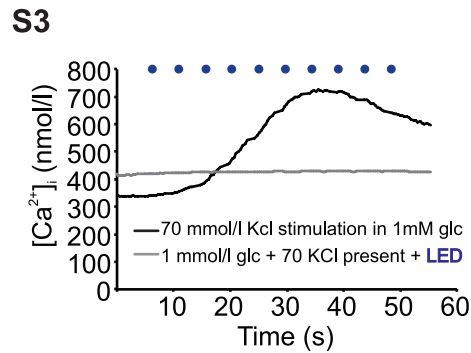
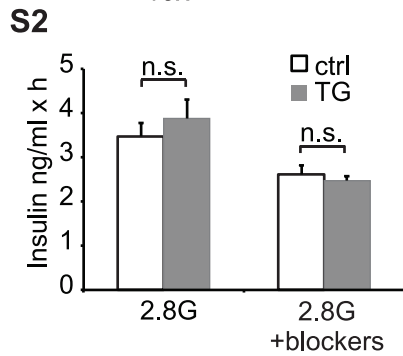
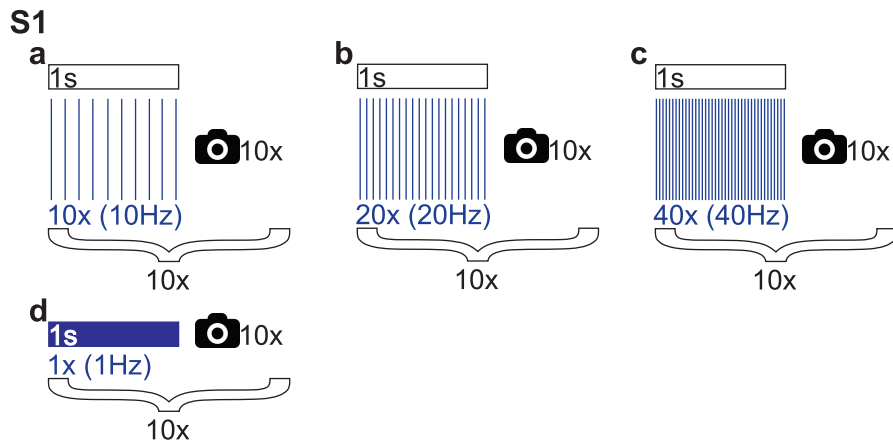
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**Optogenetic control of insulin secretion in intact
pancreatic islets with β -cell-specific expression of
Channelrhodopsin-2**

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Supplemental figures, S1: Different light stimulation protocols used during calcium imaging experiments. The blue stripes indicate one blue LED light pulse that was either of 1 or 10 ms length. Each of the ten stimulation segments were 1 sec long and contained 10 (a), 20 (b), 40 (c) or one (d) light pulse(s). In between each 1 sec long segment 10 images were acquired.

S2: Insulin secretion from Chr2 (TG, grey bars) and control islets (white bars) at 2.8 mmol/l glucose \pm 1-h constant light stimulation \pm 5 μ mol/l isradipine and 100 nmol/l SNX-482 (blockers; n=8).

S3: Changes in intracellular calcium in islets incubated at 1 mmol/l glucose while 70 mmol/l KCl is perfused into the dish (black trace) and after 5 min (grey trace) in buffer of this composition + 1 s blue LED light pulses (blue dots) in between which ten images were acquired.

Supplements