

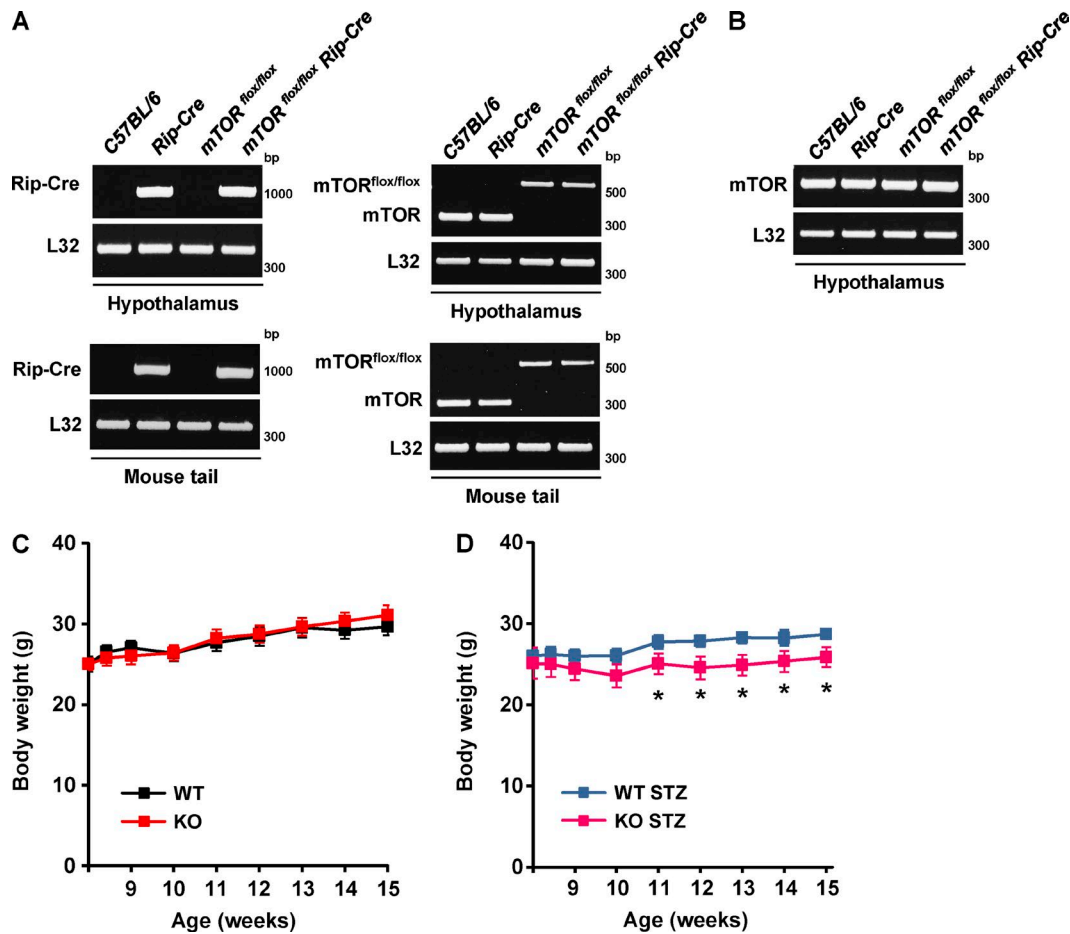
Chau et al., <https://doi.org/10.1083/jcb.201701085>

Figure S1. **Genotyping and mouse body weight.** (A) Genotyping for *Rip* transgenic (*Rip-Cre*) and *lox/lox* in hypothalamic DNA and mouse tail DNA. (B) The expression of mTOR in hypothalamic RNA was determined by RT-PCR analysis. (C) Body weights of WT and β mTORKO mice. (D) WT and mTOR-deficient mice were treated twice a week for 2 wk with either vehicle (Veh) or STZ (100 mg/kg body weight). Body weights were monitored weekly for 8 wk after STZ administration. In C and D, WT, $n = 12$; knockout (KO), $n = 9$. Values are given as mean \pm SEM. *, $P < 0.05$ versus WT-STZ (ANOVA).

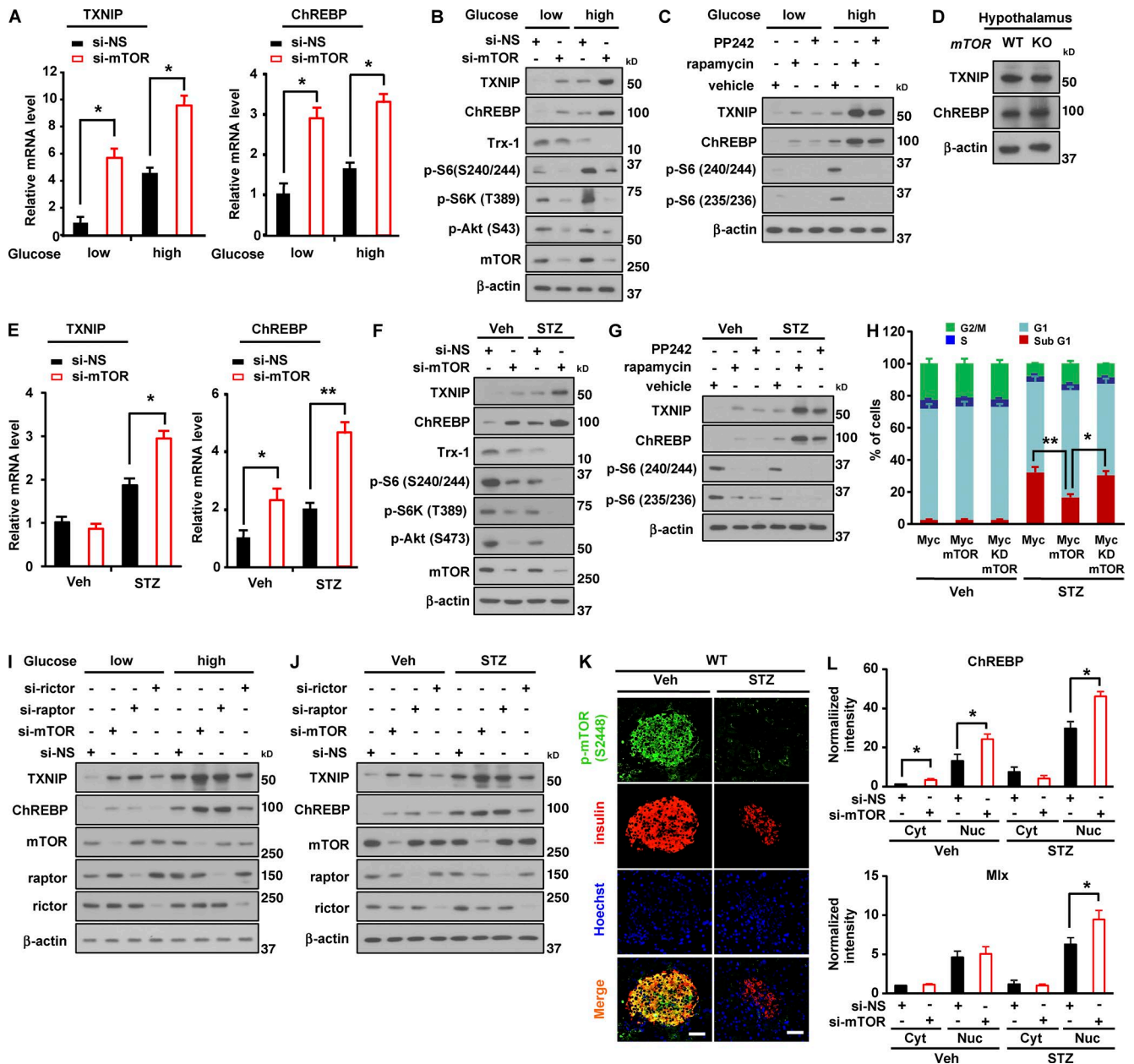


Figure S2. **Depletion of mTOR or Inhibition of mTOR activity results in increase of TXNIP and ChREBP expression.** (A) TXNIP and ChREBP mRNA levels after mTOR knockdown after high-glucose treatment. (B) Immunoblots showing TXNIP and ChREBP expression in INS cells upon high-glucose treatment. (C) Immunoblots showing TXNIP and ChREBP expression in rapamycin- or PP242-treated INS-1 cells in response to high glucose. (D) Analysis of hypothalamus protein extracts by immunoblotting with indicated antibodies (WT, $n = 5$; knockout [KO], $n = 3$). (E) The mRNA levels of TXNIP and ChREBP in mTOR knockdown cells after STZ treatment. (F) Immunoblots showing TXNIP and ChREBP expression in INS-1 cells under STZ treatment. (G) Immunoblots showing expression of TXNIP and ChREBP in STZ-treated INS-1 cells after treatment with 20 nM rapamycin or 1 μ M PP242. After siRNA transfection, INS-1 cells were treated with 1 mM STZ for 2 h, followed by a 2-h recovery time. (H) FACS data showing the percentage of cells in sub-G1 phase after mTOR over-expression after STZ treatment. (I) Immunoblots showing levels of TXNIP and ChREBP in INS-1 cells after knockdown of raptor or rictor after high-glucose treatment. (J) Immunoblots showing levels of TXNIP and ChREBP in INS-1 cells after knockdown of raptor or rictor after 1 mM STZ treatment for 2 h. (K) Phosphorylation of mTOR Ser 2448 in islets from WT mice after STZ exposure. Bars, 50 μ m. (L) Densitometric analysis of expression levels of ChREBP or Mlx detected in the cytoplasm (normalized to α -tubulin) and nucleus (normalized to PARP-1) after mTOR depletion. In A, E H, and L, values are given as mean \pm SEM of three independent experiments. *, $P < 0.05$ versus si-NS (ANOVA); **, $P < 0.01$ versus Myc (ANOVA). Cyt, cytoplasm; Nuc, nucleus; Veh, vehicle.

Table S1. Information on human islets

Subject	Sex	Age	Body mass index	Condition
		<i>yr</i>	<i>kg/m²</i>	
1	Male	53	22.8	Nondiabetes
2	Female	38	22.1	Nondiabetes
3	Female	67	29.4	Nondiabetes
4	Female	49	23.1	Nondiabetes
5	Female	61	21.3	Nondiabetes
6	Female	57	21.5	Nondiabetes
7	Male	62	21.1	Diabetes
8	Male	67	24.2	Diabetes
9	Female	83	23.2	Diabetes
10	Male	63	21.9	Nondiabetes
11	Male	79	22.3	Diabetes
12	Female	75	20.7	Diabetes
13	Female	77	23.7	Diabetes
14	Male	58	17.8	Nondiabetes
15	Male	58	17.1	Nondiabetes
16	Female	54	19.6	Nondiabetes
17	Male	73	21.9	Diabetes