

Supplemental information

An acetylated lysine residue of its low-glucose inhibitory domain controls activity and protein interactions of ChREBP

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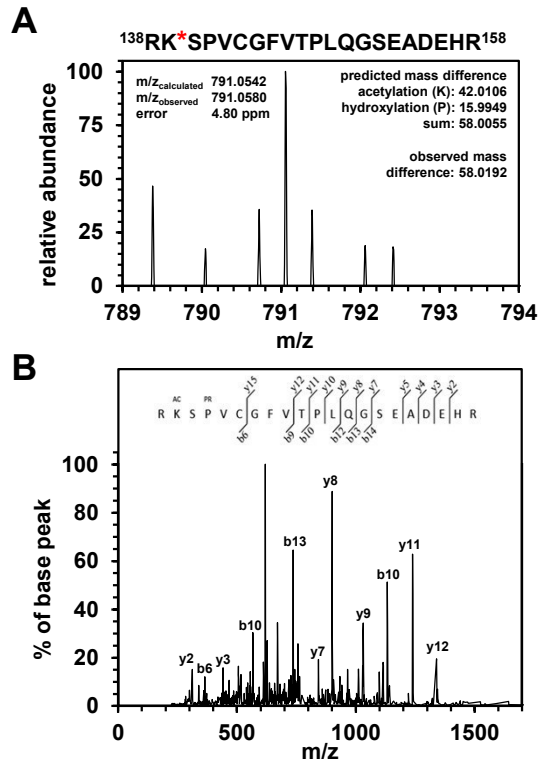
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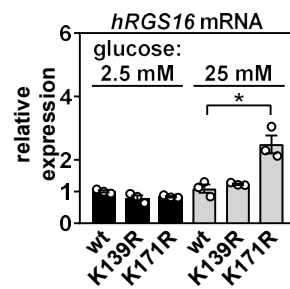
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Supplemental Figure S1. MS spectra of ectopically expressed ChREBP α in HEK293 cells. (A) MS spectrum and (B) MS/MS fragment ion spectrum of the peptide ¹³⁸RK*SPVCGFVTPLQGSEADEHR¹⁵⁸ of acetylated ChREBP. The protein was digested with trypsin and analyzed by nanoLC-MS/MS. The peak with m/z 791.0580 in the MS spectrum corresponds to the triple charged ion of the lysine-acetylated sequence and P141 hydroxylation. Fragment ions resulting from the triple-charged precursor ion correspond to the ChREBP sequence.

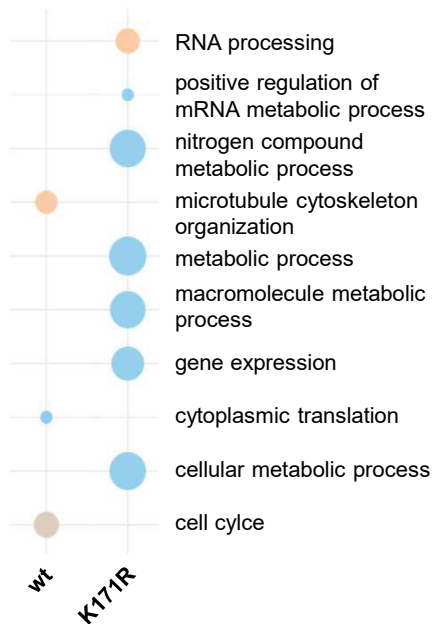


Supplemental Figure S2. Mutation of K171 enhances ChREBP target gene expression. HEK293 cells were transfected with vectors encoding wt or mutated ChREBP and exposed to 2.5 mM or 25 mM of glucose for 24 hours and mRNA expression of *RGS16* determined by qPCR. Data are represented as individual data points and mean \pm sem and $*P < 0.05$ vs. wt ChREBP-expressing cells by one-way ANOVA and Sidak's correction for multiple testing.

HEK293

TOP10 GO term analysis of ChREBP wt vs. K171R differential interactors (2.5 mM glucose)

GO: Biological Process



intersection size ● 10 ● 20 ● 30

included in TOP10 -log10(adj. p-value)

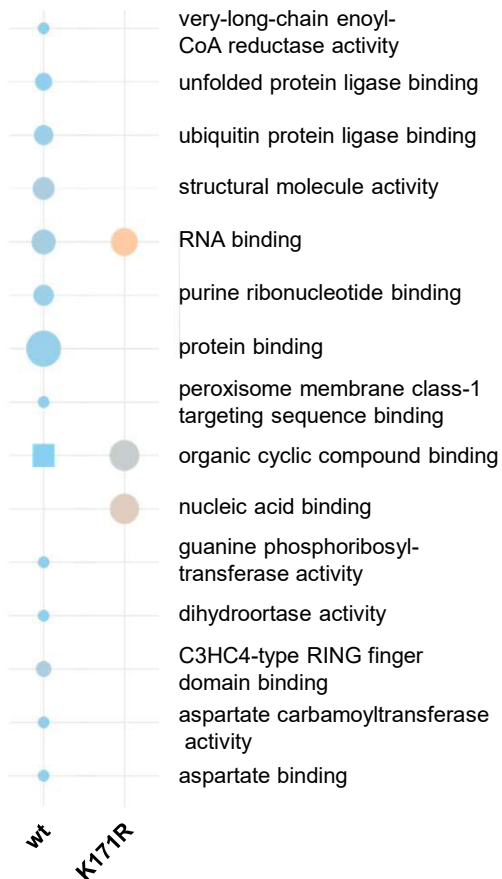
■ FALSE

● TRUE

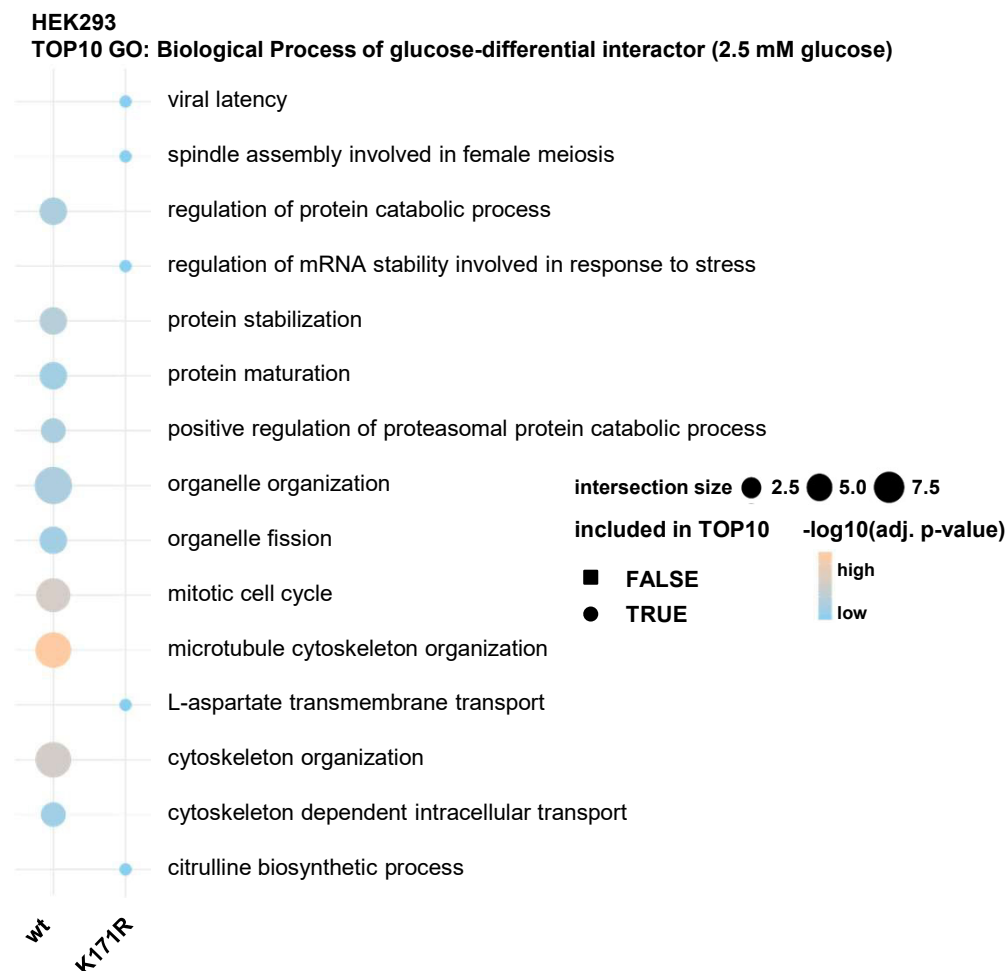
high

low

GO: Molecular Function



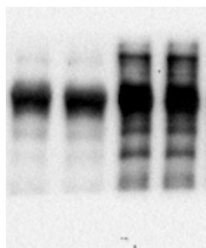
Supplemental Figure S3. TOP10 GO term analysis of differential interactors of ChREBP wt vs. K171R. Top10-simplified GO: Biological Process (BP) and GO: Molecular Function (MF) terms of significantly different ChREBP wt vs. K171R interactors at 2.5 mM of glucose. GO term identification was performed with a FDR 5%.



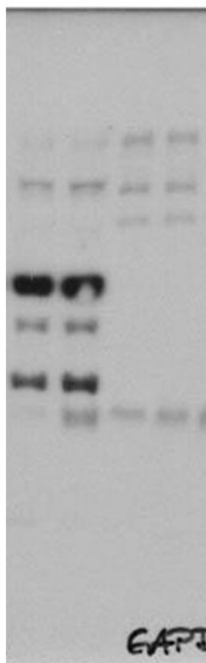
Supplemental Figure S4. TOP10 GO term analysis of glucose differential interactors of ChREBP wt and K171R. Top10-simplified GO: Biological Process terms of glucose-differential interactors at 2.5 mM glucose. GO term identification was performed with a FDR 5%.

original blots

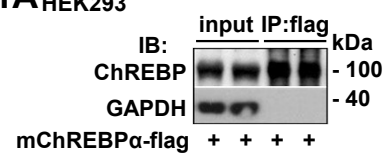
ChREBP

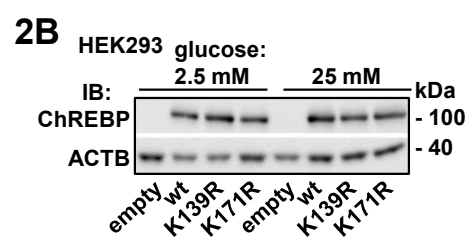
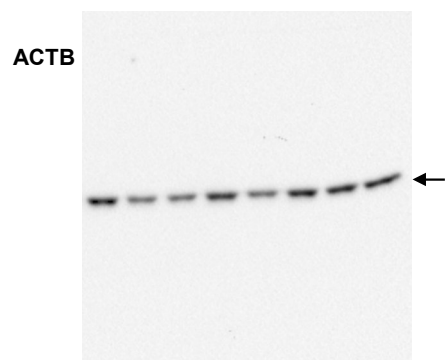
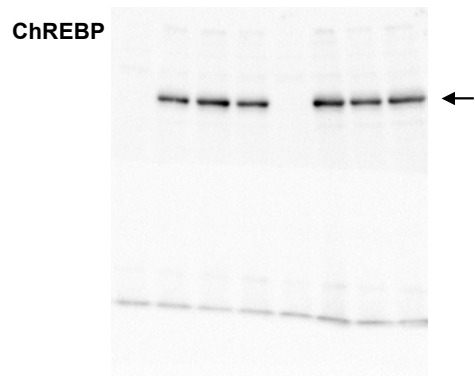


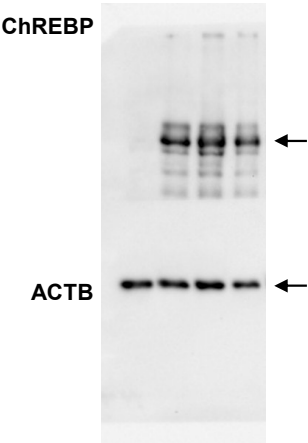
GAPDH

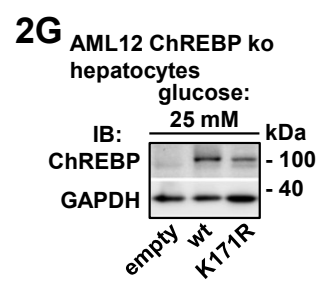
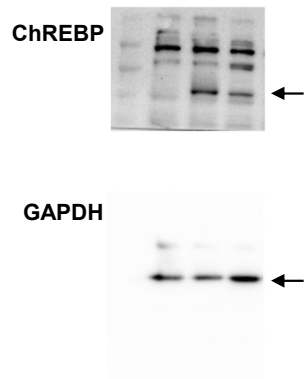


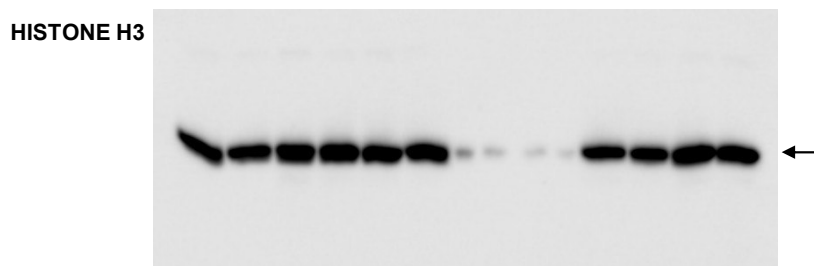
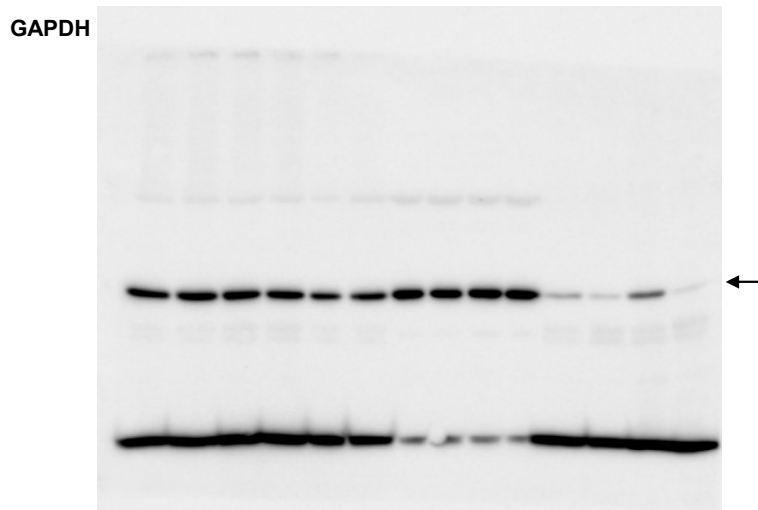
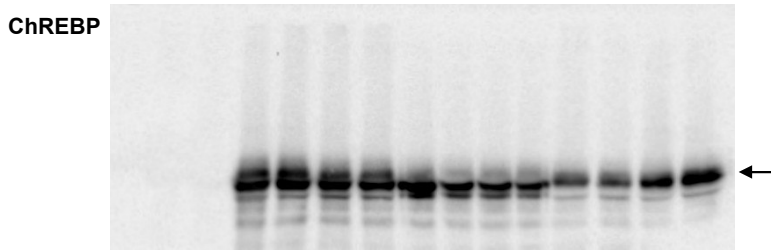
1A^{HEK293}











3A

HEK293, subcellular fractionation

