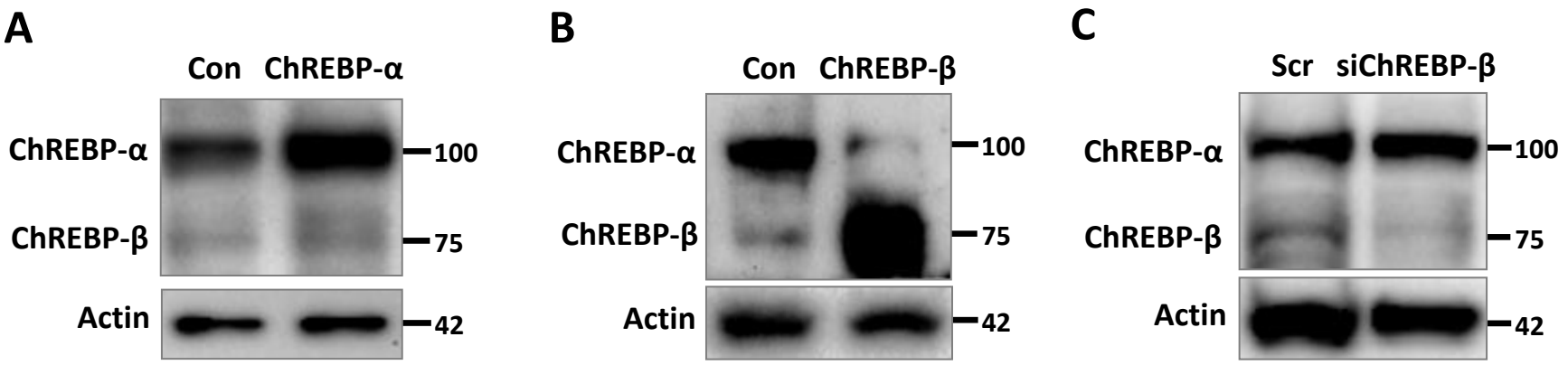
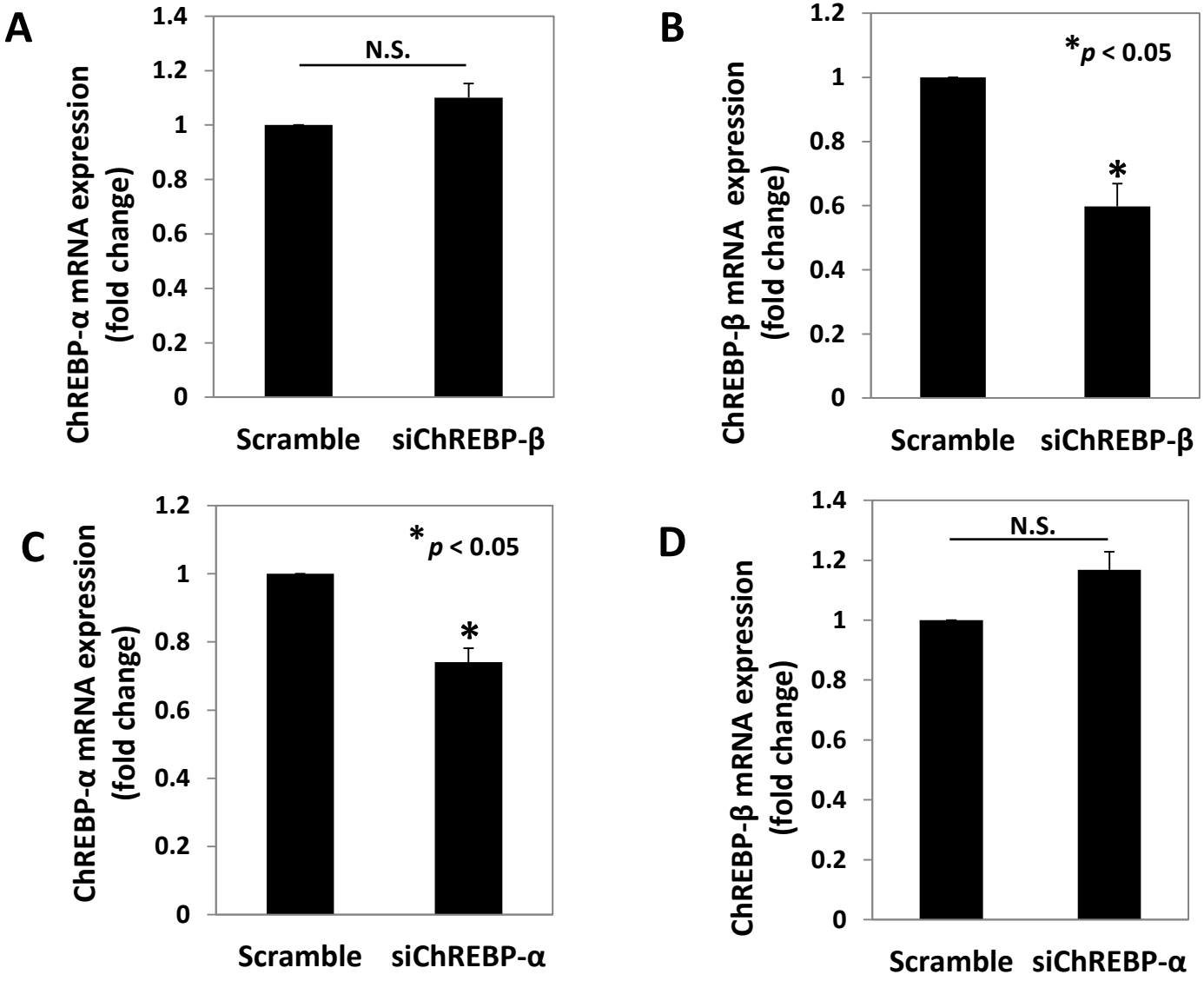
Supplementary Table S1. Primers used in the study

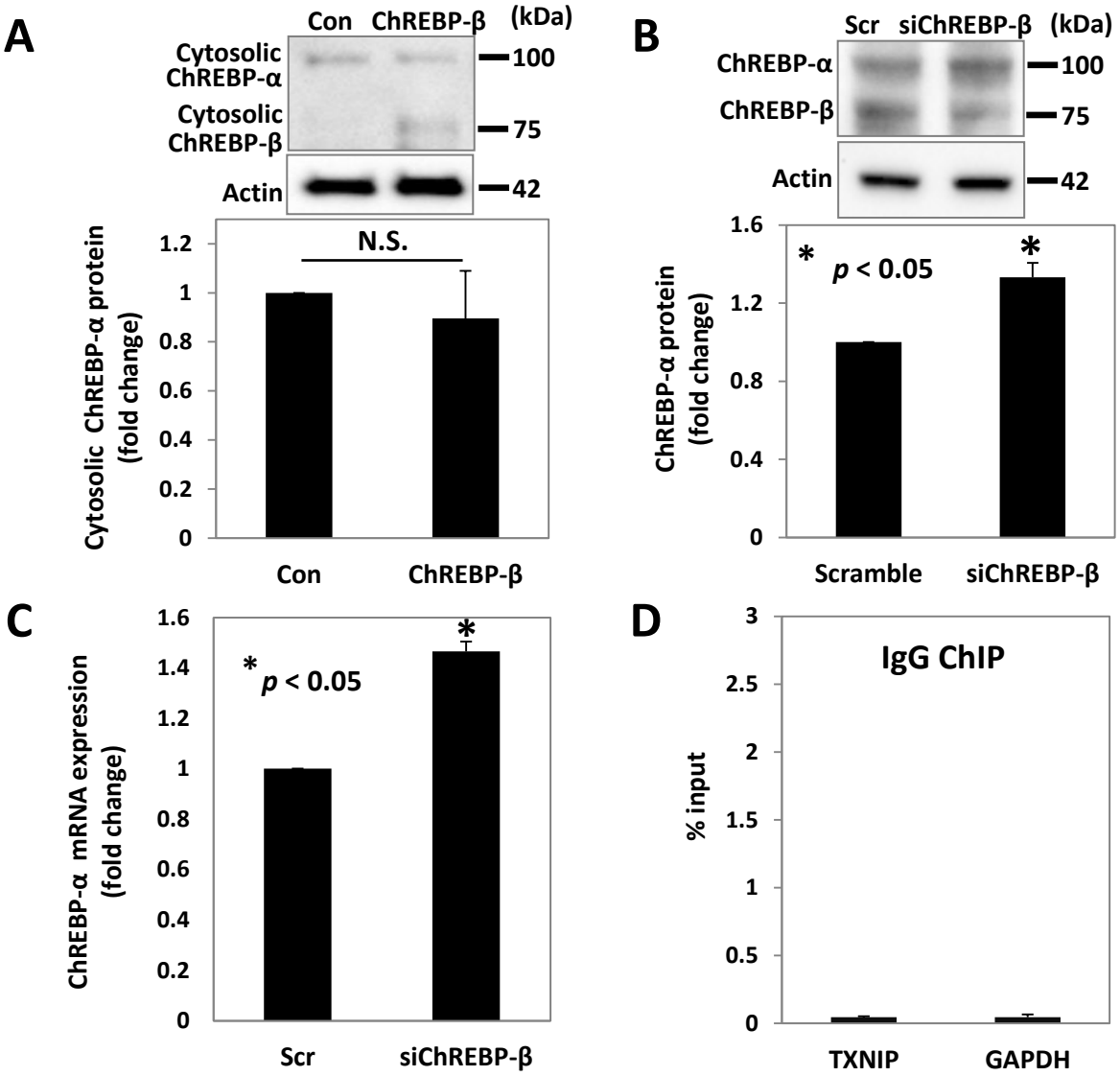
Description	Sequences (5'-3')
Rat	
ChREBP-α 5' qRT-PCR primer	CGACACTCACCCGCCTCTTC
ChREBP-α 3' qRT-PCR primer	TTGTTCAGCCGAATCTTGTC
ChREBP-β 5' qRT-PCR primer	TCTGCAGATCGCGCGGAG
ChREBP-β 3' qRT-PCR primer	CTTGTCCCGGCATAGCAAC
TXNIP 5' qRT-PCR primer	CGAGTCAAAGCCGTCAGGAT
TXNIP 3' qRT-PCR primer	TTCATAGCGCAAGTAGTCCAAGGT
L-PK 5' qRT-PCR primer	CTTTGATCCAGGCTCTGCAGAC
L-PK 3' qRT-PCR primer	TGAGTCCTGGTTAAAGTATAACC
GPDH 5' qRT-PCR primer	ATCAACACGCAACACGAGAA
GPDH 3' qRT-PCR primer	CCCTTGAGCTGGTCACAGAT
ACC 5' qRT-PCR primer	TCGAAGAGCTTATATCGCCTATGA
ACC 3' qRT-PCR primer	GGGCAGCATGAACTGAAATTC
TXNIP 5' ChIP primer	AAGGACCAAGTAGCCAATGGG
TXNIP 3' ChIP primer	GTGCTGGCCCGGAGG
GADPH 5' ChIP control primer	ACCATGCTTCACTGACATTCTGA
GADPH 3' ChIP control primer	GGTCTGCCTCCCTGCTAACC
Human	
ChREBP-α 5' qRT-PCR primer	AGTGCTTGAGCCTGGCCTAC
ChREBP-α 3' qRT-PCR primer	TTGTTCAGGCGGATCTTGTC
ChREBP-β 5' qRT-PCR primer	AGCGGATTCCAGGTGAGG
ChREBP-β 3' qRT-PCR primer	TTGTTCAGGCGGATCTTGTC
Mouse	
ChREBP-α 5' qRT-PCR primer	CGACACTCACCCACCTCTTC
ChREBP-α 3' qRT-PCR primer	TTGTTCAGCCGGATCTTGTC
ChREBP-β 5' qRT-PCR primer	TCTGCAGATCGCGTGGAG
ChREBP-β 3' qRT-PCR primer	CTTGTCCCGGCATAGCAAC
Mouse ChREBP-α promoter 5' cloning primer	CGACGCGTCAATCTCTGTGGATCGTGAACC
Mouse ChREBP-α promoter 3' cloning primer	CCGCTCGAGGGCCACTATTGTCGCCAAC
Mouse ChREBP-β promoter 5' cloning primer	CGACGCGTAGGGTGAGTTCCAGGACAGC
Mouse ChREBP-β promoter 3' cloning primer	CCGCTCGAGTCCTCTGCGAGGCATCTATG
Mouse ChREBP-β into pcDNA3.1/V5-His TOPO vector 5' cloning primer	CCCAAGCTTATGCGCGAATACCACAAGTG
Mouse ChREBP-β into pcDNA3.1/V5-His TOPO vector 3' cloning primer	CCGCTCGAGTTATAATGGTCTCCCCAGGGTG



Supplemental Figure S1. **Detection of ChREBP-β by immunoblotting.** ChREBP-β protein expression in INS-1 beta cells with **(A)** ChREBP-α overexpression, **(B)** ChREBP-β overexpression and **(C)** ChREBP-β knockdown. Representative images of at least 3 independent experiments are shown.



***Supplemental Figure S2*. Specificity of ChREBP-β and ChREBP-α knockdown.** INS-1 were maintained in regular growth medium and cells were transfected with specific siRNAs targeting ChREBP-β **(A-B)** or ChREBP-α **(C-D)** or scrambled control and after 48h ChREBP-α **(A, C)** and ChREBP-β expression **(B, D)** was assessed by qRT-PCR. Bars represent means ±SEM of at least 3 independent experiments.



***Supplemental Figure S3*. (A)** Cytosolic ChREBP-α was assessed by immunoblotting after cell fractionation of INS-1 cells with or without ChREBP-β overexpression. **(B)** Total ChREBP-α was assessed by immunoblotting in INS-1 cells with or without ChREBP-β knockdown (siChREBP-β). **(C)** INS-1 cells were transfected with siChREBP-β and after 48h at 25mM glucose ChREBP-α mRNA expression was assessed by qRT-PCR. **(D)** ChIP assays were performed in INS-1 cells using normal goat IgG. The GAPDH coding region and TXNIP ChoRE region were amplified by qRT-PCR. Bars represent means ±SEM of 3 independent experiments and representative immunoblots are shown.