

## SUPPLEMENTARY TABLES

**Supplementary Table 1. Primer sets used for qPCR, RT-PCR.**

Primer set 1	Primers	Sequence	Product size (bp)
ACTB	Forward	5'-TGCCCATCTACGAGGGGTATG-3'	156
	Reverse	5'-TCTCCTTAATGTCACGCACGATTT-3'	
ALKBH5	Forward	5'-GTTCAAGCCTATTCGGGTGT-3'	204
	Reverse	5'-ACGGAGCTGCTCAGGGACT-3'	
ATG4B	Forward	5'-TCAGAGCCCCTTTGGATA-3'	283
	Reverse	5'-CGATGAATGCGTTGAGGAC-3'	
GAPDH	Forward	5'-AGAAGGCTGGGGCTCATTG-3'	258
	Reverse	5'-AGGGGCCATCCACAGTCTTC-3'	
YY1	Forward	5'-AAGTGGGAGCAGAAGCAGG-3'	297
	Reverse	5'-GCCTTTATGAGGGCAAGCT-3'	
ATG4B (ChIP)	Forward	5'-AGAGGAGGAAGCGCCACCCAT-3'	183
	Reverse	5'-CGCAGGCGGCGAAGACGATA-3'	
YY1 (3'-UTR)	Forward	5'-GAAGACCCTTCTCGACCACG-3'	356
	Reverse	5'-TAAGCAACAGGTGAGCTTCATA-3'	

**Supplementary Table 2. Oligonucleotide sets used for constructs.**

Oligo set	Sequences
Ci-YY1 #1 Target	5'-ACCCTCTACATCGCCACGGACGG-3';
Ci-YY1 #2 Target	5'-GATGTAGAGGGTGTGCCCCGAGG-3'
Ca-YY1 #1 Target	5'-CGCTCGGCCGCTGCTCGTCTCGG-3';
Ca-YY1 #2 Target	5'-CGGGCCCGAGCAGAGTGTGGCGG-3'
Ci- ALKBH5 #1 Target	5'-AGCTCTCCGCACGACGTCACGGG-3';
Ci- ALKBH5 #2 Target	5'-TGGCTGCCCGTGACGTCGTGCGG-3';
Ca- ALKBH5 #1 Target	5'-GTTTCGGACGATGCCGTGACGCGG-3'
Ca- ALKBH5 #2 Target	5'-ATATGAGCGCACCCCTGTAGAGG-3'
Ci-ATG4B #1 Target	5'-CCGGCCGTACGCCAAAATGGCGG-3';
Ci-ATG4B #2 Target	5'-GCGACGCCGCTCGGGTCAGTCGG-3';
Ca-ATG4B #1 Target	5'-GCGCGCGAGCGGAAATACGCGGG-3'
Ca-ATG4B #2 Target	5'-CAGCAACGCGACGCGGCGACGGG-3';
Ci-FTO #1 Target	5'-CTAAATCCCGTGGCGCTCGCGGG-3';
Ci-FTO #2 Target	5'-CGAGGGATCTACGCAGCTTGCGG-3'
Ca-FTO #1 Target	5'-CTATAGCGCCGACAGCGTGGCGG-3'
Ca-FTO #2 Target	5'-TATAGCGCCGACAGCGTGGCGGG-3'
Ci-YTHDF1 #1 Target	5'-TCCTCAGTGCGTCCGCGTCCCGG-3';
Ci-YTHDF1 #2 Target	5'-GGAGGCGTCTGACTCCAATGGCGG-3';
Ca-YTHDF1 #1 Target	5'-GGTCCCAGTCTCGTGGCGGGGG-3'
Ca-YTHDF1 #2 Target	5'-CGAAATCCATCCCGTAAGACGGG-3'
pGL3-YY1 Reporter	5'-CCGGCCATCTTGATACGACCATCTTCT ATCGGCCATCTTGATACGACCATGTTCA-3' (sense);  5'-AGCTTGAACATGGTTCGTATCAAGATGGCCGAT AGAAGATGGTTCGTATCAAGATGGCCGGGTAC-3' (antisense)

**Supplementary Table 3. Screening for transcription factors in autophagy.**

Autophagy related genes							
AMBRA1	BCL2L1	CHMP2B	FADD	IKBKE	MYC	PTEN	TBK1
APOL1	BECN1	CHMP4B	FAM48A	IL24	NAF1	PTK6	TM9SF1
ARNT	BID	CLN3	FAS	IRGM	NAMPT	RAB11A	TMEM49
ARSA	BIRC5	CTSB	FKBP1A	ITGA3	NBR1	RAB1A	TMEM74
ARSB	BIRC6	CTSD	FKBP1B	ITGA6	NCKAP1	RAB24	TNFSF10
ATF4	BNIP1	CTSL1	FOS	ITGB1	NFE2L2	RAB33B	TP53
ATF6	BNIP3	CX3CL1	FOXO1	ITGB4	NFKB1	RAB5A	TP53INP2
ATG10	BNIP3L	CXCR4	FOXO3	ITPR1	NKX2-3	RAB7A	TP63
ATG12	C12orf44	DAPK1	GAA	KIAA0226	NLRC4	RAC1	TP73
ATG16L1	C17orf88	DAPK2	GABARAP	KIAA0652	NPC1	RAF1	TSC1
ATG16L2	CALCOCO2	DDIT3	GABARAPL1	KIAA0831	NRG1	RB1	TSC2
ATG2A	CAMKK2	DIRAS3	GABARAPL2	KIF5B	NRG2	RB1CC1	TUSC1
ATG2B	CANX	DLC1	GAPDH	KLHL24	NRG3	RELA	ULK1
ATG3	CAPN1	DNAJB1	GNAI3	LAMP1	P4HB	RGS19	ULK2
ATG4A	CAPN10	DNAJB9	GNB2L1	LAMP2	PARK2	RHEB	ULK3
ATG4B	CAPN2	DRAM1	GOPC	MAP1LC3A	PARP1	RPS6KB1	USP10
ATG4C	CAPNS1	EDEM1	GRID1	MAP1LC3B	PEA15	RPTOR	UVRAG
ATG4D	CASP1	EEF2	GRID2	MAP1LC3C	PELP1	SAR1A	VAMP3
ATG5	CASP3	EEF2K	HDAC1	MAP2K7	PEX14	SERPINA1	VAMP7
ATG7	CASP4	EGFR	HDAC6	MAPK1	PEX3	SESN2	VEGFA
ATG9A	CASP8	EIF2AK2	HGS	MAPK3	PIK3C3	SH3GLB1	WDFY3
ATG9B	CCL2	EIF2AK3	HIF1A	MAPK8	PIK3R4	SIRT1	WDR45
ATIC	CCR2	EIF2S1	HSP90AB1	MAPK8IP1	PINK1	SIRT2	WDR45L
BAG1	CD46	EIF4EBP1	HSPA5	MAPK9	PPP1R15A	SPHK1	WIPI1
BAG3	CDKN1A	EIF4G1	HSPA8	MBTPS2	PRKAB1	SPNS1	WIPI2
BAK1	CDKN1B	ERBB2	HSPB8	MLST8	PRKAR1A	SQSTM1	ZFYVE1
BAX	CDKN2A	ERN1	IFNG	MTMR14	PRKCD	ST13	
BCL2	CFLAR	ERO1L	IKBKB	MTOR	PRKCQ	STK11	
Transcription factors analysis from rcis target							
ARID3A	BHLHE40	ELF2	FEV	KDM5A	PITX3	SREBF1	ZFP42
ARNT	BHLHE41	ELF4	FLI1	MAFK	PML	SREBF2	ZKSCAN3
ARNT2	BPTF	ELK1	FOXD1	MAX	POLR2A	TEAD4	ZNF358
ARNTL	CEBPZ	ELK3	FOXD2	MITF	POU5F1	TFE3	ZNF362
ARNTL2	CREB1	EP300	FOXO3	MLX	RAD21	TFEB	ZNF384
ATF2	CREB3	ERG	FOXP1	MLXIPL	RELA	TFEC	ZNF454
ATF3	CREB3L1	ETV2	GABPA	MYC	SIN3A	USF1	ZNF513
ATF4	CREB3L2	ETV4	GTF2F1	NFE2	SP4	USF2	ZNF597
BACH1	CREB3L4	ETV4	HELT	PAX4	SPI1	XBP1	ZNF768
BACH2	CREM	ETV6	IRF3	PITX1	SPIB	YY1	
BATF3	ELF1	ETV7	JDP2	PITX2	SPIC	YY2	

Transcription factors analysis BART							
AFF4	CDK8	ELL2	HSF1	MAX	PAF1	SAP30	TBP
ATF1	CDK9	EMSY	INO80	MAZ	PHF2	SIN3A	TFDP1
AUTS2	CHD1	EPC1	IRF1	MED1	PHF8	SIX5	U2AF1
BCL11B	CHD4	ERG	IRF3	MLLT1	PHIP	SMAD5	UBTF
BCL3	CPSF3L	ETS1	KAT5	MYC	PML	SP1	XRN2
BRCA1	CREB1	FAM208A	KAT7	MYCN	POLR2A	SP2	YY1
BRD1	DCP1A	FOXM1	KDM2B	NCOR1	POLR2B	SPIN1	ZBTB11
BRD2	DDX21	GABPA	KDM5A	NELFA	RB1	SRSF3	ZBTB33
BRD3	E2F1	GLI2	KDM5C	NELFE	RBBP5	STAT1	ZBTB7A
BRD4	E2F4	GMEB2	KLF15	NFATC1	RBL2	STAT2	ZNF143
BRPF3	EGR1	GTF2B	KLF9	NFYA	RBP2	SUPT5H	ZSCAN22
CBFB	ELF1	H2AZ	KMT2A	NR2C2	REL	TAF1	
CD74	ELK1	HCFC1	KMT2D	NRF1	RELA	TAF3	
CDK7	ELK4	HDAC1	MAPK1	OGT	RPE	TAFII	

  

Overlap							
CREB1	ELF1	ELK1	ERG	GABPA	IRF3	KDM5A	MAX
MYC	PML	POLR2A	RELA	SIN3A	YY1		

**Supplementary Table 4. Screening for YY1 target autophagy related genes (Figure 3A).**

YY1 target autophagy related genes	YY1 related gene	Overlap
ARNT	MAPK9	ARNT
ATF4	NRG1	ATG4B
ATG4B	PRKAR1A	GOPC
BAX	RAB1A	RAF1
CDKN1B	RAB5A	
CDKN2A	RAB7A	
FKBP1B	RAF1	
FOXO1	RHEB	
GAPDH	RPTOR	
GOPC	SPNS1	
GRID2	STK11	
HIF1A	TSC1	
HSPA8	WDFY3	