

SUPPLEMENTARY TABLES

Supplementary Table 1. Candidate bypass genes identified by CRISPR-based screen.

Gene name	Sources to select senescence-associated genes from				Previously reported bypass genes	Validation	
	Literature mining	Differential expression	PPI networks	Collecting manually		Further validation	Successfully validated
AHNAK2		1				1	
AKT1	1				[1]		
ARHGAP24	1					1	
ARID3A			1		[2]		
ATM	1		1	1	[3]		
CASP9	1		1				
CDKN1A	1	1	1	1	[4]		
CHEK2	1	1	1	1		1	1
CRISPLD2		1				1	1
FDPS	1						
FOSL1	1						
GCLC		1					
GPSM1						1	
HAS1		1				1	1
IKBKB	1					1	
IRF7	1						
ITSN2	1				[5]		
MDK		1				1	1
MIF	1						
MORF4L1	1		1			1	1
MTOR	1		1	1		1	1
NDUFB1							
OGG1	1						
OXTR		1				1	1
POT1	1	1				1	
SESN2				1		1	
SMAD7		1	1				
TNFRSF21		1					
TP53	1		1	1	[6]	1	1
ZBTB7A	1				[7]		

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Supplementary Table 2. Primers and validation sgRNAs.

Primers for sgRNA sequencing	ACTTGCTATTTCTAGCTC	TCATATGCTTACCGTAACTTG
Flanking sequences for sgRNA identification	GTGGAAAGGACGAAACACCG	GTTTTAGAGCTAGAAATAGC
sgRNAs for validation		
Gene	sgRNA1	sgRNA2
AHNAK2	TTTCTGCACCTGGCTCCCC	CTCCCCGGGCTGCAGCTGA
ARHGAP24	AACCGTCTGGCTCCGATGT	CCGCCCTTGGCCTTGTGG
CHEK2	GATATGCCCTGGGACTGTG	GACTGGGTAACGCTGCCAT
CRISPLD2	GGAGTGAGACTCGTTGTGC	CACAACAAGCTTCGGGGCC
GPSM1	AATTCCTCGGTCTGGGGCG	AGGTGCCCTGCATTGCTGT
HAS1	CTGCGCGTCCTCATGGTGG	CCTTCGCCCTGCTCATCCT
IKBKB	CCCAATGACCTGCCCCTGC	GCACCACCGCTCTCGGTTC
MDK	CGCTACAATGCTCAGTGCC	CACCGGATGCGCTGGGTCT
MORF4L1	GAGGGTGAGTGTGCGCCTT	GCGGTCAGTGCTTTGTGCG
MTOR	ACGGAAACCGTAGCTGCCC	GCAGCTACGGTTTCCGTCT
OXTR	ACCGTGCGGATCTTGGCCT	ACTCCACGGACGGATCTGC
POT1	TTCACACACTGATGGCGCC	TTACGCAGCTGGTCCACCG
SESN2	ACAACCTGGCAGTGGTGAT	ACCATCCGTGTGCAGCAGC
TP53	GCAGCTACGGTTTCCGTCT	ACGGAAACCGTAGCTGCCC

Supplementary Table 3. List of SASP genes for analysis in Figure 4D.

AREG	GAL	LIF	NTM	SDF4
BMP2	GDF15	LTBP1	NTNG1	SERPINB2
C3	GDNF	MMP1	PI3	SFRP1
CCL26	IGF1	MMP10	PLAT	SIL1
CDCP1	IGFBP5	MMP3	PLAU	SRPX2
CHID1	IL1A	NAMPT	PTX3	STC1
EGF	IL8	NPTX1	PVR	TFRC
ESM1	KITLG	NRG1	QPCT	TNFRSF10C
FGF2	LAMC2	NT5E	SCG2	TNFRSF10D
