KEY RESOURCES TABLE

REAGENT or RESOURCE	SOURCE	IDENTIFIER
Antibodies		
Mouse monoclonal anti-PPARgamma (E-8)	Santa Cruz Biotechnology	Cat# sc-7273
Rabbit polyclonal anti-PPARgamma2	Abcam	Cat# ab45036
Rabbit polyclonal anti-PPARG (81B8)	Cell Signaling	Cat #2443
Rabbit polyclonal anti-C/EBPβ (C-19)	Santa Cruz Biotechnology	Cat# sc-150
Rabbit polyclonal anti-C/EBPα	Santa Cruz Biotechnology	Cat# sc61
Rabbit polyclonal anti-FABP4	Abcam	Cat# ab13979
Goat polyclonal anti-FABP4	R & D Systems	Cat # AF1443
Mouse monoclonal anti-Adiponectin	Abcam	Cat# ab22554
Rabbit polyclonal anti-GFP	Abcam	Cat# ab290
Goat polyclonal anti-Glut4	Santa Cruz Biotechnology	Cat # sc-1608
Horseradish peroxidase (HRP)-conjugated anti-mouse	Cell Signaling	Cat# 7076
horseradish peroxidase (HRP)-conjugated anti-rabbit	Cell Signaling	Cat# 7074
Goat anti- Rabbit IgG (H+L) cross-adsorbed secondary antibody, alexa Fluor 514	Invitrogen	Cat #A 31558
Goat anti- Mouse IgG (H+L) cross-adsorbed secondary antibody, Alexa Fluor 594	Invitrogen	Cat # A11032
Donkey anti- Mouse IgG (H+L) cross-adsorbed secondary antibody, Alexa Fluor 647	Invitrogen	Cat # A31571
Chemicals, Peptides, and Recombinant Proteins		
IBMX	Sigma-Aldrich	Cat # 7018
Dexamethasone	Sigma-Aldrich	Cat #D1756
Insulin	Sigma-Aldrich	Cat # I6634
Saponin	Sigma-Aldrich	Cat #47036
bovine serum albumin	Sigma-Aldrich	Cat #7906
Corticosterone	Sigma-Aldrich	Cat #174
Rosiglitazone	Cayman	Cat #7906
BODIPY	Molecular Probes	Cat #D-3922
Experimental Models: Cell Lines		
OP9 mouse stromal	Wolins et al., 2006	N/A
3T3-L1 mouse preadipocytes cell line	Green and Kehinde, 1975	N/A
3T3-F442A mouse preadipocytes cell line	Green and Kehinde, 1975	
Experimental Models: Organisms/Strains		
Mouse	Jackson Labs	C57/Bl6
Oligonucleotides		

See Tables S1-S6 below		
Recombinant DNA		
Plasmid: CEBPB_Citrine_homology_donor	This paper	N/A
Plasmid: PPARG_Citrine_homology_donor	This paper	N/A
Plasmid: pX330-U6-Chimeric_BB-CBh-hSpCas9	Cong et al., 2013	Addgene plasmid # 42230
Plasmid: pX335-U6-Chimeric_BB-CBh-hSpCas9n	Cong et al., 2013	Addgene plasmid # 42335
Plasmid: mcherry	This paper	N/A
Plasmid: mcherry-FABP4	This paper	N/A
Other		
Zhang lab web tool for designing sgRNA		http://crispr.mit.edu/

Target	Strand	Oligonucleotide sequence (5′ to 3′)
PPARG_Nterm_1	Top	*CACC*GAGATTTGCTGTAATTCACAC
PPARG_Nterm_1	Bottom	*AAAC*GTGTGAATTACAGCAAATCTC
PPARG_Nterm_2	Top	*CACC*GCTGTTATGGGTGAAACTCT
PPARG_Nterm_2	Bottom	*AAAC*AGAGTTTCACCCATAACAGC
CEBPB_Nterm	Top	*CACC*GCGCGTTCATGCACCGCCTGC
CEBPB_Nterm	Bottom	*AAAC*GCAGGCGGTGCATGAACGCGC

Table S1: Oligonucleotide sequences used to insert sgRNA sequences into the px335 or px330 expression vector. Guide sequences are targeted to the PPARG and CEBPB N-terminal. The underlined and italicized nucleotides denote the overhang for ligation of the oligonucleotide duplex into the px335 or px330 guide sequence insertion site.

Primer Name	Template	Primer sequence (5′ to 3′)
PPARG_homology_region1_FWD	OP9 genomic DNA	AACCAATTCAGTCGACTGGATCCA AGGCCTTAAGCAAGAAGCC
PPARG_homology_region1_REV	OP9 genomic DNA	ACAGCTCCTCGCCCTTGCTCACCA TGGTAAGAACAGCATAAAACAGAG ATTTGCTGTA
PPARG_homology_region2_FWD	OP9 genomic DNA	CGAGCTGTACAAGGGAGGAGGAG GTGAAACTCTGGGAGATTCTCC
PPARG_homology_region2_REV	OP9 genomic DNA	ATCTCGAGTGCGGCCGCGAATTC GAAATAGAGAATGCAACAT
PPARG_Citrine_FWD	Citrine plasmid	TACAGCAAATCTCTGTTTTATGCTG TTCTTACCATGGTGAGCAAGGGCG AGGAGCTGT
PPARG_Citrine_REV	Citrine plasmid	CTTGTACAGCTCGTCCATGCCGA
CEBPB_homology_region1_FWD	OP9 genomic DNA	AACCAATTCAGTCGACTGCGTTTG TCTCTGATGAC
CEBPB _homology_region1_REV	OP9 genomic DNA	ATGGTGGCGAACGCGGGGCC
CEBPB_homology_region2_FWD	OP9 genomic DNA	AGGAGGACACCGCCTGCTG
CEBPB _homology_region2_REV	OP9 genomic DNA	TCGAGTGCGGCCGCGACCTTCTTC TGC
CEBPB _Citrine_FWD	Citrine plasmid	CGCGTTCGCCACCATGGTGAGCA AGGGCGA
CEBPB _Citrine_REV	Citrine plasmid	AGGCGGTGTCCTCCTCCCTTGTAC AGCTCGTC

Table S2: Primers used for PCR amplification of fragments that were joined by Gibson assembly to create donor vectors to insert Citrine at the N-terminals of PPARG and CEBPB via homologous recombination.

Assay	Primer sequence (5′ to 3′)	Amplicon (bp)
genotyping PPARG Citrine clones	**FWD:** CAC AGA ACA GTG AAT GTG TGG GTC	**630** (wt allele)
	REV: GGA AAT GGA AGC CAT GAG CAG	**1347** (knock-in allele)
genotyping CEBPB Citrine clones	**FWD:** CTT ATA AAC CTC CCG CTC GGC	**360** (wt allele)
	REV: AAG AGG TCG GAG AGG AAG TCG T	**1077** (knock-in allele)

Table S3: Primers used for genomic PCR analysis of the PPARG and CEBPB CRISPR clones.

Assay	Primer sequence (5′ to 3′)	Amplicon (bp)
seq. 1 PPARG Citrine clones	**FWD:** CAC AGA ACA GTG AAT GTG TGG GTC **REV:** CTT CAG CTC GAT GCG GTT CA	- (wt allele) **717** (knock-in allele)
seq. 2 PPARG Citrine clones	**FWD:** CAA GGA GGA CGG CAA CAT C **REV:** GGA AAT GGA AGC CAT GAG CAG	- (wt allele) **650** (knock-in allele)
seq. 1 CEBPB Citrine clones	**FWD:** CTT ATA AAC CTC CCG CTC GGC **REV:** CTT CAG CTC GAT GCG GTT CA	- (wt allele)) **475** (knock-in allele)
seq. 2 CEBPB Citrine clones	**FWD:** CAA GGA GGA CGG CAA CAT C **REV:** AAG AGG TCG GAG AGG AAG TCG T	- (wt allele) **603** (knock-in allele)

Table S4: Primers used for genomic PCR analysis to verify the fluorophore integration sites of the PPARG and CEBPB tagged clones.

Primer Name	Primer sequence (5′ to 3′)
Citrine_probe_FWD	CGACGTAAACGGCCACAAGTT
Citrine_probe_REV	ATGGGGGTGTTCTGCTGGTAGT

Table S5: Primers used for the PCR amplification of a 504 bp probe directed towards Citrine.