Supplementary Materials:	
Glucocorticoids increase adiposity by stimulating Krüppe	:l-
like factor 9 expression in macrophages	

## **Supplementary Figures:**

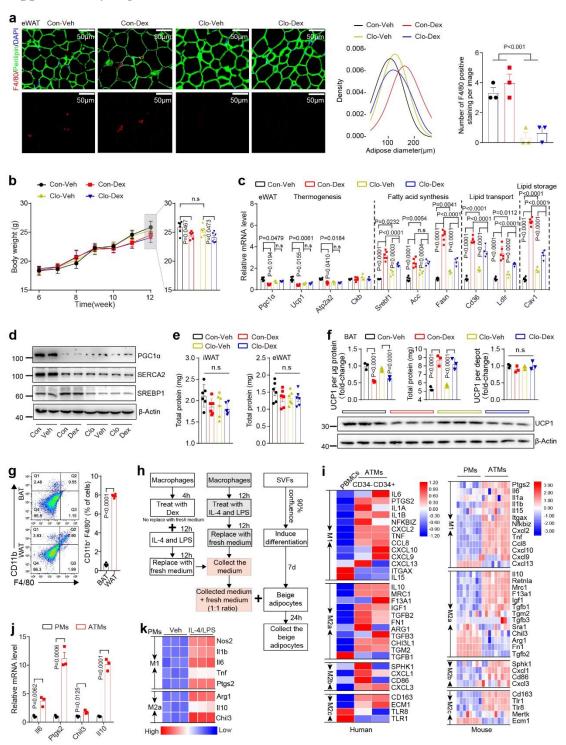


Fig. S1: ATMs are involved in GC-induced obesity.

**a**, Immunofluorescence staining of Perilipin-1 in eWAT of mice treated as in (**Fig. 1a**), scale bar =  $50 \mu m$ , quantification of eWAT adipocyte size and quantification of F4/80 positive in per image are also shown (n = 3 mice). Representative images of three independent experiments with similar results.

- **b**, Body weight of male mice treated as in (**Fig. 1a**) (n = 6 mice).
- $\mathbf{c}$ , mRNA levels of indicated genes in eWAT of mice treated as in (**Fig. 1a**) (n = 6 mice).
- d, protein levels of PGC1α, SERCA2, and SREBP1 in eWAT of mice treated as in (Fig. 1a).
- **e**, Quantification of total protein per depot of iWAT and eWAT from mice treated as in (**Fig. 1a**) (n = 6 mice).
- **f**, Quantification of showing UCP1 per microgram protein, total protein per depot, and total UCP1 per depot of BAT from mice treated as in (**Fig. 1a**) (n = 3 mice).
- **g**, Representative histograms from flow cytometry analysis of CD11b and F4/80 expression in SVFs of indicated AT in male C57BL/6J mice, amounts of CD11b<sup>+</sup>  $F4/80^+$  cells are also quantified (n = 6 mice).
- **h**, Schematic depicting the treatment of SVF-derived beige adipocytes with indicated CM from macrophages.
- **i**, Heat map representation of macrophage polarization markers in human PBMCs and ATMs (left, data from GSE37660), mPMs and ATMs (right, data from GSE133127).
- $\mathbf{j}$ , mRNA levels of macrophage polarization markers in mPMs and ATMs (n = 3 mice).
- $\mathbf{k}$ , mRNA levels of polarization markers of mPMs treated with vehicle or IL-4 (20 ng/ml) and LPS (1 ng/ml) for 12 h (n = 3 mice).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in **g** and **j**, one-way ANOVAs were performed in **a**, **b**, **e**, and **f**, or two-way ANOVAs were performed in **c**.

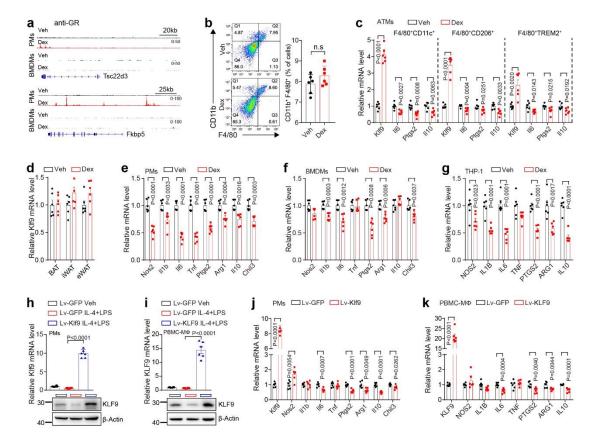


Fig. S2: Dex treatment and Klf9 overexpression promote macrophage deactivation.

- **a**, Genome browser shots of the GR ChIP-seq on *Tsc22d3* and *Fkbp5* loci in mPMs (GSE109131) and mBMDMs (GSE61877) treated with Dex or vehicle (Veh). Genomic coordinates in mm10.
- **b**, Representative flow cytometry histograms from analysis of CD11b and F4/80 expression in SVFs of AT of mice after 6 weeks Dex exposure, amounts of CD11b $^+$ F4/80 $^+$  cells are also quantified (n = 5 mice).
- $\mathbf{c}$ , mRNA levels of indicated genes in different ATMs subgroups treated with vehicle or Dex (5 mg/kg) for 6 weeks (n = 6 mice).
- **d**, Klf9 mRNA levels of indicated AT treated with vehicle or Dex (5 mg/kg) for 6 weeks (n = 6 mice).
- **e-g**, mRNA levels of polarization markers of mPMs ( $\mathbf{e}$ ). mBMDMs ( $\mathbf{f}$ ), and THP-1 ( $\mathbf{g}$ ) treated with Dex (100 nM) or vehicle for 16 h (n = 6 independent experiments).

- **h**, **i**, KLF9 mRNA and protein levels in the mPMs (**h**) and hPBMC-M $\Phi$  (**i**) infected with LV-GFP or LV-Klf9 / LV-KLF9 for 24 h, then co-stimulated with IL-4 (20 ng/ml) and LPS (1 ng/ml) or vehicle for another 12 h (n = 6 independent experiments). **j**, **k**, mRNA levels of indicated genes in the mPMs (**j**) and hPBMC-M $\Phi$  (**k**) infected
- **J**, **k**, mRNA levels of indicated genes in the mPMs (**J**) and hPBMC-M $\Phi$  (**k**) infected with LV-GFP or LV-Klf9 / LV-KLF9 for 36 h (n = 6 independent experiments).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in **b**, **c**, **d**, **e**, **f**, **g**, **j**, and **k**, or one-way ANOVAs were performed in **h** and **i**.

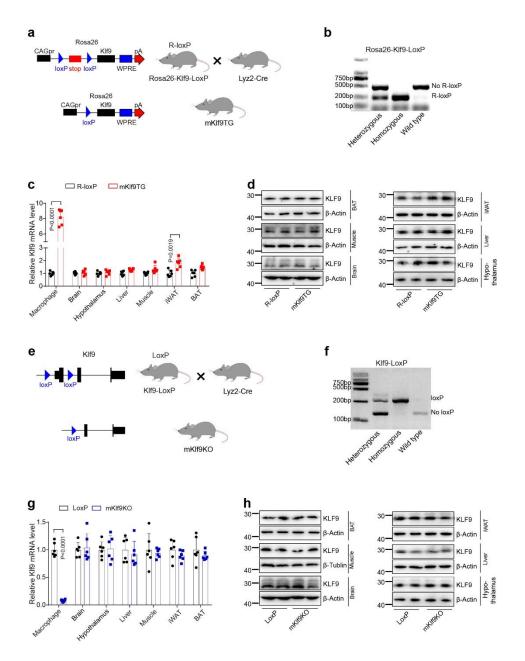
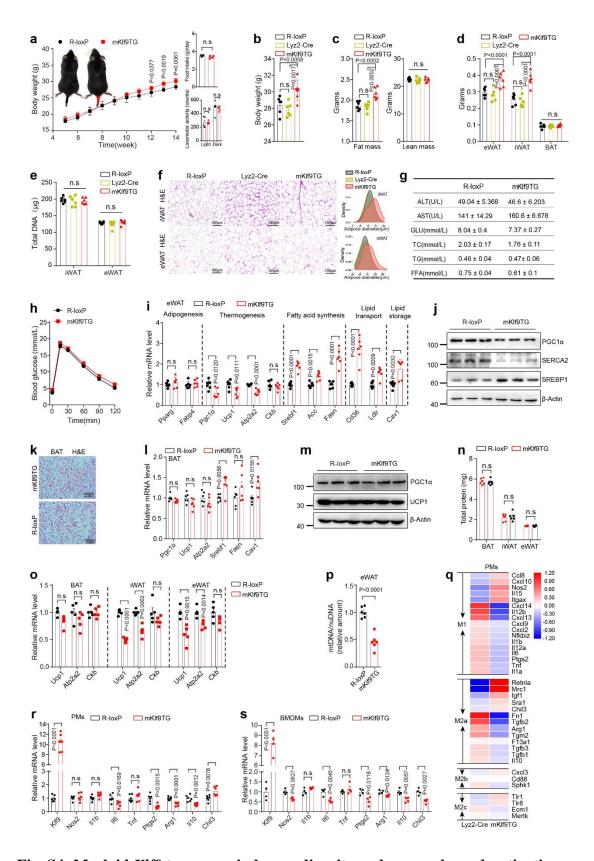


Fig. S3: Generation and characterization of macrophage-specific *Klf9* transgene and knockout mice.

- **a**, Generation of mKlf9TG mice. Rosa26 *Klf9*<sup>flox/flox</sup> mice were generated using the CRISPR/Cas9 system to insert the CAG-LoxP-STOP-LoxP-Klf9 cassette into the mouse *Rosa26* locus. These mice were subsequently bred with Lyz2-Cre transgenic mice to obtain mKlf9TG mice, leading to macrophage-specific *Klf9* overexpression.
- **b**, PCR-based genotyping of mice.
- $\mathbf{c}$ ,  $\mathbf{d}$ , KLF9 mRNA ( $\mathbf{c}$ ) and protein ( $\mathbf{d}$ ) levels in the indicated tissues from male R-loxP and mKlf9TG mice ( $\mathbf{n} = 6$  mice).

- **e**, Generation of mKlf9KO mice. *Klf9*<sup>flox/flox</sup> mice were generated using CRISPR/Cas9 technology to insert two loxP sites into exon1 of the *Klf9* gene. These mice were subsequently bred with Lyz2-Cre transgenic mice to obtain mKlf9KO mice, leading to macrophage-specific *Klf9* abrogation.
- **f**, PCR-based genotyping of mice.
- $\mathbf{g}$ ,  $\mathbf{h}$ , KLF9 mRNA ( $\mathbf{g}$ ) and protein ( $\mathbf{h}$ ) levels in the indicated tissues from male LoxP and mKlf9KO mice (n = 6 mice).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed.



**Fig. S4: Myeloid** *Klf9* **transgene induces adiposity and macrophage deactivation. a**, Body weight, food intake, and locomotor activity of male R-loxP and mKlf9TG mice fed an NCD for 14 weeks (n = 6 mice).

- **b**, Body weight of 14-week-old male R-loxP, Lyz2-Cre, and mKlf9TG mice fed an NCD.
- **c-e**, Fat and lean mass (**c**), AT weight (**d**), and total DNA content in iWAT and eWAT (**e**) of 14-week-old male R-loxP, Lyz2-Cre, and mKlf9TG mice (n = 6 mice).
- f, H&E staining of iWAT and eWAT from male R-loxP, Lyz2-Cre, and mKlf9TG mice, scale bar =  $100 \mu m$ , quantification of adipocyte size of iWAT and eWAT are also shown. Representative images of three independent experiments with similar results.
- **g**, Serum ALT, AST, GLU, TG, TC, and FFA contents of male R-loxP and mKlf9TG mice (n = 5 mice).
- **h**, GTT results of male R-loxP (n = 6 mice) and mKlf9TG (n = 5 mice) mice.
- i, j, mRNA (n = 6 mice) (i) and protein (j) levels of indicated genes in eWAT of male R-loxP and mKlf9TG mice.
- ${\bf k}$ , Representative H&E staining of BAT from male R-loxP and mKlf9TG mice, scale bar = 100  $\mu$ m. Representative images of three independent experiments with similar results.
- **l**, **m**, mRNA (n = 6 mice) (**l**) and protein (**m**) levels of indicated genes in BAT of male R-loxP and mKlf9TG mice.
- **n**, Quantification of total protein per depot of indicated AT from male R-loxP and mKlf9TG mice (n = 6 mice).
- o, mRNA levels indicated genes in indicated AT of male R-loxP and mKlf9TG mice during cold exposure (4 $^{\circ}$ C) for 48h (n = 5 mice).
- $\mathbf{p}$ , mtDNA copy number in eWAT of male R-loxP and mKlf9TG mice (n = 6 mice).
- **q**, Heat map of indicated genes in PMs of male Lyz2-Cre and mKlf9TG mice.
- $\mathbf{r}$ ,  $\mathbf{s}$ , mRNA levels of indicated genes in PMs ( $\mathbf{r}$ ) and BMDMs ( $\mathbf{s}$ ) from male R-loxP and mKlf9TG mice (n = 4 mice).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in **a**, **g**, **h**, **i**, **l**, **n**, **o**, **p**, **r**, and **s**, or one-way ANOVAs were performed in **b**-**e**.

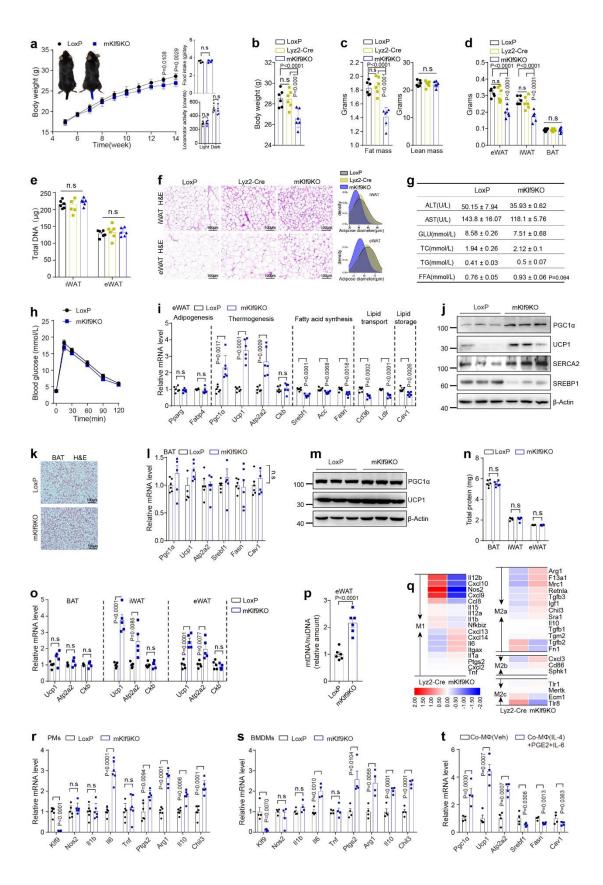


Fig. S5: Myeloid *Klf9* abrogation attenuates obesity, stimulates M2a macrophage activation, and increases the production of IL-6 and PGE2.

- **a**, Body weight, food intake, and locomotor activity of male LoxP and mKlf9KO mice fed an NCD for 14 weeks (n = 6 mice).
- **b**, Body weight of 14-week-old male LoxP, Lyz2-Cre, and mKlf9KO mice fed an NCD. **c-e**, Fat and lean mass (**c**), AT weight (**d**), and total DNA content in iWAT and eWAT
- (e) of 14-week-old male LoxP, Lyz2-Cre, and mKlf9KO mice (n = 6 mice).
- **f**, H&E staining of iWAT and eWAT from male LoxP, Lyz2-Cre, and mKlf9KO mice, scale bar =  $100 \mu m$ , quantification of adipocyte size are also shown. Representative images of three independent experiments with similar results.
- **g**, Serum ALT, AST, GLU, TG, TC, and FFA contents of male LoxP and mKlf9KO mice (n = 5 mice).
- **h**, GTT result of male LoxP (n = 5 mice) and mKlf9KO (n = 6 mice) mice.
- i, j, mRNA (n = 6 mice) (i) and protein (j) levels of indicated genes in eWAT of male LoxP and mKlf9KO mice.
- **k**, Representative H&E staining of BAT, scale bar =  $100 \mu m$ . Representative images of three independent experiments with similar results.
- **l**, **m**, mRNA (n = 6 mice) (**l**) and protein (**m**) levels of indicated genes in BAT of male LoxP and mKlf9KO mice.
- **n**, Total protein per depot of indicated AT of male LoxP and mKlf9KO mice (n = 6 mice).
- o, mRNA levels of indicated genes in indicated AT of male LoxP and mKlf9KO mice during cold exposure ( $4^{\circ}$ C) for 48h (n = 5 mice).
- $\mathbf{p}$ , mtDNA copy number in eWAT of male LoxP and mKlf9KO mice (n = 6 mice).
- **q**, Heat map of indicated genes in PMs of male Lyz2-Cre and mKlf9KO mice.
- $\mathbf{r}$ ,  $\mathbf{s}$ , mRNA levels of indicated genes in PMs ( $\mathbf{r}$ ) and BMDMs ( $\mathbf{s}$ ) of male LoxP and mKlf9KO mice (n = 4 mice).
- t, mRNA levels of the indicated genes in beige adipocytes treated with CM containing IL-6 (0.2 ng/ml) and PGE2 (1 $\mu$ M) from indicated macrophages stimulated with IL-4 (20 ng/ml) (n = 4 independent experiments).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in **a**, **g**, **h**, **i**, **l**, **n**, **o**, **p**, and **r**-**t**, or one-way ANOVAs were performed in **b**-**e**.

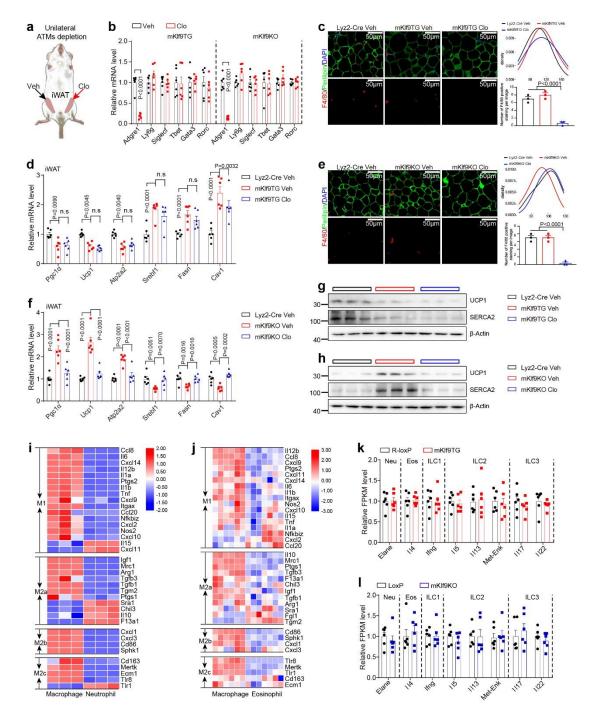


Fig. S6: Macrophage KLF9 regulates white adipose tissue energy homeostasis.

- **a**, iWAT of 8-12 week-old mice was unilaterally delivered clodronate liposomes or control liposomes (Veh).
- **b**, *Adgre1* (macrophages), *Ly6g* (neutrophils), *Siglecf* (eosinophils), *Tbet* (ILC1), *Gata3* (ILC2) and *Rorc* (ILC3) mRNA levels in iWAT of male mKlf9TG and mKlf9KO mice treated as in (**a**) (n = 6 mice).

- c, Immunofluorescence staining of Perilipin-1 in iWAT of male Lyz2-Cre and mKlf9TG mice treated as in (a), scale bar =  $50 \mu m$ , quantification of iWAT adipocyte size, and F4/80 positive staining per image are also shown (n = 3 mice). Representative images of three independent experiments with similar results.
- $\mathbf{d}$ ,  $\mathbf{g}$ , mRNA (n = 6 mice) ( $\mathbf{d}$ ) and protein ( $\mathbf{g}$ ) levels of indicated genes in iWAT of male Lyz2-Cre and mKlf9TG mice treated as in ( $\mathbf{a}$ ).
- **e**, Immunofluorescence staining of Perilipin-1 in iWAT of male Lyz2-Cre and mKlf9KO mice treated as in (**a**), scale bar =  $50 \mu m$ , quantification of iWAT adipocyte size, and F4/80 positive staining per image are also shown (n = 3 mice). Representative images of three independent experiments with similar results.
- **f**, **h**, mRNA (n = 6 mice) (**f**) and protein (**h**) levels of indicated genes in iWAT of male Lyz2-Cre and mKlf9KO mice treated as in (**a**).
- i, Heat map representation of macrophage polarization markers in macrophages and neutrophils, data from GSE93735.
- **j**, Heat map representation of macrophage polarization markers in macrophages and eosinophils, data from GSE112922.
- **k**, mRNA levels of the indicated genes of iWAT from male R-loxP and mKlf9TG mice (n = 6 mice).
- **l**, mRNA levels of the indicated genes of iWAT from male LoxP and mKlf9KO mice (n = 6 mice).

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in **b**, **k**, and **l**, one-way ANOVAs were performed in **c** and **e**, or two-way ANOVAs were performed in **d** and **f**.

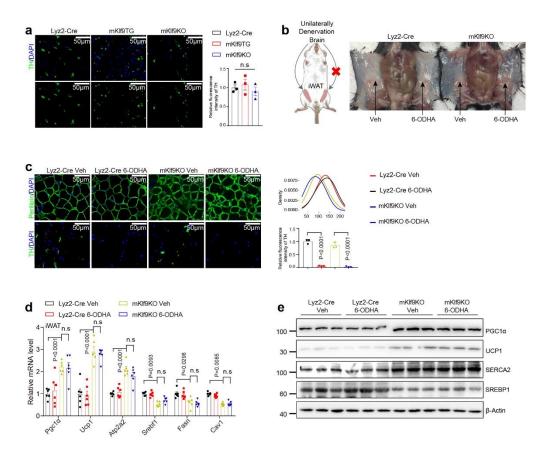


Fig. S7: Macrophage KLF9 regulates adipose tissue energy homeostasis independently of the nervous system.

**a**, Immunofluorescence staining of tyrosine hydroxylase (TH) in iWAT of male Lyz2-Cre, mKlf9TG, and mKlf9KO mice, scale bar =  $50~\mu m$ , relative TH immunofluorescence intensity is also shown (n = 3~mice). Representative images of three independent experiments with similar results.

- **b**, iWAT of 8-12 week old mice was unilaterally denervated (6-ODHA).
- c, Immunofluorescence staining of Perilipin-1 and TH in iWAT of male Lyz2-Cre and mKlf9KO mice treated as in (b), scale bar =  $50 \mu m$ , quantification of iWAT adipocyte size, and relative TH immunofluorescence intensity are also shown (n = 3 mice). Representative images of three independent experiments with similar results.
- **d**, **e**, mRNA (**d**) (n = 6 mice) and protein (**e**) levels of indicated genes in iWAT of male Lyz2-Cre and mKlf9KO mice treated as in (**b**).

Data are represented as mean  $\pm$  SEM., one-way ANOVAs were performed in  $\bf a$  and  $\bf c$ , or two-way ANOVAs were performed in  $\bf d$ .

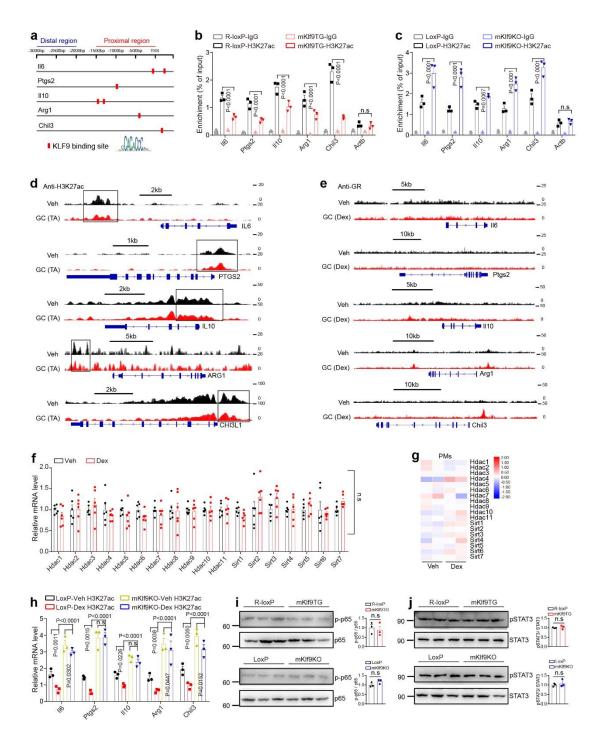


Fig. S8: Glucocorticoids reduce histone acetylation levels in the promoter regions of the M1 and M2a macrophage-associated marker genes.

- **a**, KLF9 binding site analysis of indicated genes.
- **b**, **c**, ChIP assay analysis of histone H3K27 acetylation levels in the promoters of indicated genes in mPMs from indicated mice co-stimulated with IL-4 (20 ng/ml) and LPS (1 ng/ml) for 12 h (n = 3 independent experiments).

- **d**, Genome browser shots of H3K27ac ChIP-seq on indicated genes loci in MDMs treated with TA (1 μM) or vehicle. Genomic coordinates in hg19, data from GSE109440.
- **e**, Genome browser shots of GR ChIP-seq on indicated genes loci in mPMs treated with Dex (100 nM) or vehicle. Genomic coordinates in mm10, data from GSE109131.
- $\mathbf{f}$ , mRNA levels of HDACs in mPMs treated with Dex or vehicle (n = 6 mice).
- **g**, Heat map representation of HDACs expression in mPMs treated with Dex or vehicle, data from GSE93735.
- **h**, ChIP assay showing the H3K27ac levels in the promoters of indicated genes in mPMs from indicated mice treated with Dex (100 nM) for 4 h and then co-stimulated with IL-4 (20 ng/ml) and LPS (1 ng/ml) for 12 h (n = 3 independent experiments).
- i, j, p65 and STAT3 phosphorylation levels in the indicated mPMs.

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in  $\mathbf{f}$ ,  $\mathbf{i}$ , and  $\mathbf{j}$ , or one-way ANOVAs were performed in  $\mathbf{b}$ ,  $\mathbf{c}$ , and  $\mathbf{h}$ .

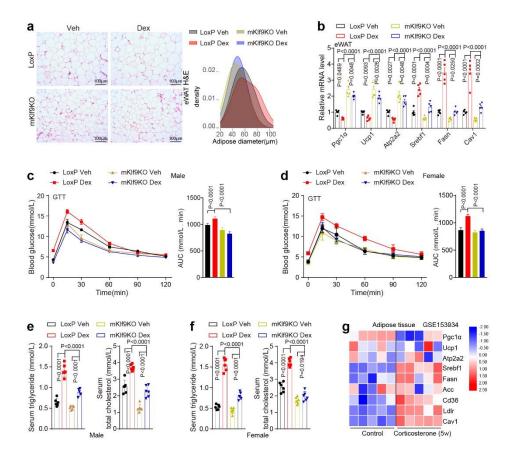


Fig. S9: Myeloid Klf9 ablation prevents Dex-induced metabolic disorder.

- a, Representative images of H&E staining of eWAT of male LoxP and mKlf9KO mice treated with vehicle or Dex (5 mg/kg) for 6 weeks (left), scale bar = 100  $\mu$ m, quantification of adipocyte size of eWAT is also shown (right). Representative images of three independent experiments with similar results.
- **b**, mRNA levels of indicated genes in eWAT of male LoxP and mKlf9KO mice treated as in (a) (n = 4 mice).
- $\mathbf{c}$ ,  $\mathbf{d}$ , GTT result of male ( $\mathbf{c}$ ) and female ( $\mathbf{d}$ ) LoxP and mKlf9KO mice treated as in ( $\mathbf{a}$ ), quantification of area under the curve (AUC) is also shown ( $\mathbf{n} = 6$  mice).
- **e**, **f**, Serum TG (left) and TC (right) contents in male (**e**), female (**f**) LoxP and mKlf9KO mice treated as in (**a**) (n = 6 mice).
- **g**, Heat map representation of indicated genes in visceral adipose tissue treated with Cort or vehicle, data from GSE153934.

Data are represented as mean  $\pm$  SEM., one-way ANOVAs were performed in  $\mathbf{c}$ ,  $\mathbf{d}$ ,  $\mathbf{e}$  and  $\mathbf{f}$ , or two-way ANOVAs were performed in  $\mathbf{b}$ .

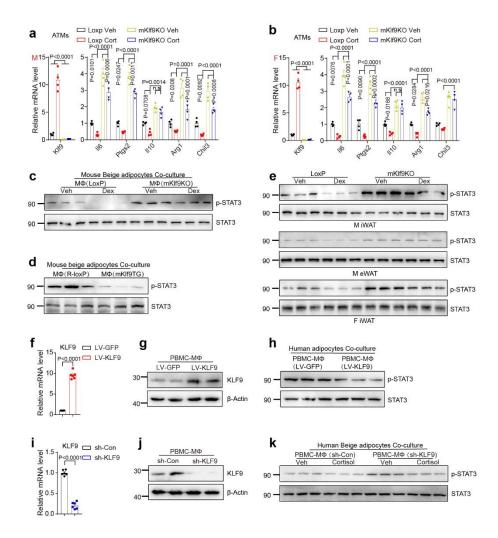


Fig. S10: Macrophage KLF9 controls beige adipocyte STAT3 signaling pathway.

- **a**, **b**, mRNA levels of indicated genes in ATMs of male (**a**) and female (**b**) LoxP and mKlf9KO mice treated with 50  $\mu$ g/mL Cort or corresponding vehicle (0.25% EtOH) in their drinking water for 6 weeks (n = 4 mice).
- **c**, **d**, STAT3 phosphorylation in mouse beige adipocytes treated with CM from indicated mPMs.
- **e**, STAT3 phosphorylation in iWAT and eWAT from male and female LoxP and mKlf9KO mice treated with Dex (5 mg/kg) or vehicle control for 6 weeks.
- $\mathbf{f}$ ,  $\mathbf{g}$ , mRNA(n = 6 independent experiments) ( $\mathbf{f}$ ) and protein ( $\mathbf{g}$ ) levels of KLF9 in hPBMC-M $\Phi$  infected with LV-GFP or LV-KLF9 for 36 h.

- **h**, STAT3 phosphorylation in human beige adipocytes treated with CM from hPBMC-MΦ pretreated with LV-KLF9 or LV-GFP for 24 h and then co-stimulated with IL-4 (20 ng/ml) and LPS (1 ng/ml) for another 12 h.
- i, j, mRNA (n = 6 independent experiments) (i) and protein (j) levels of KLF9 in hPBMC-M $\Phi$  infected with sh-Con or sh-KLF9 for 36 h.
- **k**, STAT3 phosphorylation in human beige adipocytes treated with CM from hPBMC-M $\Phi$  pretreated with sh-Con or sh-KLF9 for 24 h and then treated with cortisol (1 $\mu$ M) or vehicle for another 4 h and then co-stimulated with IL-4 (20 ng/ml) and LPS (1 ng/ml) for another 12 h.

Data are represented as mean  $\pm$  SEM., unpaired two-tailed Student's t tests were performed in  $\bf f$  and  $\bf i$ , one-way ANOVAs were performed in  $\bf a$  (left) and  $\bf b$  (left), or two-way ANOVAs were performed in  $\bf a$  (right) and  $\bf b$  (right).

## **Supplementary Table 1**

List of specific primers used for quantitative PCR gene expression analysis and ChIP analysis

Primers for quantitative PCR analysis

Gene symbol	Forward primer $(5' \rightarrow 3')$	Reverse primer $(5' \rightarrow 3')$
mKlf9	GCACAAGTGCCCCTACAGT	TGTATGCACTCTGTAATGGG CTTT
mPpargc1a	TGATGTGAATGACTTGGATA CAGACA	GCTCATTGTTGTACTGGTTG GATATG
mUcp1	AGGCTTCCAGTACCATTAGG T	CTGAGTGAGGCAAAGCTGA TTT
mAtp2a2	ACCTTTGCCGCTCATTTTCCA G	AGGCTGCACACACTCTTTAC C
mCkb	ATCGAGAAGCTGGCAGTAGA	TGCTCCGCCTCAGTCATG
mSrebf1	GGAGCCATGGATTGCACATT	GGCCAGGGAAGTCACTGT
mAcc	AGGAAGATGGCGTCCGCTCT G	GGTGAGATGTGCTGGGTCAT
mFasn	AGGGTCGACCTGGTCCTCA	GCCATGCCCAGAGGGTGGTT
mCd36	CCTCCAGAATCCAGACAACC	CACAGGCTTTCCTTCTTGC
mVldlr	CTCCACCAACCTGCGGAGCC	GCTGACGGCCACACTGCTCA
mCav1	GACCCCAAGCATCTCAACGA C	AGACAACAAGCGGTAAAAC CA
mNos2	CCTCATGCCATTGAGTTCAT C	CCTGTTGTTTCTATTTCCTTT GTT
mIl1b	TGAAGTTGACGGACCCCAAA A	TGATGTGCTGCTGCGAGATT
mIl6	AGTTGCCTTCTTGGGACTGA	TCCACGATTTCCCAGAGAAC
mTnf	CGTCAGCCGATTTGCTATCT	CGGACTCCGCAAAGTCTAA G
mPtgs2	GAGCACAGGATTTGACCAGT AT	GGCTTCAGCAGTAATTTGAT TC

$ \begin{array}{c} GAC \\ mArgl \\ G \\ G \\ mChil3 \\ GA \\ CATTGGAGGATGGAAGTTTG \\ GA \\ TGA \\ mElane \\ ACTTCGTCATGTCAGCAGCC \\ CACT \\ mIl4 \\ AGACTCTTTCGGGCTTTTCG \\ mIl6 \\ MIl7 \\ AGACTCTTTCGGGCTTTTCG \\ MIl8 \\ ACTTCGTCATGTGAAAG \\ TGA \\ TGATGCTCTTTAGGCTTCC \\ MIl9 \\ CAAGTGGCATAGATGTGAA \\ ACTTCGTCATGTCAGCAGCC \\ CACT \\ mIl14 \\ AGACTCTTTCGGGCTTTTCG \\ TGATGCTCTTTAGGCTTTCC \\ MIl15 \\ ATGAGCACAGTGGTGAAAG \\ ACTTGAGATAGGGAAGGAAGGAAG \\ ACTTGCAACGGCAGCATGGTAT \\ TATGAGTAGGGACAGGAAG \\ CC \\ GGAGATGTTGGTCAGGGAA \\ TATGAGTAGGGACAGGAAG \\ CC \\ GGAGATGTTGGTCAGGGAA \\ TC \\ TC \\ MIl13 \\ GTGCAACGGCAGCATGGTAT \\ TC \\ CTAGAATCCCGTGGATAGGC \\ AGACTACCTCAACCGTTCCA \\ GAGCTTCCCAGATCACAGA \\ G \\ MIl17 \\ AGACTACCTCAACCGTTCCA \\ GAGACTCTCCAGATCACAGA \\ G \\ MIl18 \\ ACACTGCTCCAGAGGAAAGT \\ ACACTGCTCCAGAGGAAAGT \\ ACTTGATATACTCATCGCG \\ AACTTGCTGCTAAATTATGG \\ TGG \\ MHdac2 \\ ACAAGGAGAAGGCAAAGA \\ G \\ GACTATCCAGGTTCCAGG \\ G \\ TT \\ MHdac5 \\ AACAGGAGAAGGCAAAGA \\ G \\ GAAATGCAGTCCCCCCC \\ MHdac6 \\ ACAAGGAGAAGGCAAAGA \\ G \\ ACACTGCTCCACGGACTCCT \\ ACCTCCACCTCCACCCC \\ MHdac6 \\ ACCAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCAAGGGT \\ G \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCAAGGGT \\ G \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ ACCCAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ ACTTCTTCTCTCTCAAGG \\ G \\ ACTTCTTCTTCTCTCTCTCTCTCTCTCTCTCAAGG \\ G \\ ACTTCTTCTTCTCTCTCTCTCTCTCTCTCTCTCTCTCTC$		TGGACAACATACTGCTAACC	
mArgIGC $mChil3$ CATTGGAGGATGGAAGTTTG GAGACGAAGGAATCTGATAAC TGA $mElane$ ACTTCGTCATGTCAGCAGCC CACTGCTCCTGTCGCCGCAGGTCA $mIl4$ AGACTCTTTCGGGCTTTTCGTGATGCTCTTTAGGCTTTCC $mlfng$ CAAGTGGCATAGATGTGGAA ATAATCTGGCTCTGCAGGATT $mll5$ ATGAGCACAGTGGTGAAAG ATATGAGTAGGGACAGGAAG C $mll33$ GGAAAGAACCCACGAAAAG ACTAGAATCCCGTGGATAGGC $mPenk$ CGCCCAGGCGACATCAATTTTCCTTGCAGGTCTCCCAGAT $mll17$ AGACTACCTCAACCGTTCCAGAGCTTCCCAGATCACAGA G $mll12$ AAACTGTTCCGAGGAGTCAGAGAACGTCTTCCAGGGTGA A $mHdac1$ GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCG $mHdac2$ AACTTGCTGCTAAATTATGG TTTGCAAAATTGTGAGTCAATGCCG GCTATTTCTACGACCCCGAT G $mHdac3$ CGTATTTCTACGACCCCGAT GGGCTATGAGTCAATGCCAG G $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGTTCAGG G $mHdac5$ AATCCTGCCACGGACTCCT GCTACCTCCACCTCCACCCGCTACCTCCACCTCCACCC $mHdac5$ AATCCTGCCACGGACTCCT GCTACCTCCACCTCCACCCCGCTACCTCCACCTCCACCCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA ACTCTGTTGTCCAAGGAGAGAGAGAGAGAGAGAGAGAGAG	mIl10	GAC	CCTGGGGCATCACTTCTACC
$ \begin{array}{c} G \\ mChil3 \\ GA \\ \hline \\ mElane \\ \hline \\ CATTGGAGGATGGAAGTTTG \\ GA \\ \hline \\ mElane \\ \hline \\ ACTTCGTCATGTCAGCAGCC \\ CACT \\ \hline \\ mll4 \\ AGACTCTTTCGGGCTTTTCG \\ \hline \\ mll7 \\ AGACTGCTTTCGGGCTTTTCG \\ \hline \\ mll6 \\ ATGAGCACAGTGGTAAAG \\ A \\ \hline \\ mll5 \\ ATGAGCACAGTGGTAAAG \\ A \\ \hline \\ mll13 \\ \hline \\ GTGCAACGGCAGCAGGTAT \\ \hline \\ mll33 \\ \hline \\ GGAAAGAACCCACGAAAAG \\ A \\ \hline \\ mll34 \\ \hline \\ GGCCCAGGCGACATCAATTT \\ \hline \\ TCCTTGCAGGTCTCCCAGGAT \\ \hline \\ mll17 \\ \hline \\ AGACTACCTCAACCGTTCCA \\ \hline \\ GAGCTTCCCAGGATCACAGA \\ G \\ \hline \\ mll22 \\ AAACTGTTCCGAGGATCACAGT \\ \hline \\ mll4 \\ GGCCCCAGGCGACATCAATTT \\ \hline \\ TCCTTGCAGGTCTCCAGGTGAAG \\ G \\ \hline \\ MHdac1 \\ \hline \\ GGGCACCAAGAGGAAAGTC \\ GCAAATTGTGAGTCATGCG \\ \hline \\ mHdac2 \\ \hline \\ mHdac3 \\ \hline \\ CGTATTTCTACGACCCCGAT \\ \hline \\ GGCAAATGCAGGTTCAGG \\ G \\ \hline \\ mHdac4 \\ G \\ \hline \\ CACAAGGAGAAGGGCAAAGA \\ G \\ GAAATTGCAGTCCAGG \\ \hline \\ G \\ GAAATTGCAGTCCAGG \\ \hline \\ G \\ GAAATTGCAGTCCAGG \\ G \\ \hline \\ T \\ mHdac5 \\ \hline \\ AACCTGCCCACGGACTCCT \\ GCTACCTCCACCTCCACCC \\ \hline \\ mHdac5 \\ \hline \\ ATTCCTGTTGCCAAGTCAA \\ \hline \\ G \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCAAGG \\ \hline \\ G \\ GAAATGCACCTCCACCCC \\ \hline \\ mHdac6 \\ \hline \\ A \\ CCAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCCAAGG \\ G \\ GATGCTCCCACCTCCACCCC \\ \hline \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ GATGGACTGTTCTCTCAAGG \\ G \\ GATGGACTGTTCTCTCAAGG \\ G \\ GATGCTCCCACCTCCACCCC \\ \hline \\ CAATAAAGACAAGAGCAAG \\ GATGGACTGTTCTCTCAAGG \\ G \\ G \\ GATGGACTGTTCTCTCAAGG \\ G \\ G \\ GATGGACTGTTCTCTCAAGG \\ G \\ G$		GCATATCTGCCAAAGACATC	TCTTCCATCACCTTGCCAAT
mChil3       GA       TGA         mElane       ACTTCGTCATGTCAGCAGCC CACT       GCTCCTGTCGCCGCAGGTCA         mIl4       AGACTCTTTCGGGCTTTTCG       TGATGCTCTTTAGGCTTTCC         mlfng       CAAGTGGCATAGATGTGGAA       TAATCTGGCTCTGCAGGATT         mll5       ATGAGCACAGTGGTGAAAG       TATGAGTAGGGACAGGAAG         mll3       GTGCAACGGCAGCATGGTAT       T         mll33       GGAAAGAACCCACGAAAAG       CTAGAATCCCGTGGATAGGC         mPenk       CGCCCAGGCGACATCAATTT       TCCTTGCAGGTCTCCCAGAT         mll17       AGACTACCTCAACCGTTCCA       GAGCTTCCCAGATCACAGA         mll22       AAACTGTTCCGAGGAGTCAG       AGAACGTCTTCCAGGGTGA         mHdac1       GGGCACCAAGAGGAAAGTC       GCAAATTGTGAGTCATGCG         mHdac2       AACTTGCTGCTAAATTATGG       ACTTGATATACTCATCGCTG         mHdac3       CGTATTTCTACGACCCCGAT       GGCAAATGAGTCAATGCCAG         mHdac4       ACAAGGAGAAGGGCAAAGA       GGAAATGCAGTGGTTCAGG         mHdac5       AATCCTGCCACGGACTCCT       GCTACCTCCACCTCCACCC         mHdac6       ATTCCTGTTGTCCAAGTCAA       ACTCTGGTCCAAAGAAGCGT         mHdac6       ATTCCTGTTGTCCAAGTCAA       ACTCTGGTCCAAAGAAGCGT         CAATAAAGACAAAGACAAGAGCAAG       GATGGACTGTTCTCTCAAGG	mArgI	G	C
GA       TGA         mElane       ACTTCGTCATGTCAGCAGCC CACT       GCTCCTGTCGCCGCAGGTCA         mll4       AGACTCTTTCGGGCTTTTCG       TGATGCTCTTTAGGCTTTCC         mlfng       CAAGTGGCATAGATGTGGAA       TAATCTGGCTCTGCAGGATT         mll5       ATGAGCACAGTGGTGAAAG       TATGAGTAGGGACAGGAAG         mll13       GTGCAACGGCAGCATGGTAT       TATGAGTAGGGACAGGAAG         mll33       GGAAAGAACCCACGAAAAG       CTAGAATCCCGTGGATAGGC         mPenk       CGCCCAGGCGACATCAATTT       TCCTTGCAGGTCTCCCAGAT         mll17       AGACTACCTCAACCGTTCCA       GAGCTTCCCAGATCACAGA         mll22       AAACTGTTCCGAGGAGTCAG       AGAACGTCTTCCAGGGTGA         mHdac1       GGGCACCAAGAGGAAAGTC       GCAAATTGTGAGTCATGCG         mHdac2       ACTTGCTGCTAAATTATGG       ACTTGATATACTCATCGCTG         mHdac3       CGTATTTCTACGACCCCGAT       GGCTATGAGTCAATGCCAG         mHdac4       ACAAGGAGAAGGCAAAGA       GGAAATGCAGTGGTTCAGG         mHdac5       AATCCTGCCACGGACTCCT       GCTACCTCCACCTCCACCC         mHdac6       ATTCCTGTTGTCCAAGTCAA       ACTCTGGTCCAAAGAAGCGT         MHdac6       ACTATAAAGACAAAGACAAG       GATGGACTGTTCTCTCAAGG	Cl.:12	CATTGGAGGATGGAAGTTTG	GACGAAGGAATCTGATAAC
mElane         CACT         GCTCCTGTCGCCGCAGGTCA           mll4         AGACTCTTTCGGGCTTTTCG         TGATGCTCTTTAGGCTTTCC           mlfng         CAAGTGGCATAGATGTGGAA         TAATCTGGCTCTGCAGGATT           mll5         ATGAGCACAGTGGTGAAAG         TATGAGTAGGGACAGGAAG           mll3         GTGCAACGGCAGCATGGTAT         GGAGATGTTGGTCAGGGAA           mll33         GGAAAGAACCCACGAAAAG         CTAGAATCCCGTGGATAGGC           mPenk         CGCCCAGGCGACATCAATTT         TCCTTGCAGGTCTCCCAGAT           mll17         AGACTACCTCAACCGTTCCA         GAGCTTCCCAGATCACAGA           mll22         AAACTGTTCCGAGGAGTCAG         AGAACGTCTTCCAGGGTGA           mHdac1         GGGCACCAAGAGGAAAGTC         GCAAATTGTGAGTCATGCG           mHdac2         AACTTGCTGCTAAATTATGG         ACTTGATATACTCATCGCTG           mHdac3         CGTATTTCTACGACCCCGAT         GGCTATGAGTCAATGCCAG           mHdac4         ACAAGGAGAAGGGCAAAGA         GGAAATGCAGTGGTTCAGG           mHdac5         AATCCTGCCACGGACTCCT         GCTACCTCCACCTCCACCC           mHdac6         ATTCCTGTTGTCCAAGTCAA         ACTCTGGTCCAAAGAAGCGT           ACAATAAAGACAAGACAAGAGCAAG         GATGGACTGTTCTCTCAAGG	mCnii3	GA	TGA
mll4 AGACTCTTTCGGGCTTTTCG TGATGCTCTTTAGGCTTTCC mlfng CAAGTGGCATAGATGTGGAA TAATCTGGCTCTGCAGGATT mll5 ATGAGCACAGTGGTGAAAG TATGAGTAGGGACAGGAAG A C mll13 GTGCAACGGCAGCATGGTAT T mll33 GGAAAGAACCCACGAAAAG CTAGAATCCCGTGGATAGGC A CTAGAATCCCGTGGATAGGC A CTAGAATCCCGTGGATAGGC MPenk CGCCCAGGCGACATCAATTT TCCTTGCAGGTCTCCCAGAT Mll17 AGACTACCTCAACCGTTCCA GAGACTCCCAGATCACAGA G mll22 AAACTGTTCCGAGGAGTCAG AGAACGTCTTCCAGGGTGA MHdac1 GGGCACCAAGAGGAAAGTC GCAAATTGTGAGTCATGCG MHdac2 ACATTGCTGCTAAATTATGG TTG TTT TGG  mHdac3 CGTATTTCTACGACCCCGAT GGCTATGAGTCAATGCCAG MHdac4 G MHdac5 AACCTGCCACGGACTCCT GCTACCTCCACCC MHdac5 AATCCTGCCACGGACTCCT GCTACCTCCACCCC MHdac6 ACATAAAAGACAAGAGCAAG GATGGACTGTTCCCAAGG G CAATAAAAGACAAGAGCAAG GATGGACTGTTCTCTCAAGG	m Elan o	ACTTCGTCATGTCAGCAGCC	GCTCCTGTCGCCGC A GGTC A
mlfng     CAAGTGGCATAGATGTGGAA     TAATCTGGCTCTGCAGGATT       mll5     ATGAGCACAGTGGTGAAAG     TATGAGTAGGGACAGGAAG       mll3     GTGCAACGGCAGCATGGTAT     GGAGATGTTGGTCAGGGAA       mll33     GGAAAGAACCCACGAAAAG     CTAGAATCCCGTGGATAGGC       mPenk     CGCCCAGGCGACATCAATTT     TCCTTGCAGGTCTCCCAGAT       mll17     AGACTACCTCAACCGTTCCA     GAGCTTCCCAGATCACAGA       mll22     AAACTGTTCCGAGGAGTCAG     AGAACGTCTTCCAGGGTGA       mHdac1     GGGCACCAAGAGGAAAGTC     GCAAATTGTGAGTCATGCG       mHdac2     AACTTGCTGCTAAATTATGG     ACTTGATATACTCATCGCTG       mHdac3     CGTATTTCTACGACCCCGAT     GGCTATGAGTCAATGCCAG       mHdac4     ACAAGGAGAAGGGCAAAGA     GGAAATGCAGTGGTTCAGG       mHdac5     AATCCTGCCACGGACTCCT     GCTACCTCCACCTCCACCC       mHdac6     ATTCCTGTTGTCCAAGTCAA     ACTCTGGTCCAAAGAAGCGT       G     CAATAAAGACAAGAGCAAG     GATGGACTGTTCTCTCAAGG	тЕшпе	CACT	GCTCCTGTCGCCGCAGGTCA
mll5       ATGAGCACAGTGGTGAAAG       TATGAGTAGGGACAGGAAG         mll13       GTGCAACGGCAGCATGGTAT       GGAGATGTTGGTCAGGGAA         mll33       GGAAAGAACCCACGAAAAG       CTAGAATCCCGTGGATAGGC         mPenk       CGCCCAGGCGACATCAATTT       TCCTTGCAGGTCTCCCAGAT         mll17       AGACTACCTCAACCGTTCCA       GAGCTTCCCAGATCACAGA         mll22       AAACTGTTCCGAGGAGTCAG       AGAACGTCTTCCAGGGTGA         mHdac1       GGGCACCAAGAGGAAAGTC       GCAAATTGTGAGTCATGCG         mHdac2       AACTTGCTGCTAAATTATGG       ACTTGATATACTCATCGCTG         mHdac3       CGTATTTCTACGACCCCGAT       GGGCTATGAGTCAATGCCAG         mHdac4       ACAAGGAGAAGGGCAAAGA       GGAAATGCAGTGGTTCAGG         mHdac5       AATCCTGCCACGGACTCCT       GCTACCTCCACCTCCACCC         mHdac6       ATTCCTGTTGTCCAAGTCAA       ACTCTGGTCCAAAGAAGCGT         G       CAATAAAGACAAGAGCAAG       GATGGACTGTTCTCTCAAGG	mIl4	AGACTCTTTCGGGCTTTTCG	TGATGCTCTTTAGGCTTTCC
mll5       A       C         mll13       GTGCAACGGCAGCATGGTAT T       GGAGATGTTGGTCAGGGAA T T         mll33       GGAAAGAACCCACGAAAAG A CTAGAATCCCGTGGATAGGC A CTAGAATCCCGTGGATAGGC A CTAGAATCCCAGAT TCCAGGTTCCA GAGCTTCCAGATCACAGA G AACTGTTCCGAGGAGTCAG A AGAACGTCTCCAGGGTGA A AACTGTTCCGAGGAGTCAG A AGAACGTCTTCCAGGGTGA A AACTTGCTGCTAAATTATGG ACTTGATATACTCATCGCTG TTT TGG       AACTTGCTGCTAAATTATGG ACTTGATATACTCATCGCTG TTT TGG         mHdac2       ACAAAGGAGAAGGGCAAAGA GGCAAATGCAGTGGTTCAGG T ACTGGTGAAATGCCAG G T TTCTTCTTCAGGACCCCGAT GCTACCTCCACCCC ACTCCACCCC ACTCCACCCC ACTCCACCCC ACTCCACCCC ACTCCACGGACTCCT GCTACCTCCACCCC ACTCCACCCC ACTCCACGGACTCCT GCTACCTCCACCCC ACTCCACCCC ACTCCACCAGGACTCCA ACTCCTGGTCCAAAGAAGCGT G CAATAAAGACAAGAGCAAG GATGGACTGTTCTCTCAAGG	mIfng	CAAGTGGCATAGATGTGGAA	TAATCTGGCTCTGCAGGATT
MIII3 GTGCAACGGCAGCATGGTAT  mII33 GGAAAGAACCCACGAAAAG A CTAGAATCCCGTGGATAGGC  mPenk CGCCCAGGCGACATCAATTT TCCTTGCAGGTCTCCCAGAT  mII17 AGACTACCTCAACCGTTCCA  mII22 AAACTGTTCCGAGGAGAAGT  mHdac1 GGGCACCAAGAGGAAAGTC  mHdac2 TTT TGG  mHdac3 CGTATTTCTACGACCCGAT  mHdac4 ACAAGGAGAAGGCAAAGA  mHdac4 G G  mHdac5 AATCCTGCCACGGACTCCT  mHdac6 ACAAGAGAGAAGAGAAGAC  mHdac6 ATCCTGCCACGGACTCCT  mHdac6 ACAAGAGAGAAGACCCCCGAT  GCAATAAAGACAAGAGCAAG  GCAATGCTCCAACCCCCCCCCC	m115	ATGAGCACAGTGGTGAAAG	TATGAGTAGGGACAGGAAG
mill3GTGCAACGGCAGCATGGTAT GGAAAGAACCCACGAAAAG ATmll33GGAAAGAACCCACGAAAAG ACTAGAATCCCGTGGATAGGCmPenkCGCCCAGGCGACATCAATTTTCCTTGCAGGTCTCCCAGATmil17AGACTACCTCAACCGTTCCA GGAGCTTCCCAGATCACAGA Gmll22AAACTGTTCCGAGGAGTCAG AAGAACGTCTTCCAGGGTGA AmHdac1GGGCACCAAGAGGAAAGTC TTGCAAATTGTGAGTCATGCG ACTTGATATACTCATCGCTG TGGmHdac2TTTGGmHdac3CGTATTTCTACGACCCCGAT GGGCACTATGAGTCAATGCCAG G GGAAATGCAGTGGTTCAGG TmHdac4ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG TmHdac5AATCCTGCCACGGACTCCT ATTCCTGTTGTCCAAGTCAA AGCTACCTCCACCTCCACCCCmHdac6ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT GCAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	miis	A	C
mll33 GGAAAGAACCCACGAAAAG A CTAGAATCCCGTGGATAGGC  mPenk CGCCCAGGCGACATCAATTT TCCTTGCAGGTCTCCCAGAT  GAGCTTCCCAGATCACAGA  mll17 AGACTACCTCAACCGTTCCA G  mll22 AAACTGTTCCGAGGAGTCAG  mHdac1 GGGCACCAAGAGGAAAGTC GCAAATTGTGAGTCATGCG  TTT TGG  mHdac2 TTT TGG  GGCTATGATATACTCATCGCTG  GGCTATTTCTACGACCCCGAT GGAAATTGTGAGTCATGCCG  GGCTATGATATACTCATCGCTG  GGCTATGATGAGTCAATGCCAG  GGCTATGAGTCAATGCCAG  GGCTATGAGTCAATGCCAG  GGCTATGAGTCAATGCCAG  GGCTATGAGTCAATGCCAG  GGCTATGAGTCAATGCCAG  GGAAATGCAGTGGTTCAGG  T  mHdac4 ACAAGGAGAAGGGCAAAGA GGAAATGCAGTGGTTCAGG  T  mHdac5 AATCCTGCCACGGACTCCT GCTACCTCCACCTCCACCC  ATTCCTGTTGTCCAAGTCAA ACTCTGGTCCAAAGAAGAGGGT  G  CAATAAAGACAAGAGCAAG GATGGACTGTTCTCTCAAGG	1112	CTCCA A CCCCA CCA TCCTA T	GGAGATGTTGGTCAGGGAA
mIl33ACTAGAATCCCGTGGATAGGCmPenkCGCCCAGGCGACATCAATTTTCCTTGCAGGTCTCCCAGATmIl17AGACTACCTCAACCGTTCCAGAGCTTCCCAGATCACAGA GmIl22AAACTGTTCCGAGGAGTCAGAGAACGTCTTCCAGGGTGA AmHdac1GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCGmHdac2AACTTGCTGCTAAATTATGGACTTGATATACTCATCGCTGmHdac3CGTATTTCTACGACCCCGATGGCTATGAGTCAATGCCAG GmHdac4ACAAGGAGAAGGGCAAAGAGGAAATGCAGTGGTTCAGGmHdac5AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCCmHdac6ATTCCTGTTGTCCAAGTCAAACTCTGGTCCAAAGAAGCGT GATTCCTGTTGTCCAAGTCAAACTCTGGTCCAAAGAAGCGT GCAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	milis	GIOCAACOCAGCAIGGIAI	T
mPenkCGCCCAGGCGACATCAATTTTCCTTGCAGGTCTCCCAGAT $mll17$ AGACTACCTCAACCGTTCCAGAGCTTCCCAGATCACAGA G $mll22$ AAACTGTTCCGAGGAGTCAG AAGAACGTCTTCCAGGGTGA A $mHdac1$ GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCG $mHdac2$ AACTTGCTGCTAAATTATGG TTTACTTGATATACTCATCGCTG TGG $mHdac3$ CGTATTTCTACGACCCCGAT GGGCTATGAGTCAATGCCAG G $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG T $mHdac5$ AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT G $mHdac6$ ACAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	1122	GGAAAGAACCCACGAAAAG	
mll17AGACTACCTCAACCGTTCCAGAGCTTCCCAGATCACAGA G $mll22$ AAACTGTTCCGAGGAGTCAG AAACTGTTCCGAGGAGAAAGTCAGAACGTCTTCCAGGGTGA A $mHdac1$ GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCG $mHdac2$ AACTTGCTGCTAAATTATGG TTTACTTGATATACTCATCGCTG GGCTATGAGTCAATGCCAG G $mHdac3$ CGTATTTCTACGACCCCGATGGCTATGAGTCAATGCCAG G $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG T $mHdac5$ AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT G $mHdac6$ CAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	miiss	A	CIAGAICCCGIGGAIAGGC
mll17AGACTACCTCAACCGTTCCAG $mll22$ AAACTGTTCCGAGGAGTCAGAGAACGTCTTCCAGGGTGA A $mHdac1$ GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCG $mHdac2$ AACTTGCTGCTAAATTATGG TTTACTTGATATACTCATCGCTG TGG $mHdac3$ CGTATTTCTACGACCCCGATGGCTATGAGTCAATGCCAG G $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG T $mHdac5$ AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT G $mHdac6$ CAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	mPenk	CGCCCAGGCGACATCAATTT	TCCTTGCAGGTCTCCCAGAT
$mll22 \qquad AAACTGTTCCGAGGAGTCAG \qquad AGAACGTCTTCCAGGGTGA \\ A \qquad \qquad AGAACGTCTTCCAGGGTGA \\ A \qquad \qquad AGAACGTCTTCCAGGGTGA \\ A \qquad \qquad GGGCACCAAGAGGGAAAGTC \qquad GCAAATTGTGAGTCATGCG \\ MHdac2 \qquad AACTTGCTGCTAAATTATGG \qquad ACTTGATATACTCATCGCTG \\ TTT \qquad TGG \qquad GGCTATGAGTCAATGCCAG \\ G \qquad G \qquad GGCTATGAGTCAATGCCAG \\ G \qquad \qquad ACAAGGAGAAGGGCAAAGA \qquad GGAAATGCAGTGGTTCAGG \\ T \qquad \qquad MHdac4 \qquad G \qquad \qquad T \qquad \qquad MHdac5 \qquad AATCCTGCCACGGACTCCT \qquad GCTACCTCCACCCC \\ MHdac6 \qquad ATTCCTGTTGTCCAAGTCAA \qquad ACTCTGGTCCAAAGAAGCGT \\ G \qquad G \qquad G \qquad G \qquad GATGGACTGTTCTCCAAGG \\ A \qquad G \qquad G \qquad GATGGACTGTTCTCTCAAGG \\ G \qquad CAATAAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCCAAGG \\ G \qquad CAATAAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCCAAGG \\ G \qquad CAATAAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCAAGG \\ G \qquad CAATAAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCCAAGG \\ G \qquad CAATAAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCAAGG \\ G \qquad CAATAAAGACAAGACAAGAGCAAG \qquad GATGGACTGTTCTCTCAAGG \\ G \qquad CAATAAAGACAAGACAAGACAAGACAAGACAAGACAAGA$	m1117	AGACTACCTCAACCCTTCCA	GAGCTTCCCAGATCACAGA
mll22AAACTGTTCCGAGGAGTCAG AA $mHdac1$ GGGCACCAAGAGGAAAGTCGCAAATTGTGAGTCATGCG $mHdac2$ AACTTGCTGCTAAATTATGG TTTACTTGATATACTCATCGCTG TGG $mHdac3$ CGTATTTCTACGACCCCGATGGCTATGAGTCAATGCCAG G $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG T $mHdac5$ AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT G $mHdac6$ CAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	miti /	AUACIACCICAACCOITCCA	G
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	m1122	A A A CTGTTCCG A GG A GTC A G	AGAACGTCTTCCAGGGTGA
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	mitzz	AAACIGITECGAGGAGTEAG	A
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	mHdac1	GGGCACCAAGAGGAAAGTC	GCAAATTGTGAGTCATGCG
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	mUdaa)	AACTTGCTGCTAAATTATGG	ACTTGATATACTCATCGCTG
mHdac3CGTATTTCTACGACCCCGAT GG $mHdac4$ ACAAGGAGAAGGGCAAAGA GGGAAATGCAGTGGTTCAGG T $mHdac5$ AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCC $mHdac6$ ATTCCTGTTGTCCAAGTCAA AACTCTGGTCCAAAGAAGCGT G $CAATAAAGACAAGAGCAAG$ GATGGACTGTTCTCTCAAGG	тпаас2	TTT	TGG
$ \begin{array}{c} & G \\ \\ mHdac4 \end{array} \hspace{0.2cm} \begin{array}{c} ACAAGGAGAAGGGCAAAGA \\ G \end{array} \hspace{0.2cm} \begin{array}{c} GGAAATGCAGTGGTTCAGG \\ T \end{array} \\ \\ mHdac5 \hspace{0.2cm} \begin{array}{c} AATCCTGCCACGGACTCCT \\ ATTCCTGTTGTCCAAGTCAA \\ A \end{array} \hspace{0.2cm} \begin{array}{c} GCTACCTCCACCTCCACCC \\ ACTCTGGTCCAAGAGAGCGT \\ G \end{array} \\ \\ CAATAAAGACAAGAGCAAG \end{array} \hspace{0.2cm} \begin{array}{c} G \\ GATGGACTGTTCTCTCAAGG \\ G \end{array} $	mIIdaa2		GGCTATGAGTCAATGCCAG
mHdac4GTmHdac5AATCCTGCCACGGACTCCTGCTACCTCCACCTCCACCCmHdac6ATTCCTGTTGTCCAAGTCAAACTCTGGTCCAAAGAAGCGTAGCAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	тнаасэ	CGIATTICIACGACCCCGAT	G
G T  mHdac5 AATCCTGCCACGGACTCCT GCTACCTCCACCC  ATTCCTGTTGTCCAAGTCAA ACTCTGGTCCAAAGAAGCGT  A G  CAATAAAGACAAGAGCAAG GATGGACTGTTCTCTCAAGG		ACAAGGAGAAGGCAAAGA	GGAAATGCAGTGGTTCAGG
mHdac6ATTCCTGTTGTCCAAGTCAAACTCTGGTCCAAAGAAGCGTAGCAATAAAGACAAGAGCAAGGATGGACTGTTCTCTCAAGG	тпаас4	G	Т
mHdac6     A     G       CAATAAAGACAAGAGCAAG     GATGGACTGTTCTCTCAAGG	mHdac5	AATCCTGCCACGGACTCCT	GCTACCTCCACCTCCACCC
A G CAATAAAGACAAGAGCAAG GATGGACTGTTCTCTCAAGG	mUdas6	ATTCCTGTTGTCCAAGTCAA	ACTCTGGTCCAAAGAAGCGT
	тпаасо	A	G
mHdac/	mHdac7	CAATAAAGACAAGAGCAAG	GATGGACTGTTCTCTCAAGG
CG G	miiauc/	CG	G

	CGGTTTATATTTACAGTCCC	GCATAGGCTTCGATCAGAG
mHdac8	G	AG
	TCAAGATAGCAAGGATGATT	ACTTTCTGTTTTAACCTGGA
mHdac9	TC	CC
mHdac10	AGGAAGAGTTGGGCTTGGTG	TGCTTAGACAGTGCGTGGAG
mHdac11	GGAAATGGGGCAAGGTGAT	CAGCAGGTCCTCCTCCGAG
na Cinet I	GTATTTTAGAAAAGACCCAA	GTATTTTAGAAAAGACCCAA
mSirt1	GACC	GACC
mSirt2	GATTCAGACTCGGACACTGA	TCGTCTAGAAGACGCTCCTT
mStrt2	GG	TT
mSirt3	GTAGGGTGGTGGTCATGGTG	CTGAAGGTTGCTGTAGAGGC
mSirt4	CGTGGACGCTTTGCACTCC	TGCTCCCCACAGTTCAGGC
mSirt5	GCCTCCCCACAAAGCAAGAT	TGGCGTTCGCAAAACACTTC
C:46		GGTGACAGACAGGTCTGCG
mSirt6	ACCATTCTGGACTGGGAGGA	G
mSirt7	AGGCACTTGGTTGTCTACAC	CATACTCCATTAGGACCCCG
msiii/	G	A
m36B4	GAGGAATCAGATGAGGATAT	AAGCAGGCTGACTTGGTTGC
M30D4	GGGA	AAGCAGGCTGACTTGGTTGC
hNOS2	AGAGGACCCAGGGACAAGC	TTGTTTCTATCTCCTTTGTTA
mvOS2	C	CCG
1.11 1 D	TGACCTGAGCACCTTCTTTCC	GCACATAAGCCTCGTTATCC
hIL1B	TUACCIUAGCACCIICITICC	C
1.11.6	GGCAGAAAACAACCTGAAC	AACTCCAAAAGACCAGTGA
hIL6	CT	TG
hTNF	CACGCTCTTCTGCCTGCTG	GGCTTGTCACTCGGGGTTC
hPTGS2	AACTCTGGCTAGACAGCGTA	AACCGTAGATGCTCAGGGA
nF1GS2	A	C
hARG1	AAGGGACAGCCACGAGGAG	TGTCAGCAAAGGGCAGGTC
hIL10	TGTTAAAGGAGTCCTTGCTG	CTTGATGTCTGGGTCTTGGT
nILIU	G	Т
1 IZI EO	TCCTCCCATCTCAAAGCCCA	ACAGCGGACAGCGGAACTG
hKLF9		

hPPARGC1A	GAACAAGACTATTGAACGCA	CTTGGTTGGCTTTATGAGGA
	CCT	G
hUCP1	CTCAGGATCGGCCTCTACG	CTTTCACGACCTCTGTGGG
hATP2A2	CTTGCTGGAACTTGTGATTG	CAAAGGCTGTAATTGTTTCT
nair zaz	CITOCIOGAACITOTOATTO	TC
hSREBF1	AGCTTCTCCATCAGTTCCAG	TCAGAGAGGCCCACCACTTG
nskedi i	С	TCAGAGAGGCCCACCACTTG
hFASN	GTCACCATCTCGGGACCTCA	GCACCTCCTTGGCAAACAC
hCAV1	GCGACCCTAAACACCTCAA	CTTCCAAATGCCGTCAAAA
h36B4	GTGTTCACCAAGGAGGACC	TGGCACAGTGACTTCACATG

## Primers for ChIP analysis

mIl6 AceH3	TTGGAGGTGAACAAACCATT	ACCCAACCTGGACAACAGA
(-622 to -531)	AG	CAG
mPtgs2 AceH3 (-487 to -304)	GAAAGACTTCAACCTAATTC CACCAG	GGGATCTAAGGTCCTAACTA AGGGA
mIl10 AceH3 (-187 to -73)	CATTCCGACCAGTTCTTTAG CG	CAGGCTCCTCCTCTTC TA
mArg1 AceH3 (-797 to -662)	ATTGCTCCGTTTCGATTCTTC T	GTGTGCCAAGTGCTATTCTA GTTAA
mChil3 AceH3 (-149 to -46)	TGACTGAACTGGTGATAAAA GGTG	AATGGGAAGTTTGGAAAAG GAA
mIl6 KLF9	GTGCTCATGCTTCTTAGGGC	AAATCTTTGTTGGAGGGTGG
(-218 to -55)	TAG	G
mPtgs2 KLF9 (-1094 to - 1008)	ATTCACGCCAAGAACGTACA GT	TGTGAGGATGGAGTAGCGA AAA
<i>mIl10</i> KLF9 (-1379 to - 1195)	GAAAGTGAAAGGGATGGAG GC	GCTGGCAGATCAGGATCAA GG

mArg1 KLF9	TGTCAGGGAAATAAATGATG	CCAGGTTACACTGTCTAGGA
(-545 to -419)	С	AA
mChil3 KLF9	GAACTTCAGTCTTGCATGGT	TTCCTGTTATGGCTGTGGTA
(+39 to +179)	Т	С
mIl6 KLF9	CTCCCATAATCAAATGCCAA	TACAACATAACGCTATCCTT
(-2667 to -	TC	С
2864)		
mPtgs2 KLF9	CATCTTGATTTGGTTTGGGA	AAATTCAGACCTGGAGGAC
(-2080 to -	CA	AA
2038)		
mIl10 KLF9	TTGAATCCGCAGCTCCGACA	GCTGGGTTTCAGGACAAGG
(-2554 to -	G	GA
2608)		
mArg1 KLF9		
(-2559 to -	TTGTGCCACTTTGGGTTGAG	GTTCTCCTTCAGGCGACCAT
2782)		
mChil3 KLF9		
(-2392 to -	TTTTGACCAATTTCCTCCTT	GATGGCACTTATGCTGATGT
2555)		