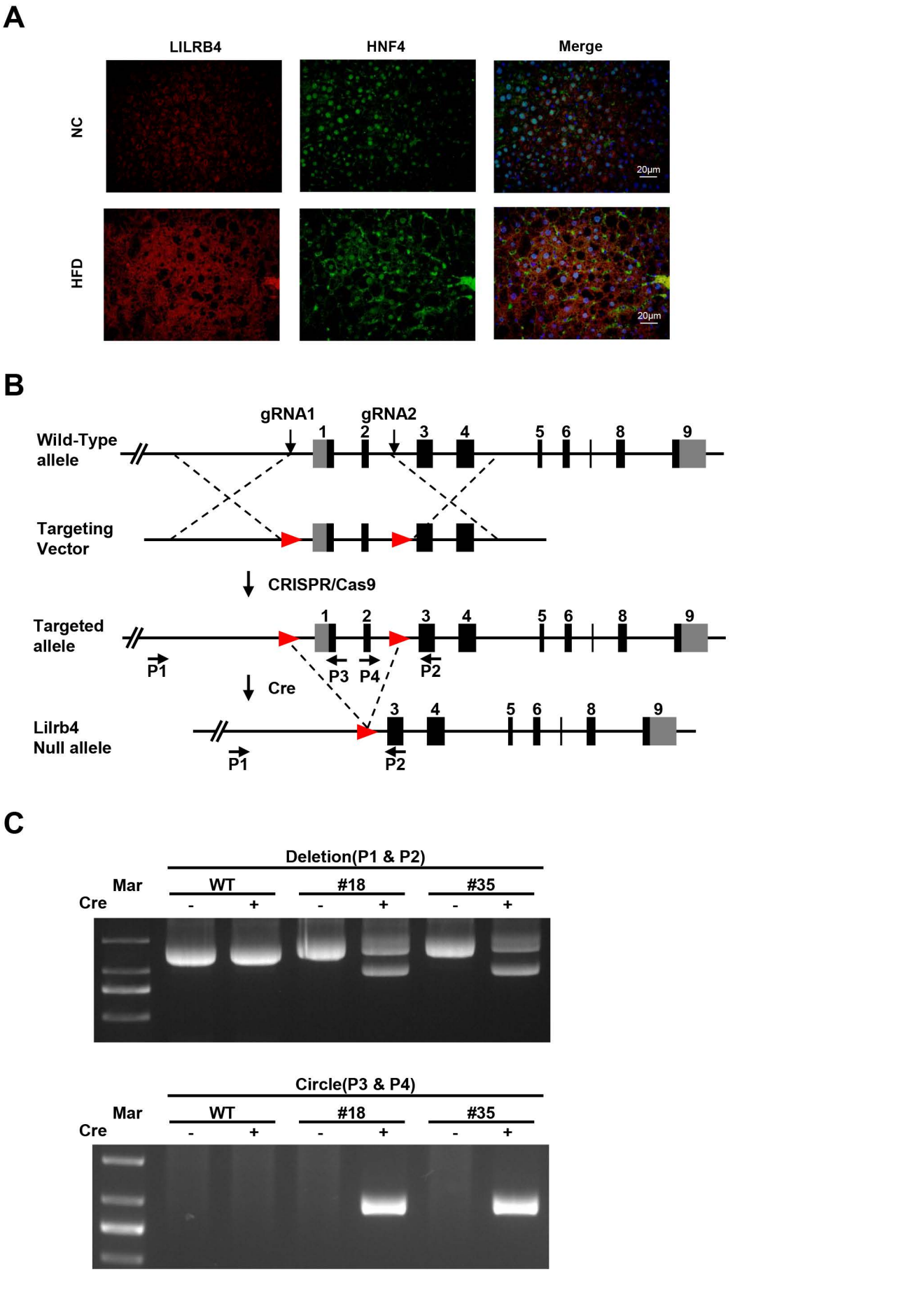
Supplementary Fig. 1 Identification of LILRB4-HKO mice. (A) Co-staining of LILRB4 and HNF4 in NC and HFD mice liver slice (n = 5 mice for each group) (**B**) Schematic representation of the targeting strategy to generate LILRB4 conditional KO allele. (**C**) Representative PCR analysis of *in vitro* Cre/loxP-mediated recombination of LILRB4 conditional allele.

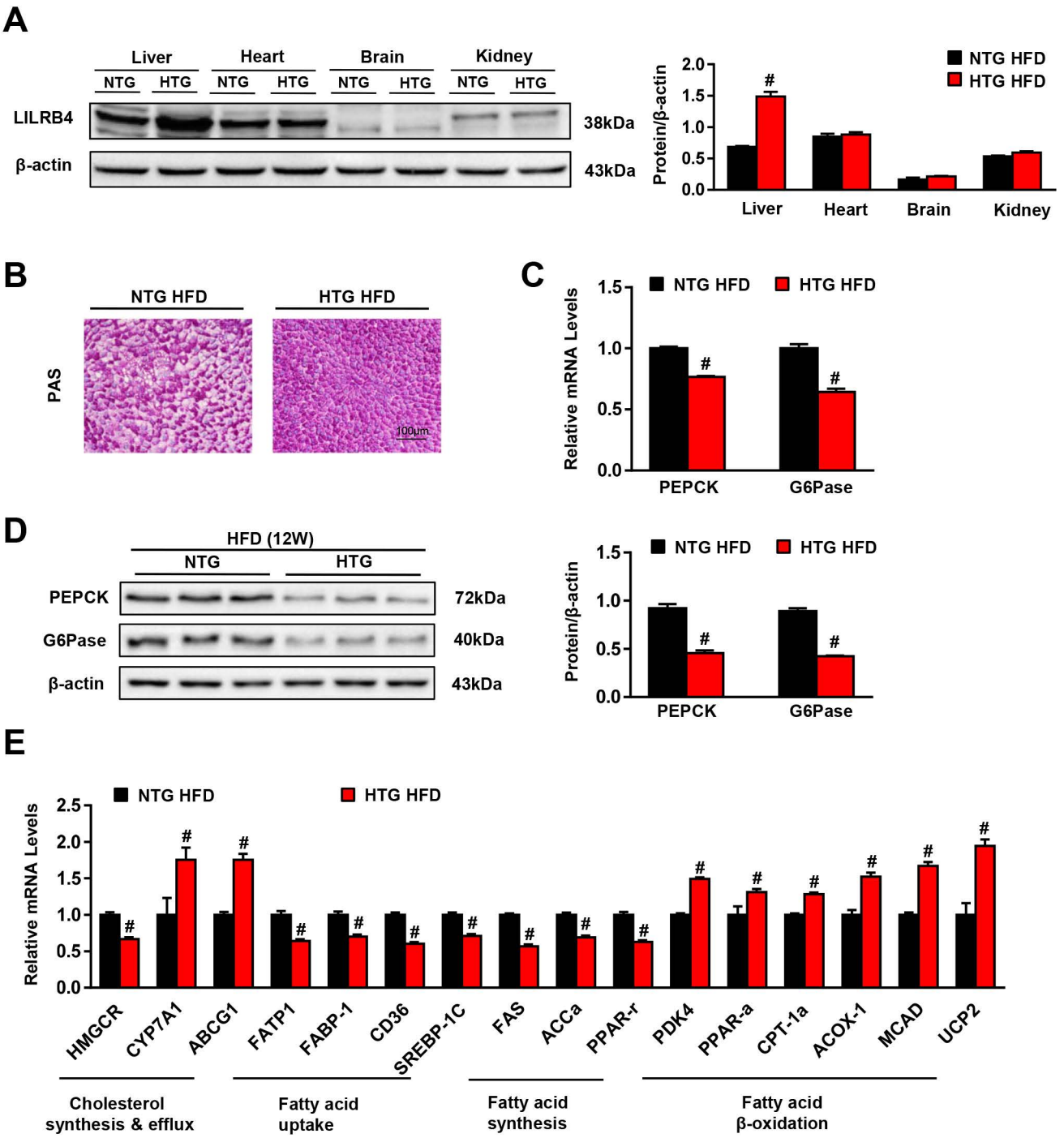
Supplementary Fig. 2 Hepatocyte LILRB4 overexpression ameliorates glucose and lipid metabolic disorder. (**A**) The expression of LILRB4 in the liver, heart, brain, and kidney of LILRB4-NTG and LILRB4-HTG mice (n = 4 mice in each group). (**B**) Representative images of PAS-stained liver sections of LILRB4-NTG and LILRB4-HTG mice after 12 weeks of HFD treatment (n = 4 for each group). Scale bar, 100 μm. **(C, D)** The mRNA (**C**; n = 4 for each group) and protein (**D**; n = 6 for each group) expression levels of PEPCK and G6Pase in the livers of mice in the NTG and HTG groups. (**E**) The mRNA expression levels of lipid metabolism-related genes in the livers of LILRB4-NTG and LILRB4-HTG mice after 12 weeks of HFD feeding (n = 4 for each group). #$P < 0.05$ versus NTG/HFD group.

Supplementary Fig. 3 Hepatocyte LILRB4 regulates the recruitment of inflammatory cells
The representative images for F4/80 and MPO-positive cells in the liver sections of mice in LILRB4-Flox, LILRB4-HKO, NTG and LILRB4-HTG groups after 12 weeks of HFD treatment (n = 4 for each group). Scale bar, 20 μm.

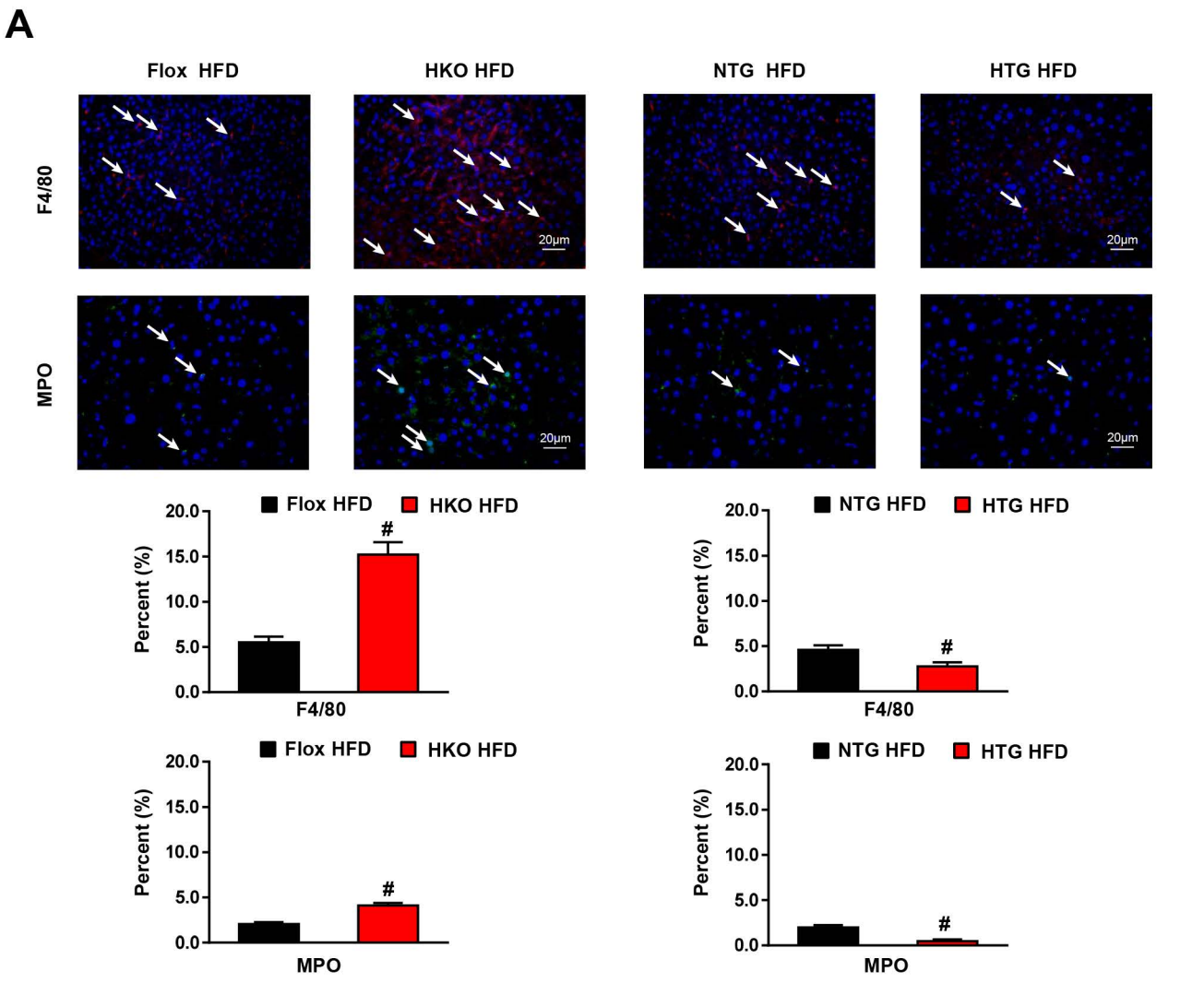
Supplementary Figure 1



Supplementary Figure 2



Supplementary Figure 3



Supplementary Table 1. Primers for Real-time PCR detection.

Gene		Sequence5'---3'(mouse)
β-actin	Forward	AGATCATTGCTCCTCCTGAGCGCA
	Reverse	AAACGCAGCTCAGTAACAGTCCGC
PEPCK	Forward	TGCCCCAGGCAGTGAGGAAGTT
	Reverse	GTCAGTGAGAGCCAGCCAACAGT
G6Pase	Forward	CGACTCGCTATCTCCAAGTGA
	Reverse	GGGCGTTGTCCAAACAGAAT
HMGCR	forward	ATCATGTGCTGCTTCGGCTGCAT
	reverse	AAATTGGACGACCCTCACGGCT
CYP7A1	forward	TCAAAGAGCGCTGTCTGGGTCA
	reverse	TTTCCCGGGCTTTATGTGCGGT
ABCG1	forward	TGAACCCGTTTCTTTGGCACCG
	reverse	AGTCCCGCATGATGCTGAGGAA
FATP1	forward	TGCACAGCAGGTACTACCGCAT
	reverse	TGCGCAGTACCACCGTCAAC
FABP-1	forward	TGGTCCGCAATGAGTTCACCCT
	reverse	CCAGCTTGACGACTGCCTTGACTT
CD36	forward	TGGGTTTTGCACATCAAAGA
	reverse	GATGGACCTGCAAATGTCAGA
SREBP-1c	forward	CACTTCTGGAGACATCGCAAAC
	reverse	ATGGTAGACAACAGCCGCATC
FAS	forward	CTGCGGAAACTTCAGGAAATG
	reverse	GGTTCGGAATGCTATCCAGG
ACCα	forward	GGCCAGTGCTATGCTGAGAT
	reverse	AGGGTCAAGTGCTGCTCCA
PPARγ	forward	ATTCTGGCCCACCAACTTCGG
	reverse	TGGAAGCCTGATGCTTTATCCCCA
PDK4	forward	TTCACACCTTCACCACATGC
	reverse	AAAGGGCGGTTTTCTTGATG
PPAR-α	forward	TATTCGGCTGAAGCTGGTGTAC
	reverse	CTGGCATTTGTTCCGGTTCT
CPT-1α	forward	AGGACCCTGAGGCATCTATT
	reverse	ATGACCTCCTGGCATTCTCC
ACOX-1	forward	CGGAAGATACATAAAGGAGACC
	reverse	AAGTAGGACACCATACCACCC
MCAD	forward	TGGCGTATGGGTGTACAGGG
	reverse	CCAAATACTTCTTTTTTTGTTGATCA

UCP2	forward	GCTGGTGGTGGTCGGAGATA
	reverse	ACTGGCCCAAGGCAGAGTT
IL -1β	forward	CCGTGGACCTTCCAGGATGA
	reverse	GGGAACGTCACACACCAGCA
IL-6	forward	AGTTGCCTTCTTGGGACTGA
	reverse	TCCACGATTTCCCAGAGAAC
TNF-α	forward	CATCTTCTCAAAATTCGAGTGACAA
	reverse	TGGGAGTAGACAAGGTACAACCC
MCP1	forward	TAAAAACCTGGATCGGAACCAAA
	reverse	GCATTAGCTTCAGATTTACGGGT
IL-10	forward	CCAAGCCTTATCGGAAATGA
	reverse	TTTTCACAGGGGAGAAATCG
CCL2	forward	TACAAGAGGATCACCAGCAGC
	reverse	ACCTTAGGGCAGATGCAGTT
CCL5	forward	TGCTGCTTTGCCTACCTCTC
	reverse	TCTTCTCTGGGTTGGCACAC
CXCL10	forward	ATGACGGGCCAGTGAGAATG
	reverse	ATGATCTCAACACGTGGGCA
IL-8	forward	AGATGGAGGGCAAACCAACTT
	reverse	TTACCCCGCTGATGTGTGAG
LCAD	forward	GGAGTAAGAACGAACGCCAA
	reverse	GCCACGACGATCACGAGAT

Supplementary Table 2. Antibodies for immunoblot analyses.

Antibody	Cat No.	Manufacturer	Sources of species
LILRB4	S3726-2	Proteintech	Rabbit
p-IRS1^{Tyr608}	09-432	Millipore	Rabbit
IRS1	2382	CST	Rabbit
p-Akt^{Ser473}	4060	CST	Rabbit
Akt	4691	CST	Rabbit
p-GSK3β	9322	CST	Rabbit
GSK3β	9315	CST	Rabbit
PEPCK	ab187145	Abcam	Rabbit
G6Pase	APP44223-P050	AVIVA System	Rabbit
p-IKKβ	ab59195	Abcam	Rabbit
T-IKKβ	8943	CST	Rabbit
p-IκBα	9246	CST	Mouse
T-IκBα	4814	CST	Mouse
SHP1	Sc-287	Santa cruz	Rabbit
TRAF6	ab40675	Abcam	Rabbit
p-TAK1	ab192443	Abcam	Rabbit
T-TAK1	5206	CST	Rabbit
p-JNK1/2	4668	CST	Rabbit
T-JNK1/2	9252	CST	Rabbit
CD11b	ab75476	Abcam	Rabbit
F4/80	MCA497	AbD Serotec	Mouse
Myeloperoxidase	ab45977	Abcam	Rabbit
HNF4	ab41898	Abcam	Mouse
Flag	008	MBL	Mouse
HA	006	MBL	Mouse
HA	C29F4	CST	Rabbit
Myc	074	MBL	Mouse
β-actin	ab6276	Abcam	Mouse