

Materials and Methods

Mouse primary hepatocytes isolation: Male C57BL/6 mouse (6-8 weeks) were utilized for mouse primary hepatocyte preparation. As we have previously described, hepatic portal vein was cannulated with a 25G evacuated tube butterfly needle in the mice, and liver anterograde collagenase perfusion was conducted using a peristaltic pump [1]. Hepatocytes extracted from the digested liver were culture in 10% FBS containing DMEM (15 mmol/L HEPES, 25 mmol/L glucose, 1 mmol/L sodium lactate, 1% penicillin/streptomycin, 100 nmol/L dexamethasone). Cells were utilized for designated experiments within a 72 h time frame.

Reference

[1] L. Tian, K. Zeng, W. Shao, B.B. Yang, I.G. Fantus, J. Weng, T. Jin, Short-Term Curcumin Gavage Sensitizes Insulin Signaling in Dexamethasone-Treated C57BL/6 Mice, *The Journal of nutrition* 145(10) (2015) 2300-7.

Supporting Figure Legends

Figure S1. The effect of HFD feeding on the expression of hepatic miR-17 and other miR-17/92 cluster members. A) Mature miR-17-5p level. B) miR-17 precursor level. C) Other members of the cluster. N> or =3. HFD, High Fat Diet; miR-17, miR-17-5p.

Figure S2. The expression level of miR-17-5p in 3T3-L1 cells after miR-17 inhibition (A) or over-expression (B). N> or =3. CON, control.

Figure S3. The effect of miR-17 over-expression and inhibition on the levels of *Tcf7l2* in mouse primary hepatocytes A-B) *Tcf7l2* mRNA level after miR-17 over-expression. C-D) *Tcf7l2* mRNA level after miR-17-5p inhibition. N> or =3. **, P<0.01; ***, P<0.001. CON, control nucleotides.

Figure S4. The effect of curcumin treatment on miR-17-5p and *Tcf7l2* expression in rat primary adipocytes. A) qRT-PCR results of miR-17-5p in rat adipocytes with 6 h curcumin treatment. B) Detection of *Tcf7l2* protein expression in rat adipocytes with and without 6 h curcumin treatment.

Figure S5. The effect of miR-17 inhibition and curcumin treatment on *Rb2* expression in 3T3-L1 cells. A) *Rb2* mRNA levels after miR-17-5p inhibition. B) *Rb2* mRNA levels after miR-17 overexpression. C) *Rb2* mRNA levels after curcumin treatment for 6 h. D) HFD feeding did not change hepatic *Rb2* mRNA expression level. N> or =3. *, P<0.05. CON, control nucleotides; CUR, curcumin.

Figure S6. No substantial morphology change in 3T3-L1 cells received 2 or 10 μ M curcumin treatment for 72 h.

Fig. S1

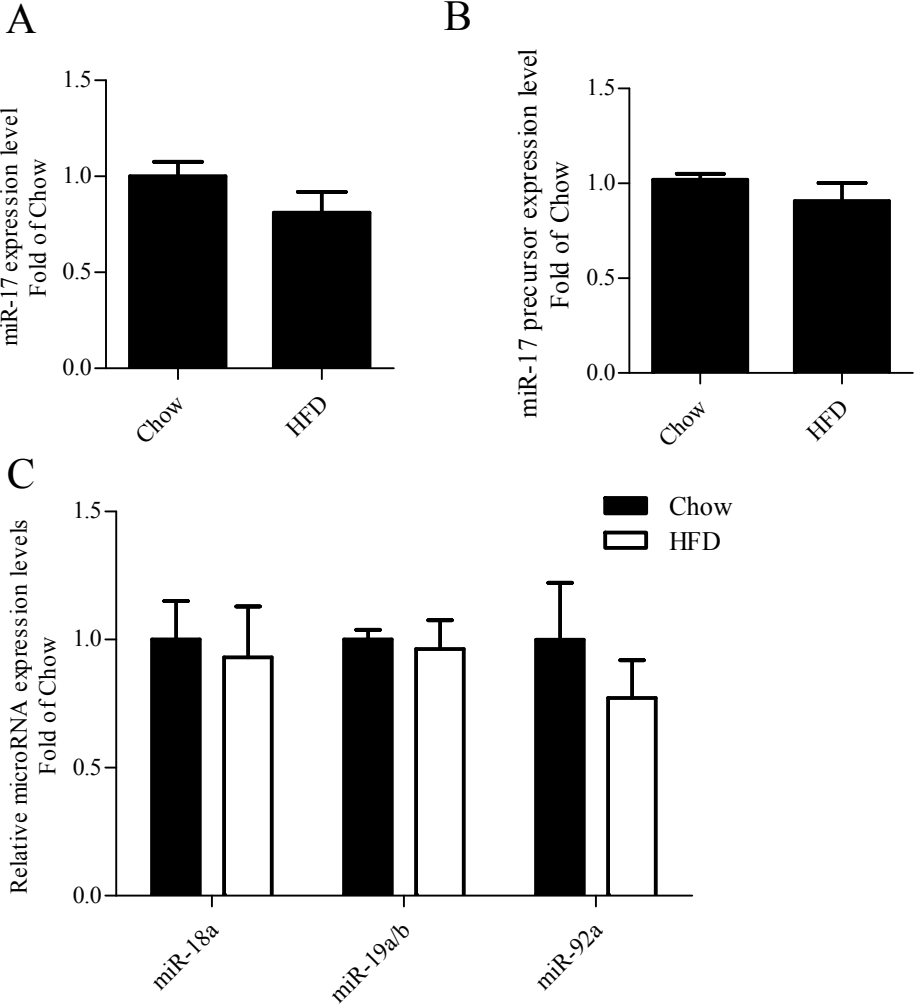


Fig. S2

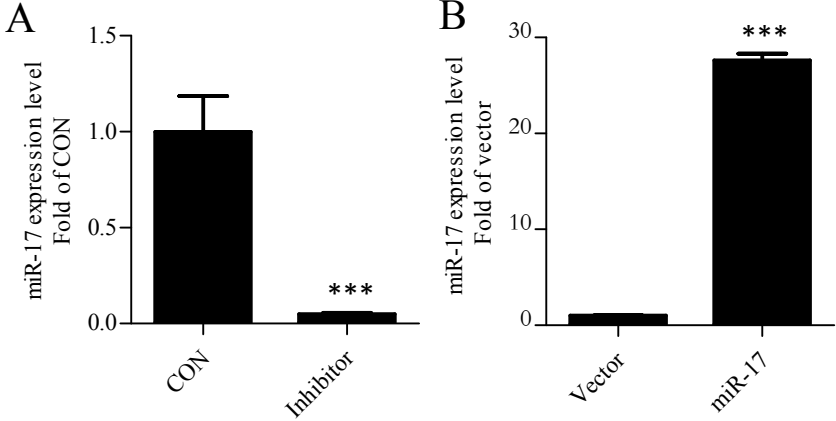


Fig. S3

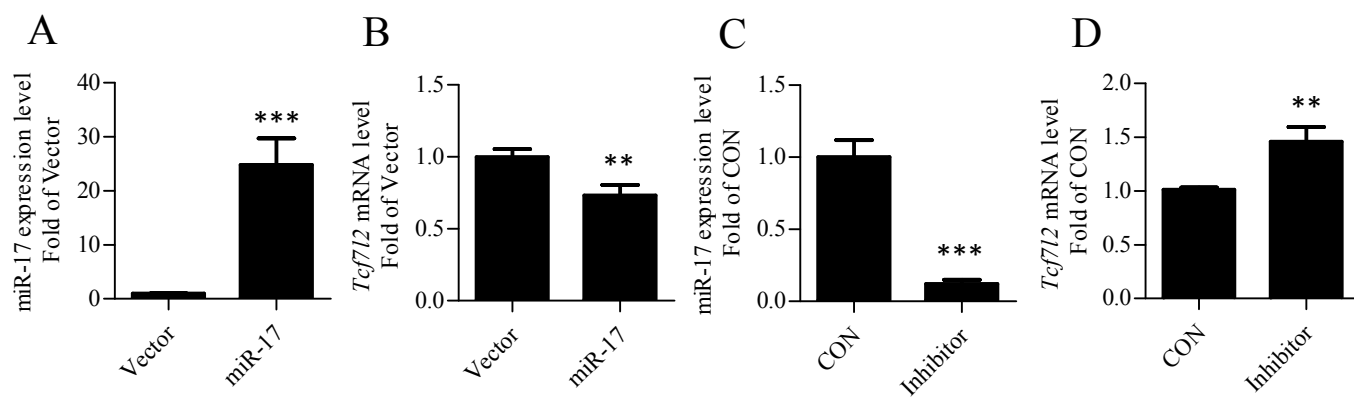


Fig. S4

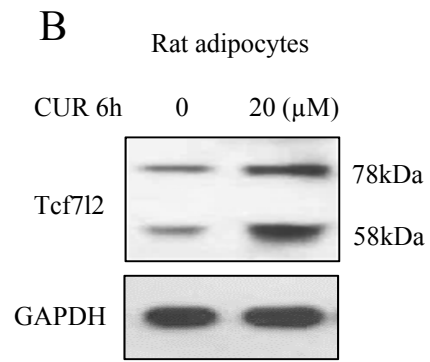
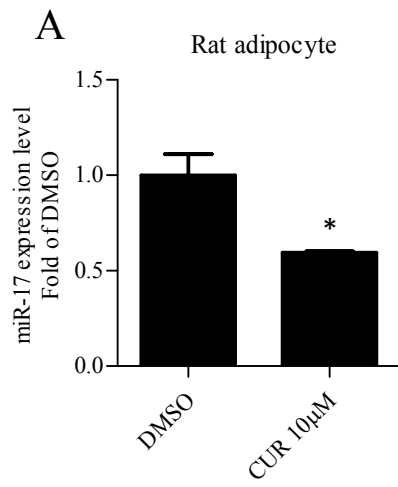


Fig. S5

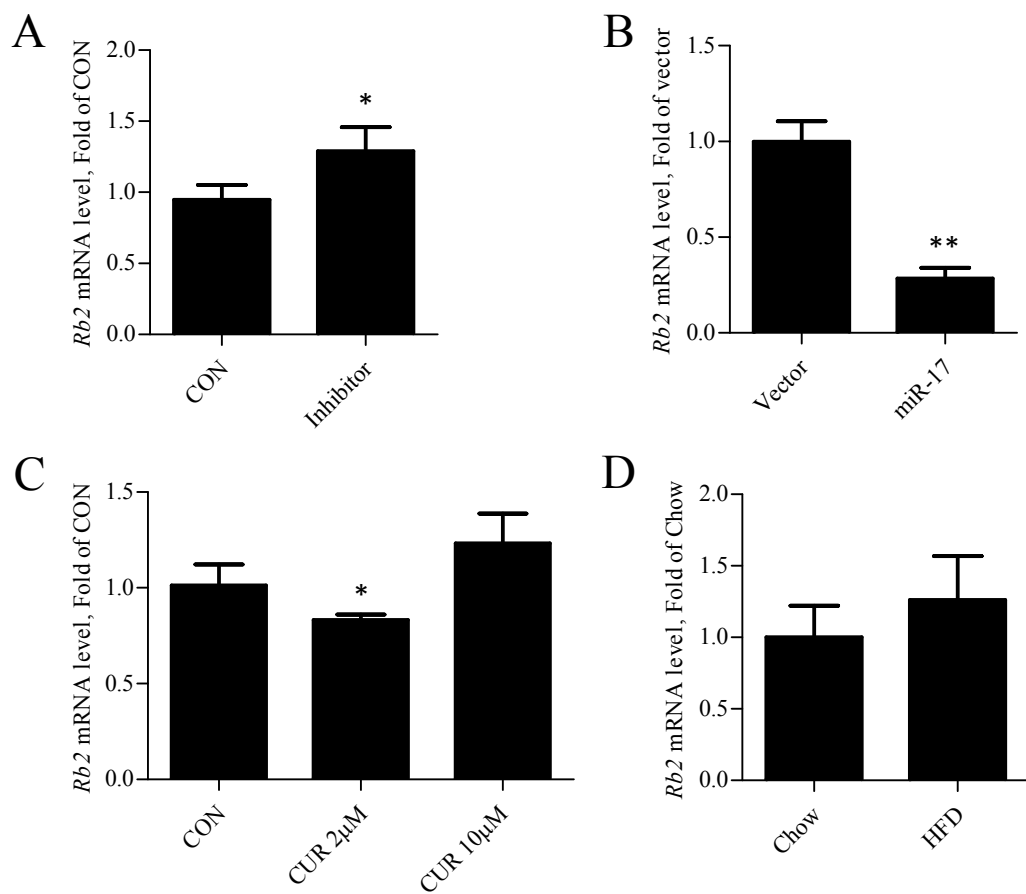


Fig. S6

CON



CUR 2 μ M



CUR 10 μ M



Supplemental Table 1 Primers utilized in this study

Name	Forward	Reverse
miR-17	5'-CAAAGTGCTTACAGTGC-3'	5'-GTGCAGGGTCCGAGGT-3'
miR-17 precursor	5'-GTCAGAATAATGTCAAAGTGCTTAC-3'	5'-GTCACCATAATGCTACAAGTGCC-3'
miR-18a	5'-GCCGTAAGGTGCATCTAGTGC-3'	5'-GTGCAGGGTCCGAGGT-3'
miR-19a	5'-CGGCGTGTGCAAATCTATGCAA-3'	5'-GTGCAGGGTCCGAGGT-3'
miR-92a	5'-GGCGTATTGCACTTGTCCC-3'	5'-GTGCAGGGTCCGAGGT-3'
U6	5'-GTGCTCGCTTCGGCAGCACATAT-3'	5'-CGCTTCACGAATTTGCGTGTGCAT-3'
<i>Tcf7</i>	5'-AGGTCAGATGGGTTGGACTG-3'	5'-AGGGTGCACACTGGGTTTAG-3'
<i>Tcf7l1</i>	5'-GAGTGCGAAATCCCCAGTTA-3'	5'-ATGCATGGCTTCTTGCTCTT-3'
<i>Tcf7l2</i>	5'-AGGAACGACAGCTTCACATG-3'	5'-CGAAAGGCAAGGATTTAGGAAAC-3'
<i>Rb2</i>	5'-ATGCCACCTCAAACCTAGAG-3'	5'-GGAGCTGTACCTGTCATACAATG-3'
<i>Axin2</i>	5'-TCCTGACCAAACAGACGAC-3'	5'-ACCTCTGCTGCCACAAAAC-3'
<i>Actb</i>	5'-TCATGAAGTGTGACGTTGACA-3'	5'-CCTAGAAGCATTGCGGTG-3'
<i>Tcf7l2</i> 3'UTR	5'-GGGAGCTC TTAGAATAGCTCCGCCTCCTCGTC-3'	5'-CCACGCGT AACTCCTTCTGGAGGGTGCTTCA-3'
<i>Tcf7l2</i> 3'UTR mutation	5'-GGGAGCTC TTAGAATAGCTCCGCCTCCTCGTC-3'	5'-CCACGCGT AACTCCTTCTGGAGGGTGCTTCA CTCGA GCTTC-3'
<i>Cidea</i>	5'-ATTTAAGAGACGCGGCTTTGGGACA-3'	5'-TTTGGTTGCTTGCAGACTGGGACAT-3'
<i>C/EBPα</i>	5'-CGAGGAGGACGAGGCGAAGCA-3'	5'-TGCAGGCGGTCATTGTCAC-3'
<i>C/EBPβ</i>	5'-CACCACGACTTCTCTCCGACCTCT-3'	5'-GTACTCGTCGCTCAGCTTGTCCACC-3'
<i>aP2</i>	5'-TGAAAGAAGTGGGAGTGGGCTTTGC-3'	5'-CACCACCAGCTTGTACCATCTCGT-3'
<i>PPARγ</i>	5'-CATAAAGTCCTTCCCGCTGA-3'	5'-ACCTCTTTGCTCTGCTCCTG-3'

Supplemental Table 2 Antibodies utilized in this study

Antibody Name	Catalog No.	Company
Tcf7l2	#2569	Cell Signaling Technology
Phospho- β -Catenin Ser675	#9567	Cell Signaling Technology
β -actin	sc69879	Santa Cruz Biotechnology
GAPDH	sc25778	Santa Cruz Biotechnology
HA	sc7392	Santa Cruz Biotechnology