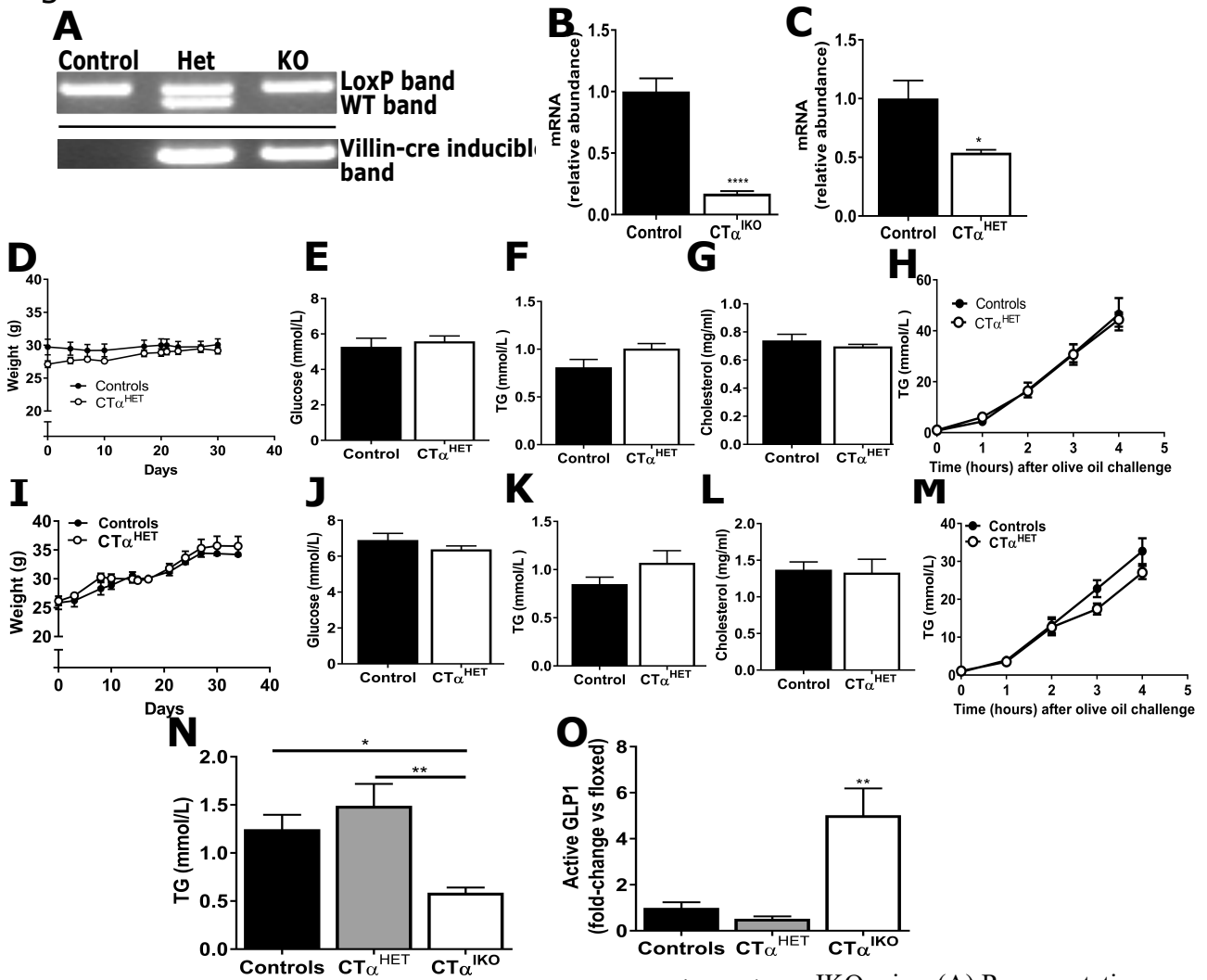


**Supplementary table S1. Composition of high fat diet (per kilogram diet)**

<b>Ingredients</b>	
Casein <sup>1</sup> (g)	270
Corn Starch <sup>1</sup> (g)	170
Sucrose <sup>2</sup> (g)	195
Cellulose <sup>1</sup> (g)	80
AIN-93-VX Vitamin Mix <sup>1</sup> (g)	19
Bernhart-Tomarelli Mineral Mix <sup>1</sup> (g)	50
Calcium Phosphate Dibasic <sup>2</sup> (g)	3.4
myo-Inositol <sup>2</sup> (g)	6.3
L-cysteine <sup>2</sup> (g)	1.8
Choline Bitartrate <sup>2</sup> (g)	4.2
Vegetable Oil <sup>3</sup> (g)	32
Corn Oil <sup>4</sup> (g)	10
Lard <sup>5</sup> (g)	155
DHAsco <sup>6</sup> (g)	1.5
Arasco <sup>6</sup> (g)	1.5
<b>Fatty acid composition (g/100g of total fatty acids)<sup>7</sup></b>	
C14:0	1.10
C16:0	21.01
C16:1n-9	1.73
C18:0	12.28
C18:1n-9	37.05
18:2n-6	22.95
C20:0	0.33
C18:3n-3	1.64
C20:1	0.05
C20:2n-6	0.44
20:3n-6	0.03
C22:0	0.06
20:4n-6	0.31
22:6n-3	0.32
<sup>1</sup> Harlan Teklad (Indianapolis, IN, USA)	
<sup>2</sup> Sigma (St. Louis, MO, USA)	
<sup>3</sup> Crisco J.M. Smucker Company (Orrville, OH, USA)	
<sup>4</sup> Mazola ACH Food Companies Inc. (Oakbrook Terraces, IL, USA)	
<sup>5</sup> TenderFlake (Chicago, IL, USA)	
<sup>6</sup> DSM Nutritional Products Inc. (Heerlen, The Netherlands)	
<sup>7</sup> Determined by gas-liquid chromatography	

<b>Supplementary Table S2. qPCR primer sets</b>		
<i>Gene</i>	<i>Forward sequence</i>	<i>Reverse sequence</i>
<i>Pcyt1a</i>	GCT AAA GTC AAT TCG AGG AA	CAT AGG GCT TAC TAA AGT CAA CT
<i>Mogat2</i>	TAC AGC TTT GGC CTC ATG C	AGG GCT GTG GTG TCA TCT G
<i>Dgat2</i>	GGC TAC GTT GGC TGG TAA CTT	TTC AGG GTG ACT GCG TTC TT
<i>Abhd5</i>	ATC TTT GGA GCC CGA TCC T	CTT CTG GCT GAT CTG CAT ACA C
<i>Cidec</i>	GGG TCA CAG CTT GGA GGA	CTC CAC GAT TGT GCC ATC T
<i>Mttp</i>	ATA CAT GCA AAA TTG AGC GGT CT	CCT GGT CTC TTC TGC AAG CAC
<i>Apoc3</i>	AGG AGT CCG ATA TAG CTG TGG T	TGC TCC AGT AGC CTT TCA GG
<i>Lpcat3</i>	GGC CTC TCA ATT GCT TAT TTC A	AGC ACG ACA CAT AGC AAG GA
<i>Lpcat4</i>	GGC CTC CAG AGG GTT AAG TT	AAA AGC TAG AAG TAC TCG GAT TGG
<i>Cd36</i>	TGG CTA AAT GAG ACT GGG ACC	ACA TCA CCA CTC CAA TCC CAA G
<i>Slc27a4</i>	GAA GGG GGA CCA AGC CTA	AGT TCC TGG CAC CTC AAC AC
<i>Fabp6</i>	GGC AAA GAA TGT GAA ATG CAG	CCG AAG TCT GGT GAT AGT TGG
<i>Slc10a2</i>	AGC TGG TCA ACC CTG GTA CA	GGG GGA GAA GGA GAG CTG
<i>Slc51a</i>	GCT GCC CAC CTC TCA TAC TT	GAA GAA GGC GTA CTG GAA AGG
<i>Slc51b</i>	GAG CAT CCT GGC AAA CAG A	TGC AGG TCT TCT GGT GTT TCT
<i>Nr0b2</i>	CGA TCC TCT TCA ACC CAG AT	AGC CTC CTG TTG CAG GTG T
<i>Cyp7a1</i>	ACA CCA TTC CTG CAA CCT TC	TCT TGG CCA GCA CTC TGT AA
<i>Cyp8b1</i>	GCA GCA CTG AAT ACC CAT CC	TCT GAG AGC TGG GGA GAG G
<i>Cyp27a1</i>	CTT TCC TGA GCT GCT TTT GG	CAC CAG TCA CTT CCT TGT GC

Figure S1.



**Supplementary Fig. S1. Metabolic phenotyping of CT $\alpha$  Het mice and CT $\alpha$ IKO mice.** (A) Representative genotyping of *Pcyt1a*<sup>LoxP/LoxP</sup> without Villin-Cre (Control), *Pcyt1a*<sup>LoxP/WT</sup> with Villin-Cre (CT $\alpha$  Het) and *Pcyt1a*<sup>LoxP/LoxP</sup> with Villin-Cre (CT $\alpha$  IKO). (B) *Pcyt1a* mRNA in the jejunum of control and CT $\alpha$  IKO mice 50 days after Cre induction (n=5/group). (C) *Pcyt1a* mRNA in jejunums of vehicle-treated *Pcyt1a*<sup>LoxP/WT</sup>; Villin-CreERT2 (control) mice and CT $\alpha$  Het mice (n=5/group). (D) Growth curves, (E) fasting blood glucose, (F) fasting plasma TG concentrations, (G) fasting plasma cholesterol concentrations, and (H) plasma TG before and 1, 2, 3, 4 h after an oral bolus of olive oil and intraperitoneal injection of Poloxamer-407 in CT $\alpha$  Het mice and vehicle-treated *Pcyt1a*<sup>LoxP/WT</sup>; Villin-CreERT2 (control) mice fed the chow diet (n=5/group). (I) Growth curves, (J) fasting blood glucose (K) fasting plasma TG concentrations, (L) fasting plasma cholesterol concentrations, and (M) plasma TG before and 1, 2, 3, 4 h after an oral bolus of olive oil and intraperitoneal injection of Poloxamer -407 in CT $\alpha$  Het mice and vehicle-treated *Pcyt1a*<sup>LoxP/WT</sup>; Villin-CreERT2 (control) mice fed the HFD (n=5-6/group). (N) Plasma TG and (O) active GLP-1 2 h after HFD re-feeding in tamoxifen-treated floxed controls, CT $\alpha$  HET mice and CT $\alpha$  IKO mice fed the HFD (n=5/group). All mice were female. Values are means  $\pm$  SEM. \*p<.05, \*\*p<.01. are means  $\pm$  SEM. \*p<.05, \*\*\*\*p<.0001.