

Supplement Table 1. Primers of real-time PCR for mouse tissue gene

	<b>Forward primer</b>	<b>Reverse primer</b>
<i>Ppara</i>	tgcagagcaacatccaga	acccgtaattaatggcgaat
<i>Ppard</i>	gcctcgggcttccactac	agatccgatcgcacttctca
<i>Pparg</i>	gagtgtgacgacaagatttg	ggtgggccagaatggcatct
<i>Aco1</i>	atcacgggcacttatgc	tctcacggatagggaca
<i>Cpt1b</i>	gatgtttgcagagcacggca	ccaggtacctgctcacggta
<i>Pdk4</i>	gaccgcttagtaacac	gtaacgggggtccactg
<i>Cd36</i>	aatggcacagacgcagcct	ggttgtctggattctgga
<i>Lpl</i>	tctgtacggcacagtgg	cctctcgatgacgaagc
<i>Adrp</i>	ctacgacgacaccgat	cattgcggaatacggag
<i>Tip4</i>	tactgcagcagcagcagcaggagc	tcttctggttccagctgagc
<i>Oxpat</i>	tgaggcagagcaaaccgtac	atccactgcattctgcagctc
<i>Atgl</i>	cgccttgctgagaatccat	agtgagtggctggtgaaaggt
<i>Bnp</i>	aggtttgctatctggca	atgtcgaagttaaggctctgga
<i>b-actin</i>	aggcccagagcaagagaggtta	ggggtgttgaaggtctcaaca

Supplement Table 2. Fatty-CoA Composition

Fatty Acid (nmol/g)	WT	MHC- DGAT1	MHC-PPAR $\gamma$	MHC-DGAT1 XMHC-PPAR $\gamma$
C14:1	1.88±0.77	1.08±0.77	0.23±0.09	0.28±0.19*
C14:0	3.32±1.47	2.54±1.03	1.01±0.38	1.39±0.88
C16:0	4.14±1.49	3.38±1.31	3.19±1.58	3.42±1.26
C16:1	2.48±0.63	1.72±1.07	0.72±0.42	0.85±0.54*
C18:3	0.30±0.15	0.18±0.14	0.051±0.053	0.072±0.047
C18:2	8.13±0.88	6.18±1.60*	4.03±1.82	3.59±1.15**
C18:1	14.11±1.08	9.10±3.76*	4.84±2.76	4.98±2.34**
C18:0	3.14±0.59	3.76±0.41	1.85±1.00	1.95±0.61*
C20:5	0.11±0.07	0.033±0.031	0.005±0.004	0.036±0.025 <sup>##</sup>
C20:4	1.52±0.40	1.40±0.44	0.26±0.08	0.24±0.05**
C20:1	1.383±1.59	1.31±0.98	0.20±0.11	0.28±0.20
C20:0	0.061±0.045	0.042±0.035	0.008±0.007	0.010±0.010 *
C22:6	0.79±0.35	0.83±0.27	0.48±0.18	0.44±0.17
Total	42.39±7.25	31.8±10.85	16.88±7.72	17.576*

(<sup>#</sup> $P < 0.05$  of LSD- $t$  test followed ONE-WAY ANOVA test with \* $P < 0.05$  and \*\* $P < 0.01$ ,  $n = 4-6$ )

### Supplement Table 3. Gene expression in females

Genes	WT	MHC-DGAT1	MHC-PPAR $\gamma$	MHC-DGAT1 XMHC-PPAR $\gamma$
Genes involved in Lipid Metabolism				
<i>Ppara</i>	100±28	184±318	153±67	131±24
<i>Ppard</i>	100±49	162±44	65±37	74±19
<i>Pparg</i>	100±61	177±55	1046±375	1074±301**
<i>Atgl</i>	100±18	198±62	241±117	64±28 *#
<i>Cd36</i>	100±37	132±32	429±27	84±37 ***#
<i>Aco</i>	100±33	157±51	197±78	78±31*#
<i>Pdk4</i>	100±34	175±60	52±22	22±13*#
<i>Cpt1</i>	100±31	131±42	187±65	161±85*
Gene Involved in Heart Failure				
<i>Bnp</i>	100±56	111±75	373±153	242±98*

(# $P < 0.05$  of LSD-t test followed ONE-WAY ANOVA test with \* $P < 0.05$  and \*\* $P < 0.01$ ,  $n = 4-6$ )