

## Supplemental Table 2.

### Hepatic FA composition of 14 wk aLivPPAR $\gamma$ kd mice fed a LF or HF-diet.

**A)** Concentration (mg/g) and **B)** relative proportion (%) of individual FA [14:0 to 24:1 (n-9)] in LF- and HF-fed aLivPPAR $\gamma$ kd mice and their littermate controls. Values are represented as means of mg of FA/ g of liver (A) or percentage of each individual FA within group (B). 2-way ANOVA followed by a Bonferroni's post-hoc analysis was performed to assess the effect of diet and aLivPPAR $\gamma$ kd in FA levels (2A) and proportion (2B). P-values of the effect of diet and/or aLivPPAR $\gamma$ kd on FA levels/proportion changes in the different groups are indicated in combination with asterisks indicating significance of fold changes: Change in C: HF C/LF C; Change in Kd: HF Kd/LF Kd; Change in LF: LF Kd/LF C; Change in HF: HF Kd/ HF C.

Fold change lower than 1 means reduction, shown with ↓ when p-value is <0.05; and fold changes greater than 1 means increase, shown with ↑ when p-value is <0.05. \*, p<0.05; \*\*, p<0.01; \*\*\*, p<0.0001. ns, p>0.05. n=5-6 mice/group

**Supplemental Table 2 A** (mg/g)

LF-fed mice

HF-fed mice

FA common name		Control		aLivPPAR $\gamma$ kd	
		Mean	SEM	Mean	SEM
Myristic acid	14:0	0.32	± 0.06	0.28	± 0.03
Palmitic acid	16:0	12.88	± 2.08	12.58	± 1.27
Palmitoleic acid	16:1 (n-7)	3.84	± 0.79	3.55	± 0.40
Stearic acid	18:0	1.25	± 0.30	2.00	± 0.25
Oleic acid	18:1 (n-9)	17.26	± 3.51	14.47	± 2.50
Linoleic acid	18:2 (n-6)	6.86	± 0.77	7.51	± 0.65
$\gamma$ -linoleic acid	18:3 (n-6)	0.02	± 0.01	0.40	± 0.37
$\alpha$ -Linolenic acid	18:3 (n-3)	0.11	± 0.02	0.02	± 0.02
Arachidic acid	20:4	0.04	± 0.01	0.04	± 0.01
Gondoic acid	20:1 (n-9)	0.52	± 0.11	0.47	± 0.06
Eicosadienoic acid	20:2 (n-6)	0.31	± 0.08	0.15	± 0.04
Dihomo- $\gamma$ -linolenic acid	20:3	0.55	± 0.12	0.47	± 0.10
Arachidonic acid	20:4 (n-6)	4.28	± 0.42	4.94	± 0.37
Behenic acid	22:0	0.00	± 0.00	0.01	± 0.01
Eicosapentaenoic acid	20:5 (n-3)	0.08	± 0.02	0.08	± 0.02
Docosadienoic acid	22:2 (n-6)	0.05	± 0.01	0.02	± 0.01
Adrenic acid	22:4 (n-6)	0.09	± 0.02	0.14	± 0.01
Docosapentaenoic acid	22:5 (n-6)	0.10	± 0.01	0.11	± 0.01
Docosahexaenoic acid	22:6 (n-3)	2.40	± 0.34	3.03	± 0.22
Nervonic acid	24:1 (n-9)	0.01	± 0.01	0.01	± 0.00

Control	aLivPPAR $\gamma$ kd	Effect of Diet in FA levels						
		p-value	Change in C	Change in Kd				
1.08	± 0.05	0.30	± 0.04	<0.0001	3.38	↑ ***	1.06	ns
58.94	± 2.18	24.83	± 2.12	<0.0001	4.58	↑ ***	1.97	↑ ***
6.12	± 0.19	2.12	± 0.41	0.394	1.59		0.60	
2.61	± 0.35	3.13	± 0.49	0.0031	2.09	↑ *	1.56	ns
107.94	± 3.81	45.17	± 5.09	<0.0001	6.25	↑ ***	3.12	↑ ***
51.84	± 2.03	25.80	± 1.91	<0.0001	7.55	↑ ***	3.44	↑ ***
0.60	± 0.08	0.26	± 0.06	<0.0001	24.50	↑ ***	0.66	↓ *
0.40	± 0.03	0.34	± 0.07	0.0007	3.82	↑ **	17.06	ns
0.10	± 0.02	0.10	± 0.02	0.0018	2.32	ns	2.59	↑ *
2.61	± 0.27	0.61	± 0.09	<0.0001	5.06	↑ ***	1.30	ns
0.35	± 0.11	0.27	± 0.14	0.4018	1.15		1.85	
2.55	± 0.26	0.67	± 0.22	<0.0001	4.64	↑ ***	1.43	ns
9.13	± 0.70	7.37	± 0.16	<0.0001	2.13	↑ ***	1.49	↑ **
0.10	± 0.02	0.02	± 0.01	<0.0001	23.59	↑ ***	1.51	ns
0.33	± 0.09	0.12	± 0.04	0.0083	4.00	↑ **	1.49	ns
0.10	± 0.01	0.07	± 0.01	<0.0001	2.12	↑ **	4.57	↑ **
1.47	± 0.16	0.47	± 0.09	<0.0001	16.68	↑ ***	3.32	↑ *
1.16	± 0.12	0.49	± 0.11	<0.0001	11.12	↑ ***	4.42	↑ **
6.84	± 0.80	5.27	± 0.36	<0.0001	2.85	↑ ***	1.74	↑ **
0.01	± 0.00	0.02	± 0.01	0.9198	0.45		2.21	

Effect of aLivPPAR $\gamma$ kd in FA levels		
p-value	Change in LF	Change in HF
<0.0001	0.89 ns	0.28 ↓ ***
<0.0001	0.98 ns	0.42 ↓ ***
0.0003	0.92 ns	0.35 ↓ ***
0.0999	1.60	1.20
<0.0001	0.84 ns	0.42 ↓ ***
<0.0001	1.09 ns	0.50 ↓ ***
0.0059	16.22 ns	0.44 ↓ ***
0.6146	0.19	0.85
0.8831	0.89 ns	1.00 ns
<0.0001	0.91 ns	0.23 ↓ ***
0.2394	0.48	0.77
<0.0001	0.86 ns	0.26 ↓ ***
0.2178	1.15	0.81
0.0008	2.82 ns	0.18 ↓ ***
0.0379	0.95 ns	0.36 ↓ *
0.0036	0.31 ns	0.67 ns
<0.0001	1.58 ns	0.32 ↓ ***
0.0008	1.07 ns	0.43 ↓ ***
0.315	1.26	0.77
0.7214	0.59	2.88

**Supplemental Table 2 B** (%)

LF-fed mice

HF-fed mice

FA common name		Control		aLivPPAR $\gamma$ kd	
		Mean	SEM	Mean	SEM
Myristic acid	14:0	0.62	± 0.05	0.56	± 0.04
Palmitic acid	16:0	25.16	± 0.69	25.05	± 1.06
Palmitoleic acid	16:1 (n-7)	7.34	± 0.50	7.06	± 0.46
Stearic acid	18:0	2.61	± 0.72	4.07	± 0.52
Oleic acid	18:1 (n-9)	32.98	± 1.97	28.55	± 3.44
Linoleic acid	18:2 (n-6)	13.87	± 1.00	15.18	± 1.04
$\gamma$ -linoleic acid	18:3 (n-6)	0.05	± 0.03	0.04	± 0.03
$\alpha$ -Linolenic acid	18:3 (n-3)	0.24	± 0.06	0.42	± 0.08
Arachidic acid	20:4	0.10	± 0.03	0.08	± 0.02
Gondoic acid	20:1 (n-9)	0.98	± 0.08	0.92	± 0.05
Eicosadienoic acid	20:2 (n-6)	0.58	± 0.07	0.27	± 0.06
Dihomo- $\gamma$ -linolenic acid	20:3	1.07	± 0.18	0.99	± 0.22
Arachidonic acid	20:4 (n-6)	8.82	± 1.00	9.96	± 0.42
Behenic acid	22:0	0.01	± 0.00	0.02	± 0.02
Eicosapentaenoic acid	20:5 (n-3)	0.16	± 0.01	0.15	± 0.05
Docosadienoic acid	22:2 (n-6)	0.11	± 0.03	0.03	± 0.01
Adrenic acid	22:4 (n-6)	0.21	± 0.06	0.29	± 0.02
Docosapentaenoic acid	22:5 (n-6)	0.21	± 0.01	0.23	± 0.01
Docosahexaenoic acid	22:6 (n-3)	4.86	± 0.59	6.11	± 0.20
Nervonic acid	24:1 (n-9)	0.03	± 0.03	0.02	± 0.01

Control	aLivPPAR $\gamma$ kd	Effect of Diet in FA proportion						
		p-value	Change in C	Change in Kd				
0.42	± 0.01	0.25	± 0.02	<0.0001	0.69	↓ **	0.45	↓ ***
23.19	± 0.26	21.11	± 0.51	0.0008	0.92	□ ns	0.84	↓ **
2.43	± 0.14	1.72	± 0.27	<0.0001	0.33	↓ ***	0.24	↓ ***
1.03	± 0.13	2.74	± 0.42	0.0087	0.39	□ ns	0.67	ns
42.47	± 0.74	37.90	± 1.55	0.0007	1.29	↑ *	1.33	□ *
20.38	± 0.18	22.07	± 0.55	<0.0001	1.47	↑ ***	1.45	↑ ***
0.24	± 0.03	0.24	± 0.06	0.0006	4.36	↑ *	5.45	↑ *
0.16	± 0.01	0.33	± 0.09	0.2264	0.65	□	0.77	
0.04	± 0.01	0.09	± 0.02	0.3554	0.44		1.14	□
1.02	± 0.08	0.53	± 0.08	0.0273	1.04	□ ns	0.58	↓ **
0.14	± 0.04	0.24	± 0.11	0.0089	0.24	↓ **	0.87	ns
1.00	± 0.08	0.63	± 0.20	0.2676	0.94	□	0.64	
3.59	± 0.23	6.50	± 0.59	<0.0001	0.41	↓ ***	0.65	↓ **
0.04	± 0.01	0.01	± 0.00	0.2466	5.00	□	0.67	
0.13	± 0.03	0.10	± 0.04	0.3125	0.80	□	0.70	
0.04	± 0.00	0.06	± 0.02	0.3378	0.37	□	2.17	□
0.57	± 0.04	0.41	± 0.08	0.0004	2.76	↑ ***	1.45	□ ns
0.45	± 0.04	0.44	± 0.09	0.0005	2.16	↑ *	1.92	↑ *
2.67	± 0.24	4.61	± 0.40	0.0001	0.55	↓ **	0.75	↓ *
0.00	± 0.00	0.01	± 0.01	0.2574	0.07		0.81	

Effect of aLivPPAR $\gamma$ kd in FA proportion		
p-value	Change in LF	Change in HF
0.0032	0.91 ns	0.59 ↓ **
0.1533	1.00	0.91 □
0.2053	0.96	0.71 □
0.005	1.56 ns	2.66 ↑ *
0.065	0.87 ns	0.89 □ ns
0.0752	1.09 ns	1.08 □ ns
0.9982	0.81	1.01 □
0.0281	1.75 ns	2.07 ns
0.4269	0.85	2.21 ns
0.0012	0.93 ns	0.52 ↓ ***
0.2213	0.47 □	1.72
0.2489	0.93	0.63 □
0.0039	1.13 ns	1.81 ↑ **
0.6817	2.94	0.40 □
0.6745	0.95	0.82 □
0.1276	0.28 □	1.60
0.4749	1.37	0.72 □
0.9874	1.08	0.96 □
0.0005	1.26 ns	1.73 ↑ **
0.8704	0.52	5.76