

**Supplementary Table I.** List of internal standards used in LC-MS/MS

<b>Lipid class</b>	<b>Internal standards used</b>	<b>Concentration of internal standards in autosampler vial</b>
PS	12:0/13:0 14:1/17:0 17:0/20:4 21:0/22:6	4 $\mu$ M
SM	LM 6002 SP mix (10 compounds)	1 $\mu$ M
PI	12:0/13:0 14:1/17:0 17:0/20:4 21:0/22:6	4 $\mu$ M
LPC	17:0	1 $\mu$ M
PE	12:0/13:0 14:1/17:0 17:0/20:4 21:0/22:6	2 $\mu$ M
PC	12:0/13:0 14:1/17:0 17:0/20:4 21:0/22:6	1 $\mu$ M
DG	LM 6001 DG mix (9 compounds)	4 $\mu$ M
TG	LM 6000 TG mix (9 compounds)	1 $\mu$ M

**Supplementary Table II.** PC1 and PC2 loadings for TG, DG and PC species

TG PC1+		TG PC1-		TG PC2+		TG PC2-	
TG 54:5	0.33	TG 52:2	-0.6189	TG 52:4	0.6476	TG 56:7	-0.4071
TG 54:6	0.2585	TG 52:3	-0.5773	TG 52:5	0.2545	TG 56:8	-0.3065
TG 54:4	0.1927	TG 52:4	-0.1826	TG 54:5	0.2417	TG 56:6	-0.1999
TG 56:8	0.1199	TG 54:2	-0.0213	TG 54:4	0.2067	TG 58:8	-0.1617
TG 56:7	0.0899	TG 52:5	-0.018	TG 54:2	0.1104	TG 58:7	-0.1306
TG 54:7	0.0749	TG 56:5	-0.0059	TG 54:7	0.0844	TG 52:2	-0.1237
TG 58:10	0.0436	TG 52:1	-0.0057	TG 54:6	0.0707	TG 58:9	-0.086
TG 58:9	0.0374	TG 42:2	-0.004	TG 52:6	0.0382	TG 58:6	-0.0698
TG 56:9	0.0319	TG 56:2	-0.0034	TG 50:4	0.0342	TG 56:5	-0.0657
TG 50:4	0.0269	TG 50:1	-0.0028	TG 50:2	0.0309	TG 58:10	-0.0514
TG 54:3	0.0269	TG 42:1	-0.0026	TG 56:4	0.029	TG 60:8	-0.0346
TG 52:6	0.0217	TG 54:1	-0.0025	TG 54:3	0.0279	TG 60:9	-0.0331
TG 54:8	0.0179	TG 44:4	-0.0021	TG 52:3	0.0267	TG 60:10	-0.0311
TG 58:8	0.0171	TG 46:6	-0.002	TG 56:3	0.0215	TG 60:12	-0.0296
TG 50:5	0.0155	TG 58:5	-0.0014	TG 54:8	0.0163	TG 60:11	-0.0199
TG 48:3	0.0154	TG 34:1	-0.0011	TG 50:5	0.0157	TG 58:5	-0.0189
TG 50:2	0.014	TG 60:9	-0.0011	TG 52:7	0.009	TG 60:7	-0.017
TG 50:3	0.013	TG 34:2	-9.00E-04	TG 50:3	0.0067	TG 62:12	-0.012
TG 56:4	0.0127	TG 56:3	-8.00E-04	TG 48:3	0.004	TG 48:1	-0.0106
TG 56:6	0.0126	TG 60:8	-7.00E-04	TG 56:9	0.0031	TG 62:11	-0.0103
TG 48:2	0.0112	TG 50:0	-6.00E-04	TG 56:10	0.0025	TG 42:2	-0.0093
TG 48:4	0.0103	TG 60:7	-6.00E-04	TG 50:1	0.0024	TG 48:2	-0.007
TG 52:7	0.0082	TG 40:1	-5.00E-04	TG 54:9	0.0023	TG 60:6	-0.0051
TG 46:2	0.0069	TG 44:3	-5.00E-04	TG 50:6	0.0022	TG 42:1	-0.0047
TG 58:11	0.0059	TG 46:5	-5.00E-04	TG 48:4	0.0015	TG 46:2	-0.0047
TG 60:12	0.0059	TG 58:4	-5.00E-04	TG 46:3	0.0013	TG 44:4	-0.0038
TG 50:6	0.0052	TG 42:3	-4.00E-04	TG 58:4	8.00E-04	TG 56:2	-0.0038
TG 46:3	0.0044	TG 58:2	-4.00E-04	TG 52:8	7.00E-04	TG 46:6	-0.0036
TG 60:11	0.0042	TG 32:0	-3.00E-04	TG 48:5	6.00E-04	TG 58:11	-0.0036
TG 56:10	0.004	TG 36:4	-3.00E-04	TG 58:3	6.00E-04	TG 52:1	-0.0034
TG 58:7	0.0031	TG 40:0	-2.00E-04	TG 50:7	4.00E-04	TG 54:1	-0.0029
TG 48:5	0.0027	TG 44:5	-2.00E-04	TG 56:11	3.00E-04	TG 62:13	-0.0029
TG 54:9	0.0026	TG 48:7	-2.00E-04	TG 48:6	2.00E-04	TG 46:1	-0.0024
TG 52:8	0.0019	TG 32:1	-1.00E-04	TG 54:10	2.00E-04	TG 62:14	-0.0019
TG 48:0	0.0017	TG 34:0	-1.00E-04	TG 60:5	1.00E-04	TG 46:4	-0.0018
TG 46:1	0.0014	TG 36:1	-1.00E-04	TG 36:2	0	TG 46:5	-0.0018
TG 58:6	0.0013	TG 36:2	-1.00E-04	TG 58:2	0	TG 44:2	-0.0016
TG 50:7	0.0012	TG 44:1	-1.00E-04	TG 58:12	0	TG 44:3	-0.0016

TG continued

TG 62:12	0.001	TG 58:3	-1.00E-04	TG 34:1	-0.0015
TG 62:13	0.001	TG 60:5	-1.00E-04	TG 34:2	-0.0013
TG 60:10	7.00E-04	TG 60:6	-1.00E-04	TG 60:13	-0.001
TG 48:6	6.00E-04			TG 44:1	-7.00E-04
TG 58:12	6.00E-04			TG 48:0	-7.00E-04
TG 56:11	5.00E-04			TG 40:1	-6.00E-04
TG 60:13	5.00E-04			TG 42:3	-6.00E-04
TG 62:14	5.00E-04			TG 48:7	-6.00E-04
TG 46:4	4.00E-04			TG 36:4	-5.00E-04
TG 48:1	4.00E-04			TG 50:0	-5.00E-04
TG 54:10	3.00E-04			TG 32:0	-4.00E-04
TG 62:11	3.00E-04			TG 40:0	-4.00E-04
TG 44:2	1.00E-04			TG 44:5	-3.00E-04
TG 38:1	0			TG 32:1	-2.00E-04
TG 40:2	0			TG 34:0	-1.00E-04
				TG 40:2	-1.00E-04

DG PC1+

DG PC1-

DG PC2+

DG PC2-

DG 36:3	0.649	DG 34:1	-0.5321	DG 38:4	0.2713	DG 34:2	-0.7905
DG 36:4	0.3635	DG 34:2	-0.3039	DG 36:2	0.1885	DG 36:3	-0.3844
DG 38:6	0.0967	DG 38:4	-0.2034	DG 38:3	0.1782	DG 34:1	-0.1134
DG 40:7	0.065	DG 40:4	-0.0833	DG 40:7	0.1491	DG 34:3	-0.0406
DG 40:6	0.0368	DG 36:2	-0.0729	DG 38:5	0.1108	DG 32:1	-0.0224
DG 40:5	0.0233	DG 32:1	-0.0271	DG 40:4	0.0941	DG 34:4	-0.0165
DG 38:5	0.0126	DG 36:1	-0.0211	DG 38:2	0.0902	DG 40:5	-0.0155
DG 34:4	0.0116	DG 34:3	-0.0177	DG 38:6	0.0817	DG 32:2	-0.0124
DG 36:5	0.0086	DG 38:3	-0.0084	DG 40:8	0.0708	DG 36:5	-0.0065
DG 40:8	0.0071	DG 34:0	-0.0068	DG 36:1	0.0634	DG 38:7	-0.0019
DG 32:0	0.004	DG 38:2	-0.0031	DG 34:0	0.0486	DG 34:5	-0.0012
DG 34:5	0.0018	DG 32:2	-0.0029	DG 36:4	0.0222		
DG 38:1	0.0018			DG 40:6	0.0218		
DG 38:7	9.00E-04			DG 32:0	0.0124		
				DG 38:1	0.002		

PC PC1+

PC PC1-

PC PC2+

PC PC2-

PC 34:2	0.8788	PC 38:4	-0.3532	PC 38:4	0.4944	PC 38:6	-0.7562
PC 34:1	0.0721	PC 36:2	-0.2754	PC 36:4	0.2931	PC 34:1	-0.1679
PC 34:3	0.0193	PC 38:5	-0.0983	PC 34:2	0.1695	PC 40:6	-0.1051

PC continued

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PC 40:8	0.0123	PC 38:3	-0.0863	PC 38:5	0.0796	PC 36:2	-0.0972
PC 36:5	0.0071	PC 36:3	-0.0345	PC 40:8	0.079	PC 36:3	-0.0393
PC 36:4	0.0058	PC 40:7	-0.0288	PC 36:5	0.065	PC 34:3	-0.0265
		PC 36:1	-0.0261	PC 40:5	0.0266	PC 38:3	-0.011
		PC 40:6	-0.0253	PC 36:1	0.0146	PC 32:1	-0.0108
		PC 32:0	-0.0165	PC 32:0	0.0073	PC 40:7	-0.0079
		PC 38:6	-0.0157	PC 38:7	0.0072	PC 34:4	-0.0061
		PC 40:5	-0.0139			PC 32:2	-0.0037
		PC 38:2	-0.0103			PC 38:2	-0.0018
		PC 40:4	-0.0047			PC 36:6	-0.0016
		PC 38:7	-0.0041			PC 40:4	-0.0013
		PC 32:1	-0.0016				
		PC 34:4	-7.00E-04				
		PC 36:6	-7.00E-04				
		PC 32:2	6.00E-04				

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**Supplementary Table III.** Summary of TG species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO-FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in  $\mu\text{mol}$ , and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amount of TG species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (neutral losses) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions. n.d., not detected.

Species			$\mu\text{mol} / \text{g}$	‰	Molecular species	
TG 32:0	WT-FED	0.904 ± 0.092	0.34 ± 0.029			
	KO-FED	0.012 ± 0.001	0.002 ± 0.000			
	WT-FAS	0.005 ± 0.004	0.002 ± 0.001			
	KO-FAS	0.015 ± 0.002	0.004 ± 0.000			
TG 32:1	WT-FED	0.389 ± 0.024	0.147 ± 0.005			
	KO-FED	0.003 ± 0.001	0.001 ± 0.000			
	WT-FAS	0.005 ± 0.003	0.002 ± 0.001			
	KO-FAS	n.d.	n.d.			
TG 34:0	WT-FED	0.284 ± 0.028	0.107 ± 0.008	<b>8:0_8:0_18:0</b>	8:0_10:0_16:0	
	KO-FED	n.d.	n.d.			
	WT-FAS	0.007 ± 0.001	0.002 ± 0.000			
	KO-FAS	n.d.	n.d.			
TG 34:1	WT-FED	3.359 ± 0.364	1.263 ± 0.097			
	KO-FED	0.144 ± 0.052	0.026 ± 0.007			
	WT-FAS	0.104 ± 0.014	0.035 ± 0.004			
	KO-FAS	0.118 ± 0.053	0.035 ± 0.014			
TG 34:2	WT-FED	2.831 ± 0.208	1.066 ± 0.059	<b>8:0_8:0_18:2</b>		
	KO-FED	0.114 ± 0.015	0.021 ± 0.004	<b>8:0_8:0_18:2</b>		
	WT-FAS	0.121 ± 0.015	0.041 ± 0.004	<b>8:0_8:0_18:2</b>		
	KO-FAS	0.106 ± 0.041	0.032 ± 0.012	<b>8:0_8:0_18:2</b>		
TG 36:0	WT-FED	0.045 ± 0.011	0.017 ± 0.005			
	KO-FED	n.d.	n.d.			
	WT-FAS	n.d.	n.d.			
	KO-FAS	0.002 ± 0.002	0.001 ± 0.001			
TG 36:1	WT-FED	0.285 ± 0.03	0.107 ± 0.012	<b>8:0_10:0_18:1</b>	8:0_8:0_20:1	
	KO-FED	0.011 ± 0.008	0.002 ± 0.001			
	WT-FAS	0.014 ± 0.015	0.005 ± 0.005	<b>8:0_10:0_18:1</b>		
	KO-FAS	0.003	0.001	<b>8:0_10:0_18:1</b>		
TG 36:2	WT-FED	0.241 ± 0.035	0.091 ± 0.011			
	KO-FED	0.018 ± 0.014	0.003 ± 0.003			
	WT-FAS	0.019 ± 0.014	0.006 ± 0.005			
	KO-FAS	0.005 ± 0.002	0.002 ± 0.001			

TG continued

TG 36:3	WT-FED	0.078	± 0.028	0.029	± 0.01		
	KO-FED	n.d.		n.d.			
	WT-FAS	0.003		0.001			
	KO-FAS	n.d.		n.d.			
TG 36:4	WT-FED	0.899	± 0.034	0.339	± 0.016	<b>8:0_8:0_20:4</b>	
	KO-FED	0.036	± 0.002	0.006	± 0.001		
	WT-FAS	0.038	± 0.001	0.013	± 0.001		
	KO-FAS	0.063	± 0.041	0.018	± 0.011		
TG 38:0	WT-FED	0.054	± 0.013	0.02	± 0.005		
	KO-FED	0.004	± 0.002	0.001	± 0.000		
	WT-FAS	0.003	± 0.003	0.001	± 0.001		
	KO-FAS	0.005		0.001			
TG 38:1	WT-FED	0.149	± 0.056	0.056	± 0.019		
	KO-FED	n.d.		n.d.			
	WT-FAS	0.005		0.002			
	KO-FAS	n.d.		n.d.			
TG 38:4	WT-FED	0.043	± 0.02	0.016	± 0.008		
	KO-FED	n.d.		n.d.			
	WT-FAS	0.004	± 0.005	0.001	± 0.002		
	KO-FAS	0.006	± 0.005	0.002	± 0.002		
TG 40:0	WT-FED	0.684	± 0.014	0.258	± 0.014		
	KO-FED	n.d.		n.d.			
	WT-FAS	0.028		0.01			
	KO-FAS	0.031	± 0.005	0.009	± 0.002		
TG 40:1	WT-FED	1.521	± 0.089	0.572	± 0.016	<b>8:0_16:0_16:1</b>	8:0_14:0_18:1
	KO-FED	0.058		0.011			
	WT-FAS	0.054	± 0.006	0.018	± 0.002		
	KO-FAS	0.079		0.022			
TG 40:2	WT-FED	0.503	± 0.036	0.189	± 0.007		
	KO-FED	0.006		0.001			
	WT-FAS	0.058	± 0.006	0.02	± 0.003		
	KO-FAS	n.d.		n.d.			
TG 42:1	WT-FED	9.355	± 0.447	3.522	± 0.073	<b>8:0_16:0_18:1</b>	
	KO-FED	0.451	± 0.015	0.082	± 0.009		
	WT-FAS	0.54	± 0.067	0.183	± 0.016		
	KO-FAS	0.537	± 0.031	0.165	± 0.006		
TG 42:2	WT-FED	17.146	± 0.851	6.454	± 0.141	<b>8:0_16:0_18:2</b>	
	KO-FED	1.213	± 0.123	0.219	± 0.006	<b>8:0_16:0_18:2</b>	
	WT-FAS	1.513	± 0.102	0.513	± 0.016	<b>8:0_16:0_18:2</b>	
	KO-FAS	1.542	± 0.136	0.472	± 0.008	<b>8:0_16:0_18:2</b>	
TG 42:3	WT-FED	2.399	± 0.131	0.903	± 0.034	<b>8:0_16:1_18:2</b>	
	KO-FED	0.132		0.024			
	WT-FAS	0.22	± 0.01	0.075	± 0.002	<b>8:0_16:1_18:2</b>	
	KO-FAS	0.141	± 0	0.042	± 0		

TG continued

TG 42:4	WT-FED	0.18	± 0.04	0.068	± 0.017	<b>8:0_16:1_18:3</b>	8:0_16:2_18:2	8:0_14:0_20:4
	KO-FED	n.d.		n.d.				
	WT-FAS	0.028	± 0.007	0.009	± 0.002			
	KO-FAS	n.d.		n.d.				
TG 44:1	WT-FED	0.95	± 0.054	0.358	± 0.015	<b>8:0_18:0_18:1</b>		
	KO-FED	n.d.		n.d.				
	WT-FAS	0.326		0.107				
	KO-FAS	0.165	± 0.026	0.053	± 0.014			
TG 44:2	WT-FED	4.266	± 0.32	1.605	± 0.075	<b>8:0_18:0_18:2</b>	8:0_18:1_18:1	10:0_16:0_18:2
	KO-FED	0.406	± 0.063	0.073	± 0.005	<b>10:0_16:0_18:2</b>		
	WT-FAS	0.874	± 0.117	0.296	± 0.029			
	KO-FAS	0.547	± 0.042	0.168	± 0.014			
TG 44:3	WT-FED	4.797	± 0.341	1.805	± 0.07	<b>8:0_18:1_18:2</b>	8:0_16:0_20:3	
	KO-FED	0.368	± 0.037	0.067	± 0.013	<b>8:0_18:1_18:2</b>	8:0_16:0_20:3	
	WT-FAS	0.72	± 0.041	0.244	± 0.007	<b>8:0_18:1_18:2</b>	8:0_16:0_20:3	10:0_16:1_18:2
	KO-FAS	0.412	± 0.133	0.124	± 0.03	<b>8:0_18:1_18:2</b>	8:0_16:0_20:3	10:0_16:1_18:2
TG 44:4	WT-FED	7.908	± 0.416	2.977	± 0.066	<b>8:0_16:0_20:4</b>		
	KO-FED	0.663	± 0.09	0.12	± 0.004	<b>8:0_16:0_20:4</b>	8:0_18:2_18:2	
	WT-FAS	0.645	± 0.048	0.219	± 0.009	<b>8:0_16:0_20:4</b>		
	KO-FAS	0.617	± 0.086	0.188	± 0.009	<b>8:0_16:0_20:4</b>	8:0_18:2_18:2	
TG 44:5	WT-FED	0.721	± 0.025	0.272	± 0.003	<b>8:0_16:1_20:4</b>	8:0_18:2_18:3	8:0_18:1_18:4
	KO-FED	0.033	± 0.009	0.006	± 0.002			
	WT-FAS	0.06	± 0.005	0.02	± 0.001	<b>8:0_16:1_20:4</b>	8:0_18:2_18:3	8:0_18:1_18:4
	KO-FAS	0.041	± 0.015	0.013	± 0.006			
TG 46:1	WT-FED	0.547	± 0.157	0.206	± 0.057			
	KO-FED	0.648	± 0.066	0.119	± 0.023			
	WT-FAS	0.966	± 0.103	0.328	± 0.04			
	KO-FAS	1.212	± 0.05	0.372	± 0.021			
TG 46:2	WT-FED	0.874	± 0.044	0.329	± 0.016	<b>10:0_18:0_18:2</b>		
	KO-FED	0.637	± 0.068	0.115	± 0.002			
	WT-FAS	3.283	± 0.22	1.114	± 0.035	<b>14:0_16:0_16:2</b>	<b>12:0_16:0_18:2</b>	10:0_18:0_18:2
	KO-FAS	2.936	± 0.342	0.897	± 0.025			
TG 46:3	WT-FED	1.046	± 0.155	0.393	± 0.05	<b>8:0_18:0_20:3</b>		
	KO-FED	0.264	± 0.034	0.048	± 0.01			
	WT-FAS	2.109	± 0.197	0.715	± 0.043	<b>12:0_16:1_18:2</b>	<b>12:1_16:0_18:2</b>	<b>10:0_18:1_18:2</b>
	KO-FAS	0.908	± 0.084	0.278	± 0.01	<b>12:0_16:1_18:2</b>	<b>12:1_16:0_18:2</b>	<b>10:0_18:1_18:2</b>
TG 46:4	WT-FED	3.583	± 0.206	1.349	± 0.039	<b>8:0_18:0_20:4</b>		
	KO-FED	0.404	± 0.065	0.074	± 0.015			
	WT-FAS	0.901	± 0.074	0.306	± 0.014	<b>10:0_18:2_18:2</b>	<b>12:1_16:1_18:2</b>	
	KO-FAS	0.677	± 0.066	0.207	± 0.001	<b>12:1_16:1_18:2</b>	10:0_16:0_20:4	10:0_18:1_18:3
TG 46:5	WT-FED	2.777	± 0.082	1.046	± 0.011	<b>8:0_16:0_22:5</b>	<b>8:0_18:1_20:4</b>	
	KO-FED	0.25	± 0.019	0.046	± 0.006	<b>8:0_16:0_22:5</b>	<b>8:0_18:1_20:4</b>	
	WT-FAS	0.318	± 0.024	0.108	± 0.006	<b>8:0_18:1_20:4</b>	<b>10:0_18:2_18:3</b>	12:1_16:3_18:1
	KO-FAS	0.363	± 0.019	0.111	± 0.008	<b>8:0_18:1_20:4</b>	8:0_16:0_22:5	

## TG continued

TG 46:6	WT-FED	7.143	± 0.365	2.689	± 0.053	<b>8:0_16:0_22:6</b>		
	KO-FED	0.601	± 0.039	0.109	± 0.006	<b>8:0_16:0_22:6</b>		
	WT-FAS	0.532	± 0.055	0.18	± 0.012	<b>8:0_16:0_22:6</b>		
	KO-FAS	0.57	± 0.043	0.175	± 0.021	<b>8:0_16:0_22:6</b>		
TG 48:0	WT-FED	0.814	± 0.323	0.305	± 0.116			
	KO-FED	2.774	± 0.346	0.501	± 0.022			
	WT-FAS	2.085	± 0.226	0.707	± 0.051			
	KO-FAS	2.181	± 0.443	0.668	± 0.119			
TG 48:1	WT-FED	5.233	± 0.21	1.972	± 0.088			
	KO-FED	11.003	± 0.61	1.996	± 0.132			
	WT-FAS	5.98	± 0.251	2.031	± 0.061			
	KO-FAS	8.725	± 0.734	2.674	± 0.151			
TG 48:2	WT-FED	6.739	± 0.176	2.538	± 0.056			
	KO-FED	13.138	± 1.376	2.374	± 0.025	<b>14:0_16:0_18:2</b>	<b>14:0_16:1_18:1</b>	
	WT-FAS	11.749	± 0.961	3.985	± 0.206	<b>14:0_16:0_18:2</b>	<b>14:0_16:1_18:1</b>	
	KO-FAS	11.804	± 1.185	3.611	± 0.122			
TG 48:3	WT-FED	2.398	± 0.073	0.903	± 0.008			
	KO-FED	5.116	± 0.492	0.925	± 0.021			
	WT-FAS	9.16	± 0.471	3.109	± 0.061	<b>14:0_16:1_18:2</b>	<b>14:1_16:1_18:1</b>	14:0_16:0_18:3
	KO-FAS	5.824	± 0.592	1.781	± 0.058			
TG 48:4	WT-FED	0.796	± 0.723	0.304	± 0.284			
	KO-FED	0.902	± 0.103	0.163	± 0.009			
	WT-FAS	4.829	± 0.325	1.638	± 0.06	<b>12:0_18:2_18:2</b>	<b>12:1_18:1_18:2</b>	16:1_16:1_16:2
	KO-FAS	2.584	± 0.318	0.79	± 0.06			
TG 48:5	WT-FED	0.287	± 0.072	0.108	± 0.023			
	KO-FED	0.141	± 0.051	0.025	± 0.006			
	WT-FAS	1.219	± 0.112	0.413	± 0.024	<b>12:0_18:2_18:3</b>	<b>12:1_18:2_18:2</b>	
	KO-FAS	0.581	± 0.042	0.178	± 0.005	<b>12:0_18:2_18:3</b>	12:1_18:2_18:2	
TG 48:6	WT-FED	1.408	± 0.105	0.53	± 0.023	<b>8:0_18:0_22:6</b>		
	KO-FED	0.096	± 0.047	0.017	± 0.008	<b>8:0_18:0_22:6</b>		
	WT-FAS	0.533	± 0.167	0.18	± 0.051			
	KO-FAS	0.167	± 0.066	0.05	± 0.018	<b>8:0_18:0_22:6</b>		
TG 48:7	WT-FED	1.181	± 0.064	0.444	± 0.095			
	KO-FED	0.089	± 0.009	0.016	± 0.000			
	WT-FAS	0.133	± 0.013	0.045	± 0.008			
	KO-FAS	0.117	± 0.006	0.036	± 0.000			
TG 48:8	WT-FED	0.254	± 0.034	0.01	± 0.01			
	KO-FED	n.d.		n.d.				
	WT-FAS	0.024	± 0.005	0.003	± 0.002			
	KO-FAS	n.d.		n.d.				
TG 50:0	WT-FED	0.269	± 0.012	0.101	± 0.005			
	KO-FED	1.065	± 0.206	0.192	± 0.024	<b>16:0_16:0_18:0</b>		
	WT-FAS	0.264	± 0.092	0.09	± 0.033	<b>16:0_16:0_18:0</b>		
	KO-FAS	0.592	± 0.084	0.181	± 0.017			



TG continued

TG 50:1	WT-FED	23.679	± 1.936	8.907	± 0.446	<b>16:0_16:0_18:1</b>		
	KO-FED	67.21	± 4.693	12.178	± 0.585	<b>16:0_16:0_18:1</b>		
	WT-FAS	33.376	± 3.438	11.313	± 0.766	<b>16:0_16:0_18:1</b>		
	KO-FAS	38.801	± 4.461	11.853	± 0.289	<b>16:0_16:0_18:1</b>		
TG 50:2	WT-FED	59.511	± 2.482	22.406	± 0.429	<b>16:0_16:1_18:1</b>	<b>16:0_16:0_18:2</b>	14:0_18:1_18:1
	KO-FED	143.334	± 10.077	25.963	± 0.891	<b>16:0_16:1_18:1</b>	<b>16:0_16:0_18:2</b>	14:0_18:1_18:1
	WT-FAS	80.972	± 5.255	27.475	± 0.967	<b>16:0_16:1_18:1</b>	<b>16:0_16:0_18:2</b>	14:0_18:1_18:1
	KO-FAS	82.069	± 9.006	25.08	± 0.423	<b>16:0_16:1_18:1</b>	<b>16:0_16:0_18:2</b>	14:0_18:1_18:1
TG 50:3	WT-FED	47.652	± 2.554	17.937	± 0.476	<b>16:0_16:1_18:2</b>	<b>16:1_16:1_18:1</b>	
	KO-FED	89.653	± 8.796	16.215	± 0.694	<b>16:0_16:1_18:2</b>	<b>16:1_16:1_18:1</b>	
	WT-FAS	53.91	± 3.016	18.294	± 0.381	<b>16:0_16:1_18:2</b>	<b>16:1_16:1_18:1</b>	
	KO-FAS	54.774	± 6.007	16.739	± 0.315	<b>16:0_16:1_18:2</b>	<b>16:1_16:1_18:1</b>	
TG 50:4	WT-FED	12.808	± 0.612	4.823	± 0.16	<b>14:0_18:2_18:2</b>	<b>16:1_16:1_18:2</b>	
	KO-FED	27.045	± 2.417	4.893	± 0.095	<b>14:0_18:2_18:2</b>	<b>16:1_16:1_18:2</b>	
	WT-FAS	25.748	± 1.739	8.735	± 0.284	<b>14:0_18:2_18:2</b>	<b>16:1_16:1_18:2</b>	
	KO-FAS	15.403	± 1.604	4.709	± 0.062	<b>14:0_18:2_18:2</b>	<b>16:1_16:1_18:2</b>	
TG 50:5	WT-FED	1.796	± 0.009	0.677	± 0.025			
	KO-FED	4.517	± 0.363	0.818	± 0.021	<b>14:0_18:2_18:3</b>	<b>16:0_16:3_18:2</b>	
	WT-FAS	8.881	± 0.787	3.011	± 0.158	<b>14:0_18:2_18:3</b>	<b>14:1_18:2_18:2</b>	
	KO-FAS	3.139	± 0.449	0.957	± 0.051			
TG 50:6	WT-FED	0.655	± 0.162	0.248	± 0.068			
	KO-FED	0.529	± 0.024	0.096	± 0.006			
	WT-FAS	2.542	± 0.31	0.861	± 0.075	<b>14:1_18:2_18:3</b>	<b>14:2_18:2_18:2</b>	
	KO-FAS	1.077	± 0.182	0.328	± 0.026	<b>14:2_18:2_18:2</b>		
TG 50:7	WT-FED	0.154	± 0.094	0.059	± 0.037			
	KO-FED	0.042	± 0.023	0.008	± 0.005			
	WT-FAS	0.537	± 0.023	0.182	± 0.004			
	KO-FAS	0.213	± 0.049	0.065	± 0.01			
TG 52:1	WT-FED	5.659	± 1.099	2.124	± 0.344	<b>16:0_18:0_18:1</b>	<b>16:0_16:0_20:1</b>	
	KO-FED	21.286	± 2.044	3.85	± 0.141	<b>16:0_18:0_18:1</b>		
	WT-FAS	8.166	± 1.944	2.788	± 0.761	<b>16:0_18:0_18:1</b>		
	KO-FAS	12.093	± 1.894	3.684	± 0.24	<b>16:0_18:0_18:1</b>		
TG 52:2	WT-FED	269.04	± 1.855	101.39	± 3.962	<b>16:0_18:1_18:1</b>		
	KO-FED	922.803	± 93.904	166.791	± 1.483	<b>16:0_18:1_18:1</b>		
	WT-FAS	206.375	± 14.894	70.002	± 2.522	<b>16:0_18:1_18:1</b>		
	KO-FAS	426.843	± 50.009	130.392	± 3.444	<b>16:0_18:1_18:1</b>		
TG 52:3	WT-FED	620.933	± 24.304	233.783	± 2.279	<b>16:0_18:1_18:2</b>	<b>16:1_18:1_18:1</b>	
	KO-FED	1333.99	± 169.52	240.73	± 6.582	<b>16:0_18:1_18:2</b>	<b>16:1_18:1_18:1</b>	
	WT-FAS	465.764	± 12.407	158.188	± 3.669	<b>16:0_18:1_18:2</b>	<b>16:1_18:1_18:1</b>	
	KO-FAS	646.958	± 58.701	197.962	± 1.658	<b>16:0_18:1_18:2</b>	<b>16:1_18:1_18:1</b>	
TG 52:4	WT-FED	331.949	± 15.981	124.961	± 2.727	<b>16:0_18:2_18:2</b>	<b>16:0_18:1_18:3</b>	<b>16:1_18:1_18:2</b>
	KO-FED	832.913	± 84.656	150.548	± 1.337	<b>16:0_18:2_18:2</b>	<b>16:0_18:1_18:3</b>	<b>16:1_18:1_18:2</b>
	WT-FAS	358.767	± 14.36	121.8	± 1.844	<b>16:0_18:2_18:2</b>	<b>16:0_18:1_18:3</b>	<b>16:1_18:1_18:2</b>
	KO-FAS	319.912	± 35.394	97.759	± 1.798	<b>16:0_18:2_18:2</b>	<b>16:0_18:1_18:3</b>	<b>16:1_18:1_18:2</b>

## TG continued

TG 52:5	WT-FED	55.084 ± 1.773	20.745 ± 0.399	<b>16:1_18:2_18:2</b>	<b>16:0_18:2_18:3</b>	16:0_18:1_18:4
	KO-FED	190.52 ± 14.988	34.489 ± 0.892	<b>16:1_18:2_18:2</b>	<b>16:0_18:2_18:3</b>	16:0_18:1_18:4
	WT-FAS	89.252 ± 4.727	30.29 ± 0.588	<b>16:1_18:2_18:2</b>	<b>16:0_18:2_18:3</b>	16:0_18:1_18:4
	KO-FAS	57.577 ± 7.542	17.571 ± 0.678	<b>16:1_18:2_18:2</b>	<b>16:0_18:2_18:3</b>	<b>16:0_16:1_20:4</b>
TG 52:6	WT-FED	8.001 ± 0.23	3.013 ± 0.059	<b>16:1_18:2_18:3</b>	<b>16:0_18:2_18:4</b>	
	KO-FED	21.427 ± 2.254	3.872 ± 0.07	<b>16:1_18:2_18:3</b>	<b>16:0_18:2_18:4</b>	
	WT-FAS	20.251 ± 0.941	6.874 ± 0.12	<b>16:1_18:2_18:3</b>	<b>16:0_18:2_18:4</b>	
	KO-FAS	10.073 ± 1.091	3.079 ± 0.06	<b>16:1_18:2_18:3</b>	<b>16:0_18:2_18:4</b>	
TG 52:7	WT-FED	0.858 ± 0.1	0.323 ± 0.033	<b>16:1_18:2_18:4</b>		
	KO-FED	1.783 ± 0.149	0.323 ± 0.028	<b>16:1_18:2_18:4</b>		
	WT-FAS	4.393 ± 0.297	1.49 ± 0.051	<b>16:2_18:2_18:3</b>		
	KO-FAS	1.157 ± 0.294	0.351 ± 0.063	<b>16:1_18:2_18:4</b>		
TG 52:8	WT-FED	n.d.	n.d.			
	KO-FED	0.184 ± 0.03	0.033 ± 0.002	<b>14:2_16:0_22:6</b>		
	WT-FAS	0.878 ± 0.096	0.298 ± 0.023	<b>14:2_16:0_22:6</b>		
	KO-FAS	0.408 ± 0.024	0.125 ± 0.005	<b>14:2_16:0_22:6</b>		
TG 54:1	WT-FED	2.253 ± 0.144	0.848 ± 0.027	<b>16:0_18:1_20:0</b>	16:0_18:0_20:1	
	KO-FED	3.246 ± 0.254	0.588 ± 0.016	<b>16:0_18:1_20:0</b>	16:0_18:0_20:1	
	WT-FAS	0.795 ± 0.059	0.27 ± 0.013	<b>16:0_18:1_20:0</b>	16:0_18:0_20:1	
	KO-FAS	1.922 ± 0.235	0.587 ± 0.018	<b>16:0_18:1_20:0</b>	16:0_18:0_20:1	
TG 54:2	WT-FED	18.347 ± 2.827	6.895 ± 0.909	<b>18:0_18:1_18:1</b>	<b>16:0_18:1_20:1</b>	16:0_20:0_18:2
	KO-FED	75.775 ± 15.213	13.64 ± 2.000	<b>18:0_18:1_18:1</b>	<b>16:0_18:1_20:1</b>	16:0_20:0_18:2
	WT-FAS	28.857 ± 2.081	9.788 ± 0.353	<b>18:0_18:1_18:1</b>	16:0_18:1_20:1	16:0_20:0_18:2
	KO-FAS	17.709 ± 3.499	5.381 ± 0.581	<b>18:0_18:1_18:1</b>	<b>16:0_18:1_20:1</b>	16:0_20:0_18:2
TG 54:3	WT-FED	120.628 ± 8.502	45.5 ± 4.375	<b>18:1_18:1_18:1</b>	16:0_18:2_20:1	16:0_18:1_20:2
	KO-FED	273.522 ± 32.588	49.379 ± 0.855	<b>18:1_18:1_18:1</b>	16:0_18:2_20:1	16:0_18:1_20:2
	WT-FAS	155.432 ± 8.825	52.745 ± 1.223	<b>18:1_18:1_18:1</b>	16:0_18:2_20:1	16:0_18:1_20:2
	KO-FAS	161.553 ± 13.912	49.448 ± 0.536	<b>18:1_18:1_18:1</b>	16:0_18:2_20:1	16:0_18:1_20:2
TG 54:4	WT-FED	216.878 ± 8.333	81.657 ± 0.877	<b>18:1_18:1_18:2</b>	16:0_18:1_20:3	
	KO-FED	384.72 ± 51.149	69.388 ± 2.141	<b>18:1_18:1_18:2</b>	16:0_18:1_20:3	
	WT-FAS	290.265 ± 12.86	98.623 ± 5.339	<b>18:1_18:1_18:2</b>	16:0_18:1_20:3	
	KO-FAS	229.996 ± 18.821	70.417 ± 1.104	<b>18:1_18:1_18:2</b>	16:0_18:1_20:3	
TG 54:5	WT-FED	210.17 ± 11.859	79.1 ± 1.963	<b>16:0_18:1_20:4</b>	<b>18:1_18:2_18:2</b>	18:1_18:1_18:3
	KO-FED	373.723 ± 30.244	67.644 ± 1.618	<b>16:0_18:1_20:4</b>	<b>18:1_18:2_18:2</b>	18:1_18:1_18:3
	WT-FAS	341.695 ± 6.892	116.06 ± 2.542	<b>16:0_18:1_20:4</b>	<b>18:1_18:2_18:2</b>	18:1_18:1_18:3
	KO-FAS	248.659 ± 11.662	76.306 ± 3.835	<b>16:0_18:1_20:4</b>	<b>18:1_18:2_18:2</b>	18:1_18:1_18:3
TG 54:6	WT-FED	106.672 ± 2.985	40.172 ± 0.345	<b>18:1_18:2_18:3</b>	<b>16:0_18:2_20:4</b>	16:0_16:0_22:6
	KO-FED	227.87 ± 14.516	41.298 ± 1.866	<b>18:1_18:2_18:3</b>	<b>16:0_18:2_20:4</b>	16:0_16:0_22:6
	WT-FAS	229.161 ± 9.874	77.788 ± 0.757	<b>18:1_18:2_18:3</b>	<b>16:0_18:2_20:4</b>	16:0_16:0_22:6
	KO-FAS	181.182 ± 17.221	55.424 ± 0.424	<b>18:1_18:2_18:3</b>	<b>16:0_18:2_20:4</b>	16:0_16:0_22:6
TG 54:7	WT-FED	21.294 ± 0.869	8.017 ± 0.094	<b>18:2_18:2_18:3</b>	<b>16:0_16:1_22:6</b>	<b>16:0_18:3_20:4</b>
	KO-FED	53.827 ± 4.228	9.747 ± 0.425	<b>18:2_18:2_18:3</b>	<b>16:0_16:1_22:6</b>	<b>16:0_18:3_20:4</b>
	WT-FAS	59.528 ± 3.45	20.2 ± 0.496	<b>18:2_18:2_18:3</b>	<b>16:0_16:1_22:6</b>	<b>16:0_18:3_20:4</b>
	KO-FAS	32.426 ± 3.625	9.909 ± 0.23	<b>18:2_18:2_18:3</b>	<b>16:0_16:1_22:6</b>	<b>16:0_18:3_20:4</b>

## TG continued

TG 54:8	WT-FED	2.529	± 0.062	0.953	± 0.03	<b>18:2_18:3_18:3</b>	<b>18:2_18:2_18:4</b>	
	KO-FED	5.001	± 0.405	0.905	± 0.026	<b>18:2_18:3_18:3</b>		
	WT-FAS	10.201	± 1.019	3.458	± 0.229	<b>18:2_18:3_18:3</b>	<b>18:2_18:2_18:4</b>	
	KO-FAS	3.838	± 0.324	1.175	± 0.036	<b>18:2_18:3_18:3</b>		
TG 54:9	WT-FED	0.179	± 0.021	0.067	± 0.006			
	KO-FED	0.349	± 0.031	0.063	± 0.002	<b>18:3_18:3_18:3</b>	<b>18:2_18:3_18:4</b>	
	WT-FAS	1.274	± 0.127	0.432	± 0.029	<b>18:3_18:3_18:3</b>	<b>18:2_18:3_18:4</b>	
	KO-FAS	0.352	± 0.012	0.109	± 0.015			
TG 54:10	WT-FED	n.d.		n.d.				
	KO-FED	0.016	± 0.003	0.003	± 0.000			
	WT-FAS	0.138	± 0.038	0.047	± 0.011			
	KO-FAS	0.04	± 0.008	0.012	± 0.004			
TG 56:2	WT-FED	3.247	± 0.2	1.222	± 0.049	<b>18:1_16:0_22:1</b>	<b>18:1_18:1_20:0</b>	
	KO-FED	3.019	± 0.58	0.538	± 0.027	<b>18:1_16:0_22:1</b>	<b>18:1_18:1_20:0</b>	
	WT-FAS	n.d.		n.d.				
	KO-FAS	1.114	± 0.381	0.346	± 0.133	<b>18:1_16:0_22:1</b>	<b>18:1_18:1_20:0</b>	
TG 56:3	WT-FED	12.859	± 1.368	4.853	± 0.645	<b>18:1_18:1_20:1</b>	<b>18:1_18:2_20:0</b>	<b>16:0_18:2_22:1</b>
	KO-FED	21.888	± 1.443	3.976	± 0.37	<b>18:1_18:1_20:1</b>	<b>18:1_18:2_20:0</b>	16:0_18:2_22:1
	WT-FAS	11.846	± 1.125	4.016	± 0.241	<b>18:1_18:1_20:1</b>	<b>18:1_18:2_20:0</b>	16:0_18:2_22:1
	KO-FAS	8.388	± 1.444	2.557	± 0.25	<b>18:1_18:1_20:1</b>	<b>18:1_18:2_20:0</b>	<b>16:0_18:2_22:1</b>
TG 56:4	WT-FED	18.418	± 2.749	6.921	± 0.866	<b>18:1_18:2_20:1</b>	16:0_20:2_20:2	
	KO-FED	27.72	± 3.56	5.002	± 0.188	<b>18:1_18:2_20:1</b>	16:0_20:2_20:2	
	WT-FAS	20.969	± 2.277	7.107	± 0.546	<b>18:1_18:2_20:1</b>	16:0_20:2_20:2	
	KO-FAS	13.66	± 2.948	4.146	± 0.528	<b>18:1_18:2_20:1</b>	16:0_20:2_20:2	
TG 56:5	WT-FED	33.437	± 0.991	12.601	± 0.619	<b>18:1_16:0_22:4</b>	<b>18:0_18:1_20:4</b>	<b>18:0_18:2_20:3</b>
	KO-FED	40.246	± 5.843	7.258	± 0.407	<b>18:1_16:0_22:4</b>	<b>18:0_18:1_20:4</b>	<b>18:0_18:2_20:3</b>
	WT-FAS	21.008	± 2.655	7.117	± 0.658	<b>18:1_16:0_22:4</b>	<b>18:0_18:1_20:4</b>	<b>18:0_18:2_20:3</b>
	KO-FAS	35.289	± 1.932	10.828	± 0.588	<b>18:1_16:0_22:4</b>	<b>18:0_18:1_20:4</b>	<b>18:0_18:2_20:3</b>
TG 56:6	WT-FED	61.433	± 2.146	23.134	± 0.394	<b>18:1_18:1_20:4</b>	<b>16:0_18:1_22:5</b>	<b>18:1_18:2_20:3</b>
	KO-FED	61.071	± 7.722	11.022	± 0.34	<b>18:1_18:1_20:4</b>	<b>16:0_18:1_22:5</b>	<b>18:1_18:2_20:3</b>
	WT-FAS	42.001	± 0.657	14.278	± 0.777	<b>18:1_18:1_20:4</b>	<b>16:0_18:1_22:5</b>	18:1_18:2_20:3
	KO-FAS	78.956	± 4.73	24.209	± 0.904	<b>18:1_18:1_20:4</b>	<b>16:0_18:1_22:5</b>	<b>18:1_18:2_20:3</b>
TG 56:7	WT-FED	97.965	± 3.898	36.884	± 0.453	<b>16:0_18:1_22:6</b>	<b>16:1_18:1_22:5</b>	<b>18:0_18:3_20:4</b>
	KO-FED	88.472	± 4.941	16.068	± 1.403	<b>16:0_18:1_22:6</b>	16:1_18:1_22:5	18:0_18:3_20:4
	WT-FAS	92.051	± 2.484	31.267	± 0.968	<b>16:0_18:1_22:6</b>	<b>16:1_18:1_22:5</b>	<b>18:1_18:2_20:4</b>
	KO-FAS	155.447	± 15.646	47.533	± 0.418	<b>16:0_18:1_22:6</b>	<b>18:1_18:2_20:4</b>	
TG 56:8	WT-FED	68.464	± 1.114	25.79	± 0.469	<b>16:0_18:2_22:6</b>	16:1_18:2_22:5	18:1_18:3_20:4
	KO-FED	83.385	± 7.265	15.086	± 0.288	<b>16:0_18:2_22:6</b>	<b>16:1_18:2_22:5</b>	<b>18:1_18:3_20:4</b>
	WT-FAS	97.969	± 4.727	33.251	± 0.469	<b>16:0_18:2_22:6</b>	<b>16:1_18:2_22:5</b>	<b>18:1_18:3_20:4</b>
	KO-FAS	138.971	± 12.707	42.521	± 0.481	<b>16:0_18:2_22:6</b>	16:1_18:2_22:5	18:1_18:3_20:4
TG 56:9	WT-FED	6.539	± 0.093	2.464	± 0.069	<b>16:1_18:2_22:6</b>	<b>18:2_18:2_20:5</b>	<b>18:2_18:3_20:4</b>
	KO-FED	11.586	± 0.874	2.099	± 0.106	<b>16:1_18:2_22:6</b>	<b>18:2_18:2_20:5</b>	<b>18:2_18:3_20:4</b>
	WT-FAS	19.678	± 1.701	6.673	± 0.351	<b>16:1_18:2_22:6</b>	<b>18:2_18:2_20:5</b>	<b>18:2_18:3_20:4</b>
	KO-FAS	13.707	± 1.556	4.188	± 0.104	<b>18:2_18:3_20:4</b>	16:1_18:2_22:6	18:2_18:2_20:5

## TG continued

TG 56:10	WT-FED	0.455	± 0.11	0.171	± 0.041			
	KO-FED	0.665	± 0.134	0.12	± 0.017	<b>16:1_18:3_22:6</b>	<b>18:2_18:3_20:5</b>	<b>18:3_18:3_20:4</b>
	WT-FAS	2.053	± 0.204	0.696	± 0.045	<b>16:2_18:2_22:6</b>	<b>18:2_18:3_20:5</b>	<b>18:2_18:4_20:4</b>
	KO-FAS	0.825	± 0.136	0.251	± 0.02	<b>16:1_18:3_22:6</b>	18:2_18:3_20:5	16:2_20:4_20:4
TG 56:11	WT-FED	n.d.		n.d.				
	KO-FED	n.d.		n.d.				
	WT-FAS	0.203	± 0.006	0.069	± 0.001			
	KO-FAS	0.053	± 0.001	0.016	± 0.001			
TG 58:2	WT-FED	0.392	± 0.197	0.148	± 0.076			
	KO-FED	0.668	± 0.181	0.123	± 0.04			
	WT-FAS	0.194	± 0.036	0.066	± 0.011			
	KO-FAS	0.31	± 0.138	0.094	± 0.038			
TG 58:3	WT-FED	1.359	± 0.292	0.511	± 0.107	<b>16:0_18:2_24:1</b>	18:1_18:1_22:1	18:2_20:0_20:1
	KO-FED	1.726	± 0.228	0.314	± 0.05	<b>16:0_18:2_24:1</b>	<b>18:1_18:1_22:1</b>	<b>18:2_20:0_20:1</b>
	WT-FAS	0.956	± 0.42	0.323	± 0.138	<b>16:0_18:2_24:1</b>	<b>18:1_18:1_22:1</b>	<b>18:2_20:0_20:1</b>
	KO-FAS	0.877	± 0.153	0.27	± 0.048	<b>16:0_18:2_24:1</b>	18:1_18:1_22:1	18:2_20:0_20:1
TG 58:4	WT-FED	2.647	± 0.207	0.996	± 0.063			
	KO-FED	3.033	± 0.42	0.547	± 0.031			
	WT-FAS	1.573	± 0.22	0.533	± 0.059			
	KO-FAS	1.467	± 0.306	0.454	± 0.115			
TG 58:5	WT-FED	5.708	± 2.524	2.143	± 0.922			
	KO-FED	2.096	± 0.821	0.388	± 0.168			
	WT-FAS	1.155	± 0.029	0.392	± 0.006			
	KO-FAS	4.593	± 0.435	1.421	± 0.271			
TG 58:6	WT-FED	8.26	± 0.44	3.115	± 0.242	<b>16:0_18:1_24:5</b>	18:1_18:1_22:4	
	KO-FED	5.592	± 0.397	1.013	± 0.037			
	WT-FAS	4.144	± 0.233	1.408	± 0.089	<b>16:0_18:1_24:5</b>	<b>18:1_18:1_22:4</b>	
	KO-FAS	17.548	± 0.372	5.395	± 0.441	<b>16:0_18:1_24:5</b>	18:1_18:1_22:4	
TG 58:7	WT-FED	24.888	± 0.829	9.373	± 0.178	<b>18:1_18:2_22:4</b>	16:0_18:1_24:6	
	KO-FED	14.829	± 1.472	2.681	± 0.044	<b>18:1_18:2_22:4</b>	<b>16:0_18:1_24:6</b>	<b>18:1_18:1_22:5</b>
	WT-FAS	11.536	± 1.127	3.913	± 0.293			
	KO-FAS	35.667	± 4.65	10.916	± 1.059	<b>18:1_18:2_22:4</b>	16:0_18:1_24:6	
TG 58:8	WT-FED	31.095	± 1.255	11.707	± 0.161	18:1_18:2_22:5		
	KO-FED	24.952	± 2.747	4.51	± 0.174	<b>18:1_18:2_22:5</b>		
	WT-FAS	22.826	± 0.805	7.758	± 0.44	<b>18:1_18:2_22:5</b>		
	KO-FAS	51.239	± 5.072	15.679	± 0.669	18:1_18:2_22:5		
TG 58:9	WT-FED	19.72	± 0.448	7.427	± 0.092	<b>18:1_18:2_22:6</b>		
	KO-FED	20.697	± 1.306	3.751	± 0.159	<b>18:1_18:2_22:6</b>		
	WT-FAS	27.892	± 1.077	9.469	± 0.118	<b>18:1_18:2_22:6</b>		
	KO-FAS	38.286	± 3.492	11.715	± 0.085	<b>18:1_18:2_22:6</b>		
TG 58:10	WT-FED	7.175	± 0.299	2.702	± 0.078	<b>18:2_20:4_20:4</b>	18:2_18:2_22:6	
	KO-FED	10.483	± 0.761	1.899	± 0.074	<b>18:2_20:4_20:4</b>	<b>18:2_18:2_22:6</b>	
	WT-FAS	23.972	± 0.898	8.138	± 0.065	<b>18:2_18:2_22:6</b>		
	KO-FAS	26.779	± 2.522	8.193	± 0.128	<b>18:2_18:2_22:6</b>	18:2_20:4_20:4	

## TG continued

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TG 58:11	WT-FED	0.94	± 0.057	0.354	± 0.024		
	KO-FED	1.641	± 0.156	0.297	± 0.023	<b>18:2_18:3_22:6</b>	<b>18:3_20:4_20:4</b>
	WT-FAS	3.379	± 0.374	1.145	± 0.087	<b>18:2_18:3_22:6</b>	<b>18:3_20:4_20:4</b>
	KO-FAS	3.097	± 0.421	0.945	± 0.043	<b>18:2_18:3_22:6</b>	<b>18:3_20:4_20:4</b>
TG 58:12	WT-FED	0.037	± 0.013	0.014	± 0.004		
	KO-FED	0.098	± 0.012	0.018	± 0.003		
	WT-FAS	0.281	± 0.047	0.095	± 0.015		
	KO-FAS	0.193	± 0.039	0.059	± 0.007		
TG 60:5	WT-FED	0.283	± 0.072	0.107	± 0.029		
	KO-FED	0.575	± 0.037	0.104	± 0.011		
	WT-FAS	0.261	± 0.051	0.088	± 0.015		
	KO-FAS	0.284	± 0.067	0.087	± 0.02		
TG 60:6	WT-FED	0.587	± 0.137	0.22	± 0.044		
	KO-FED	0.279	± 0.137	0.049	± 0.019		
	WT-FAS	0.145	± 0.035	0.049	± 0.013		
	KO-FAS	1.159	± 0.099	0.355	± 0.013		
TG 60:7	WT-FED	1.698	± 0.929	0.635	± 0.33		
	KO-FED	0.683	± 0.349	0.125	± 0.071		
	WT-FAS	0.249	± 0.051	0.085	± 0.021		
	KO-FAS	3.698	± 0.659	1.126	± 0.124		
TG 60:8	WT-FED	3.621	± 1.38	1.357	± 0.484		
	KO-FED	1.492	± 0.556	0.265	± 0.073		
	WT-FAS	0.814	± 0.411	0.278	± 0.141		
	KO-FAS	7.698	± 1.465	2.345	± 0.304		
TG 60:9	WT-FED	5.026	± 0.123	1.894	± 0.062		
	KO-FED	3.92	± 0.599	0.709	± 0.094		
	WT-FAS	2.041	± 0.76	0.688	± 0.243		
	KO-FAS	8.741	± 1.421	2.663	± 0.193		
TG 60:10	WT-FED	2.811	± 0.351	1.061	± 0.15		
	KO-FED	2.208	± 0.151	0.402	± 0.055		
	WT-FAS	1.665	± 0.128	0.567	± 0.062		
	KO-FAS	7.754	± 0.684	2.373	± 0.062		
TG 60:11	WT-FED	1.827	± 0.16	0.688	± 0.064		
	KO-FED	1.673	± 0.31	0.301	± 0.033		
	WT-FAS	2.732	± 0.216	0.927	± 0.046		
	KO-FAS	5.974	± 0.638	1.826	± 0.035		
TG 60:12	WT-FED	1.184	± 0.114	0.445	± 0.032		
	KO-FED	1.372	± 0.11	0.248	± 0.007		
	WT-FAS	3.211	± 0.324	1.088	± 0.071	<b>18:2_20:4_22:6</b>	
	KO-FAS	8.176	± 0.851	2.499	± 0.03	<b>18:2_20:4_22:6</b>	
TG 60:13	WT-FED	0.065		0.025			
	KO-FED	0.192	± 0.017	0.034	± 0.002		
	WT-FAS	0.289	± 0.021	0.098	± 0.004		
	KO-FAS	0.407	± 0.06	0.124	± 0.007	<b>20:4_20:4_20:5</b>	<b>18:3_20:4_22:6</b>

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TG continued

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TG 62:11	WT-FED	0.45	± 0.166	0.168	± 0.056	
	KO-FED	0.104	± 0.049	0.018	± 0.007	
	WT-FAS	0.192	± 0.049	0.065	± 0.017	
	KO-FAS	2.208	± 0.494	0.676	± 0.134	
TG 62:12	WT-FED	0.609	± 0.019	0.229	± 0.012	
	KO-FED	0.408	± 0.156	0.072	± 0.023	<b>18:0_22:6_22:6</b>
	WT-FAS	0.671	± 0.096	0.228	± 0.038	
	KO-FAS	2.904	± 0.358	0.887	± 0.039	<b>18:0_22:6_22:6</b>
TG 62:13	WT-FED	0.263	± 0.073	0.099	± 0.027	
	KO-FED	0.377	± 0.028	0.068	± 0.002	
	WT-FAS	0.612	± 0.035	0.208	± 0.007	
	KO-FAS	1.027	± 0.03	0.316	± 0.022	
TG 62:14	WT-FED	0.121	± 0.002	0.045	± 0.001	
	KO-FED	0.252	± 0.022	0.046	± 0.004	
	WT-FAS	0.349	± 0.031	0.118	± 0.006	
	KO-FAS	0.655	± 0.058	0.201	± 0.01	<b>20:4_20:4_22:6</b>

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**Supplementary Table IV.** Summary of DG species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO- FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amount of DG species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (neutral losses) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions. n.d., not detected.

Species		nmol / g		‰		Molecular species	
DG 32:0	WT-FED	51.914	± 8.403	4.42	± 0.41		
	KO-FED	119.203	± 13.445	3.47	± 0.21		
	WT-FAS	192.258	± 12.426	3.97	± 0.05		
	KO-FAS	62.292	± 8.369	3.01	± 0.18		
DG 32:1	WT-FED	82.217	± 8.008	7.03	± 0.41		
	KO-FED	347.967	± 42.538	10.11	± 0.33		
	WT-FAS	259.077	± 5.053	5.36	± 0.3		
	KO-FAS	172.239	± 10.067	8.35	± 0.43		
DG 32:2	WT-FED	29.373	± 9.704	2.48	± 0.66		
	KO-FED	117.11	± 14.771	3.4	± 0.1		
	WT-FAS	147.034	± 28.322	3.02	± 0.44		
	KO-FAS	75.538	± 6.553	3.66	± 0.25		
DG 34:0	WT-FED	63.529	± 13.842	5.42	± 1.01	<b>16:0_18:0</b>	
	KO-FED	75.888	± 13.367	2.21	± 0.33	<b>16:0_18:0</b>	
	WT-FAS	76.221	± 6.315	1.57	± 0.07		
	KO-FAS	46.713	± 7.767	2.25	± 0.2	<b>16:0_18:0</b>	
DG 34:1	WT-FED	1529.47	± 130.153	130.71	± 2.06	<b>16:0_18:1</b>	
	KO-FED	5830.024	± 900.09	168.88	± 1.42	<b>16:0_18:1</b>	
	WT-FAS	3715.71	± 172.522	76.82	± 1.13	<b>16:0_18:1</b>	
	KO-FAS	2709.914	± 289.539	130.99	± 3.93	<b>16:0_18:1</b>	
DG 34:2	WT-FED	1770.129	± 157.381	151.25	± 2.87	<b>16:0_18:2</b>	16:1_18:1
	KO-FED	7659.64	± 1138.242	222.02	± 1.13	<b>16:0_18:2</b>	16:1_18:1
	WT-FAS	8192.118	± 497.8	169.28	± 1.06	<b>16:0_18:2</b>	16:1_18:1
	KO-FAS	4381.924	± 360.71	212.09	± 2.33	<b>16:0_18:2</b>	16:1_18:1
DG 34:3	WT-FED	260.646	± 47.695	22.17	± 2.53		
	KO-FED	893.104	± 141.954	25.87	± 0.64	<b>16:1_18:2</b>	
	WT-FAS	1107.354	± 63.041	22.89	± 0.35	<b>16:1_18:2</b>	
	KO-FAS	521.103	± 33.405	25.25	± 0.83	<b>16:1_18:2</b>	

DG continued

DG 34:4	WT-FED	4.229	±	1.118	0.36	±	0.09			
	KO-FED	37.584	±	2.884	1.1	±	0.09			
	WT-FAS	125.524	±	7.71	2.59	±	0.07			
	KO-FAS	18.525	±	8.007	0.89	±	0.37			
DG 34:5	WT-FED	n.d.			n.d.					
	KO-FED	0.53	±	0.12	0.01	±	0.000			
	WT-FAS	12.39	±	3.268	0.26	±	0.08			
	KO-FAS	1.459			0.08					
DG 36:1	WT-FED	179.332	±	10.459	15.38	±	1.18	<b>18:0_18:1</b>		
	KO-FED	425.989	±	55.2	12.38	±	0.37	<b>18:0_18:1</b>		
	WT-FAS	418.607	±	32.125	8.65	±	0.41	<b>18:0_18:1</b>		
	KO-FAS	199.303	±	16.124	9.65	±	0.07	<b>18:0_18:1</b>	16:0_20:1	
DG 36:2	WT-FED	1553.973	±	90.08	133	±	3.25	<b>18:1_18:1</b>	18:0_18:2	
	KO-FED	4461.306	±	713.125	129.15	±	2.52	<b>18:1_18:1</b>	18:0_18:2	
	WT-FAS	5276.122	±	404.742	108.96	±	2.2	<b>18:1_18:1</b>	18:0_18:2	
	KO-FAS	2086.671	±	209.682	100.9	±	2.38	<b>18:1_18:1</b>	18:0_18:2	
DG 36:3	WT-FED	1905.217	±	96.049	163.11	±	4.02	<b>18:1_18:2</b>		
	KO-FED	5789.801	±	847.78	167.86	±	1.14	<b>18:1_18:2</b>		
	WT-FAS	12245.047	±	656.061	253.1	±	3.17	<b>18:1_18:2</b>		
	KO-FAS	3152.352	±	210.482	152.7	±	2.06	<b>18:1_18:2</b>		
DG 36:4	WT-FED	1109.787	±	51.96	95.03	±	2.92	<b>16:0_20:4</b>	<b>18:2_18:2</b>	18:1_18:3
	KO-FED	2686.717	±	425.999	77.81	±	1.28	<b>16:0_20:4</b>	18:2_18:2	18:1_18:3
	WT-FAS	6399.752	±	347.748	132.28	±	2.2	<b>16:0_20:4</b>	<b>18:2_18:2</b>	18:1_18:3
	KO-FAS	1709.762	±	124.452	82.79	±	0.77	<b>16:0_20:4</b>	18:2_18:2	18:1_18:3
DG 36:5	WT-FED	103.711	±	9.522	8.86	±	0.23			
	KO-FED	292.799	±	48.755	8.47	±	0.17			
	WT-FAS	508.694	±	21.825	10.52	±	0.15	<b>18:2_18:3</b>		
	KO-FAS	219.634	±	12.651	10.65	±	0.49			
DG 38:1	WT-FED	5.653	±	2.293	0.48	±	0.19			
	KO-FED	9.991	±	1.352	0.3	±	0.09			
	WT-FAS	26.036	±	2.863	0.54	±	0.05			
	KO-FAS	6.452	±	3.068	0.32	±	0.18			
DG 38:2	WT-FED	130.807	±	6.522	11.2	±	0.53			
	KO-FED	178.501	±	18.909	5.2	±	0.25			
	WT-FAS	235.232	±	16.382	4.86	±	0.07	<b>18:1_20:1</b>	<b>18:2_20:0</b>	
	KO-FAS	82.605	±	4.054	4.01	±	0.19			
DG 38:3	WT-FED	281.62	±	18.836	24.11	±	1.28			
	KO-FED	435.758	±	68.606	12.62	±	0.22			
	WT-FAS	542.774	±	54.791	11.2	±	0.54	<b>18:2_20:1</b>	18:1_20:2	
	KO-FAS	188.802	±	18.383	9.14	±	0.37	<b>18:2_20:1</b>	<b>16:1_22:2</b>	<b>18:1_20:2</b>
DG 38:4	WT-FED	768.202	±	69.137	65.64	±	1.34	<b>18:0_20:4</b>		
	KO-FED	1777.776	±	281.22	51.48	±	1.43	<b>18:0_20:4</b>	18:1_20:3	
	WT-FAS	1413.709	±	72.697	29.23	±	0.58	<b>18:0_20:4</b>	18:1_20:3	
	KO-FAS	1347.37	±	135.128	65.16	±	1.63	<b>18:0_20:4</b>	18:1_20:3	



DG continued

DG 38:5	WT-FED	410.198	± 27.36	35.15	± 2.52		
	KO-FED	833.874	± 103.018	24.24	± 1		
	WT-FAS	1506.512	± 84.388	31.14	± 0.16	<b>18:1_20:4</b>	
	KO-FAS	737.617	± 37.123	35.78	± 1.67	<b>18:1_20:4</b>	
DG 38:6	WT-FED	582.303	± 59.746	49.73	± 1.81		
	KO-FED	1197.859	± 195.47	34.69	± 1.09	<b>18:2_20:4</b>	<b>16:0_22:6</b>
	WT-FAS	2819.477	± 136.788	58.29	± 0.56	<b>16:0_22:6</b>	18:2_20:4
	KO-FAS	1201.441	± 82.41	58.2	± 1	<b>18:2_20:4</b>	16:0_22:6
DG 38:7	WT-FED	25.449	± 2.976	2.2	± 0.41		
	KO-FED	70.569	± 10.05	2.05	± 0.15		
	WT-FAS	125.574	± 13.282	2.6	± 0.26		
	KO-FAS	66.318	± 7.294	3.21	± 0.14		
DG 40:4	WT-FED	219.472	± 19.929	18.75	± 0.41		
	KO-FED	453.794	± 69.711	13.18	± 1.01		
	WT-FAS	267.108	± 18.837	5.52	± 0.16		
	KO-FAS	473.284	± 41.437	22.91	± 0.82		
DG 40:5	WT-FED	26.353	± 1.625	2.34	± 0.31		
	KO-FED	52.493	± 12.122	1.51	± 0.17		
	WT-FAS	250.278	± 6.747	5.18	± 0.25		
	KO-FAS	55.19	± 22.529	2.63	± 0.88		
DG 40:6	WT-FED	139.927	± 39.733	11.85	± 2.71		
	KO-FED	266.85	± 44.73	7.73	± 0.42	<b>18:0_22:6</b>	<b>18:1_22:5</b>
	WT-FAS	727.447	± 77.417	15.01	± 0.78	<b>18:0_22:6</b>	<b>18:1_22:5</b>
	KO-FAS	252.016	± 13.031	12.22	± 0.41	<b>18:0_22:6</b>	<b>18:1_22:5</b>
DG 40:7	WT-FED	305.628	± 18.537	26.17	± 1.17	<b>20:2_20:5</b>	
	KO-FED	336.047	± 63.16	9.7	± 0.41	<b>20:2_20:5</b>	
	WT-FAS	1237.714	± 69.531	25.58	± 0.37	<b>20:2_20:5</b>	
	KO-FAS	498.012	± 6.473	24.2	± 1.75	<b>20:2_20:5</b>	
DG 40:8	WT-FED	154.166	± 18.175	13.15	± 0.63		
	KO-FED	157.285	± 24.236	4.56	± 0.08		
	WT-FAS	560.171	± 21.934	11.59	± 0.26	<b>18:2_22:6</b>	
	KO-FAS	390.314	± 5.643	18.98	± 1.62	<b>18:2_22:6</b>	20:4_20:4

**Supplementary Table V.** Summary of PC species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO- FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amount of PC species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (neutral losses) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions.

Species		nmol / g		‰		Molecular species
PC 32:0	WT-FED	98.564	± 4.211	4.28	± 0.09	
	KO-FED	57.155	± 8.221	3.67	± 0.28	
	WT-FAS	21.081	± 1.17	1.35	± 0.03	
	KO-FAS	22.756	± 5.231	2.07	± 0.31	
PC 32:1	WT-FED	141.163	± 11.166	6.13	± 0.41	<b>16:0_16:1</b>
	KO-FED	47.298	± 7.002	3.03	± 0.15	
	WT-FAS	41.707	± 2.826	2.68	± 0.23	<b>16:0_16:1</b>
	KO-FAS	36.805	± 3.931	3.38	± 0.35	
PC 32:2	WT-FED	31.96	± 1.235	1.39	± 0.08	
	KO-FED	14.656	± 1.349	0.95	± 0.1	
	WT-FAS	16.847	± 1.751	1.08	± 0.08	
	KO-FAS	11.367	± 0.166	1.05	± 0.08	
PC 34:1	WT-FED	1940.924	± 116.992	84.26	± 0.66	<b>16:0_18:1</b>
	KO-FED	1022.231	± 182.146	65.24	± 0.69	<b>16:0_18:1</b>
	WT-FAS	1194.115	± 35.455	76.79	± 1.3	<b>16:0_18:1</b>
	KO-FAS	817.761	± 85.945	74.84	± 2.71	<b>16:0_18:1</b>
PC 34:2	WT-FED	5080.608	± 295.383	220.59	± 2.33	<b>16:0_18:2</b>
	KO-FED	2692.703	± 478.547	171.87	± 2.74	<b>16:0_18:2</b>
	WT-FAS	3993.921	± 190.141	256.77	± 7.72	<b>16:0_18:2</b>
	KO-FAS	3136.957	± 257.431	287.39	± 3.29	<b>16:0_18:2</b>
PC 34:3	WT-FED	361.965	± 23.278	15.72	± 0.48	<b>16:1_18:2</b>
	KO-FED	180.674	± 35.153	11.52	± 0.67	<b>16:1_18:2</b>
	WT-FAS	218.481	± 14.102	14.04	± 0.57	<b>16:1_18:2</b>
	KO-FAS	155.08	± 11.259	14.22	± 0.32	<b>16:1_18:2</b>
PC 34:4	WT-FED	16.294	± 0.993	0.71	± 0.01	
	KO-FED	12.124	± 2.274	0.77	± 0.02	
	WT-FAS	14.896	± 0.816	0.96	± 0.03	<b>16:1_18:3</b>
	KO-FAS	6.103	± 0.712	0.56	± 0.05	
PC 36:1	WT-FED	222.364	± 3.083	9.67	± 0.49	<b>18:0_18:1</b>
	KO-FED	152.826	± 29.153	9.75	± 0.5	<b>18:0_18:1</b>
	WT-FAS	95.309	± 12.857	6.13	± 0.79	<b>18:0_18:1</b>
	KO-FAS	75.826	± 3.213	6.96	± 0.25	

## PC continued

PC 36:2	WT-FED	2110.659	± 136.02	91.61	± 0.63	<b>18:0_18:2</b>	18:1/18:1
	KO-FED	1865.188	± 343.304	118.96	± 1.76	<b>18:0_18:2</b>	18:1/18:1
	WT-FAS	1497.539	± 22.908	96.33	± 2.09	<b>18:0_18:2</b>	18:1/18:1
	KO-FAS	859.183	± 71.063	78.71	± 0.72	<b>18:0_18:2</b>	18:1/18:1
PC 36:3	WT-FED	1228.534	± 67.744	53.35	± 0.53	<b>16:0_20:3</b>	18:1_18:2
	KO-FED	856.146	± 157.446	54.6	± 0.89	<b>16:0_20:3</b>	18:1_18:2
	WT-FAS	817.336	± 46.346	52.53	± 1.41	<b>16:0_20:3</b>	18:1_18:2
	KO-FAS	540.708	± 42.68	49.54	± 0.57	<b>16:0_20:3</b>	18:1_18:2
PC 36:4	WT-FED	3537.019	± 267.348	153.45	± 2.34	<b>16:0_20:4</b>	
	KO-FED	2427.915	± 444.433	154.88	± 2.82	<b>16:0_20:4</b>	18:2/18:2
	WT-FAS	2236.241	± 85.146	143.77	± 1.75	<b>16:0_20:4</b>	18:2/18:2
	KO-FAS	1758.889	± 155.176	161.1	± 3.2	<b>16:0_20:4</b>	18:2/18:2
PC 36:5	WT-FED	140.43	± 8.896	6.1	± 0.1	<b>18:2_18:3</b>	
	KO-FED	103.877	± 21.036	6.61	± 0.21	<b>18:2_18:3</b>	
	WT-FAS	75.316	± 1.254	4.84	± 0.1	<b>18:2_18:3</b>	
	KO-FAS	94.324	± 8.354	8.64	± 0.4	<b>18:2_18:3</b>	
PC 36:6	WT-FED	4.875	± 1.536	0.21	± 0.06		
	KO-FED	5.468	± 1.62	0.35	± 0.06		
	WT-FAS	5.597	± 0.461	0.36	± 0.02		
	KO-FAS	2.212	± 0.537	0.2	± 0.04		
PC 38:2	WT-FED	40.332	± 4.417	1.75	± 0.18		
	KO-FED	22.56	± 6.308	1.5	± 0.62		
	WT-FAS	5.189	± 1.237	0.33	± 0.08		
	KO-FAS	3.647	± 1.874	0.33	± 0.15		
PC 38:3	WT-FED	359.946	± 94.661	15.73	± 4.43	<b>18:0_20:3</b>	
	KO-FED	271.561	± 41.035	17.89	± 5.3	<b>18:0_20:3</b>	
	WT-FAS	139.532	± 47.22	8.94	± 2.91	<b>18:0_20:3</b>	
	KO-FAS	79.896	± 10.544	7.31	± 0.7	<b>18:0_20:3</b>	
PC 38:4	WT-FED	2351.63	± 169.992	102.04	± 1.6	<b>18:0_20:4</b>	
	KO-FED	2218.489	± 385.522	141.65	± 4.32	<b>18:0_20:4</b>	
	WT-FAS	1373.094	± 56.827	88.28	± 2.19	<b>18:0_20:4</b>	
	KO-FAS	1110.789	± 58.255	101.92	± 3.09	<b>18:0_20:4</b>	
PC 38:5	WT-FED	997.738	± 63.299	43.31	± 0.39	<b>16:0_22:5</b>	
	KO-FED	780.158	± 135.466	49.81	± 0.86	<b>16:0_22:5</b>	
	WT-FAS	567.149	± 29.809	36.45	± 0.94	<b>16:0_22:5</b>	18:1_20:4
	KO-FAS	420.06	± 27.879	38.51	± 0.52	<b>16:0_22:5</b>	18:1_20:4
PC 38:6	WT-FED	3078.067	± 224.432	133.57	± 2.37	<b>16:0_22:6</b>	
	KO-FED	1893.114	± 339.189	120.79	± 2.21	<b>16:0_22:6</b>	18:2_20:4
	WT-FAS	2295.753	± 64.777	147.65	± 3.51	<b>16:0_22:6</b>	18:2_20:4
	KO-FAS	1166.834	± 76.832	106.99	± 2.08	<b>16:0_22:6</b>	18:2_20:4
PC 38:7	WT-FED	76.68	± 5.623	3.33	± 0.06	<b>16:1_22:6</b>	18:2_20:4
	KO-FED	54.838	± 10.233	3.5	± 0.07		
	WT-FAS	42.912	± 1.681	2.76	± 0.07	<b>16:1_22:6</b>	
	KO-FAS	34.254	± 3.047	3.14	± 0.04		

PC continued

PC	40:4	WT-FED	23.968	±	5.984	1.03	±	0.21		
		KO-FED	14.727	±	3.991	0.94	±	0.15		
		WT-FAS	6.488	±	2.117	0.42	±	0.15		
		KO-FAS	4.268	±	0.874	0.4	±	0.11		
PC	40:5	WT-FED	104.147	±	61.748	4.53	±	2.6		
		KO-FED	93.773	±	6.792	6.15	±	1.4		
		WT-FAS	59.353	±	25.715	3.8	±	1.56		
		KO-FAS	50.374	±	8.249	4.62	±	0.72		
PC	40:6	WT-FED	699.682	±	47.639	30.37	±	0.45	<b>18:0_22:6</b>	20:2_20:4
		KO-FED	551.112	±	92.842	35.21	±	0.72	<b>18:0_22:6</b>	20:2_20:4
		WT-FAS	582.925	±	12.891	37.49	±	0.86	<b>18:0_22:6</b>	
		KO-FAS	316.611	±	28.2	29	±	0.93	<b>18:0_22:6</b>	
PC	40:7	WT-FED	317.19	±	25.51	13.76	±	0.3	<b>18:1_22:6</b>	
		KO-FED	239.734	±	42.411	15.3	±	0.53	<b>18:1_22:6</b>	
		WT-FAS	196.176	±	9.154	12.61	±	0.28	<b>18:1_22:6</b>	
		KO-FAS	125.475	±	13.505	11.48	±	0.33	<b>18:1_22:6</b>	
PC	40:8	WT-FED	71.576	±	6.902	3.1	±	0.13	<b>18:2_22:6</b>	<b>20:4/20:4</b>
		KO-FED	79.548	±	14.102	5.08	±	0.12	<b>18:2_22:6</b>	<b>20:4/20:4</b>
		WT-FAS	56.257	±	0.919	3.62	±	0.08	<b>18:2_22:6</b>	20:4/20:4
		KO-FAS	83.304	±	5.366	7.64	±	0.26	<b>18:2_22:6</b>	

**Supplementary Table VI.** Summary of LPC species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO-FED, WT-FAS and KO-FAS groups. Absolute amounts were not calculated as internal standards were not applied. ‰ Values (n=3 animals) are relative to total amount of LPC species.

Species			‰
LPC 16:0	WT-FED		361.814 ± 29.277
	KO-FED		241.564 ± 7.626
	WT-FAS		367.454 ± 6.466
	KO-FAS		300.904 ± 12.061
LPC 16:1	WT-FED		7.057 ± 6.822
	KO-FED		4.55 ± 2.181
	WT-FAS		4.553 ± 2.137
	KO-FAS		5.396 ± 3.437
LPC 18:0	WT-FED		141.12 ± 17.361
	KO-FED		121.668 ± 2.941
	WT-FAS		116.878 ± 3.359
	KO-FAS		85.613 ± 3.113
LPC 18:1	WT-FED		72.485 ± 4.685
	KO-FED		71.051 ± 2.53
	WT-FAS		67.248 ± 2.154
	KO-FAS		63.956 ± 1.389
LPC 18:2	WT-FED		150.531 ± 32.878
	KO-FED		193.088 ± 5.997
	WT-FAS		198.559 ± 7.025
	KO-FAS		225.402 ± 4.095
LPC 20:0	WT-FED		4.073 ± 3.607
	KO-FED		1.222 ± 0.363
	WT-FAS		0.778 ± 0.329
	KO-FAS		0.125
LPC 20:1	WT-FED		1.868 ± 0.385
	KO-FED		2.16 ± 1.259
	WT-FAS		0.871 ± 0.438
	KO-FAS		0.965
LPC 20:2	WT-FED		1.339 ± 1.347
	KO-FED		2.099 ± 1.241
	WT-FAS		0.501 ± 0.455
	KO-FAS		0.442 ± 0.081

## LPC continued

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LPC	20:3	WT-FED	13.59 ± 2.441
		KO-FED	15.373 ± 0.78
		WT-FAS	3.812 ± 0.527
		KO-FAS	5.445 ± 2.144
LPC	20:4	WT-FED	114.24 ± 20.994
		KO-FED	186.109 ± 5.857
		WT-FAS	94.267 ± 1.293
		KO-FAS	172.439 ± 9.241
LPC	22:5	WT-FED	5.794 ± 2.022
		KO-FED	8.259 ± 1.279
		WT-FAS	7.657 ± 0.653
		KO-FAS	7.337 ± 3.121
LPC	22:6	WT-FED	126.086 ± 7.747
		KO-FED	152.859 ± 9.771
		WT-FAS	137.422 ± 2.645
		KO-FAS	131.976 ± 6.681

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**Supplementary TableVII.** Summary of PE species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO- FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amounts of PE species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (neutral losses) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions.

Species			nmol / g		‰		Molecular species	
PE 34:2	WT-FED		699.009 ± 66.569		50.9 ± 2.56			
	KO-FED		437.957 ± 52.423		43.76 ± 3.86	<b>16:0_18:2</b>		
	WT-FAS		544.954 ± 45.158		57.55 ± 3.78	<b>16:0_18:2</b>		
	KO-FAS		337.832 ± 24.72		34.38 ± 1.3			
PE 34:3	WT-FED		45.952 ± 20.356		3.27 ± 1.08			
	KO-FED		19.449 ± 4.353		1.92 ± 0.1			
	WT-FAS		32.115 ± 8.155		3.4 ± 0.86			
	KO-FAS		13.826 ± 11.656		1.45 ± 1.23			
PE 36:2	WT-FED		589.166 ± 74.881		42.78 ± 1.2			
	KO-FED		416.06 ± 88.015		41.1 ± 1.59			
	WT-FAS		655.897 ± 22.077		69.33 ± 2.54			
	KO-FAS		286.913 ± 18.834		29.19 ± 0.38			
PE 36:3	WT-FED		324.779 ± 49.216		23.55 ± 1.08			
	KO-FED		231.54 ± 30.118		23.11 ± 2.02			
	WT-FAS		247.555 ± 21.099		26.14 ± 1.78	<b>18:1_18:2</b>		
	KO-FAS		160.108 ± 14.228		16.28 ± 0.58			
PE 36:4	WT-FED		1224.971 ± 135.987		89.04 ± 1.15	<b>16:0_20:4</b>	<b>18:2/18:2</b>	
	KO-FED		808.465 ± 157.775		80.02 ± 2.31	<b>16:0_20:4</b>		
	WT-FAS		551.558 ± 63.329		58.23 ± 5.66	<b>16:0_20:4</b>		
	KO-FAS		836.461 ± 54.053		85.14 ± 2.92	<b>16:0_20:4</b>		
PE 36:5	WT-FED		130.464 ± 22.388		9.44 ± 0.5			
	KO-FED		58.328 ± 21.184		5.77 ± 2.03			
	WT-FAS		54.875 ± 5.132		5.8 ± 0.51			
	KO-FAS		52.143 ± 8.923		5.35 ± 1.15			
PE 38:4	WT-FED		4712.432 ± 593.43		342.15 ± 3.91	<b>18:0_20:4</b>		
	KO-FED		4283.978 ± 761.494		424.74 ± 4.21	<b>18:0_20:4</b>		
	WT-FAS		3263.695 ± 194.323		344.82 ± 16.92	<b>18:0_20:4</b>		
	KO-FAS		4574.875 ± 281.416		465.56 ± 5.26	<b>18:0_20:4</b>		
PE 38:5	WT-FED		1082.152 ± 83.446		78.86 ± 3.13	<b>18:1_20:4</b>		
	KO-FED		814.582 ± 147.187		80.8 ± 3.92	<b>18:1_20:4</b>		
	WT-FAS		660.522 ± 29.609		69.8 ± 2.73	<b>18:1_20:4</b>		
	KO-FAS		841.453 ± 44.277		85.66 ± 0.79			

## PE continued

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PE	38:6	WT-FED	2925.293	±	350.721	212.49	±	3.46	
		KO-FED	1714.302	±	284.06	170.18	±	1.73	
		WT-FAS	1645.004	±	266.503	174.36	±	32.09	
		KO-FAS	1440.51	±	80.266	146.62	±	1.6	
PE	38:7	WT-FED	114.1	±	35.023	8.24	±	2.08	
		KO-FED	78.832	±	14.666	7.85	±	1.12	
		WT-FAS	77.906	±	6.579	8.24	±	0.71	
		KO-FAS	54.602	±	4.076	5.55	±	0.12	
PE	40:6	WT-FED	1239.541	±	144.278	90.07	±	1.51	<b>18:0_22:6</b>
		KO-FED	763.516	±	134.689	75.71	±	0.75	<b>18:0_22:6</b>
		WT-FAS	1196.21	±	86.703	126.36	±	7.56	<b>18:0_22:6</b>
		KO-FAS	787.173	±	22.31	80.22	±	3.11	<b>18:0_22:6</b>
PE	40:7	WT-FED	654.26	±	71.588	47.61	±	2.72	
		KO-FED	395.675	±	70.214	39.23	±	0.59	
		WT-FAS	467.398	±	21.655	49.39	±	2.07	
		KO-FAS	373.416	±	25.719	37.99	±	0.79	
PE	40:8	WT-FED	21.622	±	5.856	1.61	±	0.56	
		KO-FED	58.674	±	10.241	5.82	±	0.09	
		WT-FAS	62.256	±	3.29	6.58	±	0.42	
		KO-FAS	64.88	±	2.729	6.61	±	0.27	

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**Supplementary Table VIII.** Summary of PI species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO- FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amounts of PI species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (carboxylates) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions.

Species		nmol / g		‰		Molecular species
PI 34:2	WT-FED	107.113 ± 29.703		20.14 ± 6.71		<b>16:0_18:2</b>
	KO-FED	69.371 ± 11.109		18.24 ± 1.12		
	WT-FAS	52.771 ± 2.082		14.69 ± 0.47		<b>16:0_18:2</b>
	KO-FAS	1.407 ± 1.049		0.42 ± 0.31		
PI 36:2	WT-FED	114.658 ± 34.417		20.46 ± 1.3		<b>18:0_18:2</b> 18:1/18:1
	KO-FED	55.372 ± 7.843		14.64 ± 1.82		<b>18:0_18:2</b> <b>18:1/18:1</b>
	WT-FAS	54.227 ± 3.868		15.08 ± 0.62		<b>18:0_18:2</b> 18:1/18:1
	KO-FAS	1.497 ± 0.301		0.46 ± 0.11		
PI 36:3	WT-FED	103.016 ± 19.628		18.81 ± 1.88		<b>16:0_20:3</b> 18:1_18:2
	KO-FED	69.559 ± 14.855		18.52 ± 4.66		
	WT-FAS	46.226 ± 2.729		12.9 ± 1.31		<b>16:0_20:3</b> <b>18:1_18:2</b>
	KO-FAS	35.304 ± 3.585		10.78 ± 1.05		
PI 36:4	WT-FED	444.565 ± 131.558		79.36 ± 6.37		<b>16:0_20:4</b>
	KO-FED	314.867 ± 84.689		81.6 ± 5.97		<b>16:0_20:4</b>
	WT-FAS	182.796 ± 7.921		50.89 ± 1.95		<b>16:0_20:4</b> 18:2/18:2
	KO-FAS	172.374 ± 12.941		52.62 ± 2.9		<b>16:0_20:4</b>
PI 38:3	WT-FED	343.407 ± 77.327		66.9 ± 32.83		<b>18:0_20:3</b>
	KO-FED	141.081 ± 20.292		38.33 ± 11.25		<b>18:0_20:3</b>
	WT-FAS	127.467 ± 61.641		35.02 ± 16.02		<b>18:0_20:3</b>
	KO-FAS	63.112 ± 46.27		19.08 ± 13.52		<b>18:0_20:3</b>
PI 38:4	WT-FED	4247.33 ± 1240.064		759.05 ± 44.29		<b>18:0_20:4</b>
	KO-FED	2971.426 ± 668.357		773.49 ± 26.61		<b>18:0_20:4</b>
	WT-FAS	3004.313 ± 120.458		836.2 ± 20.08		<b>18:0_20:4</b>
	KO-FAS	2851.549 ± 74.093		871.24 ± 23.93		<b>18:0_20:4</b>
PI 38:5	WT-FED	134.281 ± 39.707		23.98 ± 2.1		<b>18:1_20:4</b>
	KO-FED	180.627 ± 40.295		47.29 ± 5.14		<b>18:1_20:4</b>
	WT-FAS	100.544 ± 6.952		28.07 ± 3.23		<b>18:1_20:4</b>
	KO-FAS	143.378 ± 26.599		43.62 ± 6.62		<b>18:1_20:4</b>
PI 38:6	WT-FED	20.495 ± 1.132		3.91 ± 1.29		
	KO-FED	12.442 ± 4.263		3.28 ± 1		<b>18:2_20:4</b>
	WT-FAS	7.423 ± 0.479		2.07 ± 0.13		
	KO-FAS	4.208 ± 0.688		1.29 ± 0.25		<b>18:2_20:4</b> <b>16:0_22:6</b>

PI continued

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PI 40:6	WT-FED	44.849	±	30.988	7.39	±	3.9	
	KO-FED	17.851	±	8.722	4.63	±	1.79	<b>18:0_22:6</b>
	WT-FAS	18.382	±	4.378	5.08	±	1.01	<b>18:0_22:6</b>
	KO-FAS	1.574	±	0.917	0.49	±	0.3	

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**Supplementary Table IX.** Summary of PS species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO- FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amounts of PS species. Molecular species are derived from possible fatty acyl combinations as determined by fatty acid fragment ions (neutral losses) detected in the corresponding product ion spectra. Fatty acyls in bold are major compositions.

Species		nmol / g		‰		Molecular species	
PS 36:4	WT-FED	52.367	± 8.573	35.03	± 7.63	<b>16:0_20:4</b>	<b>18:2/18:2</b>
	KO-FED	42.134	± 9.383	41.12	± 7.2	<b>16:0_20:4</b>	<b>18:2/18:2</b>
	WT-FAS	31.91	± 1.752	40.9	± 2.7	<b>16:0_20:4</b>	<b>18:2/18:2</b>
	KO-FAS	31.816	± 4.246	34.5	± 3.94	<b>16:0_20:4</b>	18:2/18:2
PS 38:4	WT-FED	833.81	± 123.246	550.92	± 24.42	<b>18:0_20:4</b>	
	KO-FED	591.885	± 113.477	574.32	± 30.83	<b>18:0_20:4</b>	
	WT-FAS	302.775	± 13.395	387.73	± 11.87	<b>18:0_20:4</b>	
	KO-FAS	560.185	± 53.156	607.03	± 15.6	<b>18:0_20:4</b>	
PS 38:5	WT-FED	7.849	± 1.71	5.55	± 1.19		
	KO-FED	6.922	± 2.771	7.24	± 4.34		
	WT-FAS	9.417	± 5.04	12.13	± 6.7		
	KO-FAS	4.426	± 1.332	4.99	± 1.33		
PS 38:6	WT-FED	100.835	± 13.46	66.75	± 4.52	<b>16:0_22:6</b>	
	KO-FED	75.413	± 20.658	72.83	± 10.06	<b>16:0_22:6</b>	
	WT-FAS	93.466	± 10.006	119.76	± 13.07	<b>16:0_22:6</b>	
	KO-FAS	49.763	± 5.77	54.16	± 7.39	<b>16:0_22:6</b>	
PS 40:6	WT-FED	514.582	± 42.593	341.74	± 19.62		
	KO-FED	313.073	± 60.042	304.5	± 22.79		
	WT-FAS	343.086	± 7.459	439.48	± 7.81	<b>18:0_22:6</b>	
	KO-FAS	275.804	± 18.308	299.32	± 7.96		

**Supplementary Table X.** Summary of SM species determined by LC-MS/MS in murine hepatocyte LDs from WT and ATGL-KO mice. Samples investigated are from WT-FED, KO-FED, WT-FAS and KO-FAS groups. Absolute amounts (n=3 animals) are calculated in nmol, and are normalized to gram total acylglycerols (Infinity™ Triglycerides Reagent kit). Corresponding ‰ values are relative to total amounts of SM species. Sphingosine base assumed to be d18:1. n.d., not detected.

Species			nmol / g		‰	
SM 16:0	WT-FED	60.789 ± 3.54	91.98 ± 13.8			
	KO-FED	32.809 ± 7.974	85.48 ± 18.09			
	WT-FAS	34.253 ± 0.395	79.01 ± 3.47			
	KO-FAS	42.105 ± 1.598	122.97 ± 5.75			
SM 22:0	WT-FED	344.492 ± 90.109	507.49 ± 63.84			
	KO-FED	106.892 ± 25.735	275.15 ± 36.11			
	WT-FAS	162.715 ± 5.562	375.5 ± 25.37			
	KO-FAS	85.478 ± 5.934	249.41 ± 12.54			
SM 24:0	WT-FED	n.d.	n.d.			
	KO-FED	41.916 ± 6.205	111.48 ± 28.72			
	WT-FAS	63.732 ± 13.9	146.28 ± 27.83			
	KO-FAS	47.168 ± 6.451	137.31 ± 14.07			
SM 24:1	WT-FED	265.683 ± 22.771	400.54 ± 49.58			
	KO-FED	203.459 ± 33.297	527.89 ± 30.84			
	WT-FAS	173.118 ± 3.986	399.21 ± 16.03			
	KO-FAS	168.023 ± 8.159	490.31 ± 10.86			