Supplemental tables.

Supplemental Table S1. Body and tissue weight and plasma lipids and liver TGs.

	FCO		SO		CO	
	WT	HET	WT	HET	WT	HET
Body Weight Gain (g)	11.9±4.2	12.6±3.6	13.2±3.4	12.1±3.0	15.5±4.3	12.7±2.3
Liver (g）	1.29±0.17	1.35±0.30	1.31±0.26	1.20±0.25	1.44±0.24	1.43±0.11
Brain (mg)	443±8^{ab}	437±12^{ab}	437±12^{ab}	451±27^{a}	427±17^{b}	441±12^{ab}
Plasma TC（mg/dL）	90.3±24.8^{ab}	93.1±31.2^{ab}	108.2±43.6^{ab}	73.3±50.1^{b}	99.4±33.7^{ab}	117.9±16.7^{a}
Plasma TG（mg/dL）	60.0±20.3	60.1±22.2	49.7±21.8	42.5±28.0	58.8±29.9	57.8±12.9
Liver TG (mg/g)	15.7±6.0	19.8±6.3	17.7±6.9	19.8±6.9	18.5±7.9	18.3±4.7

Values are means ± SD (n=6); neither diet nor genotype effect was observed; data that do not share same superscript letter(s) within a row are significantly different, $p < 0.05$ by LSD multiple comparison; TC, total cholesterol.

Supplemental Table S2. Polyunsaturated fatty acid composition of liver triglycerides (wt. %)

	FCO		SO		CO		p-value		
Fatty acid	WT	HET	WT	HET	WT	HET	Diet	Gene	Gene x Diet
18:2 n-6	8.89+1.98^{c}	7.94+1.28^{c}	21.61+4.83^{a}	21.67+2.37^{a}	16.31+3.23^{b}	19.91+1.91^{a}	***		
18:3 n-6	0.08+0.03^{bc}	0.05+0.02^{c}	0.34+0.13^{a}	0.14+0.05^{b}	0.35+0.1^{a}	0.16+0.06^{b}	***	***	*
20:2 n-6	0.14+0.03^{c}	0.11+0.08^{c}	0.36+0.2^{b}	0.53+0.25^{a}	0.34+0.06^{b}	0.49+0.1^{ab}	***	*	
20:3 n-6	0.21+0.04^{cd}	0.12+0.06^{d}	0.7+0.46^{a}	0.45+0.28^{abc}	0.49+0.08^{ab}	0.27+0.04^{bcd}	***	*	
20:4 n-6	0.19+0.08^{c}	0.12+0.06^{c}	0.86+0.48^{ab}	0.72+0.46^{ab}	0.97+0.17^{a}	0.63+0.06^{b}	***		
22:4 n-6	0.03+0.01^{b}	0.03+0.02^{b}	0.26+0.25^{a}	0.31+0.28^{a}	0.25+0.05^{a}	0.19+0.02^{ab}	**		
22:5 n-6	0.01+0.01^{b}	0.01+0.01^{b}	0.17+0.27^{ab}	0.24+0.28^{a}	0.27+0.08^{a}	0.23+0.06^{a}	**		
18:3 n-3	3.81+0.61^{a}	3.94+1.4^{a}	1.48+0.45^{b}	1.53+0.55^{b}	0.12+0.09^{c}	0.19+0.02^{c}	***		
20:3 n-3	0.1+0.02^{b}	0.12+0.02^{a}	0.03+0^{d}	0.05+0.01^{c}	n. d.	n. d.	***	**	*
20:5 n-3	1.15+0.19^{a}	0.9+0.26^{b}	0.71+0.14^{c}	0.57+0.05^{cd}	0.44+0.03^{d}	0.41+0.04^{d}	***	*	
22:5 n-3	0.77+0.25^{a}	0.61+0.25^{a}	0.39+0.14^{b}	0.31+0.13^{b}	0.03+0.01^{c}	0.02+0.01^{c}	***		
22:6 n-3	2.24+1^{a}	1.8+1.01^{a}	1.57+1.02^{a}	1.53+1.13^{a}	0.12+0.03^{b}	0.08+0.03^{b}	***		
Total n-6	9.56+2.15^{c}	8.39+1.37^{c}	24.3+5.46^{a}	24.06+3.12^{a}	18.97+3.48^{b}	21.88+2.1^{ab}	***		
Total n-3	6.91+1.77^{a}	6.47+1.75^{a}	3.47+1.21^{b}	3.41+1.02^{b}	0.27+0.13^{c}	0.3+0.03^{c}	***		
n-6/n-3	1.4+0.19^{b}	1.33+0.16^{b}	7.34+1.27^{b}	7.36+1.29^{b}	78.97+24.23^{a}	74.73+11.6^{a}	***		
AA/DHA	0.09+0.02^{b}	0.07+0.01^{b}	0.59+0.1^{b}	0.51+0.1^{b}	8.47+1.99^{a}	8.36+2.63^{a}	***		

Values are means ± SD (n=6); data that do not share same superscript letter(s) within a row are significantly different, $p < 0.05$ by LSD multiple comparison. Effects of diet, gene and their interaction were calculated by two-way ANOVA; * $p<0.05$, ** $p<0.01$ and *** $p<0.001$. n. d.: not detected.

Supplemental Table S3. Polyunsaturated fatty acid composition of liver cholesteryl ester (wt. %)

	FCO		SO		CO		p-value		
Fatty acid	WT	HET	WT	HET	WT	HET	Diet	Gene	Gene x Diet
18:2 n-6	4.55+0.36^{c}	4.9+1.48^{c}	9.8+1.44^{a}	10.72+1.48^{a}	7.45+1.35^{b}	9.67+0.94^{a}	***	**	
18:3 n-6	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.			
20:2 n-6	0.17+0.35	0.4+0.88	0.1+0.13	0.5+0.94	0.06+0.02	0.11+0.06			
20:3 n-6	0.09+0.03^{bc}	0.05+0.04^{bc}	0.19+0.14^{a}	0.08+0.07^{b}	0.13+0.08^{abc}	0.08+0.05^{b}		*	
20:4 n-6	0.55+0.08^{d}	0.38+0.15^{d}	1.85+0.41^{b}	1.03+0.33^{c}	2.76+0.55^{a}	2.13+0.38^{b}	***	***	
22:4 n-6	0.01+0.01^{c}	0.03+0.03^{bc}	0.18+0.19^{a}	0.08+0.06^{abc}	0.13+0.06^{ab}	0.13+0.11^{ab}	*		
22:5 n-6	0.08+0.03^{de}	0.07+0.04^{e}	0.14+0.05^{bc}	0.13+0.05^{cd}	0.24+0.06^{a}	0.19+0.04^{ab}	***		
18:3 n-3	2.03+0.28^{a}	1.9+0.56^{a}	0.87+0.23^{b}	1.05+0.26^{b}	0.1+0.03^{c}	0.12+0.06^{c}	***		
20:3 n-3	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.			
20:5 n-3	0.97+0.41^{a}	0.97+0.62^{a}	0.3+0.08^{b}	0.61+0.58^{ab}	0.22+0.05^{b}	0.24+0.06^{b}	***		
22:5 n-3	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.			
22:6 n-3	1.48+0.24^{a}	1.27+0.36^{ab}	1.09+0.17^{bc}	0.88+0.14^{c}	0.36+0.04^{d}	0.3+0.08^{d}	***	*	
Total n-6	5.45+0.23^{c}	5.82+1.42^{c}	12.27+1.6^{a}	12.54+1.14^{a}	10.77+1.5^{b}	12.31+1.07^{a}	***		
Total n-3	4.48+0.43^{a}	4.14+0.85^{a}	2.26+0.28^{b}	2.54+0.5^{b}	0.68+0.07^{c}	0.66+0.14^{c}	***		
n-6:n-3	1.22+0.14^{d}	1.42+0.25^{d}	5.44+0.48^{c}	5.05+0.76^{c}	15.79+1.49^{b}	19.24+3.53^{a}	***		*
AA/DHA	0.37+0.04^{c}	0.31+0.11^{c}	1.74+0.46^{b}	1.15+0.25^{bc}	7.71+1.07^{a}	7.39+1.31^{a}	***		

Values are means ± SD (n=6); data that do not share same superscript letter(s) within a row are significantly different, $p < 0.05$ by LSD multiple comparison. Effects of diet, gene and their interaction were calculated by two-way ANOVA; * $p<0.05$, ** $p<0.01$ and *** $p<0.001$. n. d.: not detected.