

Supplemental Table 1 Ingredient and composition of diets in different experimental groups.

Group	WT & ApoE ^{-/-}		ApoE ^{-/-}		
	LFD	HFD	ASTL	ASTH	ATO
Ingredients (g/Kg)					
Casein	212	212	212	212	212
Sucrose	50	50	50	50	50
D–L Methionine	1	1	1	1	1
Vitamin mix (AIN-93)	15	15	15	15	15
Mineral mix (AIN-93)	35	35	35	35	35
Lard	50	200	200	200	200
Cholesterol	-	1	1	1	1
Gelatin	10	10	10	10	10
Corn starch	627	476	476	476	476
Olive oil	0.329	0.329	0.165	-	0.329
Astaxanthin oil	-	-	0.164	0.329	-
Atorvastatin	-	-	-	-	0.065
Nutrients (g/Kg)					
Protein	200		200		
<i>Total energy from Protein (%)</i>	20		17		
Fat	50		200		
<i>Total energy from fat (%)</i>	11		38		
Carbohydrate	696		545		
<i>Total energy from carbohydrate (%)</i>	69		46		
Total energy(kJ/kg)	16877		19998		

Supplemental Table 2 The primer sequences used for real-time PCR analysis

Target Gene	Forward primer (5'-3')	Reverse primer (5'-3')
GAPDH	GCATCTTCTTGTGCAGTGCC	TACGGCCAAATCCGTTTACA
ApoE	ACCGCTTCTGGGATTACC	CAGTGCCGTCAGTTCTTG
AMPK α	GGACTTACTTGTGGATTCCG	CCTTTGGCAAGATCGATAGTTG
HMGCOA-R	GCCGTCATTCCAGCCAAG	CGTTGTAGCCGCCTATGC
LXR α	GAAGCGGCAAGAAGAGGAACAG	GGCAGGACTTGAGGAGGTGAG
FXR	CAGTTGCCGTGAGGAAGCTA	CACTGGATTTCAGTTAACAAACCTG
CYP7A1	CCTCTGAAGAAGTGAATGG	AGTGAAGTCCTCCTTAGC
NPC1L1	ACAGGAACAAGAACAAGAC	ACAAGGCTATCACAACATATG
ABCG5	CCTGCTGAGGCGAGTAACAA	TGGCACCCACAAGCTGATAG
ABCG8	CCTCTCAGGTGCCTTGTTT	GTCAGTGTCTGTGTGAGGG
ACAT2	CATTGAGATCTGGGGCCTCG	CATCAGGTTGTGAGGGGGAC
MTTP	GCCACATCTGTCACTACCTAC	CACCTGCCACTTGCTTCC
Mucin2	GGAACTTCAGAAAGAAGCCAGAT	CGGACTCTATGCTGGAGTGA
JAM-A	AGTTCGTCCAAGGCAGCACAAAC	AGAAGGTGACTCGGTCCGCATAG
Occludin	ATTCCATCAGTTTCCTATC	ACCAGGACCTTTCTTGAC