

Supporting Information

Item/(mmol/L)	Diet	
	CK	HD
TC	1.57±0.19 ^a	1.94±0.17 ^b
TG	0.97±0.23 ^a	1.30±0.16 ^b
HDL-C	0.70±0.17 ^a	0.26±0.11 ^b
LDL-C	0.97±0.13 ^a	1.28±0.12 ^b

Supporting Information Table S1. The levels of serum TC, TG, HDL-C, and LDL-C in rats fed the low-fat control (CK) diet and the 45% high-fat (HD) diet for 4 weeks. Values were expressed as the mean ± SD. Different letters in the same line indicate significant differences ($p < 0.05$).

Ingredient	FP Diet	L-GP Diet	H-GP Diet
Casein	0	0	0
Corn starch	75.1	74.3	73.5
Maltodextrin	123.3	121.9	120.6
Sucrose	208.6	200.9	193.3
Soybean oil	30.8	30.5	30.2
Lard	201.0	198.9	196.7
Cellulose	61.1	61.0	60.3
Mineral mix M1020	50.1	49.6	49.1
Vitamin mix V1010	12.3	12.2	12.1
L-Cystine	3.7	3.7	3.6
Choline Bitartrate	3.1	3.0	3.0
t-Butylhydroquinone	0.046	0.046	0.045
FP	230.3	162.0	95.1
GP	0.0	82.1	162.4

Supporting Information Table S2. Compositions (g/kg) of experimental diets. FP Diet, the modified 45% high-fat diet with 20% fish protein (FP); L-GP Diet, the modified 45% high-fat diet with 14% FP and 6% glycated fish protein (GP); H-GP Diet, the modified 45% high-fat diet with 8% FP and 12% GP.

Genes		Oligonucleotide sequence (5'-3')
β-actin	Forward	AGCCATGTACGTAGCCATCC
	Reverse	ACCCTCATAGATGGGCACAG
IL-1β	Forward	AGGAGAGACAAGCAACGACAA
	Reverse	GTTTGGGATCCCACTCTCCA
occludin	Forward	GATAATTGACTGGGCTGAACACTC
	Reverse	GGAACACACTTGGGTATCAAGACAT

Supporting Information Table S3. Gene-specific primer for qRT-PCR analysis

Sample	Bound sugar (%)	Furosine (mg/100 mg protein)	Fluorescence intensity (AU/g protein)	CML (mg/kg sample)	CEL (mg/kg sample)
FP	--	0.21±0.02 ^a	38937±815 ^a	12.38±2.15 ^a	5.08±0.22 ^a
GP	4.96±0.17	3.72±0.09 ^b	78549±616 ^b	18.37±0.06 ^b	7.08±0.07 ^b
FP Diet	--	0.15±0.01 ^a	11990±1081 ^a	7.89±0.25 ^a	4.76±0.28 ^a
L-GP Diet	--	1.08±0.03 ^b	15143±903 ^b	9.71±0.81 ^b	5.99±0.72 ^b
H-GP Diet	--	2.00±0.15 ^c	21183±792 ^c	12.48±0.66 ^c	6.80±0.07 ^b

Supporting Information Table S4. The MRP content of fish protein (FP), glycated fish protein (GP), the modified 45% high-fat diet with 20% FP (FP Diet), the modified 45% high-fat diet with 14% FP and 6% GP (L-GP Diet), and the modified 45% high-fat diet with 8% FP and 12% GP (H-GP Diet). Data were expressed as mean ± SD (n=3). Different letters in in the same column indicate significant differences ($p < 0.05$).

Amino acid	mg/100mg protein		
	FP Diet	L-GP Diet	H-GP Diet
Asp	10.54±0.01 ^a	10.67±1.43 ^a	10.24±0.13 ^a
Thr	4.69±0.05 ^a	4.76±0.61 ^a	4.67±0.08 ^a
Ser	4.57±0.21 ^a	4.60±0.55 ^a	4.56±0.14 ^a
Glu	19.80±1.21 ^a	20.16±2.34 ^a	20.00±0.51 ^a
Gly	4.73±0.08 ^a	4.83±0.51 ^a	4.73±0.22 ^a
Ala	6.50±0.32 ^a	6.47±0.76 ^a	6.34±0.27 ^a
Cys	2.61±1.04 ^a	2.21±0.32 ^a	2.09±0.78 ^a
Val	5.14±0.11 ^a	5.27±0.61 ^a	5.32±0.26 ^a
Met	0.69±0.07 ^a	0.68±0.10 ^a	0.68±0.02 ^a
Ile	4.89±0.19 ^a	4.99±0.57 ^a	4.91±0.36 ^a
Leu	8.79±0.39 ^a	9.05±1.13 ^a	9.09±0.64 ^a
Tyr	3.30±0.23 ^a	3.29±0.28 ^a	3.30±0.17 ^a
Phe	3.94±0.15 ^a	4.07±0.32 ^a	3.93±0.23 ^a
His	2.59±0.07 ^a	2.82±0.30 ^a	2.81±0.31 ^a
Lys	10.36±0.33 ^b	8.81±0.58 ^a	7.81±0.48 ^a
Arg	6.91±0.18 ^a	6.75±0.92 ^a	6.62±0.27 ^a
Pro	3.54±0.04 ^a	3.56±0.66 ^a	3.52±0.29 ^a

Supporting Information Table S5. The amino acid composition of the modified 45% high-fat diet with 20% fish protein (FP) (FP Diet), the modified 45% high-fat diet with 14% FP and 6% glycated fish protein (GP) (L-GP Diet), and the modified 45% high-fat diet with 8% FP and 12% GP (H-GP Diet). Data were expressed as mean ± SD (n=3). Different letters in the same line indicate significant differences ($p < 0.05$).