Supplementary material

Table S1. Formulation and proximate composition of experimental diets.

Ingredients (%, dry basis)	**0.35%P**	**0.55%P**	**0.71%P**	**0.82%P**	**0.92%P**
Deboned fishmeal	15.00	15.00	15.00	15.00	15.00
Casein	22.00	22.00	22.00	22.00	22.00
Wheat gluten	8.00	8.00	8.00	8.00	8.00
Corn dextrin	35.00	35.00	35.00	35.00	35.00
Squid paste	3.00	3.00	3.00	3.00	3.00
Fish oil	7.00	7.00	7.00	7.00	7.00
Soybean oil	3.00	3.00	3.00	3.00	3.00
Lecithin	2.00	2.00	2.00	2.00	2.00
Mineral premix[a]	0.50	0.50	0.50	0.50	0.50
Vitamin premix[b]	0.40	0.40	0.40	0.40	0.40
Vitamin C	0.10	0.10	0.10	0.10	0.10
Choline chloride	0.50	0.50	0.50	0.50	0.50
Taurine	0.10	0.10	0.10	0.10	0.10
Y_2O_3	0.10	0.10	0.10	0.10	0.10
Microcrystalline cellulose	3.52	3.22	2.91	2.71	2.51
NaH_2PO_4	0.00	0.49	0.98	1.31	1.64
K_2HPO_4	0.00	0.35	0.69	0.93	1.16
KCl	1.00	0.70	0.41	0.20	0.00
NaCl	0.78	0.54	0.30	0.15	0.00
Proximate composition					
Crude protein	43.74	43.21	43.92	43.16	43.27
Crude lipid	12.45	12.37	12.38	12.63	12.46
Phosphorus (%)	0.36	0.56	0.72	0.83	0.94
Available phosphorus (%)	0.35	0.55	0.71	0.82	0.92

[a]Vitamin premix (mg/kg diet): VB_1, 10; riboflavin, 8; pyridoxine HCl, 10; VB_{12}, 0.2; VK_3, 10; inositol, 100; pantothenic acid, 20; niacin acid, 50; folic acid, 2; biotin, 2; VA (500,000 IU), 400; VD_3, 5; VE (500,000 IU), 100; ethoxyquin, 150; wheat middling, 3132.8.

[b]Mineral premix (mg/kg diet): $MgSO_4 \cdot H_2O$, 2000; $MnSO_4 \cdot H_2O$, 40; $ZnSO_4 \cdot H_2O$, 150; $CuSO_4 \cdot 5H_2O$, 15; $FeSO_4.H_2O$, 230; Na_2SeO_3 (1%), 50; $CoSO_4$ (5%), 20; KI (1%), 100; Zeolite, 2395.

Table S2. Sequences of primers used for RT-qPCR.

Target gene	Primer sequence (5'-3')	Amplicon length (bp)	Amplification efficiency
β-actin	**F: CAACTGGGATGACATGGAGAAG** **R: TTGGCTTTGGGGTTCAGG**	**159**	**102.65%**
napiiia	**F: GAAGAGGATAAGTGGGGAGACG** **R: AAATGGAGGCTGAAGCGAAG**	**138**	**99.94%**
napiiib	**F: GGTGTTAGTCACAGTGGGGG** **R: GGTGACAGACGTTCCGATGT**	**146**	**98.57%**
pit1	**F: CTGCTTCCTCCCCATCAACA** **R: GGATAACCCACACACCAAACCA**	**141**	**99.38%**
pit2	**F: ATCACGAGGAGAAGGATAAGCC** **R: CATTACACCGCCCTGGTCATA**	**104**	**99.79%**
pgc-1	**F: GTTCCTCCGAACTCCCAGTG** **R: CAGACGCTCACTCCTTGTGT**	**129**	**96.20%**
atgl	**F: CTTCCTCTCCGCAACAAGTC** **R: TGGTGCTGTCTGGAGTGTTC**	**151**	**98.79%**
cpt-1	**F: CCTCAATGATACATCGGAACCC** **R: CTGCGGCTCATCATCTAACG**	**124**	**99.42%**
fas	**F: AAACTGAAGCCCTGTGTGCC** **R: CACCCTGCCTATTACATTGCTC**	**169**	**96.53%**
srebp-1c	**F: CCTCACTCTGCAGCCAATCA** **R: CGTAGTCCCACCCTCAAACC**	**130**	**99.12%**

napiiia, sodium-phosphate cotransporter iia; *napiiib*, sodium-phosphate cotransporter iib; *pit1*, sodium-phosphate cotransporter iic 1; *pit2*, sodium-phosphate cotransporter iic 2; *pgc-1*, peroxisome proliferator-activated receptor-gamma coactivator 1; *atgl*, adipose triglyceride lipase; *cpt-1*, carnitine palmitoyltransferase 1; *fas*, fatty acid synthetase; *srebp-1c*, sterol-regulatory element binding proteins 1c.