

Table S1 Composition and nutrition of the basal diet (air-dry basis)

Item	Content (%)
Corn	61.38
Soybean meal	31.00
Fish meal	2.00
Soybean oil	2.00
Limestone	1.50
CaHPO ₄	1.30
<i>DL</i> -Methionine	0.22
NaCl	0.30
Premix ¹	0.20
Choline chloride	0.10
Total	100.00
Nutrient levels	
Metabolizable energy (MJ/kg)	12.47
Crude protein (%)	20.55
Crude Fat (%)	4.59
Calcium (%)	0.95
Available phosphorus (%)	0.46
Lysine (%)	1.10
Methionine (%)	0.55

¹ The premix provided the following per kg of diets: Vitamin A (trans-retinyl acetate) 8000 IU; Vitamin D3 (cholecalciferol) 3000 IU; Vitamin E (all-rac- α -tocopherol acetate) 20 IU; Vitamin B1 (thiamin) 4.2 mg; Vitamin B2 (riboflavin) 4.0 mg; Vitamin B6 (pyridoxine HCl) 4.5 mg; Vitamin B12 (cobalamin) 0.02 mg; biotin 0.15 mg; folic acid 1.0 mg; *D*-pantothenic acid 11 mg; nicotinic acid 10 mg; Cu (as copper sulfate) 10 mg; Fe (as ferrous sulfate) 80 mg; Mn (as manganese sulfate) 80 mg; Zn (as zinc sulfate) 75 mg; I (as potassium iodide) 0.40 mg; Se (as sodium selenite) 0.30 mg.

Table S2 Primers used for quantitative RT-qPCR

Gene	Primer sequence(5'-3')	Product size (bp)	GenBank accession No.
<i>SOD</i>	Forward: TTACCGCTTGTCTGATGGAG Reverse: TCACCCACGTGCCTATCTG	145	NM_205064.1
<i>CAT</i>	Forward: GCTGAAGCTGGGAAAAAGGATG Reverse: TCCTGCAGTTGTATGGACGC	136	NM_001031215.2
<i>GSH-Px</i>	Forward: GCCAAGTCCTTCTACGACCT Reverse: TTGGTGCCGTTCTCCTGGTAG	224	NM_001277854.2
<i>GST</i>	Forward: TCCAGTCTTTGAGAAGTTTTG Reverse: GGAGTTTCAGTGGGTTTAGGT	296	NM_001001777.1
<i>Keap1</i>	Forward: GCACTTGCATGTTTACCTTAAGAA Reverse: TGCTCATCTCAGCCTATCTGT	88	NM_176508.3
<i>Nrf2</i>	Forward: AGGAAGAAGGTGCTTTTCGCA Reverse: TCTGTTCTCTTCACTGCCAC	176	NM_205117.1
<i>HO-1</i>	Forward: ACAACGCTGAAAGCATGTCCC Reverse: AGATGAAGTACAGGGACGCC	162	NM_205344.1
<i>NQO-1</i>	Forward: CGCACCTGAGAAAACCTCT Reverse: ACTGCAGTGGGAAGTGAAG	166	NM_001277619.1
<i>GCLC</i>	Forward: AAGAGATGCTGTTCCGGCAGG Reverse: CCACAACGACATTTCCACCTTT	71	XM_040666478.1
<i>GCLM</i>	Forward: TCAGCAGGGGCTCTAAGTGT Reverse: TTTCCACACAGTGCTACGA	208	NM_001007953.1
<i>GSTA4</i>	Forward: AGAGGTGAGACTGTGCCTGTA Reverse: ACAGCAGGGATCCATCTTGGC	159	NM_204818.2
<i>GAPDH</i>	Forward: GGGCAGCCATCACTATCTT Reverse: TAACACGCTTAGCACACCC	148	NM-204305.1