

**Table S1.** Ingredient composition and nutrient content of diets

Item	Day 1 to 22	Day 22 to 42
Ingredients, %		
Corn	54.57	62.44
Soybean meal, 48% crude protein	29.95	25.58
Corn gluten meal, 60% crude protein	5.90	3.30
Soybean oil	5.50	4.89
Tricalcium phosphate	2.46	2.29
Limestone	0.89	0.75
Salt	0.20	0.20
DL-Met, 88%	0.07	0.07
L-Lys·HCl (78.4%)	0.06	0.08
Vitamin premix ²	0.20	0.20
Mineral premix ³	0.20	0.20
Calculated composition		
Metabolic energy, MJ/kg	12.95	12.74
Crude protein, %	21.89	18.90
Calcium, %	1.05	0.96
Lys, %	1.12	1.01
Met + Lys, %	0.90	0.86
Available phosphorus, %	0.81	0.73
Analyzed composition, %		
Crude protein	21.12	20.02
Calcium	1.03	0.95
Met + Lys	0.89	0.87
Available phosphorus	0.44	0.42

¹ Provided per kilogram of complete diet: 12,8000 IU vitamin A, 1,600 IU vitamin D₃, 60 IU vitamin E, 1.6mg vitamin K₃, 0.12mg biotin, 50mg choline, 1.2mg folic acid, 32mg Nicotinic acid, 16mg pantothenic acid, 4.8mg riboflavin, 2.4mg thiamine (B₁), 3.2mg vitamin B₆, and 0.03mg vitamin B₁₂.

² Provided per kilogram of diet: Mg, 79mg as manganese oxide; Zn, 60mg as zinc oxide; Cu, 100mg as copper sulfate; Fe, 120mg as iron sulfate; I, 0.96mg as potassium iodine; Co, 0.16mg as cobalt sulfate and Se, 0.24mg as sodium selenite.

Table S2. The commercial kits information

Index ¹	Name of kits	Cat. No.
MDA	Malondialdehyde (MDA) assay kit (TBA method)	A003-1-2
CAT	Catalase (CAT) assay kit (Visible light)	A007-1-1
GSH-Px	Glutathione peroxidase (GSH-PX) assay kit (colorimetry)	A005-1-2
T-SOD	Total Superoxide Dismutase (T-SOD) assay kit (Hydroxylamine method)	A001-1-2
O ₂ ^{·-}	Inhibition and produce superoxide anion assay kit	A082-3-1
OH ^{·-}	Hydroxyl Free Radical assay kit	A018-1-1
ABTS ^{·-}	ABTS free radical scavenging capacity assay kit	A015-2-1

¹ MDA, malondialdehyde; GSH-Px, glutathione peroxidase; T-SOD, total superoxide dismutase; CAT, catalase; O₂^{·-}, oxygen radical; OH^{·-}, hydroxyl radical; ABTS^{·-}, 2, 2'-azino-bis (3-ethylbenzothiazoline-6-sulfonate).

Table S3. The primer sequences

Gene ¹	Accession NO.	Primer sequence (5' to 3')
<i>β-actin</i>	NM_205518.1	F: ATCCGGACCCTCCATTGTC R: AGCCATGCCAATCTCGTCTT
<i>SREBP-1c</i>	XM_046927256.1	F: CATCCATCAACGACAAGATCGT R: CTCAGGATCGCCGACTTGTT
<i>ACC</i>	XM_046929960.1	F: GCTTCCCATTGCGCTCCTA R: GCCATTCTCACCACCTGATTACTG
<i>FAS</i>	NM_205155.4	F: TTTGGTGGTTTCGAGGTGGTA R: CAAAGGTTGTATTTTCGGGAGC
<i>PPARα</i>	XM_046906400.1	F: TTAAACGGAGTTCCAATGGC R: AACCTTACAACCTTCACAAGC
<i>CPT-1</i>	XM_046918285.1	F: TAGAGGGCGTGGACCAATAA R: TGGGATGCGGGAGGTATT
<i>PPARγ</i>	NM_001001460	F: CAGTGGATCTGTCTGCGATG R: CTTTGGCAATCCTGGAGCTTG
<i>C/EBPα</i>	NM_001031459	F: GACATCTGCGAGAACGAGCA R: GCATGCCGTGGAAATCGAAA
<i>C/EBPβ</i>	NM_205253.2	F: GCCGCCCCGCCTTTAAA R: CCAAACAGTCCGCCTCGTAA
<i>Nrf2</i>	NM_205117.1	F: GAGAGCGGCAGCAAGATGACAG R: CAGCCAGGTGTGGTTGTAGAAGTC
<i>HO-1</i>	XM_205344.1	F: GATGTGCGGATACCTGAAGC R: AGGGATGCCAACATGACTGA
<i>GPX1</i>	NM_000581.4	F: GCATTGTTTCTAGCTTGCGGT R: TCCTCCTGAGAACGGACTGT
<i>Cu/Zn SOD</i>	NM_205064.1	F: ACCCTTTTGCCTTGAAACT R: TTGAGATGTTTGCGTGAAG
<i>CAT</i>	NM_001031215.2	F: GGGGAAGAGCGCGAGACGGA R: CGTCATTGTATGGGTGATGG
<i>CaN</i>	XM_025149952.1	F: TTGTCTGATGGAGATCATGGCTTC R: TGCTTGCCTTCAGGATTAAAGTGAG
<i>CaM</i>	NM_205005.2	F: GATGAGATCCTGAGAGTGGTGGAC R: TCATCAGGTAAGGTGGGCACAA
<i>NFATc1</i>	XM_025147636.1	F: GGTCTTCCGAGTTCACATCC R: TCTCCACCAGAGGCAGTTCT
<i>MyoD</i>	NM_204214.2	F: AACCTGAGTGACAGTGGAGC R: TCTTGGAGCTTGGCTGAACG
<i>Myf5</i>	NM_001030363.1	F: GCAGCCACTATGAGGGAGAG R: GATGTACCTGATGGCGTTCC
<i>MEF2C</i>	XM_025144794.1	F: CCATCAGCCATCTCAACAAC R: CAGCCAGTCACAGAACCAAG
<i>MSTN</i>	NM_001001461.2	F: GCCTGGAACAAGCACCTAAC R: GCTACTGTCTGCCCTCTGGA
<i>MyHC I</i>	XM_046930560.1	F: ATCACGAGCCCTGAAACCAA R: GGCTGCAAAATGCTGGAAAA
<i>MyHC IIa</i>	NM_204228.4	F: ACTTCTATGGCAGCAACT R: AATAGCGGGTGTAGGC
<i>MyHC IIb</i>	NM_001013396.2	F: TACGGTTCTCCACTGTTGCTG R: TGGATGAAGGATGGAAACAAC
<i>AMPKα1</i>	NM_001039603.2	F: ATCTGTCTCGCCCTCATCCT

<i>AMPKα2</i>	NM_001039605.2	R: CCACTTCGCTCTTCTTACACCTT F: CCAGCGAGTTCTACCTAGCCT R: TGCCTTGGGACTGTCTGCA
<i>SIRT1</i>	XM_046920057.1	F: CACGCCTTGCTGTAGACTTCC R: ATGAACTTGTGGCAGAGAGATGG
<i>PGC-1α</i>	XM_015285697.2	F: CGTGGAGCAATAAAGCGAAG R: TCTGAGGAGGGTCATCGTTC

¹ *SREBP-1c*, sterol regulatory element-binding protein-1c; *ACC*, acetyl-CoA carboxylase; *FAS*, fatty acid synthase; *PPAR*, peroxisome proliferator-activated receptor; *CPT-1*, carnitine palmitoyl transferase 1; *C/EBP*, CCAAT/enhancer binding protein; *Nrf2*, nuclear factor erythroid 2-related factor 2; *HO-1*, heme oxygenase 1; *GPX1*, glutathione peroxidase; *Cu/Zn SOD*, superoxide dismutase; *CAT*, catalase; *CaN*, calcineurin; *CaM*, calmodulin; *NFATc1*, nuclear factor of activated T cells c1; *MyoD*, myogenic differentiation antigen; *Myf5*, myogenic regulatory factors 5; *MEF2C*, myocyte enhancer factor 2C; *MSTN*, myostatin; *MyHC*, myosin heavy chain; *AMPK*, adenosine 5'-monophosphate-activated protein kinase; *SIRT1*, sirtuin 1; *PGC-1α*, peroxisome proliferator-activated receptor-γ coactivator-1α.