

Supplementary materials

Tables

Table S1. Ingredients of glycerol monolaurate added in feed.

Ingredients	%
α -glycerol monolaurate	92.21
β -glycerol monolaurate	1.89
Lauric acid	2.17
Glyceryl 1,3-dilaurate	2.98
Triglyceride laurate	0.11
Glycerol	0.63

Table S2. Diet composition and nutrition level of lactating sows (As-fed basis)

Ingredients	%	Nutritional levels	%
Corn	34.10	Digestible energy, MJ/kg ^b	14.27
Soybean meal	11.00	Metabolic energy, MJ/kg	13.39
Wheat	12.00	Dry matter, % ^c	87.00
Barley	8.00	Crude protein, % ^c	17.50
Broken rice	15.00	Ash, % ^c	5.30
Extruded soybean	5.00	Crude fiber, % ^c	3.96
Fish meal	2.50	Crude fat, % ^c	5.21
Soybean hull	3.00	Calcium, % ^c	0.80
Fermented soybean meal	4.00	Phosphorus, % ^c	0.60
Soybean oil	1.80	Available phosphorus, % ^c	0.41
Dicalcium phosphate	1.20	Digestible Lys, % ^c	0.86
Limestone	0.70	Digestible Met + Cys, % ^c	0.51
Salt	0.50	Digestible Thr, % ^c	0.60
Vitamin and mineral premix ^a	1.10	Digestible Trp, % ^c	0.18
Mold inhibitor	0.10		
Total	100.00		

^a Vitamin and mineral premix supplied per kilogram of complete diet: 50.0 mg Zn (ZnSO₄·H₂O), 80.0 mg Fe (FeSO₄·H₂O), 20.0 mg Mn (MnSO₄·H₂O), 5.0 mg Cu (CuSO₄·5H₂O), 0.14 mg I (CaI₂O₆), 0.3 mg Se (Na₂SeO₃), 13,000 IU vitamin A, 4000

IU vitamin D₃, 30 IU vitamin E, 4 mg vitamin K₃, 4 mg vitamin B₁, 10 mg vitamin B₂, 4.8 mg vitamin B₆, 0.034 mg vitamin B₁₂, 40 mg niacin, 20 mg D-pantothenate, 2 .0 mg folic acid, 0.16 mg D-biotin.

^b Calculated values according to the tables of feed composition and nutritive values.

^c Analyzed values.

Table S3. Kits information used in this experiment.

Kits	Product name	Code No.	Company
TNF- α	Pig Tumor necrosis factor α (TNF- α) ELISA kit	m1002360V	mlbio company (Shanghai, China)
IL-1 β	Pig Interleukin 1 β (IL-1 β) ELISA kit	m1002302V	mlbio company (Shanghai, China)
IL-6	Pig Interleukin 6 (IL-6) ELISA kit	m1002311V	mlbio company (Shanghai, China)
IL-12	Pig Interleukin 12 (IL-12) ELISA kit	m1002421V	mlbio company (Shanghai, China)
T-AOC	Total antioxidant capacity assay kit (ABTS method)	A-015-2-1	Nanjing JianCheng Bioengineering Institute
T-SOD	Total Superoxide Dismutase (T-SOD) assay kit (Hydroxylamine method)	A001-1-2	Nanjing JianCheng Bioengineering Institute
GSH-Px	Total Superoxide Dismutase (T-SOD) assay kit (Hydroxylamine method)	A005-1-2	Nanjing JianCheng Bioengineering Institute
GSH	Reduced glutathione (GSH) assay kit	A006-2-1	Nanjing JianCheng Bioengineering Institute
MDA	Malondialdehyde (MDA) assay kit (TBA method)	A003-1-2	Nanjing JianCheng Bioengineering Institute
Lysis buffer		EZB-RN001	EZBioscience, USA
Tissue RNA Purification Kit		EZB-RN001	EZBioscience, USA
Colour Reverse Transcription Kit (with gDNA Remover)		A0010CGQ	EZBioscience, USA
Colour SYBR Green qPCR Master Mix kit		A0012-R2	EZBioscience, USA
RIPA Lysis Buffer		P0013B	Beyotime, Shanghai, China
BLOT-QuickBlocker		C006011	Sangon, Shanghai, China

BCA Protein Assay Kit	P0012	Beyotime, Shanghai, China
ECL Plus chemiluminescence detection kit	P1010-250	Applygen Technologies Inc., Beijing, China

Table S4. Primers used in real-time quantitative PCR.

Genes	Accession	Direction	Sequences (5'-3')	Size
<i>pBD1</i>	NM_213838.1	Forward	ACCGCCTCCTCCTTGTATTCCTC	147
		Reverse	AGGTGCCGATCTGTTTCATCTTTGG	
<i>pBD2</i>	NM_214442.2	Forward	ATTAACCTGCTTACGGGTCTTGGC	122
		Reverse	CCACTGTAACAGGTCCCTTCAATCC	
<i>pBD3</i>	XM_021074698.1	Forward	TCTTCTTGTTCCCTGATGCCTCTTCC	146
		Reverse	GCCACTCACAGAACAGCTACCTATC	
<i>pBD114</i>	NM_001129973.1	Forward	GTACCTTGGTGGATCCTGAACGATG	127
		Reverse	AACGCCCTCTGAATGCAGCATATC	
<i>pBD129</i>	NM_001129975.1	Forward	AATGATCCGCACACTTGAAGAGGTC	137
		Reverse	TGGTGTTGATGCTGGCGAAAGG	
<i>MUC1</i>	XM_021089730.1	Forward	TTCTTCGGGCTGTTGCTACT	132
		Reverse	ACTGTCTTGGAAGGCCAGAA	
<i>MUC3</i>	NM_010843.1	Forward	CTCCATCCGCTTCAGAAAAG	139
		Reverse	ACTACCTGGGGCCTCTGAAT	
<i>MUC4</i>	XM_021068274.1	Forward	CCTCCCAAGCAGATGTCAAT	138
		Reverse	CTGGGATAAGAATGCCTCCA	
<i>β-actin</i>	XM_021086047.1	Forward	GATCTGGCACCACACCTTCTACAAC	107

Reverse TCATCTTCTCACGGTTGGCTTTGG

pBD, porcine beta-defensin; MUC, Mucin

Table S5. Antibody information used in this experiment.

Antibodies	Product name	Code No.	Company
Claudin 1	Anti-Claudin 1 Antibody	ab15098	Abcam
Occludin	Occludin Polyclonal Antibody	27260-1-AP	Proteintech Group
ZO-1	ZO-1 Polyclonal Antibody	21773-1-AP	Proteintech Group
JNK	SAPK/JNK Antibody	9252s	Cell Signaling Technology
p-JNK	Phospho-SAPK/JNK (Thr183/Tyr185) (81E11) Rabbit mAb	4668s	Cell Signaling Technology
NF- κ B	NF-KB P65 Polyclonal Antibody	10745-1-AP	Proteintech Group
p-NF- κ B	Phospho-NF- κ B p65 (Ser536) (93H1) Rabbit mAb	3033s	Cell Signaling Technology
Erk	p44/42 MAPK (Erk1/2) Antibody	9102s	Cell Signaling Technology
p-Erk	Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Antibody	9101s	Cell Signaling Technology
P38	P38 MAPK Monoclonal Antibody	66234	Proteintech Group
p-P38	Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb	4092s	Cell Signaling Technology
β -actin	Rabbit Anti-beta-Actin antibody	bs-0061R	Bioss