

Table S1 Ingredients and nutrient compositions of basal diet (air dry basis) %

Ingredient	Content	Calculated Composition	Nutrient content
Corn	78.20	DE (MJ/kg)	3.40
Soybean meal	14.60	Crude protein	15.74
Soybean oil	1.00	Calcium	0.52
Fish meal	4.50	Total phosphorus	0.50
Limestone	0.35	Available phosphorus	0.32
Dicalcium phosphate	0.27	Lys	0.98
Salt	0.25	Met	0.35
<i>L</i> -Lys-HCl (78%)	0.34	Thr	0.59
<i>DL</i> -Met (99%)	0.10	Trp	0.17
Trp (98%)	0.07		
Thr (98.5%)	0.02		
Chloride choline	0.05		
Vitamin premix ¹	0.05		
Mineral premix ²	0.20		
Total	100.00		

¹The premix provides following per kg diet: VA 5512 IU, VD₃ 2250 IU, VE 24 mg, VK₃ 3 mg, VB₂ 6 mg, VB₆ 3 mg, VB₁₂ 24 µg, folic acid 1.2 mg, nicotinic acid 14 mg, biotin 150 µg, *D*-pantothenic acid 15 mg.

²The premix provides following per kg diet: Fe 60 mg, Cu 4 mg, Mn 2 mg, Zn 60 mg, I 0.14 mg, Se 0.2 mg.

Table S2 Primer sequences and annealing temperature of pigs

Target gene	Forward primer 5'-3'	Reverse primer 5'-3'	Product length	Accession number
EGF	ATCTCAGGAATGGGAGTCAACC	TCACTGGAGGATGGAATACAGC	165	NM_214020.1
GCG	ACTCACAGGGCACGTTTACCA	AGGTCCCTTCAGCATGTCTCT	149	NM_005671883.1
GLP2R	GACCCTCTCTTGTGTCTTCGTA	AAGATGACGTCCCTTCGCCAG	120	NM_001246266.1
IGF1	CTGAGGAGGCTGGAGATGTACT	CCTGAACTCCCTCTACTTGTGTTC	137	NM_001097417.1
IGF1R	TTCGCCAGATCCTAGGGGAG	TCCCAGCTTTGATGGTCAGG	120	NM_214172.1
SLC5A1	GCAACAGCAAAGAGGAGCGTAT	GCCACAAAACAGGTCATAGGTC	137	NM_001164021.1
SLC2A2	GACACGTTTTGGGTGTTCCG	GAGGCTAGCAGATGCCGTAG	149	NM_001097417.1
SLC7A1	TCTTTGCAGGTCGTTTGGGA	GGCTGATCACCTGTTGGAGT	137	NM_001012613.1
SLC11A2	GCAGGTGGTTGACGTCTGTA	CACGCCCCCTTTGTAGATGT	100	NM_001128440.1
SLC30A1	TGCTCTGCATGCTGTTACTGA	TGGAAGGAGTCCGAGAGCAT	97	NM_001139470.1
CLDN1	ATTCAGGTCTGGCTATCTTAGTTG C	AGGGCCTTGGTGTGGGTAA	214	NM_001244539.1
OCLN	CAGGTGCACCCTCCAGATTG	GGACTTTCAAGAGGCCTGGAT	110	NM_001163647.2
TJP1	CTGAGGGAATTGGGCAGGAA	TCACCAAAGGACTCAGCAGG	105	XM_013993251.1
MUC1	GTGCCGCTGCCACAACCTG	AGCCGGGTACCCAGACCCA	141	XM_001926883.5
MUC2	GGTCATGCTGGAGCTGGACAGT	TGCCCTCTCGGGGTCGTAC	181	XM_013989745.1
BCL2	TGCCTTTGTGGAGCTGTATG	GCCCGTGGACTTCACTTATG	144	XM_003121700.4
BAX	AAGCGCATTGGAGATGAACT	TGCCGTCAGCAAACATTC	121	XM_013998624.1
CASP3	GGAGAACAATAAAAACCTCCGTGG	CATCCAAGGATATTCCAGAGTCCA	101	NM_214131.1
CCND1	AGCAGGAGCTAAAGCCGAAC	TCGTTGAGGAGGTTGGCATC	149	XM_013994006.1
CDKN1A	AAGCACAACCCTCAACCACT	TGCAGGTCTGAGAATGCAGG	112	XM_001929558.2
IL8	AGTGGACCCCACTGTGAAAA	TACAACCTTCTTCTGCACCCA	102	X61151.1
TNF α	CGTGAAGCTGAAAGACAACCAG	GATGGTGTGAGTGAGGAAAACG	121	NM_214022.1
IL1 β	ACGTGCAATGATGACTTTGTCTG	AGAGCCTTCAGCATGTGTGG	113	NM_214055.1
IL10	GACGTAATGCCGAAGGCAGA	TGCTCTTGTTCACAGGGC	133	NM_214041.1
FFAR2	TCATGGGTTTCGGCTTCTACAG	GTACTGAACGATGAACACGACG	197	EU122439.1
FFAR3	ACTACTTCTCATCCTCGGGGTT	CTCCACTTCGCTCTTCTTCAGT	119	JX566879.1
β -actin	TCTGGCACACACCTTCT	TGATCTGGGTCATCTTCTCAC	114	DQ178122

Table S3 Primes and probes for real time PCR of bacteria

Items	Primer/probe name and sequence(5'-3')	Product length/bp
<i>Escherichia coli</i>	DC-F,CATGCCGCGTGTATGAAGAA	96
	DC-R,CGGGTAACGTCAATGAGCAAA	
	DC-P,(FMA)AGGTATTAACCTTACTCCCTTCCTC(BHQ-1)	
<i>Lactobacillus</i>	RS-F,GAGGCAGCAGTAGGGAATCTTC	126
	RS-R,CAACAGTTACTCTGACACCCGTTCTTC	
	RS-P,(FMA)AAGAAGGGTTTCGGCTCGTAAAACTCTGTT(BHQ-1)	
<i>Bifidobacterium</i>	SQ-F,CGCGTCCGGTGTGAAAG	121
	SQ-R,CTTCCCGATATCTACACATTCCA	
	SQ-P, (FMA) ATTCCACCGTTACACCGGGAA(BHQ-1)	
<i>Bacillus</i>	YB-F,GCAACGAGCGCAACCCTTGA	92
	YB-R,TCATCCCCACCTTCCTCCGGT	
	YB-P, (FMA)CGGTTTGTACCGGCAGTCACCT(BHQ-1)	
Total bacteria	Eub338F,ACTCCTACGGGAGGCAGCAG	200
	Eub518R,ATTACCGCGGCTGCTGG	