**Online Supporting Material**

**Supplemental Table 1.** Ingredient composition of diets (as fed basis)

|  |  |
| --- | --- |
| Items | Concentration |
| Ingredients | *g/kg*  |
| Corn | 570·5 |
| Soybean meal (44% CP) | 224 |
| Wheat middling | 50 |
| Fish meal | 36 |
| Soy protein concentrate  | 14 |
| Fat powder\* | 20 |
| Defatted milk-replacer powder | 30 |
| Limestone | 9·4 |
| Dicalcium phosphate | 12·2 |
| Salt | 3·4 |
| Alanine† | 13·5 |
| Acidifier‡ | 2·0 |
| L-Lysine. HCl (78·8% Lysine) | 2·7 |
| DL-Methionine (99% methionine) | 1·0 |
| L-Threonine (98% threonine) | 0·8 |
| Butylated hydroquinone | 0·5 |
| Vitamin and mineral premix§ | 10 |
| Nutrient composition | *g/kg* |
| Digestible energy**|**|,¶ (MJ/kg) | 13·6 |
| Crude protein\*\* | 203 |
| Crude fat\*\* | 44 |
| Calcium\*\* | 8·0 |
| Total phosphorus\*\* | 7·0 |
| Amino acid concentrations\*\* | *g/kg* |
| Total aspartate + asparagine | 16·9 |
| Total glutamate + glutamine | 30 |
| Arginine | 9·8 |
| Lysine | 11·1 |
| Serine | 9·1 |
| Threonine | 7·3 |
| Proline | 11·2 |
| Glycine | 7·5 |
| Alanine | 26 |
| Histidine | 4·9 |
| Leucine | 15 |
| Isoleucine | 5·6 |
| Tyrosine | 4·5 |
| Phenylalanine | 7·1 |
| Valine | 6·4 |

\* A rumen-stable fat powder, purchased from Berg + Schmidt, German.

†In the 0·5% Asn diet, 1·35% alanine were replaced by 0·5% Asn, 0·68% alanine and 0·17% cornstarch. In the 1·0% Asn diet, 1·35% alanine was replaced by 1·0% Asn and 0·35% cornstarch. All diets were isonitrogenous.

‡A compound acidifier including lactic acid and phosphoric acid, provided by Wuhan Fanhua Biotechnology Company, Wuhan, China.

§ The vitamin and mineral premix (defatted rice bran as carrier) provided the following amounts per kilogram of complete diet: retinol acetate, 2700 μg; cholecalciferol, 62·5 μg; dl-α-tocopheryl acetate, 20 mg; menadione, 3 mg; vitamin B12, 18 μg; riboflavin, 4 mg; niacin, 40 mg; pantothenic acid, 15 mg; choline chloride, 400 mg; folic acid, 700 μg; thiamin, 1·5 mg; pyridoxine, 3 mg; biotin, 100 μg; Zn, 80 mg (ZnSO4·7H2O); Mn, 20 mg (MnSO4·5H2O); Fe, 83 mg (FeSO4·H2O); Cu, 25 mg (CuSO4·5H2O); I, 0·48 mg (KI); Se, 0·36 mg (Na2SeO3·5H2O).

**|**| Based on diets containing cornstarch.

¶ Calculated.

\*\* Analyzed.

**Online Supporting Material**

**Supplemental Table 2.** Primer sequences used for real-time PCR

|  |  |  |
| --- | --- | --- |
| Gene | Forward (5'-3') | Reverse (5'-3') |
| TNF-*α* | TCCAATGGCAGAGTGGGTATG | AGCTGGTTGTCTTTCAGCTTCAC |
| HSP70 | GCCCTGAATCCGCAGAATA | TCCCCACGGTAGGAAACG |
| TLR4 | TCAGTTCTCACCTTCCTCCTG | GTTCATTCCTCACCCAGTCTTC |
| MyD88 | GATGGTAGCGGTTGTCTCTGAT | GATGCTGGGGAACTCTTTCTTC |
| IRAK1 | CAAGGCAGGTCAGGTTTCGT | TTCGTGGGGCGTGTAGTGT |
| TRAF6 | CAAGAGAATACCCAGTCGCACA | ATCCGAGACAAAGGGGAAGAA |
| NOD1 | CTGTCGTCAACACCGATCCA | CCAGTTGGTGACGCAGCTT |
| NOD2 | GAGCGCATCCTCTTAACTTTCG | ACGCTCGTGATCCGTGAAC |
| RIPK2 | CAGTGTCCAGTAAATCGCAGTTG | CAGGCTTCCGTCATCTGGTT |
| NF-κB p65 | AGTACCCTGAGGCTATAACTCGC | TCCGCAATGGAGGAGAAGTC |
| RP105 | CGAGGCTTCTGACTGTTGTG | GGTGCTGATTGCTGGTGTC |
| SOCS1 | GCGTGTAGGATGGTAGCA | GAGGAGGAGGAGGAGGAAT |
| Tollip | GCAGCAGCAACAGCAGAT | GGTCACGCCGTAGTTCTTC |
| SIGIRR | ACCTTCACCTGCTCCATCCA | TTCCGTCATTCATCTCCACCTC |
| ERBB2IP | ACAATTCAGCGACAGAGTAGTG | TGACATCATTGGAGGAGTTCTTC |
| CENTB1 | GAAGCCGAAGTGTCCGAATT | AGGTCACAGATGCCAAGAATG |
| GAPDH | CGTCCCTGAGACACGATGGT | GCCTTGACTGTGCCGTGGAAT |

TNF-*α*, tumor necrosis factor-*α*; HSP70, heat shock protein 70; TLR4, toll-like receptor; MyD88, myeloid differentiation factor 88; IRAK1, IL-1 receptor-associated kinase 1; TRAF6, TNF-*α* receptor-associated factor 6; NOD, nucleotide-binding oligomerization domain protein; RIPK2, receptor-interacting serine/threonine-protein kinase 2; RP105, radioprotective 105; SOCS1, suppressor of cytokine signalling 1; Tollip, toll-interacting protein; SIGIRR, single immunoglobulin IL-1R-related molecule; ERBB2IP, Erbb2 interacting protein; CENTB1, centaurin beta1.