

Table S1 Nutrient levels in basic diets^②

| Project | Control group | Test I | Test II |
|------------|---------------------|---------------------|---------------------|
| DE (MJ/kg) | 13.14 | 13.13 | 13.11 |
| CP (%) | 15.94 (16.00%) ③ | 14.00 (14.00%) ③ | 12.05 (12.00%) ③ |
| CF (%) | 3.22 | 3.50 | 4.02 |
| Ca (%) | 0.60 | 0.61 | 0.60 |
| P (%) | 0.55 | 0.55 | 0.55 |
| Na+ (%) | 0.16 | 0.16 | 0.17 |
| Cl- (%) | 0.27 | 0.27 | 0.28 |
| SIDLys (%) | 0.86 | 0.86 | 0.86 |
| SIDMet (%) | 0.26 | 0.26 | 0.26 |
| SIDThr (%) | 0.59 | 0.59 | 0.59 |
| SIDTrp (%) | 0.19 | 0.19 | 0.19 |

Note: ① Added to the diet per kg of premix: Fe, 64.00 mg; Zn, 71.00 mg; Mn, 35.00 mg; Cu, 17.00 mg; Se, 0.36 mg; I, 0.64 mg; Vitamin A, 790 IU; Vitamin D3 135 IU; Vitamin E, 55.00 mg; Thiamine (Vitamin B1), 2.20 mg; Riboflavin (Vitamin B2), 2.50 mg; Biotin, 0.05 mg; Folic acid, 0.35 mg; Nicotinic acid, 29.00 mg; Calcium pantothenate, 27.00 mg Vitamin B6, 0.09 mg; Vitamin B 12, 1.00 mg; Choline, 5,000 mg; Flavoring agent, 3,000 mg; Sweetener, 3,000 mg; Phytase, 4,000 mg; Lysine, 30,000 mg; Tryptophan, 2,000 mg;

② Nutritional components are expressed as calculated values;

③ Test set value in brackets.

Table S2 Jejenum sample sequence statistics

| Group | Sample serial number | PE Reads | | Clean Tags | | Effective Tags | | Effective (%) | |
|---------------------------|----------------------|-------------|--------|-------------|--------|----------------|--------|---------------|-------|
| | | Jejunu m | Cecum | jejunu m | Cecum | Jejunu m | Cecum | Jejunu m | Cecum |
| Control group | BKCG1/BMCG1 | 97,644 | 95,857 | 81,189 | 88,156 | 62,543 | 62,924 | 64.05 | 65.64 |
| | BKCG2/BMCG2 | 92,814 | 81,853 | 82,566 | 76,576 | 63,243 | 54,142 | 68.14 | 66.15 |
| | BKCG3/BMCG3 | 85,016 | 95,978 | 79,167 | 90,756 | 62,441 | 63,407 | 73.45 | 66.06 |
| Test I BKG1/BMC G1 | BKG11/BMCG11 | 97,213 | 91,096 | 81,053 | 83,811 | 67,312 | 60,700 | 69.24 | 66.63 |
| | BKG12/BMCG12 | 95,987 | 95,647 | 84,550 | 89,824 | 67,073 | 63,977 | 69.88 | 66.89 |
| | BKG13/BMCG13 | 99,623 | 82,905 | 91,840 | 77,267 | 66,283 | 61,474 | 66.53 | 74.15 |
| Test II BKG2/BMC G2 | BKG21/BMCG21 | 83,398 | 99,293 | 78,064 | 93,368 | 62,903 | 64,121 | 75.43 | 64.58 |
| | BKG22/BMCG22 | 98,771 | 82,758 | 91,246 | 77,831 | 60,806 | 60,644 | 61.56 | 73.28 |
| | BKG23/BMCG23 | 96,985 | 94,664 | 90,396 | 90,042 | 66,871 | 61,047 | 68.95 | 64.49 |

