**Supplementary Table 1** Primer sequences used for RT-PCR

|  |  |
| --- | --- |
| Gene | 5’-3’ Primer sequence |
| ZIP4 | F: TCATCTGCCTCTGCTCCATCTTTG |
| R: AAGGTCTGGATGACGTAGTGGGTA |
| ZnT1 | F: TCACGCTACCACCATTCAACCTGA |
| R: CCGTGTCCCACAACATTGCTTCAA |
| ZnT2 | F: GACAGCGCCAGCCAGCATCA |
| R: GGCAGCCACCAAAACGCCCA |
| ZnT5 | F: ACCAGTCTCAGTTGGAGGGCTGA |
| R: TCCATGGGTATGGGTGTGGGCA |
| GAPDH | F: ATGGTCCACATGGCCTCCAA |
| R: GAAGTCAGGAGATGCTCGGTG |

ZnT1 = solute carrier family 30 member 1; ZnT2 = solute carrier family 30 member 2; ZnT5 = solute carrier family 30 member 5; ZIP4 = solute carrier family 39 member 4

**Supplementary Table 2** Effects of tribasic zinc sulfate on routine blood tests of pigs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Items | Control | LTBZ | HTBZ | pooled SEM | P-Value |
| RBC (10-12/L) | 6.46 | 6.52 | 6.31 | 0.09 | 0.639 |
| BPC (10-9/L) | 226.17 | 255.20 | 220.83 | 31.23 | 0.908 |
| WBC (10-9/L) | 24.48 | 23.26 | 24.85 | 1.06 | 0.844 |
| RDW (%) | 19.23 | 16.35 | 21.82 | 1.25 | 0.210 |
| HCT (%) | 43.07 | 37.03 | 41.13 | 0.71 | 0.174 |
| MCV (f1) | 66.83 | 68.40 | 65.33 | 0.88 | 0.399 |
| MCH (pg) | 17.50 | 17.48 | 17.08 | 0.19 | 0.625 |
| MCHC (g/L) | 262.50 | 256.40 | 262.00 | 1.99 | 0.432 |
| Basophil cell (%) | 0.23 | 0.16 | 0.20 | 0.03 | 0.552 |
| Basophil cell (10-9/L) | 0.05 | 0.04 | 0.05 | 0.01 | 0.637 |
| Hemoglobin（g/L） | 112.83 | 113.80 | 107.83 | 1.54 | 0.245 |

LTBZ = dietary supplemented with 100 mg/kg zinc from tribasic zinc sulfate; HTBZ = dietary supplemented with 1000 mg/kg zinc from tribasic zinc sulfate; RBC = red blood cell; BPC = blood platelet count; WBC = white blood cell; RDW = red cell distribution width; HCT = hematocrit; MCV = mean corpuscular volume; MCH = mean corpuscular hemoglobin; MCHC = mean corpuscular hemoglobin concentration

Animals were considered as the experimental units (n=7).

**Supplementary Table 3** Effects of tribasic zinc sulfate on organ index of pigs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Organ index | Control | LTBZ | HTBZ | pooled SEM | P-Value |
| Heart /% | 0.39 | 0.39 | 0.38 | 0.01 | 0.632 |
| Liver /% | 2.78 | 2.72 | 2.72 | 0.06 | 0.887 |
| Pancreas /% | 0.25 | 0.26 | 0.28 | 0.02 | 0.726 |
| Lung /% | 12.41 | 10.61 | 10.73 | 0.47 | 0.223 |
| Kidney /% | 0.66 | 0.59 | 0.57 | 0.07 | 0.443 |

Organ index = organ weight/body weight; LTBZ = dietary supplemented with 100 mg/kg zinc from tribasic zinc sulfate; HTBZ = dietary supplemented with 1000 mg/kg zinc from tribasic zinc sulfate.

Animals were considered as the experimental units (n=7).