**Online Supplementary Material**

**Supplemental Table 1**. Significant differences in blood parameters at 3 weeks(Least square means and standard deviations)

|  |  |  |  |
| --- | --- | --- | --- |
| **3 Weeks** | **FF****(n=9)** | **Mal****(n=34)** | ***P*** |
|  | LSM | SD | LSM | SD |  |
| RBC, M/µL | 7.51 | 0.2 | 8.56 | 0.11 | <0.0001 |
| MCV, fL | 53.77 | 0.98 | 46.96 | 0.68 | <0.0001 |
| MCH, pg | 16.22 | 0.32 | 14.83 | 0.23 | <0.0001 |
| MCHC, g/dL | 30.20 | 0.29 | 31.57 | 0.16 | <0.0001 |
| WBC, x103 cells/µL | 22.48 | 1.46 | 15.78 | 0.80 | <0.0001 |
| Neutrophils, x103 cells/µL | 9.11 | 1.05 | 4.98 | 0.55 | <0.0001 |
| Monocytes, x103 cells/µL | 1.30 | 0.12 | 0.60 | 0.06 | <0.0001 |
| Anion Gap, mmol/L | 26.37 | 1.24 | 20.84 | 0.65 | <0.0001 |
| Bicarbonate, mmol/L | 21.25 | 1.22 | 25.90 | 3.54 | <0.0001 |
| Phosphorus, mg/dL | 9.33 | 0.29 | 8.16 | 0.15 | <0.0001 |
| Calcium, mg/dL | 11.64 | 0.18 | 10.86 | 0.09 | <0.0001 |
| BUN, mg/dL | 7.48 | 1.29 | 12.91 | 0.67 | <0.0001 |
| Creatinine¸ mg/dL | 0.76 | 0.05 | 0.96 | 0.03 | 0.001 |
| Glucose, mg/dL | 130.2 | 6.5 | 101.9 | 3.5 | <0.0001 |
| Total Protein, g/dL | 5.0 | 0.1 | 5.4 | 0.1 | <0.0001 |
| Albumin, g/dL | 3.48 | 0.11 | 4.57 | 0.07 | <0.0001 |
| Globulin, g/dL | 1.54 | 0.11 | 0.85 | 0.06 | <0.0001 |
| Alkaline Phosphatase, U/L | 418.6 | 30.8 | 258.2 | 16.4 | <0.0001 |

Means that are significantly different after adjustment for multiple means comparisons (*P* ≤ 0.0026).

**C**

**B**

**A**



**Supplemental Figure 1**. **Differences in fecal microbiota during ETEC challenge.** PCoA plots (unweighted UniFrac) showing distinctions in fecal microbial communities between all animals in the challenged groups (n=4/group) (A) after milk supplementation just prior to challenge (5 week), (B) during challenge (Mid-ETEC) and (C) at the end of the trial (Post-ETEC).