

Supplementary Materials

Supplementary Material 1:

Table S1. The detail composition of standard diet and FOS diet

Nutritional Components	Standard diet (g/1000g)	FOS diet (g/1000g)
Casein	200	197.33
Cornstarch	397.5	392.18
Dextrin	132	130.23
Soybean oil	70	80.86
Mineral mix	35	29.81
Vitamin mix	10	8.52
L-cystine	3.0	2.56
Choline chloride	2.5	2.13
Sucrose	150	6.38
FOS	0	150

Supplementary Material 2:

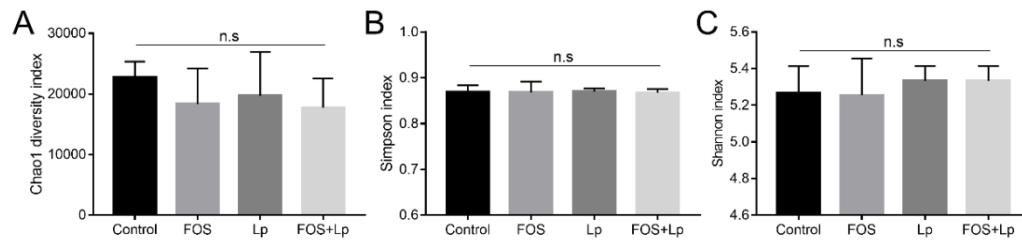


Figure S1. Alpha and beta diversity of intestinal microbiota among all group in the beginning of the experiment. Chao1 index (A), simpson index (B), and shannon index (C).

Supplementary Material 3:

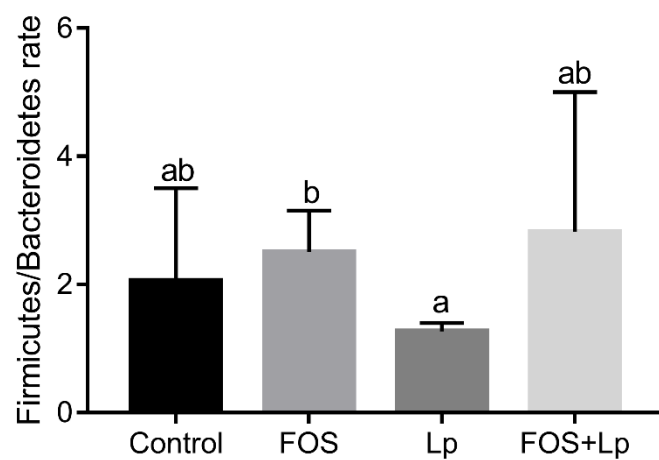


Figure S2. Influence of *L. plantarum* ST-III and FOS intervention on the ratio of Firmicutes and Bacteroidetes.

Supplementary Material 4:

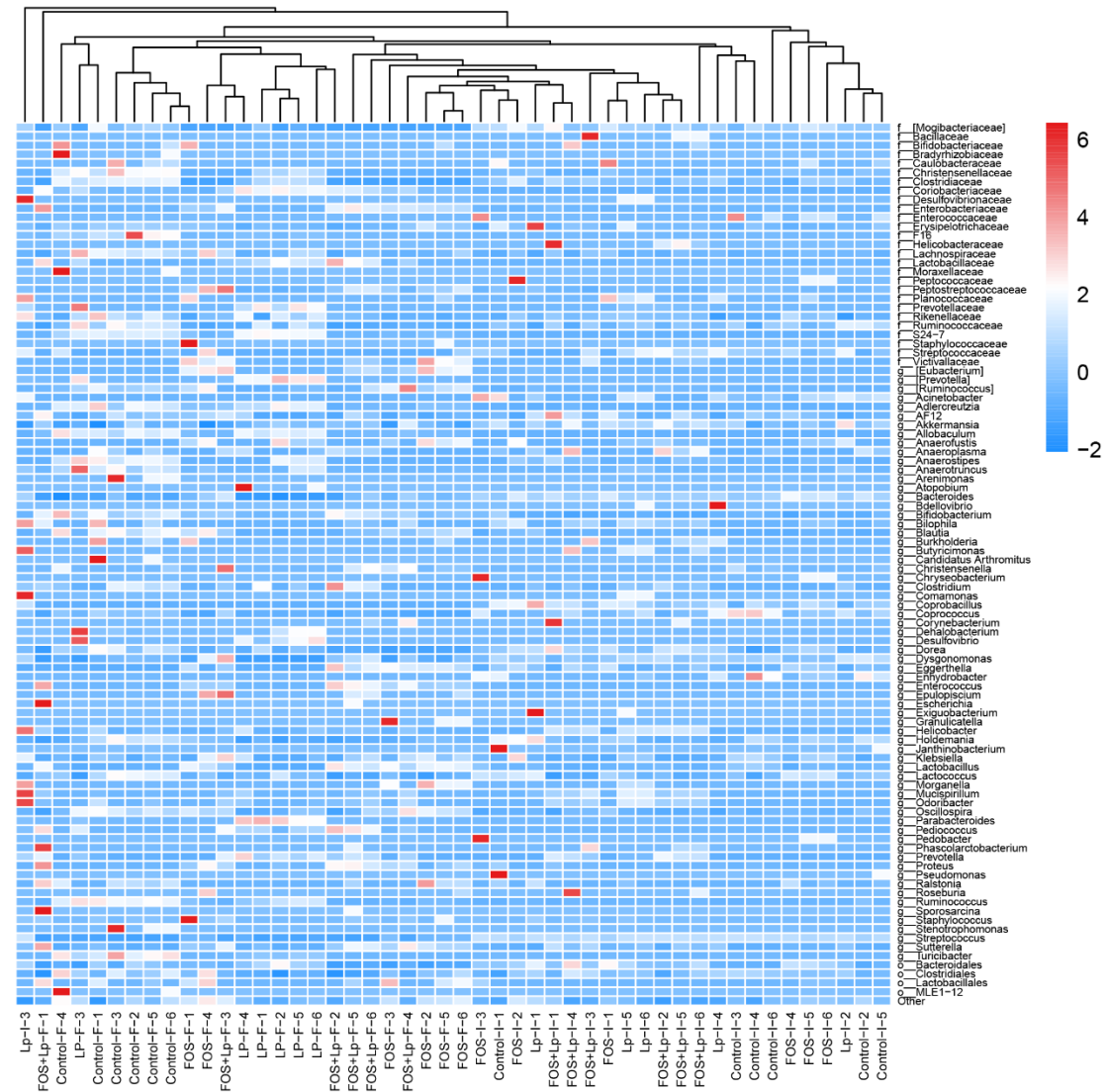


Figure S3. Influence of *L. plantarum* ST-III and FOS intervention on the relative abundance genera from each sample.

Supplementary Material 5:

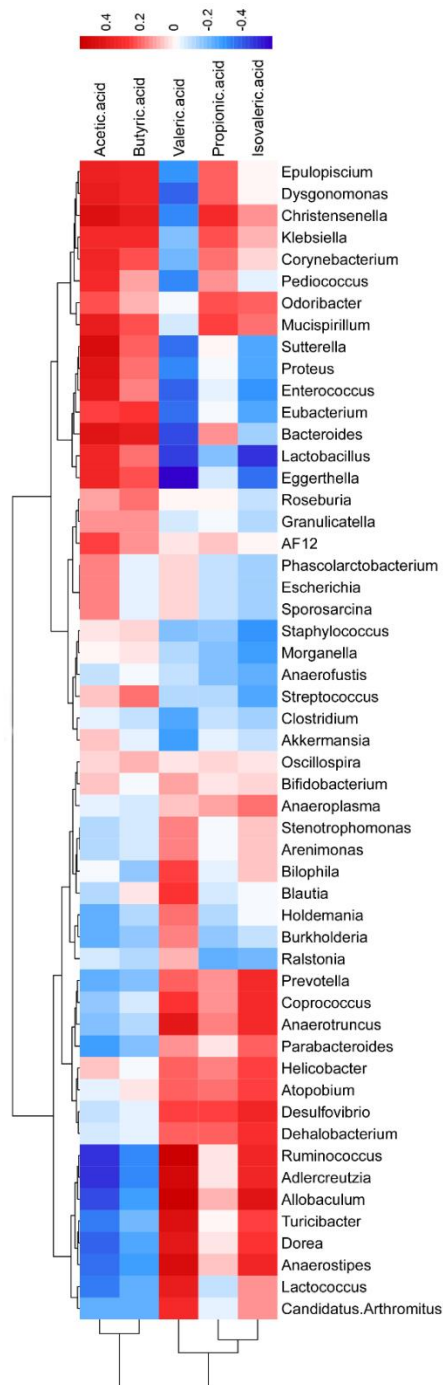


Figure S4. Heatmap presenting the association between genera and cecal SCFAs. Blue means positive association and red means negative association.