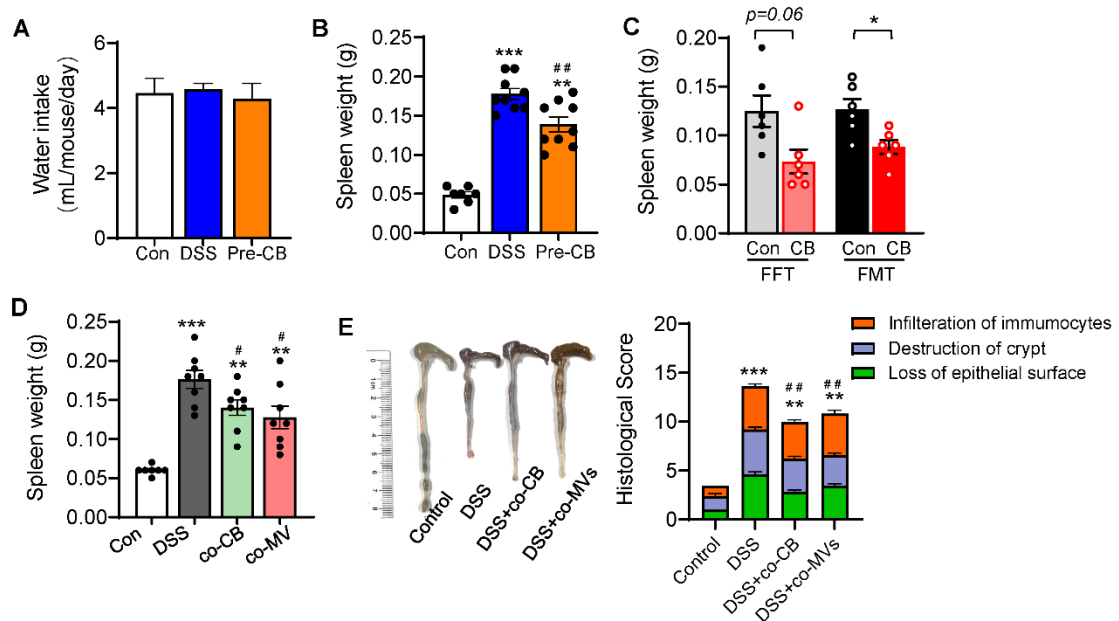
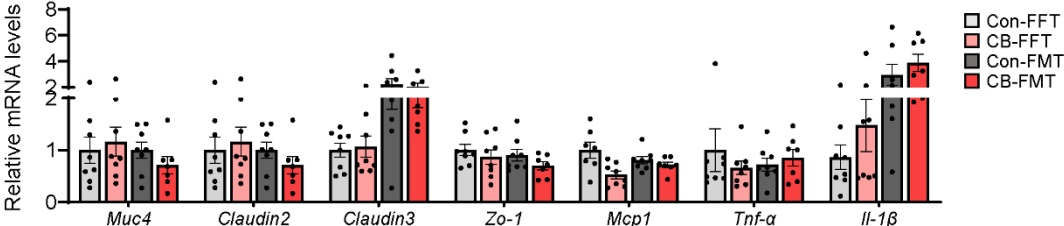


### Supplementary Figure 1



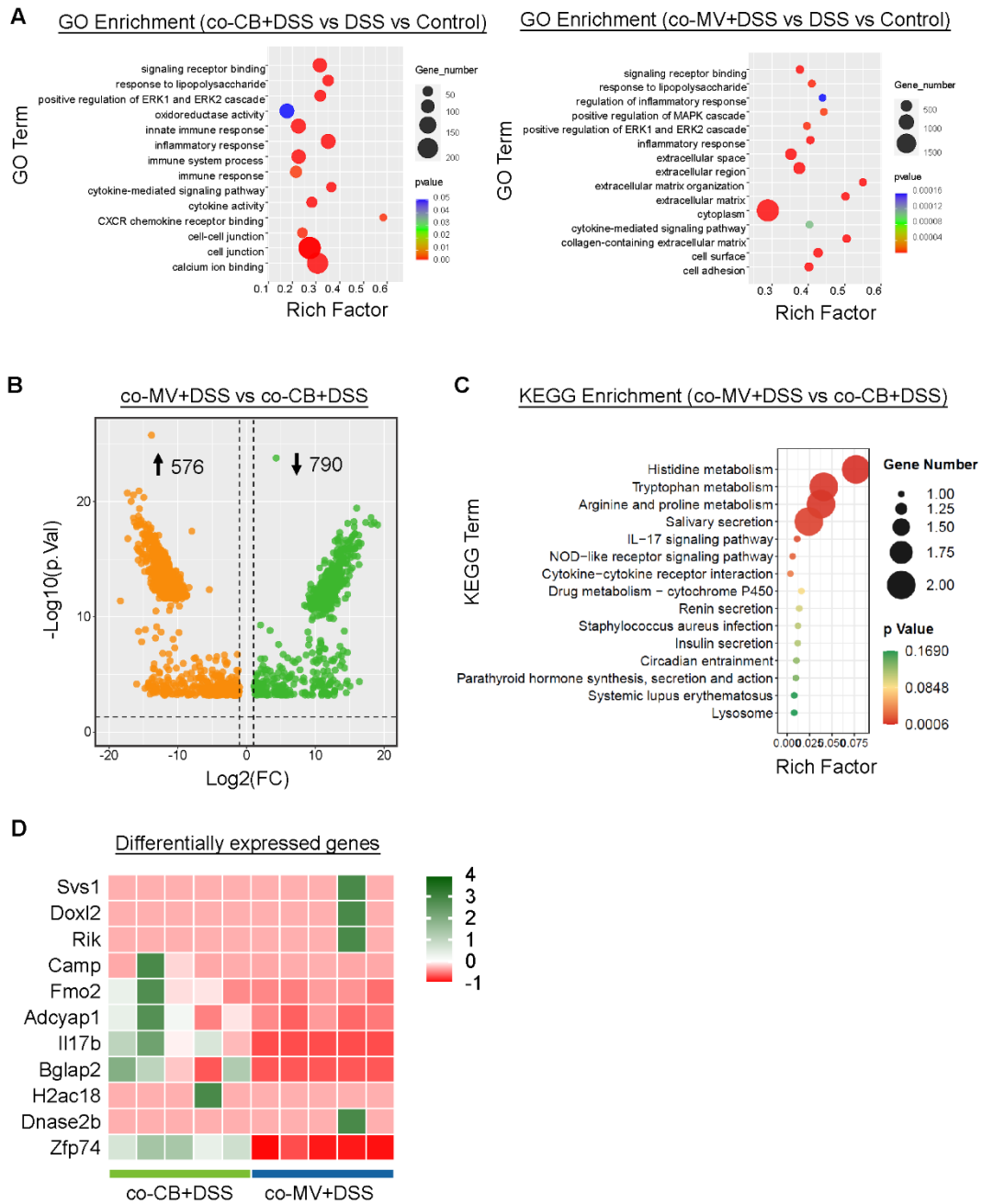
Supplementary Figure 1. (A) Water intake. (B) Spleen weight for *C. butyricum* pre-treatment. (C) Spleen weight for FMT and FFT. (D) Spleen weight for the part 3 experimental. (E) Representative picture for colon length in the part 3 experimental and histological score for part 3 experimental. Data are represented as mean  $\pm$  SEM, (\*  $p \leq 0.05$ , \*\*  $p \leq 0.01$  vs the control group, #  $p \leq 0.05$ , ##  $p \leq 0.01$  vs the DSS group).

Supplementary Figure 2



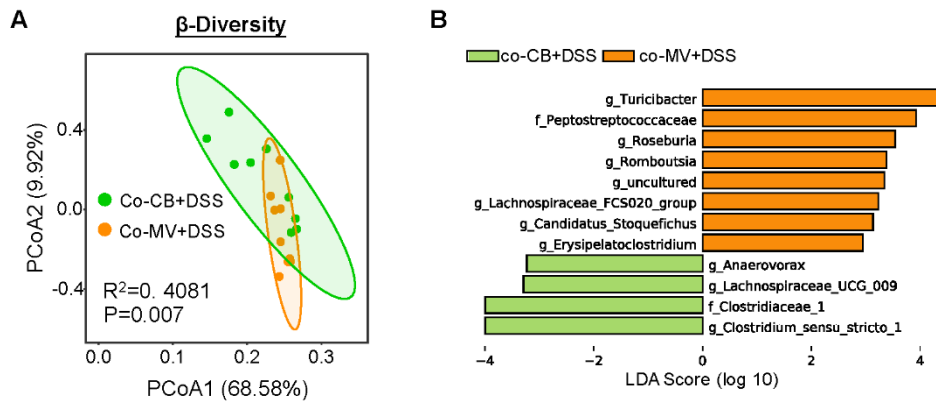
Supplementary Figure 2. Relative mRNA levels genes in the colon tissues of FFT and FMT experimental.

### Supplementary Figure 3



Supplementary Figure 3. (A) GO enrichment of pathway in co-CB+DSS vs DSS vs Control group, co-MV+DSS vs DSS vs Control group. (B) Volcano plot of differentially expressed transcripts with co-MV+DSS vs co-CB+DSS group. (C) KEGG enrichment of pathway in co-MV+DSS vs co-CB+DSS group. (D) Heatmap summary of the differentially expressed genes.

## Supplementary Figure 4



Supplementary Figure 4. (A) PCoA of gut microbiota in each group. (B) Analysis of differences in the microbial taxa shown by LEfSe.

Supplementary Table S1. Mice primer sequences in RT- PCR assays.

<b>Genes</b>	<b>Forward</b>	<b>Reverse</b>
mβ-Actin	AGGCCAGAGCAAGAGAGGTA	GGGGTGTGAAGGTCTCAAACA
mF4/80	GCTGTGAGATTGTGGAAGCA	CTGTACCCACATGGCTGATG
mCd11c	AAAATCTCCAACCCATGCTG	CACCACCAGGGTCTTCAAGT
mTnf-a	CCCACACCGTCAGCCGATTT	GTCTAAGTACTTGGGCAGATTGACC
mIL-6	CCACTTCACAAGTCGGAGGCTTA	GCAAGTGCATCATCGTTGTTTCATAC
mIL-1β	GGGCTCAAAGGAAAGAATC	TACCAGTTGGGGAACCTCTGC
mMcp1	AGGTCCCTGTCATGCTTCTGG	CTGCTGCTGGTGATCCTCTTG
mCcl5	TGCCCTCACCATCATCCTCACT	GGCGGTTCCCTTCGAGTGACA
mClaudin 1	GTTTGCAGAGACCCCATCAC	AGAAGCCAGGATGAAACCCA
mClaudin 2	GTC ATC GCC CAT CAG AAG AT	ACT GTT GGA CAG GGA ACC AG
mClaudin 3	GCT CTC AGA GTC CGT TGA CC	CTG CCC TTT CAG GTT AGC AG
mJAM-A	CACCTTCTCATCCAGTGGCATC	CTCCACAGCATCCATGT-GTGC
mZo-1	AAGAATATGGTCTTCGATTGGC	ATTTTCTGTACAGTACCATTTATCTTC
mMuc1	AGTTACGGTCAGGCTGCTCCGTGGT	ACCCTCCCGGAAAACCACAGTC
mMuc2	TGCTGCTGACGAGTGGTTGGTG	CGGACGCTTGGTGGTGAGGC
mMuc4	GGCCCGCTTGGACATTTGGTGA	AGTCTCCAGCCCGTTGAAGGT