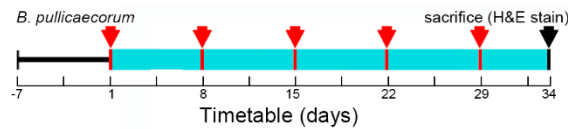
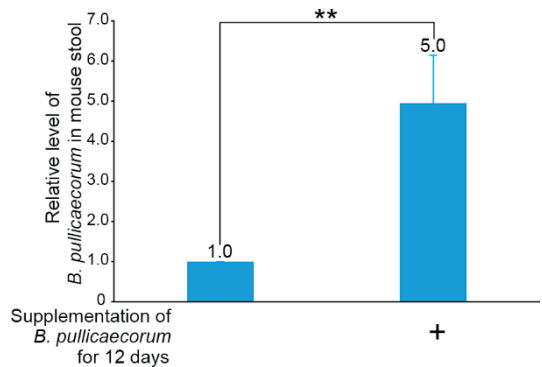


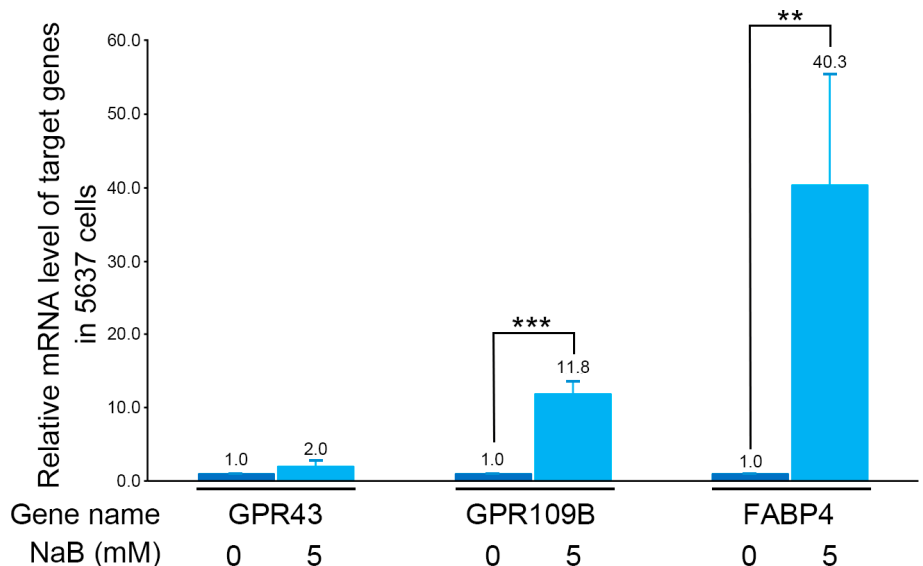
Supplemental Figures



Supplemental Figure S1. Timing of *B. pullicaecorum* administration. Red arrow, 1×10^7 *B. pullicaecorum* administration. Black arrow, sacrifice and colon sampling of H&E staining.

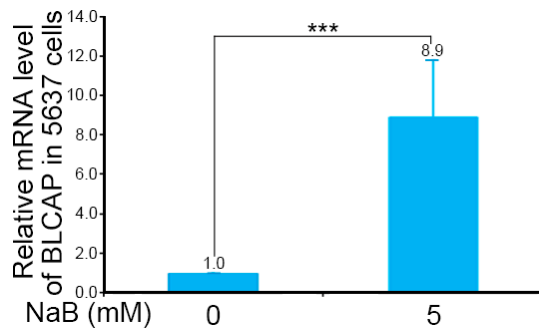


Supplemental Figure S2. Relative level of *B. pullicaecorum* in mouse stool. DNA was extracted from stools of mice without or with *B. pullicaecorum* supplementation for 12 days. The quantitative real-time PCR was performed with the Microbial DNA qPCR Assays (BP00080A; Qiagen GmbH) containing one pair of PCR primers and probe for *B. pullicaecorum*, according to the manufacturer's instructions. Each quantitation was normalized with the individual total bacteria level which was acquired by applying the SYBR green method and the universal bacterial primers (5'-GTGSTGCA YGGYYGTCGTCA-3' and 5'-ACGTCRTCCMCNCCTTCCTC-3'; S, C/G; Y, C/T; R, A/G; M, A/C; N, A/C/G/T), published by Walker *et al.* (Microbiome 2015; 3:26). Each experiment was repeated three times independently. ** $p < 0.01$.



Supplemental Figure S3. Relative mRNA level of butyrate-effected genes in 5637 cells. Expressions of GPR43, GPR109B, and FABP4 were determined by quantitative real-time PCR from 5637 cells with 5 mM treatment for 72 h. The concentration of NaB was referred to the report of Wang *et al.* (FASEB J. 2020 34(3):4266). Each experiment was repeated three times independently. NaB, sodium butyrate. ** $p < 0.01$.

0.01; *** $p < 0.001$.



Supplemental Figure S4. Relative mRNA level of BLCAP in 5637 cells.

Expressions of BLCAP were determined by quantitative real-time PCR from 5637 cells with 5 mM treatment for 72 h. The concentration of NaB was referred to the report of Wang *et al.* (FASEB J. 2020 34(3):4266). Each experiment was repeated three times independently. NaB, sodium butyrate. *** $p < 0.001$.