

**Supplementary Table 1.** The criteria of histology analysis for colonic damage

Colon damage score	0	1	2	3
Crypt architecture damage	None	Regeneration	Destruction	
Edema in sub-mucosa	None	Mild	Moderate	Severe
Inflammatory cells infiltration	None /rare	Lamina propria	Sub-mucosa	Muscle layer

**Supplementary Table 2.** Primers used for colon tissue qPCR

Target gene	Primer sequence(5'-3')
Gapdh	F: AGGTCGGTGTGAACGGATTTG
	R: GGGGTCGTTGATGGCAACA
TFF3	F: TAATGCTGTTGGTGGTCCTG
	R: CAGCCACGGTTGTTACTG
Muc2	F: TTTCAAGCACCCCTGTAACC
	R: AGGTCCTGGTGTGAACTG
Occludin	F: CCTCCAATGGCAAAGTGAAT
	R: CTCCCCACCTGTCGTGTAGT
ZO-1	F: CCACCTCTGTCCAGCTCTTC
	R: CACCGGAGTGATGGTTTTCT
Claudin-1	F: TATGTTGGTGCCAGCATTGT
	R: TCATGCCACACAGAGATA
TNF $\alpha$	F: CATCTTCTCAAATTCGAGTGACAA
	R: TGGGAGTAGACAAGGTACAACCC
IL-1 $\beta$	F: GAGCACCTTCTTTTCCTTCATCTT
	R: TCACACACCAGCAGGTTATCATC
IL-10	F: ATAACTGCACCCACTCCCA
	R: GGGCATCACTTCTACCAGGT

Reg3 $\gamma$	F: CACCTTGGATTGAGAGTCAAGAC R: AGGAATCGGCTATATTGCTGGT
Reg3 $\beta$	F: AGTGGGGTGATGAGCAACTA R: GGCAATGCGGTTCTGATACT
Lipocalin-2	F: CCAGGGCAGGTGGTTCGTTG R: GCCCCTGACCAGGATGGAAG

**Supplementary Table 3.** Primers used for fecal microbes DNA qPCR.

Target gene	Primer sequence(5'-3')
Firmicutes	F: GCTGCTAATACCGCATGATATGTC R: CAGACGCGAGTCCATCTCAGA
Bacteroidetes	F: GAGAGGAAGGTCCCCAC R: CGCTACTTGGCTGGTTCAG
Proteobacteria	F: TAGGCTTGACATTGATAGAATC R: CTTACGAAGGCAGTCTCCTTA
Actinobacteria	F: TGTAGCGGTGGAATGCGC R: AATTAAGCCACATGCTCCGCT
Lactobacillus	F: ACGGGAGGCAGCAGTAGGGA R: AGCCGTGACTTTCTGGTTGATT
Bifidobacterium	F: GATTCTGGCTCAGGATGAACGC R: CTGATAGGACGCGACCCCAT
Fusobacterium nucleatum	F: TGAGAGGGTGAACGGCCACAAG R: GCGGCTGCTGGCACGTATTTAG
Enterococcus faecium	F: GAAAGGACACGATTCTACTTGCT R: ATGAACGGAGCCCATCAAACC
16S rDNA	F: GCAACGAGCGCAACCC R: ACGGGCGGTGTGTAC