Supplementary Material

Quantitative real-time PCR

RNA was isolated from colon tissues or cells by TRIzol (Invitrogen) and reverse-transcribed into cDNA by PrimeScript RT Master Mix (#A360, TaKaRa). qPCR was performed by Quantitative RT-PCR (ABI-7300). The relative expression of target gene was calculated using the $2^{\Delta}C_{(t)}$ method. Fold change of target gene expression were calculated by normalization to control group. The primer sequences are shown in Tables S2 and S3.

References

[1] Chen J, Jayachandran M, Zhang W, Chen L, Du B, Yu Z and Xu B. Dietary supplementation with sea bass (lateolabrax maculatus) ameliorates ulcerative colitis and inflammation in macrophages through inhibiting toll-like receptor 4-linked pathways. Int J Mol Sci 2019; 20: 2907.

[2] Sui H, Zhang L, Gu K, Chai N, Ji Q, Zhou L, Wang Y, Ren J, Yang L, Zhang B, Hu J and Li Q. YYFZBJS ameliorates colorectal cancer progression in *Apc*$^{Min/+}$ mice by remodeling gut microbiota and inhibiting regulatory T-cell generation. Cell Commun Signal 2020; 18: 113.

Table S1. DAI score in C57 mice (at the end of experiment)

Group	Symptom score			Disease activity index (DAI)
	weight loss	stool consistency	occult blood	
Control	2.625	2.75	2.25	2.54
YYFZBJS-L	2.5	2.25	1.5	2.08
YYFZBJS-M	2.75	2	0.75	1.83
YYFZBJS-H	3	1.25	0.5	1.58
Aspirin	2.875	1.25	0.5	1.54

Symptom score including weight loss score, stool consistency score and occult blood score. The evaluation criterion of Symptom score was described as previous [1]. DAI = (weight loss score + stool consistency score + occult blood score)/3.

Table S2. PCR primers

gene	Forward primer	Reverse primer
Clostridium butyricum	CCTCCTTTCTATGGAGAAATCTAGCA	TGTAGCTTGACCTTTTTAAGTTTTGA
Akkermansia	CAGCACGTGAAGGTGGGGAC	CCTTGCGGTTGGCTTCAG
Enterotoxigenic B. fragilis	GGGACAAGGATTCTACCAGCTTTATA	ATTCGGCAATCTCATTCATCATT
Lactobacillus rhamnosus	TGCATCTTGATTTAATTTTG	CCCACTGC TGCCTCCCGTAGGAGT

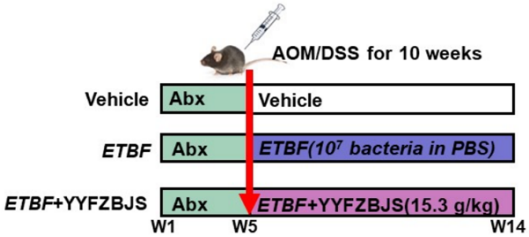

Figure S1. Experimental design indicating the timing of the intragastric administration and organization of groups. Mice were treated with Abx from W1 (age at week 4) to W4, then injected with AOM (12.5 mg/kg, i.p.) and provided drinking water for 1 week, and three cycles with DSS and drinking water for 3 weeks as described in the Methods section. During the treatment, Vehicle, ETBF and YYFZBJS were oral administration with 10^8 CFU/mice. The intragastric administration of YYFZBJS was taken at the doses of 15.3 g/kg with the high dose according to HED (human equivalent dose) as previous [2].

Table S3. PCR primers

gene	Forward primer	Reverse primer
CD30L	AAGTTTGCCTGGGTCCTCTC	CCACTCCCAATCATGTGGCT
CD54	AGTCGTCCGCTTCCGCTACC	AGGGTGAGGTCCTTGCCTACTTG
IL-1α	CATTGGCGTTTGAGTCAGCA	CATGGAGTGGGCCATAGCTT
CXCL-1	AACATGCCAGCCACTGTGAT	GCCCCTTTGTTCTAAGCCAG
GM-CSF	ACCCGCTCACCCATCACTGTC	GGCATGTCATCCAGGAGGTTCAG
CCL12	AGCTACCACCATCAGTCCTCAGG	ACACTGGCTGCTTGTGATTCTCC
IL-13	CTCTTGCTTGCCTTGGTGGTCTC	TTGTGTGATGTTGCTCAGCTCCTC
Leptin	GGTTCCTGTGGCTTTGGTCCTATC	ACCCTCTGCTTGGCGGATACC
TIMP-1	AGGATTCAAGGCTGTGGGAAATGC	CTTCACTGCGGTTCTGGGACTTG
IL-10	TGAAAACAAGAGCAAGGCCG	GCCACCCTGATGTCTCAGTT
IL-4	TCTTTGCTGCCTCCAAGAACA	GTTCCTGTCGAGCCGTTTCA
IL-6	CCACCGGGAACGAAAGAGAA	TCTTCTCCTGGGGGTACTGG
IFNα	CCTGATGAATGCGGACTCCA	TAGCAGGGGTGAGAGTCTTTG
TNFα	CATCTTCTCAAAATTCGAGTGACAA	TGGGAGTAGACAAGGTACAACCC
MMP1	AGAAAGAAGACAAAGGCAAGTTGA	TTCCCAGTCACTTTCAGCCC
MMP9	TCTATGGTCCTCGCCCTGAA	CATCGTCCACCGGACTCAAA
Bax	CATGGGCTGGACATTGGACT	AAAGTAGGAGAGGAGGCCGT
BCL-2	CTTTGAGTTCGGTGGGGTCA	GGGCCGTACAGTTCCACAAA
PTEN	GGAAAGGGACGGACTGGTGTAATG	CGCCTCTGACTGGGAATTGTGAC
STAT3	AATCTCAACTTCAGACCCGCCAAC	GCTCCACGATCCTCTCCTCCAG
Wnt3a	TGCCGATGCCAGGGAGAACC	CCAGCAGGTCTTCACTTCACAGC
β-catenin	TGCCGTTCGCCTTCATTATGGAC	TGGGCAAAGGGCAAGGTTTCG
GAPDH	TGTGTCCGTCGTGGATCTGA	CCTGCTTCACCACCTTCTTGA