

**Supplementary Table 1. Scoring criteria for disease activity index (DAI)\***

<b>Score</b>	<b>Weight loss (%)</b>	<b>Stool consistency</b>	<b>Occult/gross bleeding</b>
0	(-)	Normal	Normal
1	1-5	Loose	
2	6-10	Loose	Guica(+)
3	11-15	Diarrhea	
4	>15	Diarrhea	Gross bleeding

\*DAI=score (weight loss + stool consistency + bleeding) /3

\*Normal stools well formed pellets; loose pasty stools which do not stick to the anus; diarrhea liquid stools that stick to the anus.

**Supplementary Table 2. Histological grading of colitis**

<b>Feature graded</b>	<b>Grade</b>	<b>Description</b>
Inflammatory cell infiltration	0	Occasional inflammatory cells in the lamina propria
	1	Increased infiltrate in the lamina propria predominantly at the base of crypts
	2	Confluence of inflammatory infiltrate extending into the mucosa
	3	Transmural extension of infiltrate
Inflammation extent	0	None
	1	Mucosa
	2	Mucosa and submucosa
	3	Transmural
Crypt damage	0	None
	1	Basal 1/3 damaged
	2	Basal 2/3 damaged
	3	Only surface epithelium intact
	4	Entire crypt and epithelium lost
Percent involvement	1	1-25%
	2	26-50%
	3	51-75%
	4	76-100%

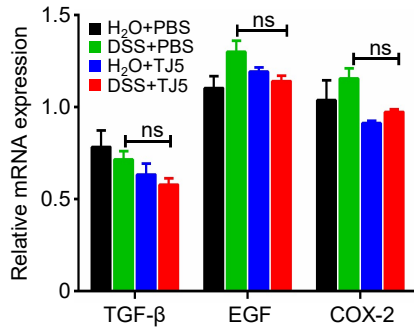
**Supplementary Table 3. Primers used for RT-PCR**

<b>Primer</b>	<b>Sequence</b>
IL-1 $\beta$	Forward: 5'-ACTCCTTAGTCCTCGGCCA-3' Reverse: 5'-TGGTTTCTTGTGACCCTGAGC-3'
TNF- $\alpha$	Forward: 5'-CAGGCGGTGCCTATGTCTC-3' Reverse: 5'-CGATCACCCCGAAGTTCAGTAG-3'
IFN- $\gamma$	Forward: 5'-GCCACGGCACAGTCATTGA-3' Reverse: 5'-TGCTGATGGCCTGATTGTCTT-3'
MyD88	Forward: 5'-TCATGTTCTCCATACCCTTGGT-3' Reverse: 5'-AAACTGCGAGTGGGGTCAG-3'
ZO-1	Forward: 5'-GCCGCTAAGAGCACAGCAA-3' Reverse: 5'-GCCCTCCTTTTAACACATCAGA-3'
Claudin-5	Forward: 5'-GCAAGGTGTATGAATCTGTGCT-3' Reverse: 5'-GTCAAGGTAACAAAGAGTGCCA-3'
Occludin	Forward: 5'-TGAAAGTCCACCTCCTTACAGA-3' Reverse: 5'-CCGGATAAAAAGAGTACGCTGG-3'
TGF- $\beta$	Forward: 5'-CCACCTGCAAGACCATCGAC-3' Reverse: 5'-CTGGCGAGCCTTAGTTTGGAC-3'
EGF	Forward: 5'-TTAACGGGACAGGACTAGAGAAA-3' Reverse: 5'-AAGGAACTTAGAAGAAGTCCGGGA-3'
COX-2	Forward: 5'-CCACCTCTGCGATGCTCTTC-3' Reverse: 5'-ACATTCCCCACGGTTTTGAC-3'
IL-17	Forward: 5'-TTTAACTCCCTTGGCGCAAAA-3' Reverse: 5'-CTTTCCCTCCGCATTGACAC-3'
IRF7	Forward: 5'-GCGTACCCTGGAAGCATTTC-3' Reverse: 5'-GCACAGCGGAAGTTGGTCT-3'
CCL2	Forward: 5'-TAAAAACCTGGATCGGAACCAAA-3' Reverse: 5'-GCATTAGCTTCAGATTTACGGGT-3'
IFI16	Forward: 5'-AAAGGAGCCTGCTAAGGAAGA-3' Reverse: 5'-CGTTCACATCAGAGACACAGGA-3'
GAPDH	Forward: 5'-AGGTCGGTGTGAACGGATTTG-3' Reverse: 5'-GGGGTCGTTGATGGCAACA-3'

**Supplementary Table 4. Primers for the V3-V4 region of the 16S rRNA gene**

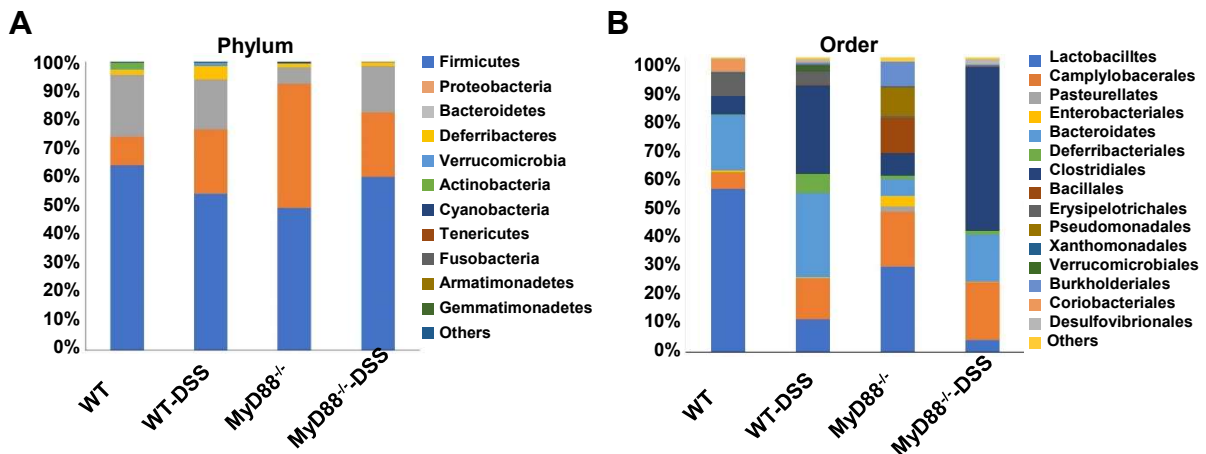
<b>Primier</b>	<b>Sequence</b>
338F	Forward: 5'-ACTCCTACGGGAGGCAGCAG-3'
806R	Reverse: 5'-GGACTACHVGGGTWTCTAAT-3'

## Supplementary Figure 1



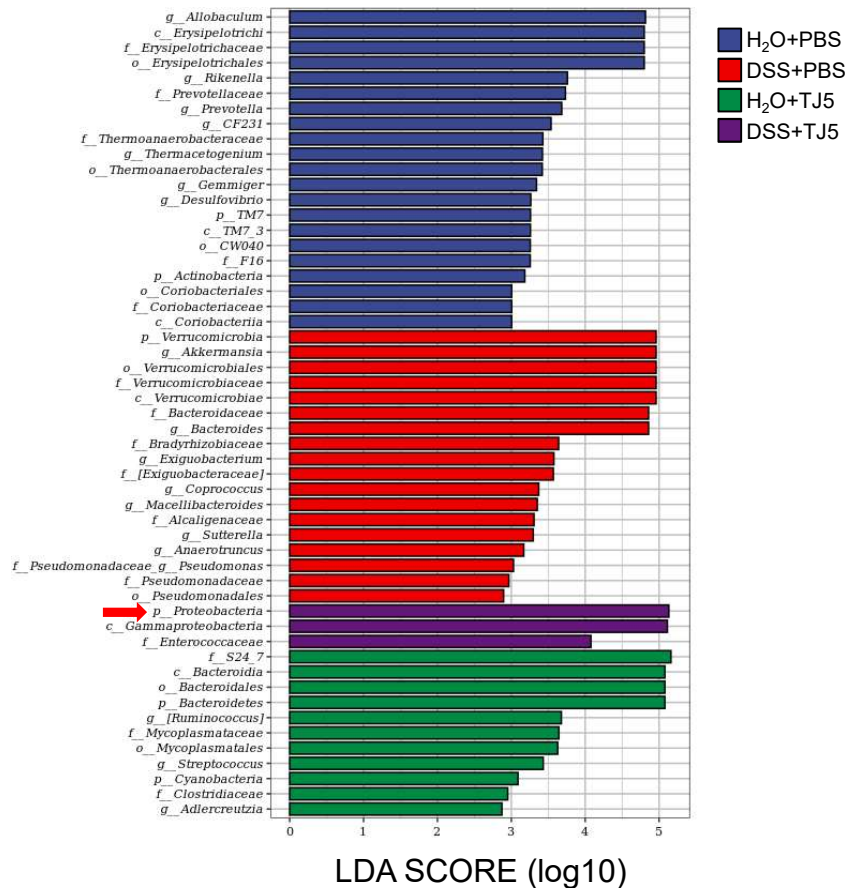
**Supplementary Figure 1. MyD88 inhibition failed to interfere with the intestinal epithelial reconstruction ability.** Relative mRNA expression levels of TGF-β1, EGF, and COX-2 in colon tissue of control and TJ5-treated mice by RT-PCR analysis. Data were represented as mean ± SEM, \* $p < 0.05$ , ns: not significant. TJ5: TJ-M2010-5.

## Supplementary Figure 2



**Supplementary Figure 2. Effects of MyD88 deficiency on the intestinal microflora in mice.** Average relative abundances of taxa at the phylum level (A) and order level (B) among four groups.

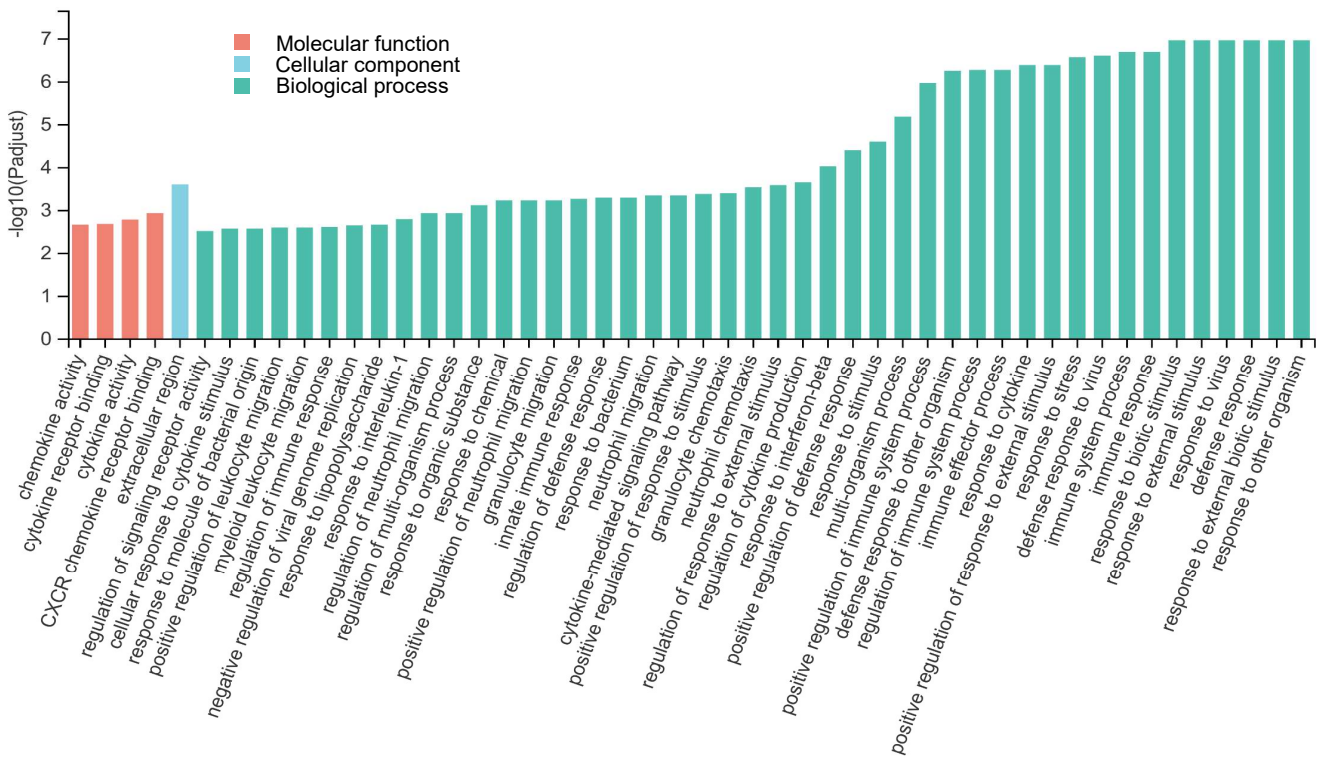
## Supplementary Figure 3



**Supplementary Figure 3.** Significant changes in functional profiles were suggested based on phylogenetic investigations of communities through LefSe analyses (LDA-score >2.5). The dominating taxa in DSS+TJ5 group were enriched in *Proteobacteria* at the phylum level.

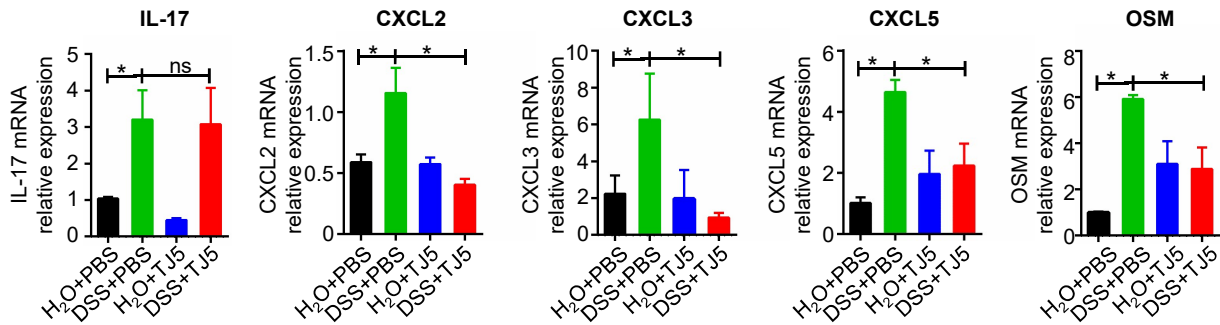
# Supplementary Figure 4

## Enriched GO Terms (DSS+TJ5 vs DSS+PBS)



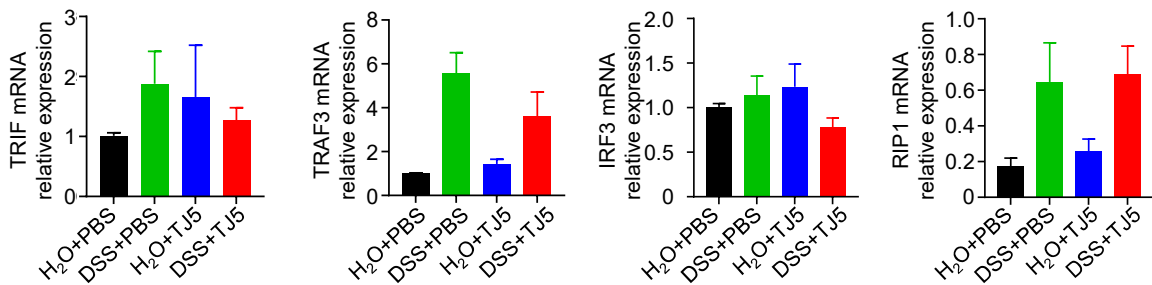
**Supplementary Figure 4.** The differentially expressed genes of DSS+TJ5 group compare with DSS+PBS group were analyzed by GO.

## Supplementary Figure 5



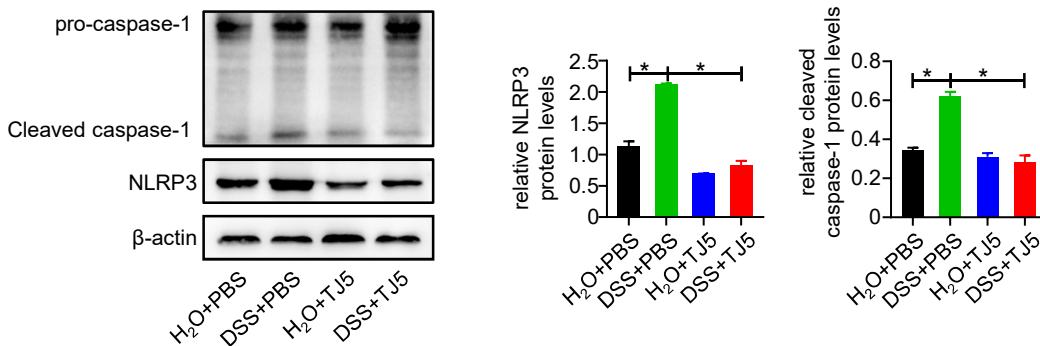
**Supplementary Figure 5.** The differentially expressed genes (DSS+PBS group vs. DSS+TJ5 group) associated with NOD-like receptor signaling pathway were identified by RT-PCR. Data were represented as mean  $\pm$  SEM, \* $p$ <0.05, ns: not significant. TJ5: TJ-M2010-5.

## Supplementary Figure 6



**Supplementary Figure 6.** No significant difference was detected in the key genes involved in the MyD88-independent signaling pathway by RT-PCR. TJ5: TJ-M2010-5.

## Supplementary Figure 7



**Supplementary Figure 7.** NLRP3 signaling activation was suppressed by TJ5 administration determined by western blot analysis. Data were represented as mean  $\pm$  SEM, \* $p$ <0.05, ns: not significant. TJ5: TJ-M2010-5.