

Fig. S1

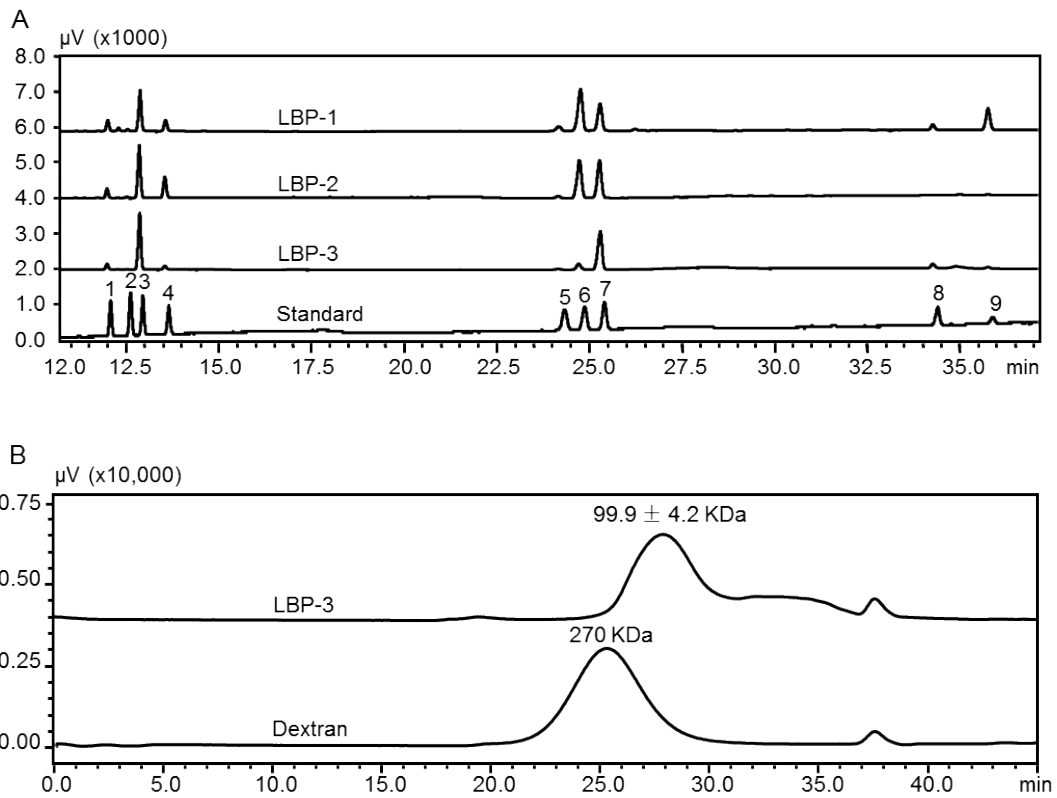


Fig. S2

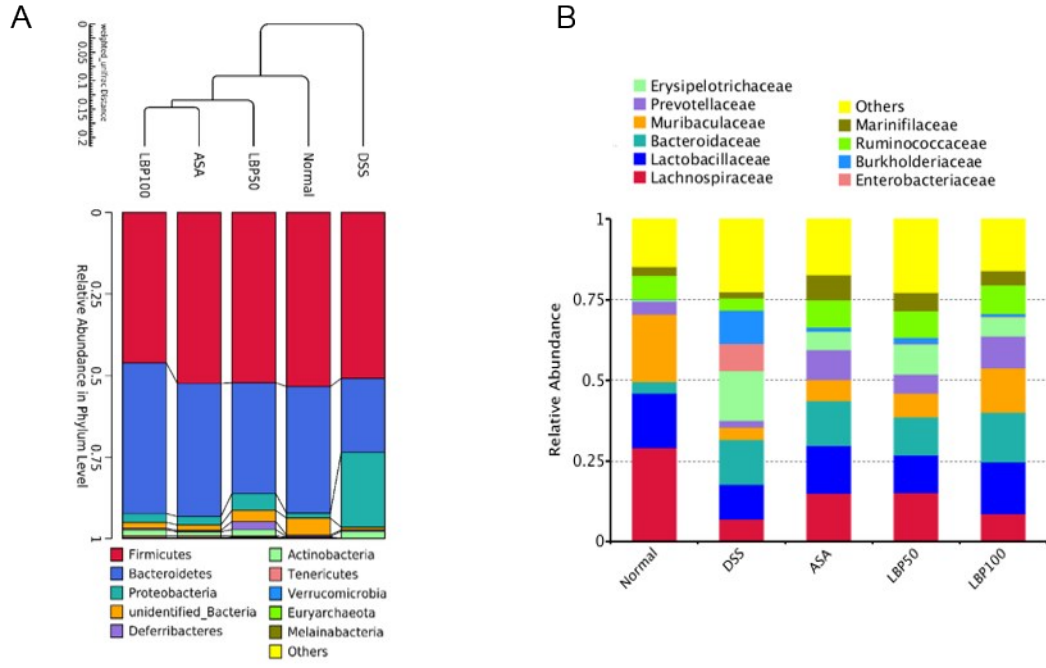


Fig. S3

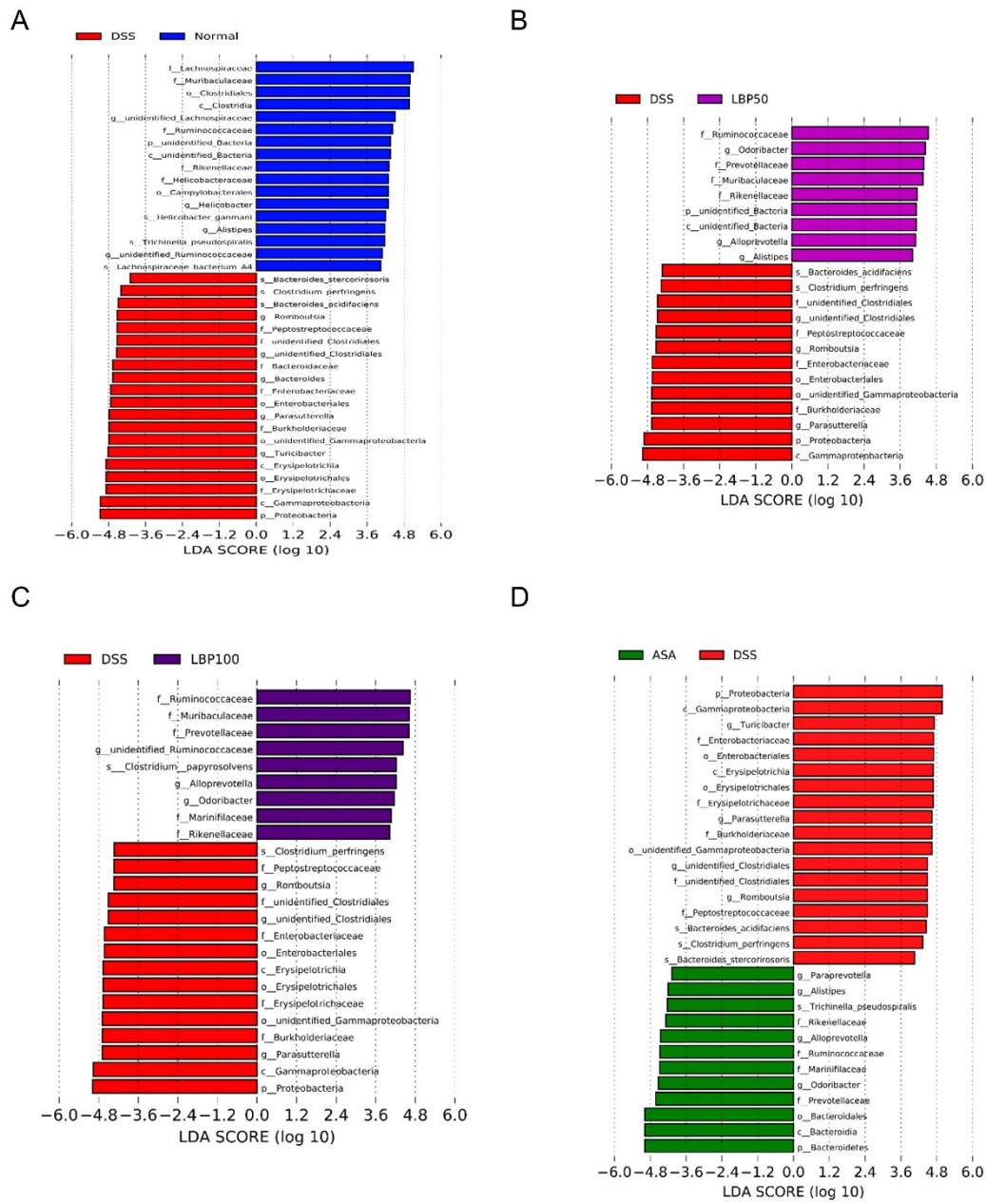


Fig. S4

Fig. S1 Extraction of polysaccharides from *Lycium barbarum*.

Fig. S2 Chemical characterization of LBPs. Monosaccharide composition of LBP-1, LBP-2 and LBP-3 (A), and molecular weight of LBP-3 (B). Peaks: 1-rhamnose, 2-fucose, 3-arabinose, 4-xylose, 5-mannose, 6-glucose, 7-galactose, 8-glucuronic acid, 9-galacturonic acid (B).

Fig. S3 The relative quantitation of domain bacteria at phylum (A) and family (B).

Fig. S4 LEfSe analysis of intestinal microbial community composition indicated the predominant microbiota between Normal and DSS groups (A), LBP50 and DSS groups (B), LBP100 and DSS groups (C), and ASA and DSS groups (D). (Log₁₀ LDA score threshold of 4).

Table S1 The detailed criteria for DAI scoring

Score	Weight loss rate	Stool consistency	Hematochezia status
0	0%	Normal	Normal
1	0.1%-5%	Loose with regular shape	small amount of blood in some stool (+)
2	5%-10%	Loose with less regular shape, pasty	blood in stool regularly seen (++)
3	10%-20%	Diarrhea with loose shape	blood in all stool (++++)
4	>20%	Diarrhea without shape	blood in all stool (++++)

Table S2 Sequences of primers used in this study

Gene	Primer sequences
<i>β-actin</i>	F: 5'- TCAGCAAGCAGGAGTACGATG -3' R: 5'- AACGCAGCTCAGTAACAGTCC -3'
<i>ZO-1</i>	F: 5'- GGGGCCTACACTGATCAAGA -3' R: 5'- TGGAGATGAGGCTTCTGCT -3'
<i>Occludin</i>	F: 5'- ACGGACCCTGACCACTATGA -3' R: 5'- TCAGCAGCAGCCATGTACTC -3'
<i>Claudin1</i>	F: 5'- AGATACAGTGCAAAGTCTTCGA -3' R: 5'- CAGGATGCCAATTACCATCAAG -3'
<i>MUC2</i>	F: 5'- GGTGTTACCTGCTCCAAGGC -3' R: 5'- CATGGTGGCCCTCTTCCAAC -3'
<i>TNF-α</i>	F: 5'- GTGCCAGCCGATGGGTTGTAC -3' R: 5'- TGACGGCAGAGAGGAGGTTGAC -3'
<i>IL-1β</i>	F: 5'- TTCATCTTTGAAGAAGAGCCCAT -3' R: 5'- TCGGAGCCTGTAGTGCAGTT -3'
<i>iNOS</i>	F: 5'- GGCAGAATGAGAAGCTGAGG-3' R: 5'- GAAGGCGTAGCTGAACAAGG -3'
<i>COX-2</i>	F: 5'- CATGAGCCGTCCCCTCACTAGG -3' R: 5'- TGGTCGGTTTGATGCTACTGTTGC -3'

Table S3 Chemical composition and yield of CLBP, LBP-1, LBP-2 and LBP-3

	CLBP	LBP-1	LBP-2	LBP-3
Sugar content	67.62 ± 0.58 ^b	36.11 ± 2.14 ^d	45.47 ± 1.57 ^c	76.51 ± 0.57 ^a
Protein content	43.21 ± 1.15 ^b	47.03 ± 0.11 ^a	35.97 ± 1.22 ^c	27.63 ± 0.75 ^d
Uronic acid content	13.89 ± 0.49 ^b	19.38 ± 1.04 ^a	12.58 ± 0.90 ^b	8.96 ± 0.99 ^c
Yield (%)	0.65 ± 0.13	0.055 ± 0.05	0.058 ± 0.04	0.257 ± 0.05

Table S4 Monosaccharide composition of LBP-1, LBP-2 and LBP-3

Sample	Rha	Ara	Xyl	Man	Glc	Gal	GlcA	GalA
LBP-1	0.25	1.00	0.38	0.19	1.42	0.81	0.23	2.28
LBP-2	0.16	1.00	0.54	0.07	1.00	0.85	trace	trace
LBP-3	0.08	1.00	0.08	0.03	0.14	0.82	0.13	0.12

Rha-rhamnose, Ara-arabinose, Xyl-xylose, Man-mannose, Glc-glucose, Gal-galactose, GlcA-glucuronic acid, GalA-galacturonic acid

Table S5 Diet composition

Nutrient	Content (g/kg)
Moisture	100
Protein	201.8
Fat	46
Fibre	49
Ash	66
Ca	11.4
P	9.1

Feed ingredients: corn, soybean meal, wheat bran, wheat flour, fish meal, salt, calcium bicarbonate, vitamin mix, mineral mix, amino acid, etc.