

Supplementary material

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3 **Oat β -glucan alleviates DSS-induced colitis via regulating gut microbiota**
4 **metabolism in mice**

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16 **Table S1. Criteria for scoring disease activity index (DAI)**

Score	Weight loss (%)	Stool consistency	Blood in stool
0	<1	normal	negative
1	1-5		
2	6-10	loose	visible blood stool
3	11-15		
4	>15	diarrhea	gross bleeding

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19 **Table S2. Detailed information for primer sequence**

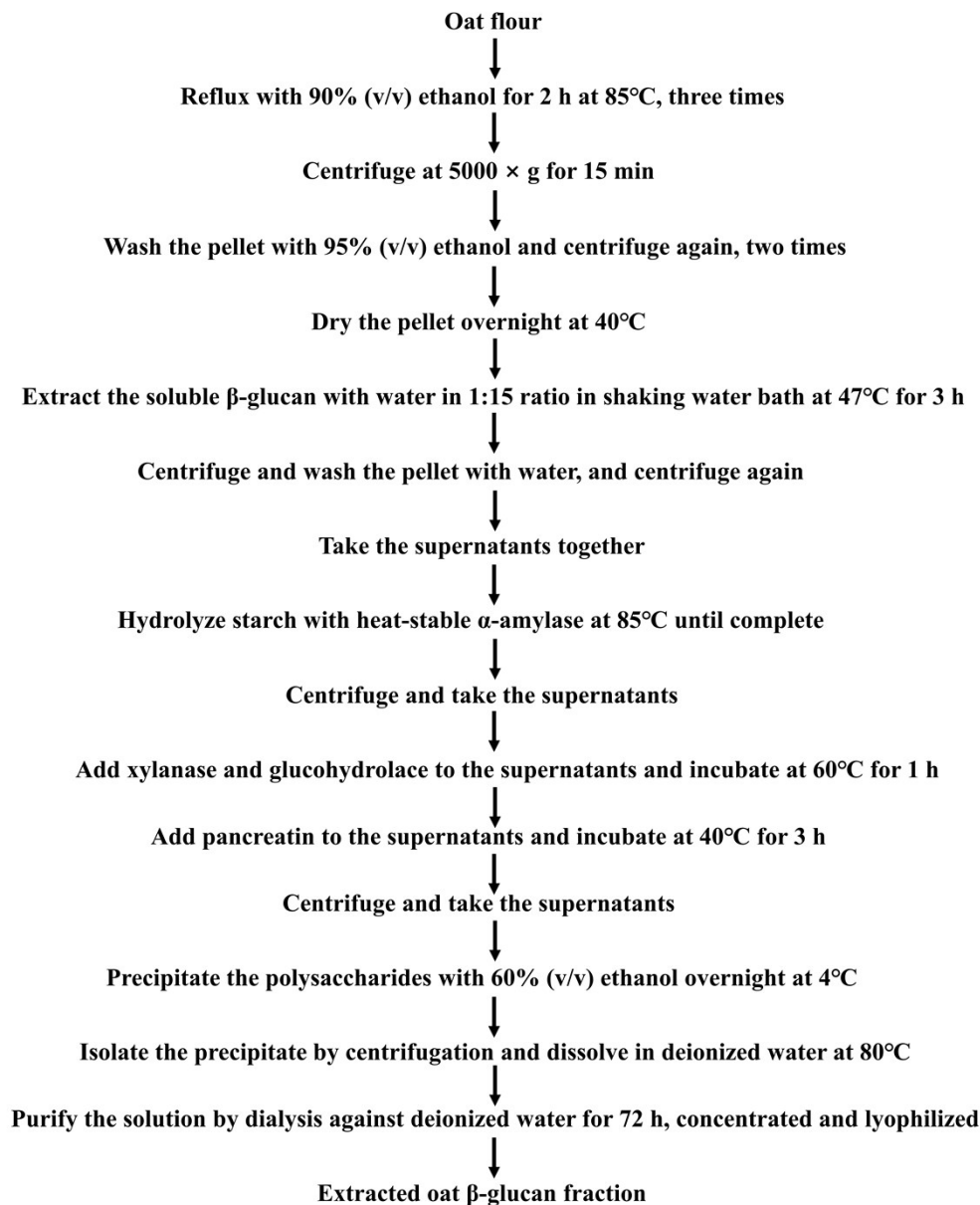
Gene	Sense sequence (5'→ 3')	Antisense sequence (5'→ 3')
TNF- α	GGTGCCTATGTCTCAGCCTCTT	GCCATAGAAGCTGATGAGAGGGAG
IFN- γ	TCAAGTGGCATAGATGTGGAAGAA	TGGCTCTGCAGGATTTTCATG
IL-6	TACCACTTCACAAGTCGGAGGC	CTGCAAGTGCATCATCGTTGTTC
GAPDH	ACATCATCCCTGCATCCACT	GTCCTCAGTGTAGCCCAAG
ZO-1	CTTCTCTTGCTGGCCCTAAAC	TGGCTTCACTTGAGGTTTCTG
Occludin	CACACTTGCTTGGGACAGAG	TAGCCATAGCCTCCATAGCC
Claudin-1	GATGTGGATGGCTGTCATTG	CCTGGCCAAATTCATACCTG
Claudin-4	TGCACCAACTGCGTGGAGGATGAG	ACCACCAGCGGGTTGTAGAAGTC

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Note: TNF- α , tumor necrosis factor- α ; IFN- γ , interferon- γ ; IL-6, interleukin-6; GAPDH, glyceraldehyde-3-phosphate dehydrogenase; ZO-1, zonula occludens-1.

22 **Table S3. The instrumental conditions for untargeted metabolomics analysis**

Instrument conditions	WATERS MALDI SYNAPT Q-TOF MS
Spectrum Column	WATERS BEH C18 column (2.1×150 mm, 1.7 μm) Column temperature: 45 °C
Injection Volume	5 μL
Mass Parameters	Ion Source <i>Capillary: 3.5 kV</i> <i>Cone: 30 V</i> <i>Source Block Temperature: 100 °C</i> <i>Desolvation Temperature: 400 °C</i> <i>Desolvation Gas Flow: 700 L/h</i> <i>Cone Gas Flow: 50 L/h</i> <i>Collision Energy: 6/20 V</i> <i>Deterctor Voltage: 1800 V</i>



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26 **Fig. S1.** Preparation workflow of oat β -glucan from oat bran was based on the most
 27 common method of aqueous extraction in previous report with some modifications.
 28 Xylanase and glucohydrolase were added to remove other polysaccharides. Pancreatin
 29 including lipase, amylase, and trypsin was used to hydrolyze fat, starch, and protein in
 30 oat bran powder.

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