

Supplementary Information

Soluble dietary fiber from solid-state fermentation of wheat bran by fungus

***Cordyceps cicadae* and their effects on colitis mice**

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Table S1 The evaluation standards of disease activity index.

| Score | Weight Loss | Fecal viscosity | Fecal bleeding |
|-------|-------------|-----------------|--------------------------------|
| 0 | 0 | Normal | Normal |
| 1 | 1-5% | Slightly soft | Occult blood and weak positive |
| 2 | 5-10% | Soft | Occult blood and positive |
| 3 | 10-20% | Mucoid stool | Visible blood |
| 4 | >20% | Watery stool | Perianal hemorrhage |

Table S2 The standards of histopathological evaluation.

| Score | Inflammatory Cell Infiltration | Epithelial Cell Destruction | Crypt Loss |
|-------|-----------------------------------|--------------------------------|--------------------|
| 0 | Normal | Normal | Normal |
| 1 | Local infiltration | Minor damage | Partial absence |
| 2 | Moderate infiltration | Moderate damage | Large area missing |
| 4 | Severe infiltration | Serious damage | No crypt structure |

Table S3 The chemical properties of UFSDF and FSDF.

| Main components | UFSDF | FSDF |
|--------------------------------|------------|------------|
| Total sugar (%) | 58.56±1.59 | 63.83±1.52 |
| Reducing sugar (%) | 0.51±0.21 | 2.21±0.22 |
| Protein (%) | 8.49±0.60 | 3.06±0.15 |
| Uronic acid (%) | 4.10±0.27 | 10.30±0.37 |
| Monosaccharide composition (%) | | |
| Mannose | 1.45 | 31.93 |
| Rhamnose | 1.68 | 0.70 |
| Glucuronic acid | 1.04 | 9.50 |
| Galacturonic acid | 0.90 | 0.70 |
| Glucose | 34.33 | 17.94 |
| Galactose | 3.23 | 35.55 |
| Xylose | 27.26 | - |
| Arabinose | 30.26 | 3.35 |

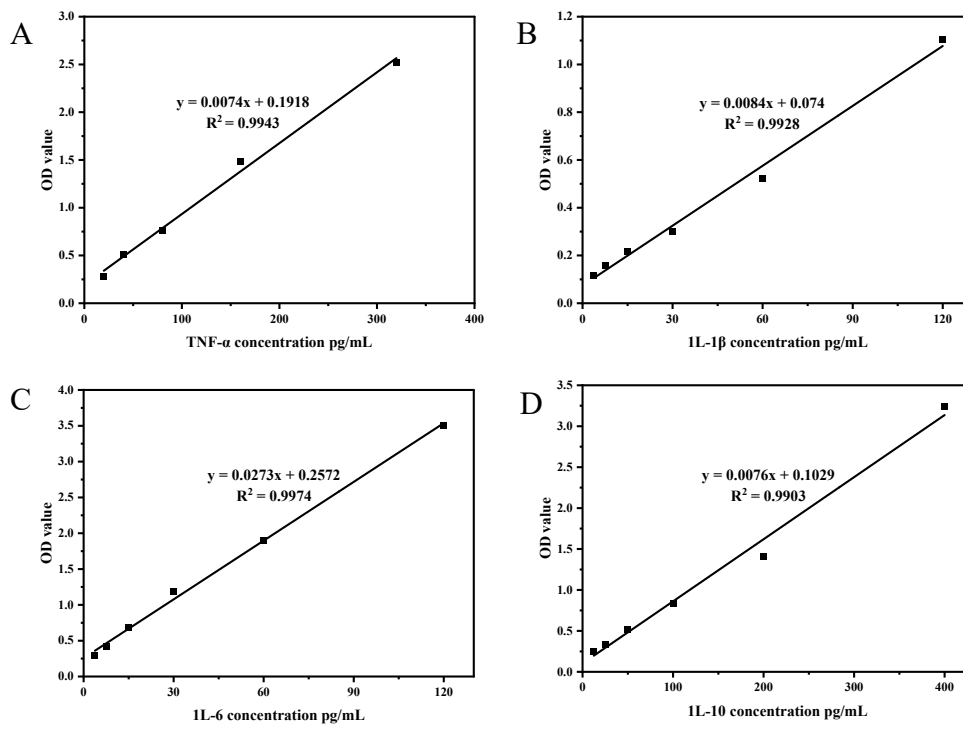


Fig. S1. Standard curves for different inflammatory cytokines (A) TNF- α , (B) IL-1 β , (C) IL-6, (D) IL-10.

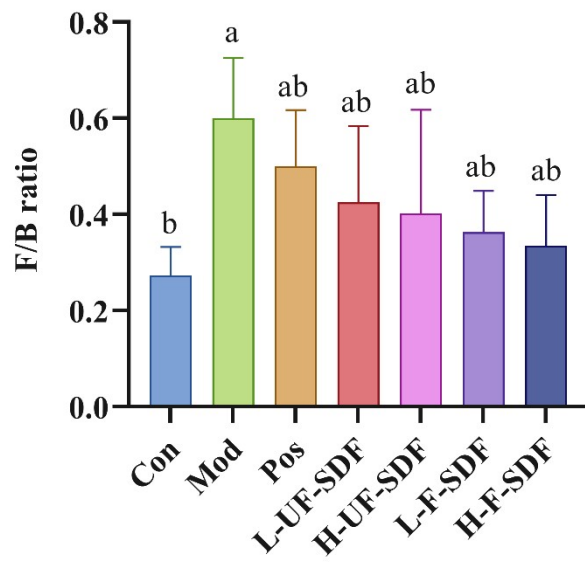


Fig. S2. The *Firmicutes/Bacteroidetes* (F/B) ratio

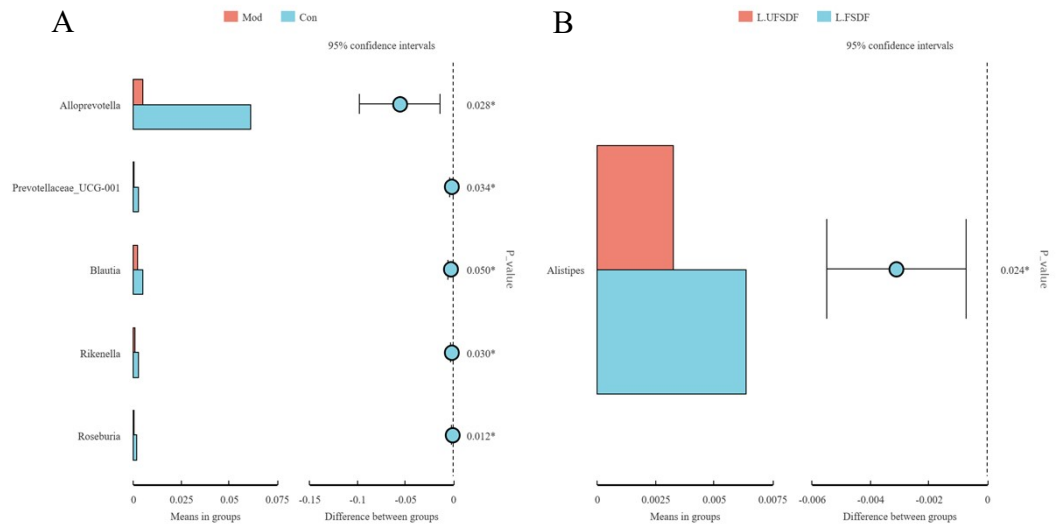


Fig. S3. The T-test analysis-identified bacteria with significant changes at the genus level: (A) Con versus Mod group and (B) L-UFSDF versus L-FSDF group (n=3).

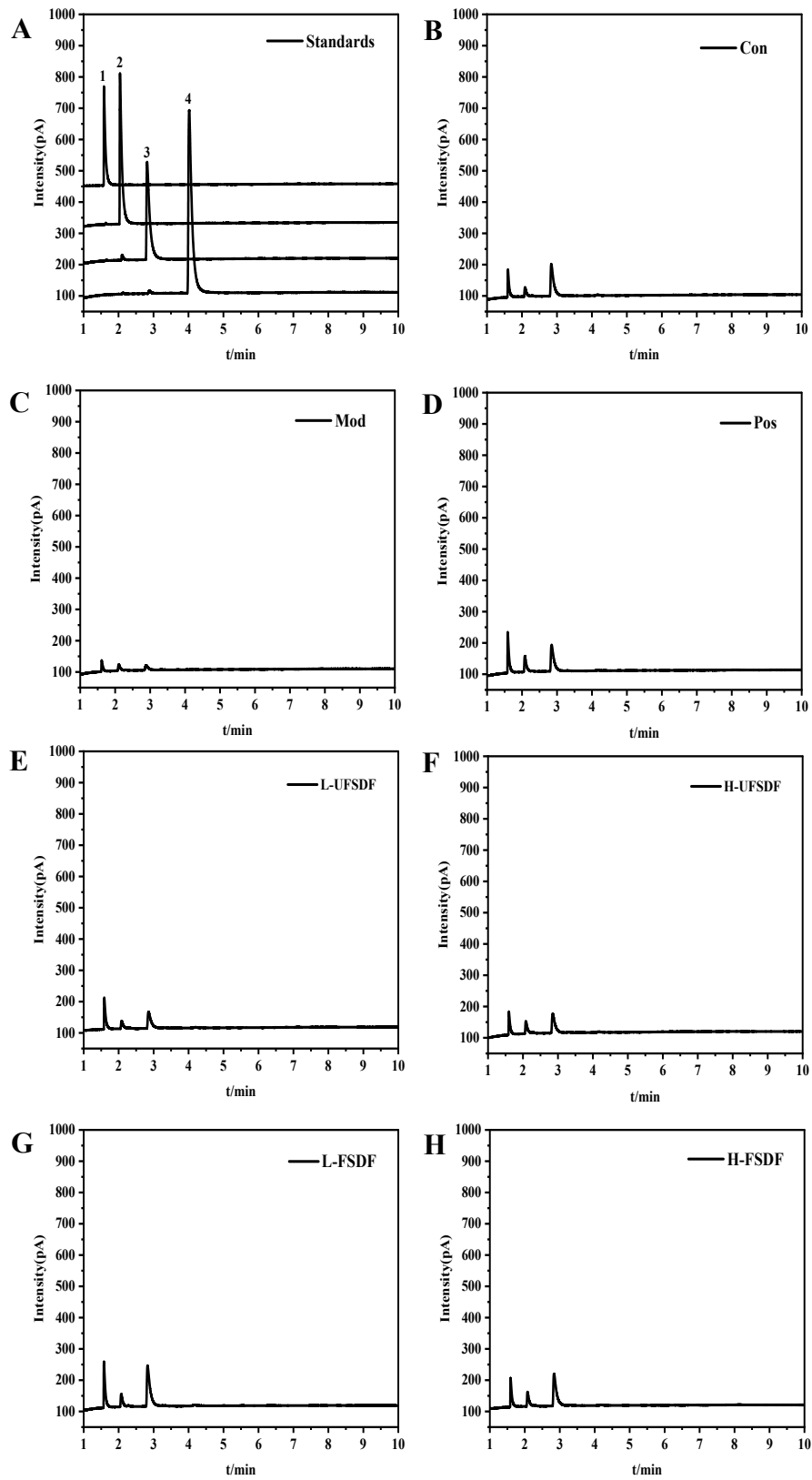


Fig. S4. Gas chromatograms of standards (A), Con group (B), Mod group (C) Pos group (D) L-UFSDf group (E) H-UFSDf group (F) L-FSDf group (G) H-FSDf

group (H). Peak identification: 1, acetic acid; 2, propionic acid; 3, butyric acid; 4, valeric acid.