## Supplementary Materials

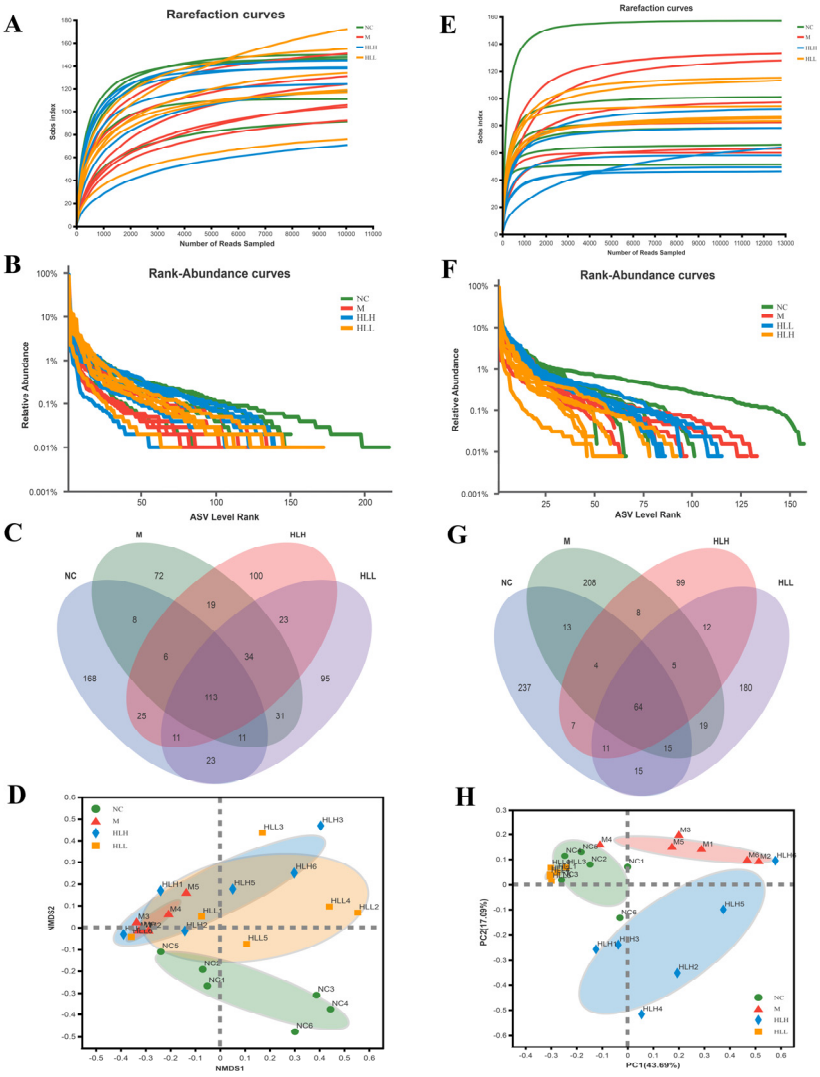


**Figure S1.** Bacterial and fungi community distribution. (A) Rarefaction curves based on Sobs index. (B) The grading curves, (C) Venn diagram analysis, (D) NMDS analysis based on Bray-Curtis algorithm of bacterial composition. (E) Rarefaction curves based on Sobs index. (F) The grading curves. (G) Venn diagram analysis. (H) PCA analysis of fungi composition.

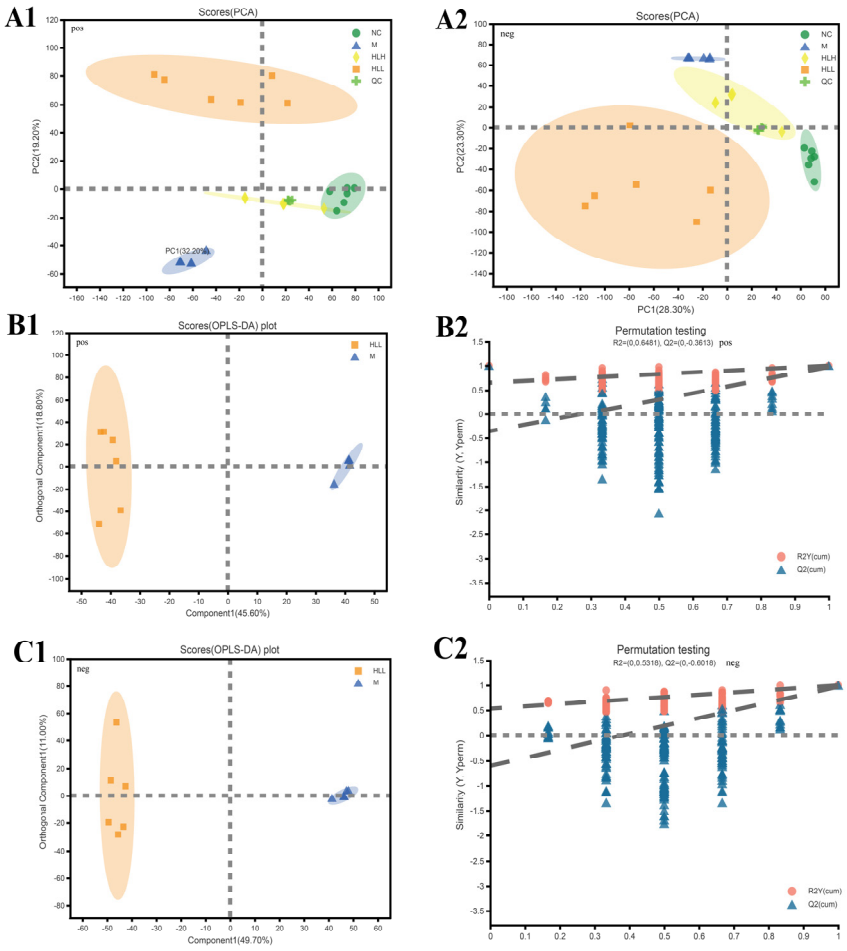


**Figure S2.** The effects of 10^2 spores/mL *E. amstelodami* H-1 (HLL) intervention on gut metabolism in colitis mice. PCA analysis of metabolome profiles (A1) positive and (A2) negative ion mode among the four groups of samples. OPLS-DA plot of metabolome profiles (B1, pos; C1, neg) and permutation testing (B2, pos; C2, neg) in HLL *vs* M (model).

**Table S1.** The standard scoring system of disease activity index (DAI).

| Score | Body weight loss | Feces status | Bloody stools |
|---|---|---|---|
| 0 | no loss | normal | no blood (no color within 2 min) |
| 1 | 0~10% | loose stool (not attached to the anus) | presence (Within 1~2 min, fuchsia) |
| 2 | 10%~15% | loose stool (attach to the anus) | presence (Within 1 min, fuchsia) |
| 3 | 15%~20% | diarrhea (liquid) | presence (Within 1 min, fuchsia) |
| 4 | >20% | severe diarrhea | gross blood (Instantly purplish blue) |

**Table S2.** Sequences of Mouse Primers used for RT-PCR Analysis.

| Primers | F | R |
|---|---|---|
| IL-1β | GCAACTGTTCCTGAACTCAACT | ATCTTTTGGGGTCCGTCAACT |
| IL-6 | TAGTCCTTCCTACCCCAATTTCC | TTGGTCCTTAGCCACTCCTTC |
| IL-10 | CTTACTGACTGGCATGAGGATCA | GCAGCTCTAGGAGCATGTGG |
| TNF-$\alpha$ | CCTGTAGCCCACGTCGTAG | GGGAGTAGACAAGGTACAACCC |
| TLR4 | GCCTTTCAGGGAATTAAGCTCC | GATCAACCGATGGACGTGTAAA |
| p65 | GCTTTGCAAACCTGGGAATA | TCCGCCTTCTGCTTGTAGAT |
| Nrf2 | TAGATGACCATGAGTCGCTTGC | GCCAAACTTGCTCCATGTCC |
| COX-2 | TTCAACACACTCTATCACTGGC | AGAAGCGTTTGCGGTACTCAT |
| iNOS | GGAGTGACGGCAAACATGACT | TCGATGCACAACTGGGTGAAC |
| ASC | CATCTTGTCTTGGCTGGTGGTCT | CGGACACGGACAGGATTGACA |
| Caspase-1 | AATACAACCACTCGTACACGTC | AGCTCCAACCCTCGGAGAAA |
| NLRP3 | TGTGAGAAGCAGGTTCTACTCT | TGTAGCGACTGTTGAGGTCCA |
| FXR | CTGCTTGTGATGCCACTTACA | TAGCACACGCTTCTCTCAGGT |
| PXR | TAGGGACCTGCCTATTGAGGA | CCGTTTCCGTGTCGAACATC |
| TGR5 | CCTGGAACTCTGTTATCGCTCA | GCACTCGTAGACACCTTTGGG |
| GADPH | GCTCTGGCTCCTAGCACCAT | GCCACCGATCCACACAGAGT |