

Supplementary Materials

Table S1. Summary information of cynomolgus monkeys

| Sample ID | Gender | Age (years old) | Group |
|-------------------------|--------|-----------------|-------|
| HC_1 | Male | 7 | HC |
| HC_2 | Male | 7 | HC |
| HC_3 | Male | 7 | HC |
| HC_4 | Male | 7 | HC |
| 0_Diarrhea_1 (0_174317) | Male | 5 | Day_0 |
| 0_Diarrhea_2 (0_180552) | Male | 4 | Day_0 |
| 0_Diarrhea_3 (0_186850) | Male | 4 | Day_0 |
| 2_Diarrhea_1 (2_174317) | Male | 5 | Day_2 |
| 2_Diarrhea_2 (2_180552) | Male | 4 | Day_2 |
| 2_Diarrhea_3 (2_186850) | Male | 4 | Day_2 |
| 4_Diarrhea_1 (4_174317) | Male | 5 | Day_4 |
| 4_Diarrhea_2 (4_180552) | Male | 4 | Day_4 |
| 4_Diarrhea_3 (4_186850) | Male | 4 | Day_4 |
| 8_Diarrhea_1 (8_174317) | Male | 5 | Day_8 |
| 8_Diarrhea_2 (8_180552) | Male | 4 | Day_8 |
| 8_Diarrhea_3 (8_186850) | Male | 4 | Day_8 |

Table S2. Bristol stool scale

| Typing | Form | Description |
|--------|-----------------------|--|
| 1 | Nut-like stool | Hard, small pieces, like rabbit dung |
| 2 | Dry hard stool | Hard texture with multiple small pieces stuck together, sausage-like |
| 3 | Wrinkled stool | The surface is covered with cracks and is sausage-like |
| 4 | Banana-shaped stool | Soft texture, smooth surface, sausage-like |
| 5 | Soft stool | Soft semi-solid with uneven edges |
| 6 | Slightly shaped stool | Soft flakes, porridge with rough edges or no fixed shape |
| 7 | Watery stool | Watery, completely liquid without solids |

Table S3. PERMANOVA in microbial species composition

| Phenotypes | <i>F</i> | <i>R</i> ² | <i>P</i> value |
|---------------|----------|-----------------------|----------------|
| Grouping | 1.388523 | 0.335512 | 0.102897 |
| BSS | 2.137205 | 0.13244 | 0.043956 |
| IL-6 | 2.028222 | 0.126541 | 0.040959 |
| IL-8 | 0.901766 | 0.060514 | 0.484515 |
| IL-1 β | 1.268482 | 0.083078 | 0.236763 |
| IFN- γ | 1.053468 | 0.069982 | 0.390609 |
| IL-4 | 0.629051 | 0.043 | 0.811189 |
| IL-10 | 0.653095 | 0.04457 | 0.778222 |

F represents the *F*-statistic: alarger *F* value indicates that the between-group variation is greater than within-group variation. *R*² represents the variation explained by the model. *q* represents the *q*-value calculated from permutation.

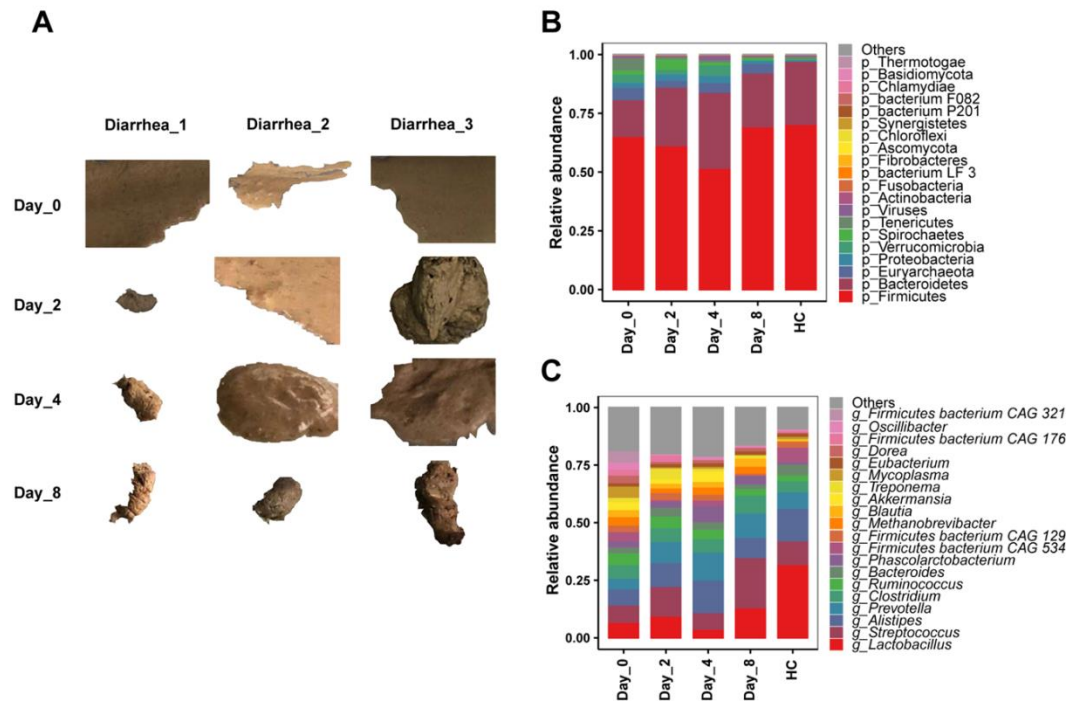


Figure S1. Effects of the FMT treatment on the incidence of diarrhea and gut microbiome. **(A)** Images of the fecal samples collected from Day_0 (n = 3), Day_2 (n = 3), Day_4 (n = 3) and Day_8 (n = 3). **(B)** The distribution of dominant bacterial phyla in all 5 groups. **(C)** The distribution of dominant bacterial genus in all 5 groups. HC, asymptomatic monkeys (n = 4); Day_0, chronic diarrhea monkeys before FMT intervention (n = 3); Day_2, Day_4, Day_8, chronic diarrhea monkeys after FMT intervention (n = 3 respectively).

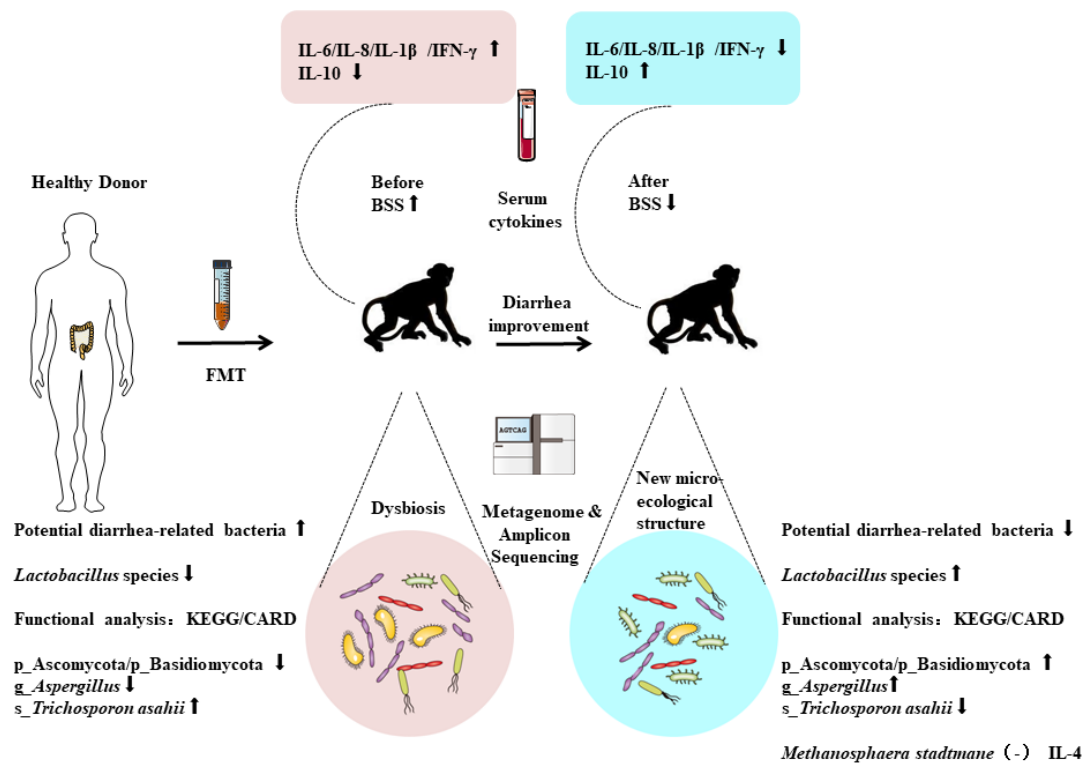


Figure S2. Summary of the study findings.