**Supplemental Figure Legends**

Suppl. Fig. 1. Changes in Bristol stool scale (BS) scores in responders and non-responders in patients with IBS-D (a) and FDr (b). IBS-D, diarrhea-predominant inflammatory bowel disease; FDr, functional diarrhea.

Suppl. Fig. 2. Changes in the Hamilton Anxiety Scale (HAM-A) scores in responders and non-responders in patients with IBS-D (a) and FDr (b). IBS-D, diarrhea-predominant inflammatory bowel disease; FDr, functional diarrhea.

Suppl. Fig. 3. Analysis of metagenome at phylum level . Comparison of the top 8 fecal bacteria at phylum level in effective and ineffective donors in patients with IBS-D (a) and FDr (b). Bars indicate average values. IBS-D, diarrhea-predominant inflammatory bowel disease; FDr, functional diarrhea.

Suppl. Fig. 4. Analysis of metagenome at genus level. Comparison of the top 8 fecal bacteria at the genus level in effective and ineffective donors in patients with IBS-D (a) and FDr (b). Bars indicate average values. IBS-D, diarrhea-predominant inflammatory bowel disease; FDr, functional diarrhea.

Suppl. Fig. 5. The alpha diversity of KEGG orthologies (KOs) from the gut microbiome from donors. The number of KOs (a) and Shannon index of KOs (b) were compared between the ineffective and effective donor groups, shown as boxplots. No significant differences were found in the comparison of each alpha diversity.

Suppl. Fig. 6. Dissimilarities in the composition of KEGG orhthologies (KOs) of the gut microbiome from donors. The dissimilarities in the composition of KOs of the gut microbiome were calculated using the Bray–Curtis distance. The dissimilarities between ineffective donors (IE), effective donors (E) and ineffective donors (IE), effective donors (E) were compared, but no significant results were detected using the Wilcoxon rank-sum test.

Suppl. Fig. 7. The featured KEGG orthologies (KOs) in effective donors and ineffective donors. The featured KOs in effective donors and ineffective donors are shown as a volcano plot. The y-axis shows the -log10 p-value; thus, a higher number represents compounds that are more statistically significant. The horizontal line shows the significance threshold p < 0.05. The x-axis shows the coefficient value for each comparison. Coefficient values for species and P-values by MaAsLin2. Blue: Featured species enriched in non-effective donors. Red: Featured species enriched in effective donors. Gray: KOs with P > 0.05.

Suppl. Fig. 8. Enriched KEGG module in effective donors and ineffective donors. KEGG module enrichment analysis were performed with significantly associated KEGG orthologies (KOs) using MaAsLin2. The module coverage of significantly depleted KEGG pathways (adjusted p-value < 0.05 with Benjamini–Hochberg procedure) was calculated and shown as a bar plot.