

Supporting information

Supplementary tables

Table S1 Compositions of experimental diets.

Compositions	Normal diet	High-fat diet
Crude fiber	4.90%	1.60%
Crude protein	20.18%	19.50%
Crude fat	4.60%	17.20%
Crude ash	6.60%	4.00%
Moisture	10.00%	8.80%
Calcium	1.14%	1.20%
Phosphorus	0.91%	0.82%

Table S2 Mobile phase and solvent gradient conditions of non-target metabolism.

□	Positive ion mode		Negative ion mode	
	A	B	A	B
Mobile phase	0.1% formic acid in water	acetonitrile with 0.1% formic acid	5 mM ammonium acetate in water	5 mM ammonium acetate water:acetonitrile=1:9
Solvent gradient (for B%)	0-5 min: 0-20; 5-7 min: 20; 7-14 min: 20-100; 14-16 min: 100; 16-21 min: 100-0			

Supplementary figures

Figure captions

Fig. S1 The animal experiment design.

Fig. S2 Serum levels of ALT (A) and AST (B). Data were presented as mean \pm SEM (n=8). Significant effect compared to Ctrl group: * $p < 0.05$.

Fig. S3 Relative abundances of Firmicutes (A), Bacteroides (B), Proteobacteria (C), and F/B ratio (D). Data were presented as mean \pm SEM (n=8). Significant effect compared to Ctrl group: * $p < 0.05$, ** $p < 0.01$.

Fig. S4 Abundances of the families of *Muribaculaceae* (A), *Lachnospiraceae* (B), and the genera of *Odoribacter* (C), *uncultured_bacterium_f_Ruminococcaceae* (D), and *Lachnospiraceae_NK4A136_group* (E). Data were presented as mean \pm SEM (n=8). Significant effect compared to the HFD group: # $p < 0.05$.

Fig. S5 The permutation test of OPLS-DA analysis between Ctrl vs HFD (A), HFD vs CLP-F (B), and HFD vs CLP-G (C).

Fig. S1

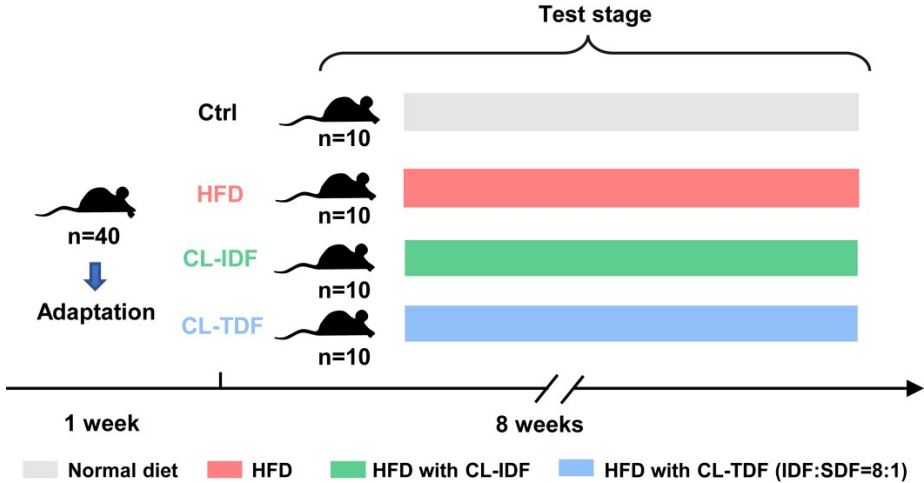


Fig. S2

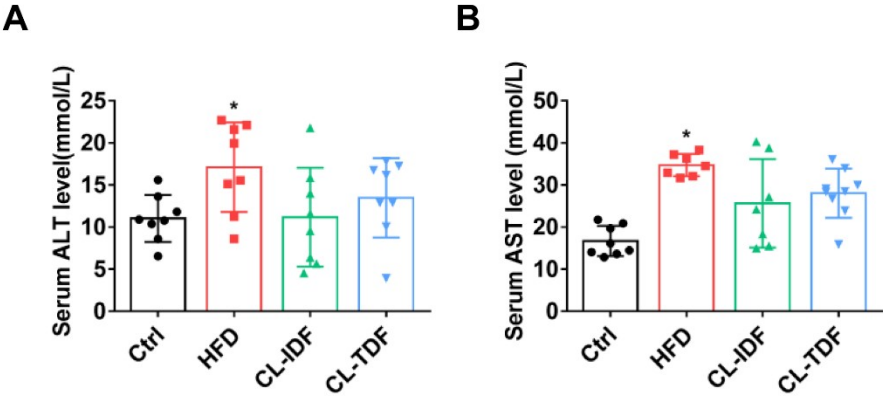


Fig. S3

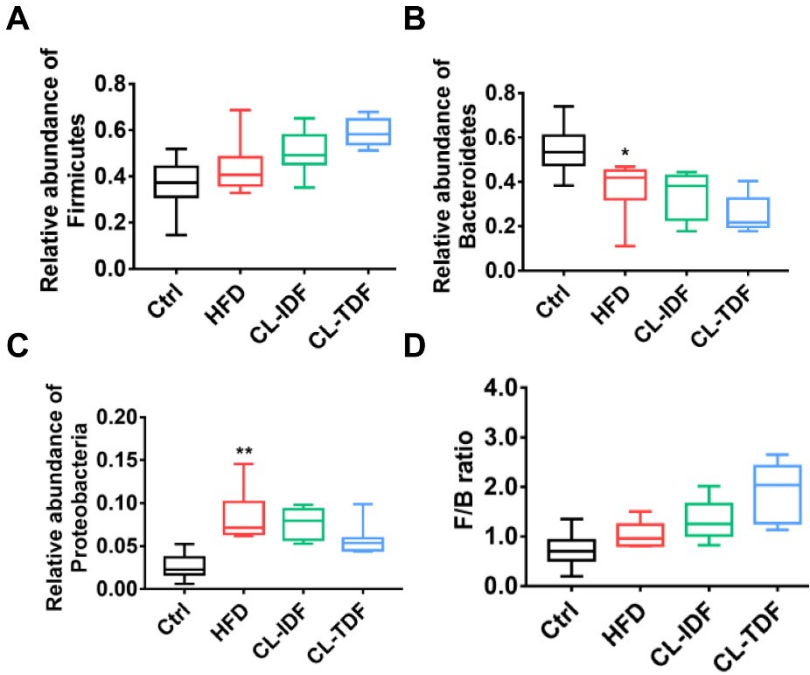


Fig. S4

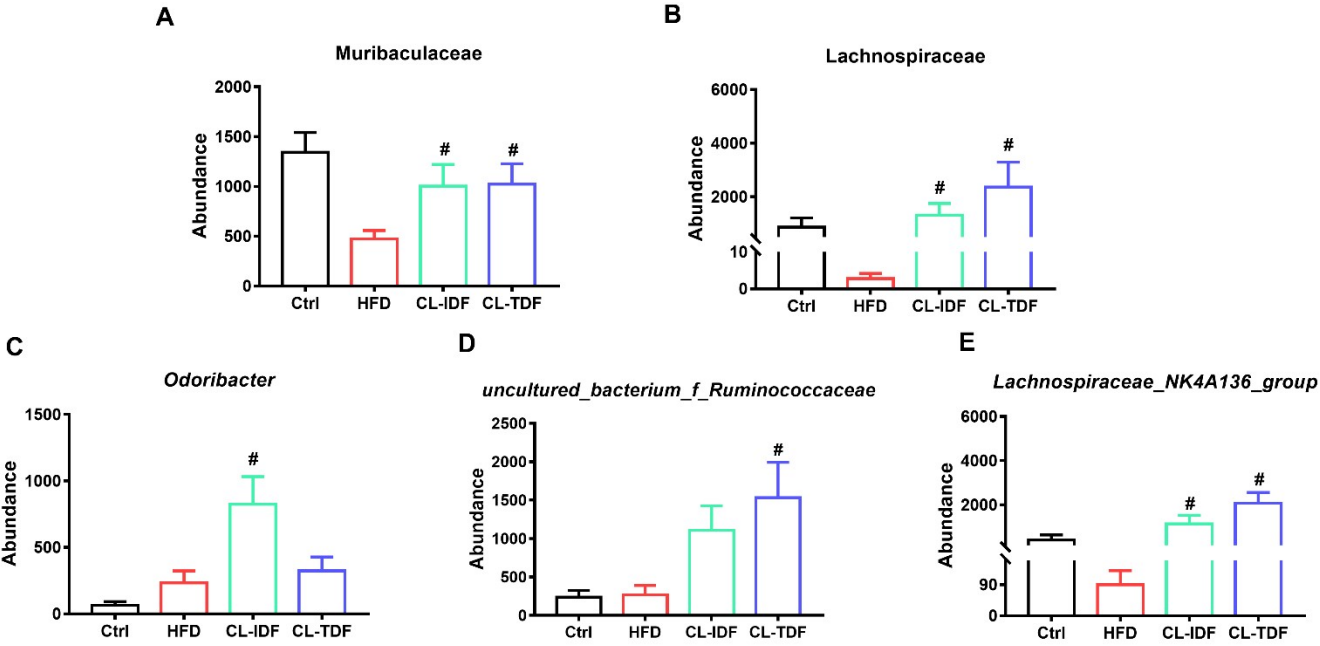


Fig. S5

