

Online Supporting Material

1 **Supplemental Table S1.** Diet composition of HF and HFRS diets¹

Diet ingredient (g)	HF	HFRS
Casein	200	200
L-Cystine	3	3
Corn Starch	72.8	0
Maltodextrin 10	100	26
Raw Potato Starch ²	0	172.8
Sucrose	172.8	172.8
Cellulose	50	50
Soybean Oil	25	25
Lard	177.5	177.5
Mineral Mix S10026	10	10
Dicalcium Phosphate	13	13
Calcium Carbonate	5.5	5.5
Potassium Citrate, 1 H ₂ O	16.5	16.5
Vitamin Mix V100001	10	10
Choline Bitartrate	2	2
FD&C Yellow Dye #5	0	0
FD&C Red Dye #40	0.05	0
FD&C Blue Dye #1	0	0.05
Total	858.15	884.15

2 ¹Diets prepared by Research Diets, Inc. HF=high fat diet, HFRS=high fat resistant starch. ² Potato starch was 60%
3 resistant starch.

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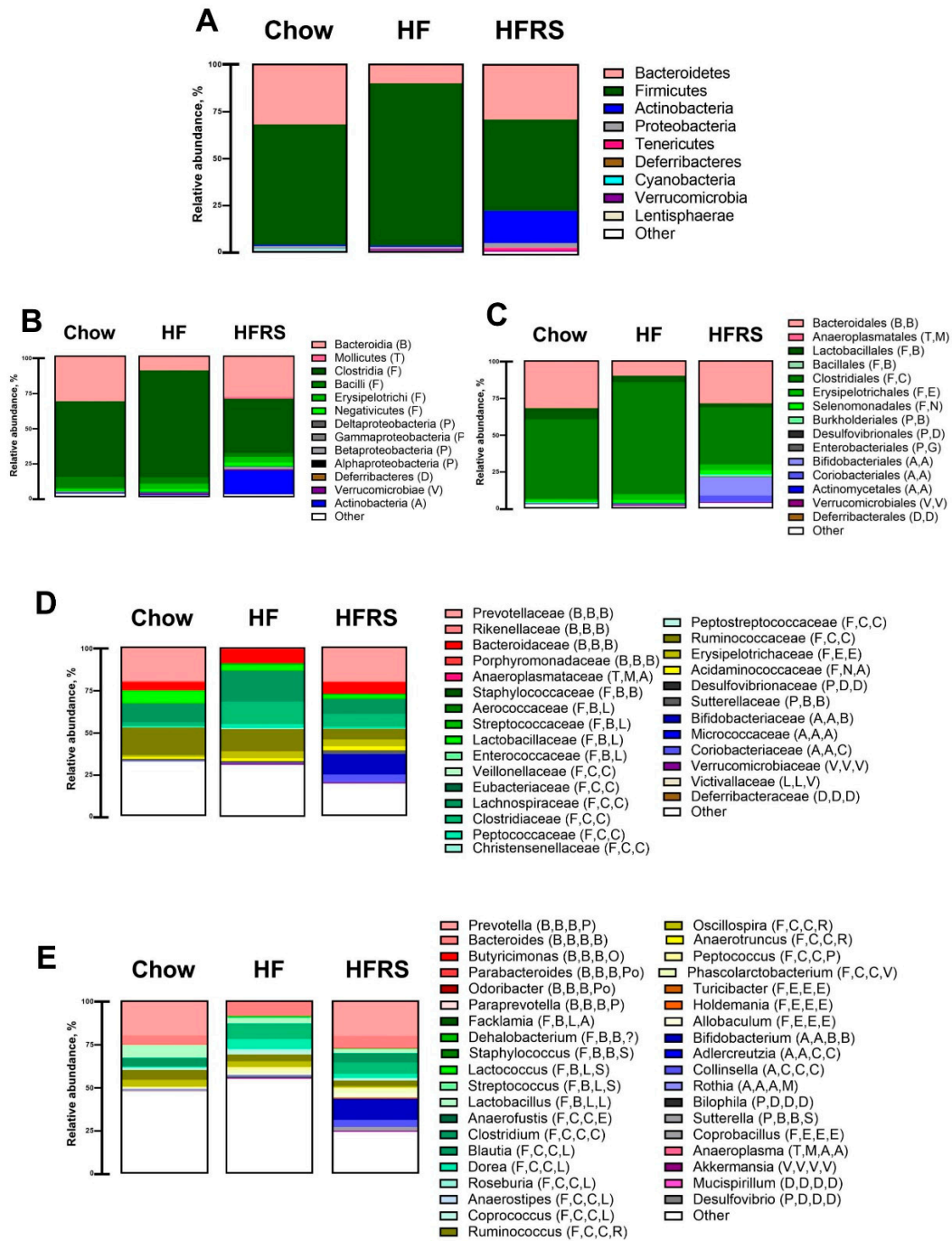
Supplemental Table S2. Resistant starch in raw potato starch, Chow, HF, and HFRS diets

	Potato Starch	Chow	HF	HFRS
% RS (g)	60	1.4	0.1	11.9

¹ HF, high fat; HFRS, high fat resistant starch; RS, resistant starch.

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Supplemental Figure S1. Microbiota Abundance by Taxonomic Level¹.



¹Microbiota abundances for Chow, HF, and HFRS. **Phyla:** B: *Bacteroidetes*, F: *Firmicutes*, T: *Tenericutes*, P: *Proteobacteria*, A: *Actinobacteria*, V: *Verrucomicrobia* **Class:** B: *Bacilli*, B: *Bacteroidia*, C: *Clostridia*, E: *Erysipelotrichia*, M: *Mollicutes*, N: *Negativicutes*, D: *Deferribacteres*, A: *Actinobacteria*, V: *Verrucomicrobiae*, B: *Betaproteobacteria*. **Order:** B: *Bacteroidales*, C: *Clostridiales*, L: *Lactobacillales*, E: *Erysipelotrichales*, B: *Burkholderiales*, B: *Bifidobacteriales*. **Family:** C: *Clostridiaceae*, L: *Lachnospiraceae*, R: *Ruminococcaceae*, L: *Lactobacillaceae*, E: *Erysipelotrichaceae*, D: *Desulfovibrionaceae*, B: *Bifidobacteriaceae*, V: *Verrucomicrobiaceae*, A: *Acidaminococcaceae*. Phyla level (A), Class (B), Order (C), Family (D), and Genera (E). HF=high fat, HFRS=high fat resistant starch, n=8.