











Figure S1

(A) Body mass of all animals over course of experiment. (B-C) Body composition following weight loss interventions. (D) Representative hematoxylin and eosin stained histology of tumors from CON-LFD, DIO-HFD, DIO-VSG, and DIO-LFD mice (10x and 40x total magnification as indicated). (A) n=21 CON-LFD, 21 DIO-HFD, 24 DIO-VSG, 19 DIO-LFD, (B-C) n=8 CON-LFD, 8 DIO-HFD, 9 DIO-VSG, 8 DIO-LFD. (B-C) One-way ANOVA with Tukey's post hoc test.

Figure S2

(A-F) Circulating adipokines determined by multiplex ELISA. n=9 CON-LFD, 9 DIO-HFD, 11 DIO-VSG, 9 DIO-LFD. One-way ANOVA with Tukey's post hoc test.

Figure S3

Enrichment maps of significant ($FDRq < 0.05$) GOBP gene sets for pairwise comparisons with DIO-HFD. (A) DIO-HFD vs. CON-LFD, (B) DIO-HFD vs. DIO-VSG, and (C) DIO-HFD vs. DIO-LFD. Node size reflects gene set size, line weight reflects overlap coefficient (minimum 0.5), blue color denotes enriched in comparison relative to DIO-HFD.

Figure S4

(A) Observed sequence variants and (B) Shannon index of pre-intervention fecal microbial communities. (C) Relative contribution of the 10 most frequent genera to each group pre-intervention. (D) NMDS plot of Bray-Curtis distances of pre-intervention microbial communities. (E) Observed sequence variants and (F) Shannon diversity of post-intervention fecal microbial communities. (G) Relative contribution of the 10 most frequent genera to each group post-intervention. (H) NMDS plot of Bray-Curtis distances of post-intervention microbial communities. Spearman correlation between all genera and (I) percent body weight and (J) tumor mass. (K) Spearman correlation coefficients of the 20 genera showing the highest correlation coefficients with percent body weight change and tumor mass. (A-D) n=9 CON-LFD and 21 DIO-HFD. (E-K) n=9 CON-LFD, 5 DIO-HFD, 10 DIO-VSG, and 7 DIO-LFD.

Figure S5

(A) Body mass of all animals over course of experiment. (B-C) Body composition following weight loss interventions. (A-C) n=20 CON-LFD, 18 DIO-HFD, 14 DIO-VSG, 19 DIO-ICR, 16 DIO-CCR. (B-C) One-way ANOVA with Tukey's post hoc test.