



Supplemental Figures and Tables

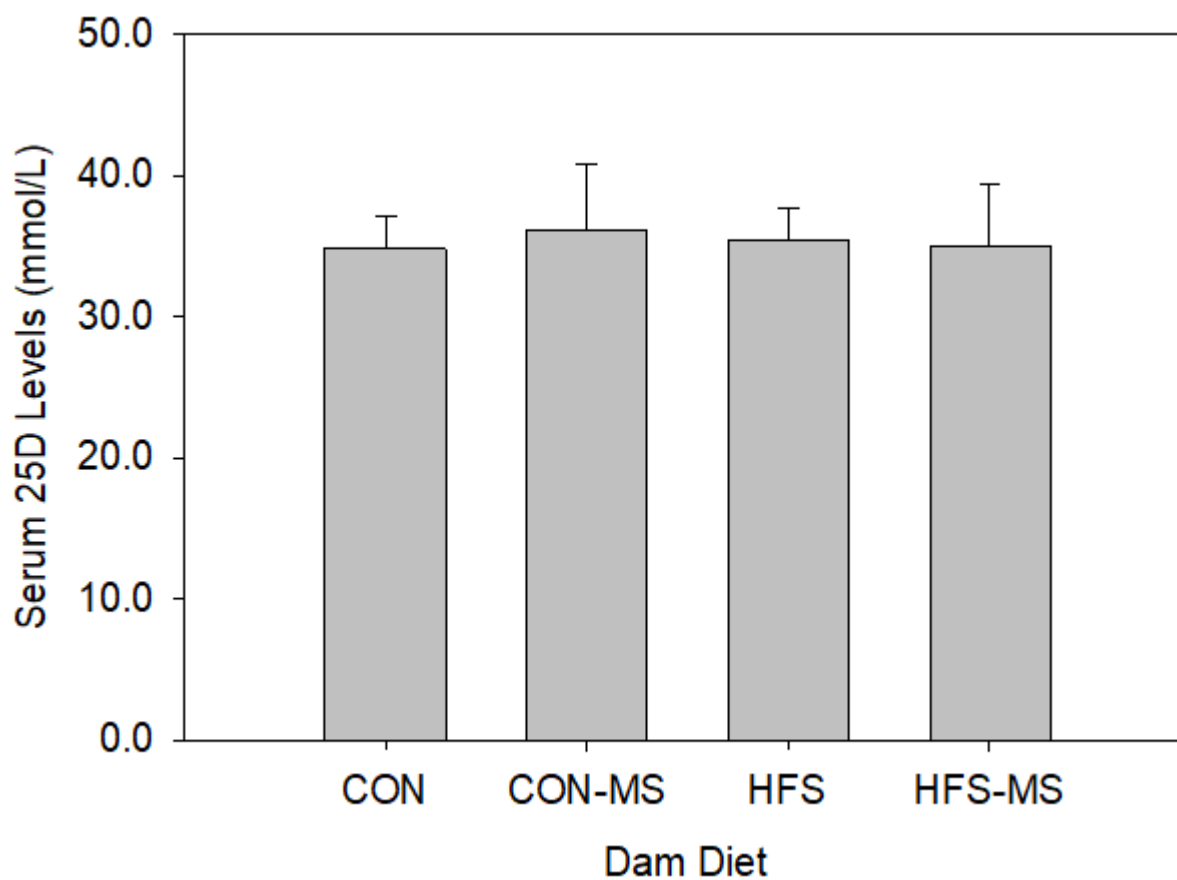


Figure S1. Circulating levels of 25-hydroxycholecalciferol (25D) in dams fed a control (CON) or high-fat high sucrose (HFS) diet supplemented with methyl-donor nutrients (MS). Data are expressed as mean \pm SEM ($n = 4$ /group)

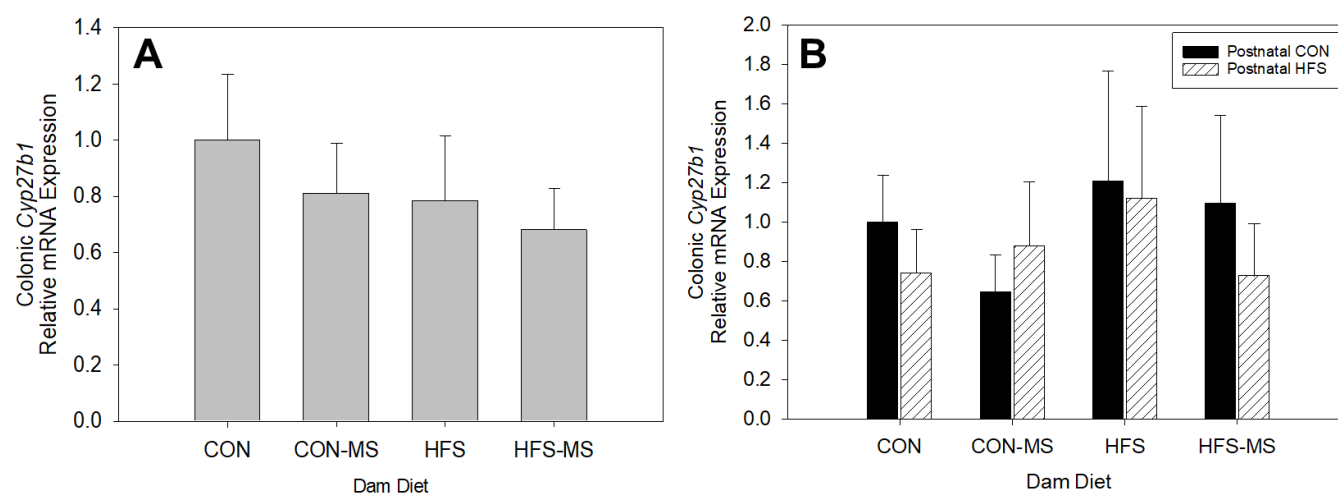


Figure S2. Relative mRNA expression of *Cyp27b1* in the colon of weanling (A) and adult pups (B) born to dams fed a control (CON) or high-fat high sucrose (HFS) diet with or without methyl-donor nutrients supplementation (MS). Data are normalized to GAPDH and expressed in relative to pups of CON dam (weanling) or pups of CON dams fed a postnatal CON diet (adult). All data are pooled from both genders. Different letters indicate statistical difference maternal diets at $p < 0.05$. Data are expressed as mean \pm SEM ($n = 6 - 10$ /group). Postnatal CON, control postnatal diet; Postnatal HFS, high-fat high-sucrose postnatal diet

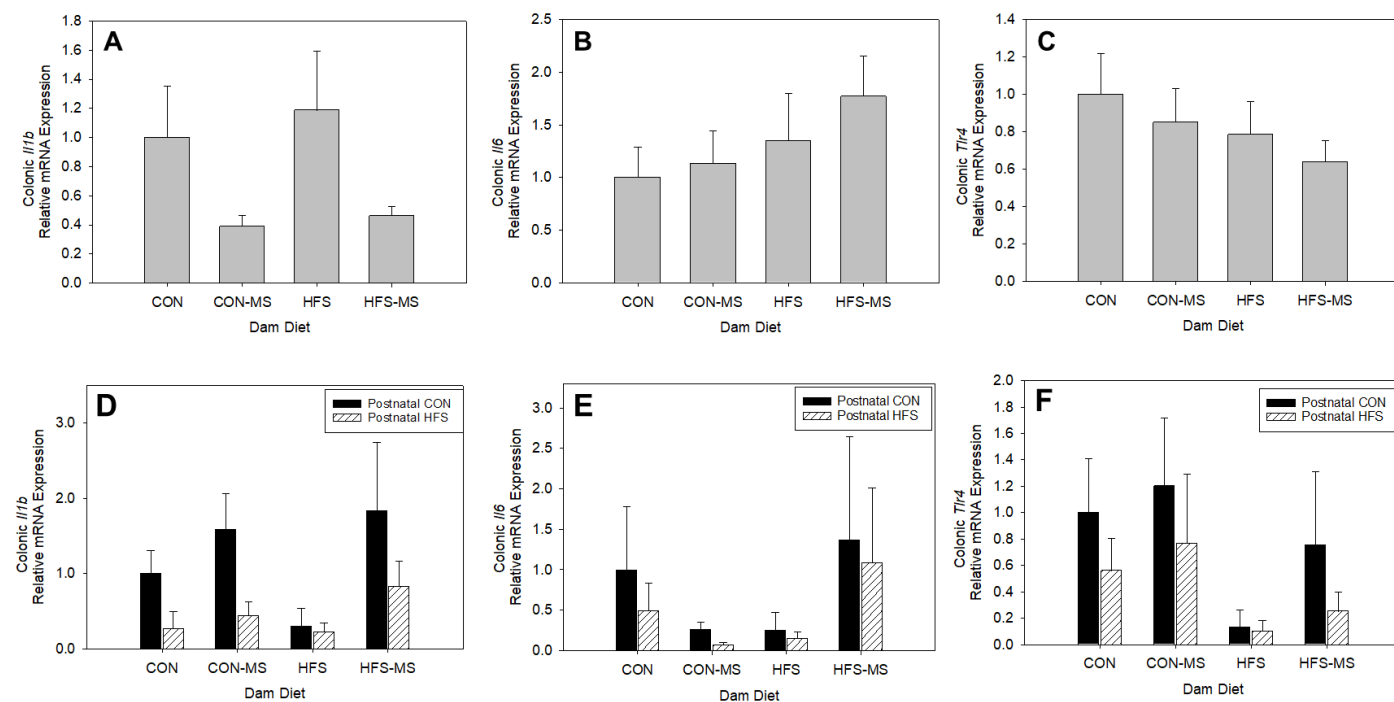


Figure S3. Relative mRNA expression of *Il1b* (A, D), *IL6* (B, E), and *TLR4* (C, F) in the colon of weanling (A, B, C) and adult pups (D, E, F) born to dams fed a control (CON) or high-fat high sucrose (HFS) diet with or without methyl-donor nutrients supplementation (MS). Data are normalized to GAPDH and expressed in relative to pups of CON dam (weanling) or pups of CON dams fed a postnatal CON diet (adult). All data are pooled from both genders. Different letters indicate statistical difference maternal diets at $p < 0.05$. Data are expressed as mean \pm SEM ($n = 6 - 10/\text{group}$). Postnatal CON, control postnatal diet; Postnatal HFS, high-fat high-sucrose postnatal diet

Table S1: List of primers set for RT-PCR examined in this study.

Primer	Forward (5' - 3')	Reverse (5' - 3')
<i>Gapdh</i>	GCA CAG TCA AGG CTG AGA AT	TGA AGA CGC CAG TAG ACT CC
<i>Vdr</i>	CCA TTC AGG ACC GCC TAT CC	GTC GGC CAG TTT CTG GAT CA
<i>Cyp27b1</i>	AAA GGT GTC TGT CCA GTC CA	CTC ATA GAG TGC CCA GGA GA
<i>Cathelicidin</i>	GGG TTG CCT CTA GCC GTT T	TGA AGT CAT CCA CAG CAG CAC GG
<i>Il1β</i>	GCA CAG TTC CCC AAC TGG TA	ACA CGG GTT CCA TGG TGA AG
<i>Il6</i>	GTT GCC TTC TTG GGA CTG ATG	ATA CTG GTC TGT TGT GGG TGG T
<i>Tlr4</i>	ACA GGG CAC AAG GAA GTA GC	GTT CTC ACT GGG CCT TAG CC
<i>Eubacteria (Universal)</i>	ACT CCT ACG GGA GGC AGC AGT	ATT ACC GCG GCT GCT GGC
<i>Bacteroides spp.</i>	GGT TCT GAG AGG AGG TCC C	CTG CCT CCC GTA GGA GT
<i>E. rectale/ C. coccoides Group</i>	ACT CCT ACG GGA GGC AGC	GCT TCT TAG TCA GGT ACC GTC A
<i>Lactobacillus spp.</i>	AGC AGT AGG GAA TCT TCC	CAC CGC TAC ACA TGG A