

**Table S3** Alpha Diversity statistics

<b>HSCR Dataset</b> <i>Boston vs. Laramie</i>	Chao1		Observed OTUs	
	Kruskal-Wallis	Pairwise Wilcoxon	Kruskal-Wallis	Pairwise Wilcoxon
	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>
Colon Samples				
P07-WT vs. P07-WT	0.118	0.067	0.029**	0.067
P20-WT vs. P20-WT	0.573	0.254	0.754	0.881
P24-WT vs. P24-WT	0.421	0.323	0.453	0.184
P07-KO vs. P07-KO	0.308	0.255	0.458	0.091
P20-KO vs. P20-KO	0.198	0.087	0.757	0.537
P24-KO vs. P24-KO	0.110	0.107	0.206	0.486
Fecal Samples				
P07-WT vs. P07-WT	0.107	0.089	0.058	0.080
P20-WT vs. P20-WT	0.727	0.522	0.810	0.701
P24-WT vs. P24-WT	0.852	1.000	0.658	0.961
P07-KO vs. P07-KO	0.484	0.132	0.544	0.118
P20-KO vs. P20-KO	0.445	0.234	0.816	0.438
P24-KO vs. P24-KO	0.121	0.118	0.308	0.127
<i>Boston vs. Boston</i>				
Colon Samples				
P07-WT vs. P07-KO	0.385	0.118	0.573	0.154
P20-WT vs. P20-KO	0.385	0.061	0.401	0.046**
P24-WT vs. P24-KO	1.000	1.000	0.669	0.190
Fecal Samples				
P07-WT vs. P07-KO	0.525	0.055	0.394	0.036**
P20-WT vs. P20-KO	0.200	0.055	0.418	0.462
P24-WT vs. P24-KO	0.759	0.663	0.394	0.104
<i>Laramie vs. Laramie</i>				
Colon Samples				
P07-WT vs. P07-KO	0.752	0.905	0.369	0.486
P20-WT vs. P20-KO	0.752	0.905	0.678	0.588
P24-WT vs. P24-KO	0.752	0.905	0.369	0.504
Fecal Samples				
P07-WT vs. P07-KO	0.697	0.784	0.497	0.638
P20-WT vs. P20-KO	0.850	0.784	0.597	0.638
P24-WT vs. P24-KO	0.215	0.586	0.497	0.971
<b>C57BL/6J dataset</b>				
<i>Boston vs. Laramie</i>	0.174	0.186	0.762	0.791

\*\* indicates *P*-values < 0.05