

Table S1. List of the most abundant genera in fecal samples of young and older mice.

Genera <u>decreasing</u> with age				
Taxa	Average relative abundance in young mice	Average relative abundance in older mice	Fold change	statistical significance (DESeq2)
<i>Candidatus_Stoquefichus</i>	0.198%	0.000%	-1.00	
<i>Candidatus_Arthromitus</i>	0.147%	0.000%	-1.00	
<i>Butyricicoccus</i>	0.146%	0.000%	-1.00	
<i>Harryflintia</i>	0.092%	0.000%	-1.00	
<i>Anaerotruncus</i>	0.043%	0.000%	-1.00	
<i>Ruminococcaceae_UCG-003</i>	0.013%	0.000%	-1.00	
<i>Lactonifactor</i>	0.006%	0.000%	-1.00	
<i>XBB1006</i>	0.006%	0.000%	-1.00	
<i>Ruminococcaceae_UCG-014</i>	9.961%	0.302%	-0.97	
<i>Lachnospiraceae_UCG-006</i>	0.171%	0.007%	-0.96	
<i>Ruminococcaceae_NK4A214_group</i>	0.131%	0.011%	-0.91	
<i>Lachnospiraceae_UCG-001</i>	7.983%	0.940%	-0.88	
<i>Anaerovorax</i>	0.054%	0.012%	-0.78	
<i>Ruminococcus_1</i>	1.296%	0.300%	-0.77	
<i>Ruminiclostridium_6</i>	1.891%	0.478%	-0.75	
<i>Ruminiclostridium</i>	3.663%	1.094%	-0.70	
<i>GCA-900066575</i>	0.396%	0.142%	-0.64	
<i>Lachnoclostridium</i>	1.471%	0.561%	-0.62	
<i>Roseburia</i>	1.607%	0.638%	-0.60	*
<i>Shuttleworthia</i>	0.096%	0.039%	-0.59	
<i>Parabacteroides</i>	3.119%	1.279%	-0.59	*
<i>Lachnospiraceae_FCS020_group</i>	0.212%	0.088%	-0.59	*
<i>Coriobacteriaceae_UCG-002</i>	0.769%	0.323%	-0.58	
<i>Lactobacillus</i>	9.680%	4.150%	-0.57	*
<i>Intestinimonas</i>	0.913%	0.447%	-0.51	*
<i>Family_XIII_UCG-001</i>	0.090%	0.048%	-0.48	
<i>Muribaculum</i>	1.286%	0.745%	-0.42	
<i>Oscillibacter</i>	2.619%	1.529%	-0.42	*
<i>Tyzzereella</i>	0.143%	0.086%	-0.40	
<i>Ruminiclostridium_9</i>	1.592%	1.049%	-0.34	
<i>Ruminococcaceae_UCG-005</i>	0.335%	0.247%	-0.26	*
<i>Bifidobacterium</i>	8.621%	7.097%	-0.18	
<i>Turicibacter</i>	1.965%	1.715%	-0.13	
<i>Ruminiclostridium_5</i>	0.429%	0.388%	-0.10	
<i>Alistipes</i>	11.394%	10.648%	-0.07	*

Genera increasing with age

Taxa	Average relative abundance in young mice	Average relative abundance in older mice	Fold change	statistical significance (DeSeq2)
<i>Desulfovibrio</i>	1.106%	1.115%	0.01	
<i>ASF356</i>	0.703%	0.754%	0.07	
<i>Acetatifactor</i>	0.445%	0.494%	0.11	
<i>Enterorhabdus</i>	0.075%	0.084%	0.12	
<i>Bilophila</i>	0.154%	0.188%	0.22	
<i>Ruminococcaceae_UCG-009</i>	0.303%	0.381%	0.26	
<i>Romboutsia</i>	0.222%	0.446%	1.01	*
<i>Lachnospiraceae_NK4A136_group</i>	13.563%	27.392%	1.02	*
<i>Ruminococcaceae_UCG-010</i>	0.339%	0.794%	1.34	*
<i>Clostridium_sensu_stricto_1</i>	1.577%	3.716%	1.36	*
<i>UBA1819</i>	0.119%	0.312%	1.61	
<i>A2</i>	1.028%	2.695%	1.62	
<i>Anaeroplasma</i>	6.240%	16.851%	1.70	*
<i>Lachnospiraceae_UCG-004</i>	0.004%	0.018%	3.14	
<i>Faecalibaculum</i>	1.584%	10.256%	5.47	