

OTUs with interactions at 10.5 weeks			Within A/J			Within BALB/c			Within C57BL/6		
Phylum	Family	Operational taxonomic unit (OTU)	HSD relative to Jax			HSD relative to Jax			HSD relative to Jax		
			logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val
No BLAST hit		No BLAST hit	-0.566766	0.173541	0.280336	-0.379747	0.212487	0.247902	0.773826	0.042662	0.055994
Actinobacteria	Coriobacteriaceae	family Coriobacteriaceae , unidentified species	1.305668	0.000102	0.000306	1.473015	4.43E-08	9.30E-08	-0.147255	0.541351	0.541351
Bacteroidetes	Bacteroidaceae	Bacteroides acidifaciens	5.46379	3.20E-07	1.12E-06	8.349885	6.52E-16	3.42E-15	6.116469	2.74E-09	1.44E-08
Bacteroidetes	Bacteroidaceae	Bacteroides ovatus	5.90384	2.61E-10	1.82E-09	8.327984	2.93E-19	2.05E-18	7.966577	1.97E-15	1.38E-14
Bacteroidetes	Bacteroidaceae	Bacteroides uniformis	2.335582	0.006532	0.015242	5.44046	1.99E-11	5.96E-11	4.716341	7.84E-08	2.35E-07
Bacteroidetes	[Paraprevotellaceae]	[Prevotella] sp.	4.16264	0.018462	0.035245	-0.276786	0.832892	0.874537	-1.437368	0.395479	0.415253
Bacteroidetes	Porphyromonadaceae	Parabacteroides distasonis	0.523083	0.710359	0.785134	3.968557	0.000258	0.000362	7.267778	3.70E-07	9.72E-07
Bacteroidetes	Porphyromonadaceae	Parabacteroides sp.	0.790337	0.348975	0.488565	2.56724	0.000159	0.000238	3.999318	5.28E-06	1.11E-05
Bacteroidetes	Prevotellaceae	Prevotella sp.	5.76238	6.53E-11	6.85E-10	8.013503	9.13E-20	9.59E-19	7.637683	6.94E-16	7.29E-15
Bacteroidetes	Rikenellaceae	AF12 sp.	8.792692	1.08E-17	2.27E-16	7.911382	3.06E-21	6.42E-20	6.937052	6.03E-16	7.29E-15
Cyanobacteria		order YS2, unidentified species	0.89209	0.391743	0.514162	4.571092	1.05E-07	2.00E-07	3.838784	7.38E-05	0.000129
Deferribacteres	Deferribacteraceae	Mucispirillum schaedleri	7.897451	8.28E-08	4.35E-07	4.207708	2.54E-05	4.10E-05	5.910917	2.11E-06	4.93E-06
Firmicutes	Lachnospiraceae	Blautia sp.	0.589179	0.487119	0.601735	-2.019611	0.00355	0.004659	-0.968418	0.22312	0.246607
Firmicutes	Lachnospiraceae	Ruminococcus flavefaciens	0.804414	0.566813	0.661282	7.718152	6.90E-10	1.61E-09	4.340522	0.00073	0.001179
Firmicutes	Lachnospiraceae	Ruminococcus sp.	-0.218528	0.77707	0.815923	-2.727539	1.71E-05	2.99E-05	-1.669495	0.020522	0.02873
Firmicutes	Peptococcaceae	family Peptococcaceae , unidentified species	4.280934	1.81E-07	7.61E-07	4.868318	8.61E-12	3.62E-11	1.916707	0.004483	0.006725
Firmicutes	Turicibacteraceae	Turicibacter sp.	0.140307	0.928708	0.928708	0.019925	0.98532	0.98532	-8.773885	2.48E-08	8.69E-08
Proteobacteria	Alcaligenaceae	Sutterella sp.	3.156129	0.002144	0.00562	6.510895	1.88E-11	5.96E-11	6.287102	4.66E-09	1.96E-08
Proteobacteria		order RF32, unidentified species	-3.045722	0.017242	0.035245	2.003449	0.022108	0.02731	1.383108	0.190582	0.223246
Proteobacteria	Enterobacteriaceae	family Enterobacteriaceae , unidentified species	2.061003	0.051825	0.090694	6.50897	1.95E-10	5.12E-10	1.584003	0.114468	0.141401
Proteobacteria	Halomonadaceae	Halomonas sp.	-0.420989	0.26841	0.402615	-0.059056	0.789753	0.872885	0.983727	4.18E-05	7.97E-05
			Within HSD								
Phylum	Family	Operational taxonomic unit (OTU)	A/J relative to BALB/c			C57BL/6 relative to A/J			C57BL/6 relative to BALB/c		
			logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val
No BLAST hit		No BLAST hit	0.041995	0.873816	0.873816	0.709054	0.011292	0.013949	0.751048	0.006997	0.02449
Actinobacteria	Coriobacteriaceae	family Coriobacteriaceae , unidentified species	-0.378007	0.057715	0.0808	0.197529	0.329819	0.34631	-0.180478	0.36456	0.54684
Bacteroidetes	Bacteroidaceae	Bacteroides acidifaciens	-1.28123	0.032178	0.05034	1.38133	0.023726	0.02768	0.1001	0.864399	0.908362
Bacteroidetes	Bacteroidaceae	Bacteroides ovatus	-1.498758	0.002318	0.006641	1.37357	0.005606	0.008409	-0.125187	0.789313	0.908362
Bacteroidetes	Bacteroidaceae	Bacteroides uniformis	-0.949086	0.084466	0.110862	1.574577	0.006237	0.008732	0.62549	0.253931	0.410196
Bacteroidetes	[Paraprevotellaceae]	[Prevotella] sp.	5.435712	2.28E-05	0.00012	-5.637552	1.76E-05	7.40E-05	-0.20184	0.865107	0.908362
Bacteroidetes	Porphyromonadaceae	Parabacteroides distasonis	-2.162666	0.018998	0.036269	6.356682	1.49E-08	3.14E-07	4.194016	2.11E-05	0.000148
Bacteroidetes	Porphyromonadaceae	Parabacteroides sp.	-0.353038	0.520967	0.607795	3.238531	6.93E-07	7.27E-06	2.885492	4.70E-06	6.87E-05
Bacteroidetes	Prevotellaceae	Prevotella sp.	-1.68154	0.000367	0.00154	1.460181	0.001942	0.003137	-0.22136	0.615129	0.776339
Bacteroidetes	Rikenellaceae	AF12 sp.	1.032428	0.012485	0.026219	-2.098117	5.36E-06	3.34E-05	-1.065688	0.010593	0.03178
Cyanobacteria		order YS2, unidentified species	-2.123686	0.002454	0.006641	2.561827	0.000498	0.000951	0.438141	0.49842	0.697788
Deferribacteres	Deferribacteraceae	Mucispirillum schaedleri	4.088126	5.04E-06	3.53E-05	-2.203998	0.008314	0.010912	1.884129	0.021272	0.049634
Firmicutes	Lachnospiraceae	Blautia sp.	1.286578	0.024816	0.043428	-2.509186	4.24E-05	0.000148	-1.222608	0.03791	0.079611
Firmicutes	Lachnospiraceae	Ruminococcus flavefaciens	-7.61288	1.34E-10	2.81E-09	3.561734	0.00042	0.000951	-4.051146	3.10E-05	0.000163
Firmicutes	Lachnospiraceae	Ruminococcus sp.	1.458683	0.005002	0.011672	-2.045531	0.000196	0.000515	-0.586848	0.243424	0.410196
Firmicutes	Peptococcaceae	family Peptococcaceae , unidentified species	-0.413669	0.382314	0.47227	-2.012945	0.000129	0.000388	-2.426615	6.54E-06	6.87E-05
Firmicutes	Turicibacteraceae	Turicibacter sp.	0.408807	0.669177	0.702635	-0.358565	0.715983	0.715983	0.050243	0.95741	0.95741
Proteobacteria	Alcaligenaceae	Sutterella sp.	-1.994602	0.00253	0.006641	2.299499	0.000746	0.001306	0.304897	0.628465	0.776339
Proteobacteria		order RF32, unidentified species	-1.751296	0.03356	0.05034	4.250754	6.37E-06	3.34E-05	2.499458	0.002085	0.008757
Proteobacteria	Enterobacteriaceae	family Enterobacteriaceae , unidentified species	-4.421983	1.30E-07	1.37E-06	2.687273	0.000488	0.000951	-1.734711	0.018304	0.084049
Proteobacteria	Halomonadaceae	Halomonas sp.	-0.128392	0.565955	0.625529	0.349622	0.181699	0.200825	0.22123	0.239501	0.410196
			Within Jax								
Phylum	Family	Operational taxonomic unit (OTU)	A/J relative to BALB/c			C57BL/6 relative to A/J			C57BL/6 relative to BALB/c		
			logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val	logFC	P.Value	adj.P.Val
No BLAST hit		No BLAST hit	0.229014	0.454551	0.650062	-0.631539	0.025019	0.105078	-0.402525	0.196309	0.34354
Actinobacteria	Coriobacteriaceae	family Coriobacteriaceae , unidentified species	-0.21066	0.359798	0.581212	1.650452	1.30E-10	1.36E-09	1.439792	1.56E-07	1.64E-06
Bacteroidetes	Bacteroidaceae	Bacteroides acidifaciens	1.604865	0.020689	0.144822	0.728651	0.229653	0.475958	2.333515	0.001254	0.004388
Bacteroidetes	Bacteroidaceae	Bacteroides ovatus	0.925386	0.089505	0.208845	-0.689167	0.158674	0.475958	0.236219	0.663286	0.773834
Bacteroidetes	Bacteroidaceae	Bacteroides uniformis	2.155792	0.005423	0.05694	-0.806182	0.231457	0.475958	1.34961	0.073083	0.153475
Bacteroidetes	[Paraprevotellaceae]	[Prevotella] sp.	0.996286	0.486149	0.650062	-0.037544	0.976895	0.97963	0.958742	0.507255	0.640383
Bacteroidetes	Porphyromonadaceae	Parabacteroides distasonis	1.282808	0.204791	0.390965	-0.38802	0.679989	0.892486	0.894788	0.379986	0.599166
Bacteroidetes	Porphyromonadaceae	Parabacteroides sp.	1.423865	0.03157	0.16574	0.029549	0.959604	0.97963	1.453414	0.030535	0.071248
Bacteroidetes	Prevotellaceae	Prevotella sp.	0.569583	0.271675	0.475431	-0.415123	0.380873	0.666527	0.15446	0.766965	0.847698
Bacteroidetes	Rikenellaceae	AF12 sp.	0.151118	0.765286	0.824701	-0.242476	0.572969	0.832026	-0.091358	0.856469	0.856469
Cyanobacteria		order YS2, unidentified species	1.555317	0.056551	0.169654	-0.384867	0.594304	0.832026	1.17045	0.150849	0.287984
Deferribacteres	Deferribacteraceae	Mucispirillum schaedleri	0.398384	0.664458	0.820801	-0.217464	0.801518	0.97963	0.18092	0.845401	0.856469
Firmicutes	Lachnospiraceae	Blautia sp.	-1.322212	0.046753	0.169654	-0.951589	0.096274	0.336957	-2.273802	0.001086	0.004388
Firmicutes	Lachnospiraceae	Ruminococcus flavefaciens	-0.699142	0.495286	0.650062	0.025626	0.97963	0.97963	-0.673516	0.518406	0.640383
Firmicutes	Lachnospiraceae	Ruminococcus sp.	-1.050328	0.071632	0.188033	-0.594565	0.249311	0.475958	-1.644893	0.006499	0.017059
Firmicutes	Peptococcaceae	family Peptococcaceae , unidentified species	0.173715	0.776443	0.824701	0.351282	0.548006	0.832026	0.524996	0.399444	0.599166
Firmicutes	Turicibacteraceae	Turicibacter sp.	0.288426	0.785429	0.824701	8.555627	2.27E-12	4.76E-11	8.844053	1.76E-10	3.70E-09
Proteobacteria	Alcaligenaceae	Sutterella sp.	1.360164	0.055599	0.169654	-0.831474	0.229419	0.475958	0.52869	0.457665	0.640383
Proteobacteria		order RF32, unidentified species	3.297874	0.001656	0.032827	-0.178076	0.84247	0.97963	3.119799	0.002904	0.008711
Proteobacteria	Enterobacteriaceae	family Enterobacteriaceae , unidentified species	0.025984	0.976756	0.976756	3.164272	0.000349	0.001831	3.190256	0.000993	0.004388
Proteobacteria	Halomonadaceae	Halomonas sp.	0.233541	0.200125	0.390965	-1.055093	1.98E-07	1.39E-06	-0.821553	5.06E-05	0.000354

Table S4