

D10012Mi		
AIN-93M Mature Rodent Diet		
Class description	Ingredients	Weight (grams)
Protein	Casein, Lactic, 30 Mesh	140.00
Protein	Cystine, L	1.80
Carbohydrate	Starch, Corn	495.69
Carbohydrate	Lodex 10	125.00
Carbohydrate	Sucrose, Fine Granulated	100.00
Fiber	Solka Floc, FCC200	50.00
Fat	Soybean Oil, USP	40.00
Mineral	S10022M	35.00
Vitamin	V10037	10.00
Vitamin	Choline Bitartrate	2.50
Anti-oxidant	tert-Butylhydroquinone (tBHQ)	0.01
Macronutrient		kcal%
Protein		20
Carbohydrate		20
Fat		9.4

D12492i		
Rodent Diet With 60 kcal% Fat		
Class description	Ingredients	Weight (grams)
Protein	Casein, Lactic, 30 Mesh	200.00
Protein	Cystine, L	3.00
Carbohydrate	Lodex 10	125.00
Carbohydrate	Sucrose, Fine Granulated	72.80
Fiber	Solka Floc, FCC200	50.00
Fat	Lard	245.00
Fat	Soybean Oil, USP	25.00
Mineral	S10026B	50.00
Vitamin	Choline Bitartrate	2.00
Vitamin	V10001C	1.00
Dye	Dye, Blue FD&C #1, Alum. Lake 35-42%	0.05
Macronutrient		kcal%
Protein		20
Carbohydrate		20
Fat		60

Supplementary Table 2. qPCR primer sequences used to investigate inflammation and barrier function in the mouse brain (cortex, hippocampus and hypothalamus).

Gene name	Forward sequence (5'-3')	Reverse sequence (5'-3')
<i>BDNF</i>	GCG-CCC-ATG-AAA-GAA-GTA-AA	GTC-GTC-AGA-CCT-CTC-GAA-CC
<i>Claudin 2</i>	AAG-GTG-CTG-CTG-AGG-GTA-GA	AGT-GGX-AGA-GAT-GGG-ATT-TG
<i>Claudin1</i>	TTC-GCA-AAG-CAC-CGG-GCA-GAT-ACA	GCC-ACT-AAT-GTC-GC-AGA-CC-GAA-A
<i>IL-1b</i>	TCG-CTC-AAG-GTC-ACA-AGA-AA	CAT-CAG-AGG-CAA-GGA-GGA-AAA-C
<i>IL-6</i>	ACA-AGT-CGG-AGG-CTT-AAT-TAC-ACA-T	TTG-CCA-TTG-CAC-AAC-TCT-TTT-C
<i>MCP1</i>	GGC-TGG-AGA-GCT-ACA-AGA-GG	GCT-GAA-GAC-CTT-AGG-GCA-GA
<i>Occludin</i>	ATG-TCC-GGC-CGA-TGC-TCT-C	TTT-GGC-TGC-TCT-TGG-GTC-TGT-AT
<i>RPL19</i>	GAA-GGT-CAA-AGG-GAA-TGT-GTT-CA	CCT-TGT-CTG-CCT-TCA-GCT-TGT
<i>TLR4</i>	CCC-TCA-GCA-CTC-TTG-ATT-GC	TGC-TTC-TGT-TCC-TTG-ACC-CA
<i>TNFa</i>	AGC-CCC-CAG-TCT-GTA-TCC-TT	GGT-CAC-TGT-CCC-AGC-ATC-TT
<i>ZO1</i>	TTT-TTG-ACA-GGG-GGA-GTG-G	TGC-TGC-AGA-GGT-CAA-AGT-TCA-AG

Supplementary Table 3. Phylum level summaries of relative abundances from each experimental group.

Experiment	Experimental_group_timepoint	Actinobacteriota	Bacteroidota	Desulfobacterota	Firmicutes	Patescibacteria	Proteobacteria	Verrucomicrobiota
1	CTD_controlgavage_prebehaviour	0.56 % ± 0.31	44.51 % ± 2.24	12.06 % ± 1.42	29.58 % ± 2.06	0.23 % ± 0.05	1.72 % ± 0.34	11.33 % ± 1.05
1	CTD_controlgavage_postbehaviour	0.23 % ± 0.09	45.81 % ± 1.62	10.31 % ± 1.14	29.39 % ± 2.01	0.20 % ± 0.05	2.45 % ± 0.84	11.60 % ± 1.30
1	HFD_controlgavage_prebehaviour	0.10 % ± 0.04	44.21 % ± 2.36	13.67 % ± 1.50	35.76 % ± 1.99	0.38 % ± 0.07	0.54 % ± 0.11	5.35 % ± 1.34
1	HFD_controlgavage_postbehaviour	0.08 % ± 0.03	41.18 % ± 3.90	13.44 % ± 1.74	40.46 % ± 2.61	0.50 % ± 0.11	0.26 % ± 0.07	4.09 % ± 1.23
2	CTD_nogavage_prebehaviour	0.14 % ± 0.04	45.29 % ± 1.72	11.40 % ± 1.40	24.41 % ± 1.46	0.08 % ± 0.03	2.77 % ± 0.33	15.88 % ± 1.56
2	CTD_nogavage_postbehaviour	0.09 % ± 0.02	50.44 % ± 1.42	8.76 % ± 1.07	22.20 % ± 1.91	0.11 % ± 0.02	2.77 % ± 0.50	15.65 % ± 1.90
2	CTD_controlgavage_prebehaviour	0.09 % ± 0.02	51.58 % ± 2.07	8.99 % ± 1.11	23.20 % ± 2.17	0.14 % ± 0.03	2.30 % ± 0.55	13.70 % ± 1.67
2	CTD_controlgavage_postbehaviour	0.12 % ± 0.03	51.94 % ± 1.43	9.84 % ± 1.27	23.24 % ± 1.69	0.17 % ± 0.04	2.43 % ± 0.45	12.27 % ± 2.08

Supplementary Table 4. Significant taxa from ANCOM-BC2 differential abundance testing of experiment one between HFD- and CTD- fed mice before and after behavioural testing (week six and eight post dietary intervention respectively).

ASV	lfc_(Intercept)	lfc_Experimental_group_timepointControl_control_postbehaviour	lfc_Experimental_group_timepointHFD_control_prebehaviour	lfc_Experimental_group_timepointHFD_control_postbehaviour	se_(Intercept)	se_Experimental_group_timepointControl_control_postbehaviour	se_Experimental_group_timepointHFD_control_prebehaviour	se_Experimental_group_timepointHFD_control_postbehaviour	W_(Intercept)	W_Experimental_group_timepointControl_control_postbehaviour	W_Experimental_group_timepointHFD_control_prebehaviour	W_Experimental_group_timepointHFD_control_postbehaviour	p_(Intercept)	p_Experimental_group_timepointControl_control_postbehaviour	p_Experimental_group_timepointHFD_control_prebehaviour	p_Experimental_group_timepointHFD_control_postbehaviour	q_(Intercept)	q_Experimental_group_timepointControl_control_postbehaviour	q_Experimental_group_timepointHFD_control_prebehaviour	q_Experimental_group_timepointHFD_control_postbehaviour	diff_(Intercept)	diff_Experimental_group_timepointControl_control_postbehaviour	diff_Experimental_group_timepointHFD_control_prebehaviour	diff_Experimental_group_timepointHFD_control_postbehaviour	passed_ss_(Intercept)	passed_ss_Experimental_group_timepointControl_control_postbehaviour	passed_ss_Experimental_group_timepointHFD_control_prebehaviour	passed_ss_Experimental_group_timepointHFD_control_postbehaviour	Domain	Phylum	Class	Order	Family	Genus	Species
ASV_11	0.4480	0.4289	-3.4803	0.0338	0.3308	0.3812	0.5604	0.4576	1.3543	1.1253	-6.2106	0.0739	0.1854	0.2691	6.75E-07	0.9415	1.0000	1.0000	0.0011	1.0000	FAUX	FAUX	VRAI	FAUX	VRAI	VRAI	VRAI	VRAI	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Mariniflaccaceae	Odoribacter	NA
ASV_18	2.3364	-0.1741	-4.8480	-5.4919	0.4117	0.5192	0.5879	0.5443	5.6751	-0.3353	-8.2465	-10.0900	5.72E-06	0.7401	9.97E-09	1.76E-10	0.0091	1.0000	0.0000	2.81E-07	VRAI	FAUX	VRAI	VRAI	VRAI	VRAI	VRAI	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA	
ASV_33	1.0606	0.2585	-2.1769	-3.4119	0.4578	0.8252	0.9311	0.7151	2.3169	0.3132	-2.3379	-4.7714	0.0290	0.7567	0.0277	6.74E-05	1.0000	1.0000	1.0000	0.1069	FAUX	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Sutterellaceae	Parasutterella	NA
ASV_40	1.0137	0.2332	-0.5051	-3.0893	0.3175	0.6481	0.7308	0.6980	3.1927	0.3597	-0.6911	-4.4259	0.0033	0.7216	0.4948	0.0001	1.0000	1.0000	1.0000	0.1854	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Sutterellaceae	Parasutterella	NA	
ASV_42	2.2205	-0.1195	-5.3307	-5.6012	0.4417	0.5647	0.6285	0.5693	5.0272	-0.2117	-8.4819	-9.8381	3.88E-05	0.8341	1.10E-08	6.75E-10	0.0619	1.0000	1.76E-05	1.08E-06	FAUX	FAUX	VRAI	FAUX	VRAI	VRAI	VRAI	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA	
ASV_43	1.4338	-0.7705	-1.1374	-2.8133	0.3088	0.4196	0.6246	0.7216	4.6429	-1.8362	-1.8210	-3.8986	5.96E-05	0.0759	0.0783	0.0005	0.0950	1.0000	1.0000	0.7578	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	NA	NA	
ASV_82	-1.4459	0.5886	2.3221	2.4968	0.3320	0.5649	0.5136	0.4808	-4.3553	1.0421	4.5214	5.1932	0.0001	0.3054	8.42E-05	1.23E-05	0.2146	1.0000	0.1341	0.0196	FAUX	FAUX	FAUX	VRAI	FAUX	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	Oscillibacter	NA	
ASV_109	-1.4930	0.7460	2.4276	2.4240	0.3800	0.5278	0.5604	0.5443	-3.9294	1.4134	4.3322	4.4535	0.0004	0.1675	0.0001	0.0001	0.7048	1.0000	0.2287	0.1618	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Bacilli	Lactobacillales	Lactobacillaceae	Ligilactobacillus	NA	
ASV_111	-1.0764	0.3093	1.9626	1.8782	0.2402	0.3587	0.3449	0.3447	-4.4808	0.8624	5.6905	5.4494	9.45E-05	0.3951	2.97E-06	5.92E-06	0.1505	1.0000	0.0047	0.0094	FAUX	FAUX	VRAI	FAUX	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	Intestinimonas	NA	
ASV_113	-2.4009	0.3793	4.4755	4.2103	0.3122	0.4427	0.4266	0.3956	-7.6902	0.8568	10.4906	10.6421	1.41E-08	0.3984	1.48E-11	1.05E-11	2.25E-05	1.0000	2.37E-08	1.69E-08	VRAI	FAUX	VRAI	VRAI	VRAI	FAUX	VRAI	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA	
ASV_120	-0.6772	-0.3334	1.4084	1.6336	0.2816	0.4289	0.4587	0.3763	-2.4045	-0.7773	3.0705	4.3411	0.0224	0.4429	0.0044	0.0001	1.0000	1.0000	1.0000	0.2220	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_126	1.1318	-0.3571	-2.2570	-1.8435	0.3484	0.4495	0.6100	0.4469	3.2484	-0.7946	-3.7002	-4.1248	0.0029	0.4331	0.0009	0.0003	1.0000	1.0000	1.0000	0.4263	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA	
ASV_139	1.5271	-0.4537	-1.8011	-4.0275	0.5095	0.5920	0.6615	0.6380	2.9972	-0.7664	-2.7227	-6.3125	0.0061	0.4506	0.0116	1.32E-06	1.0000	1.0000	1.0000	0.0021	FAUX	FAUX	FAUX	VRAI	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA	
ASV_141	1.5168	-0.3825	-2.7551	-2.9965	0.2997	0.4359	0.4776	0.4059	5.0616	-0.8775	-5.7685	-7.3823	2.34E-05	0.3877	3.42E-06	4.87E-08	0.0374	1.0000	0.0055	7.77E-05	VRAI	FAUX	VRAI	VRAI	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_144	0.7979	0.3774	-1.1651	-2.7013	0.5722	0.7284	0.9491	0.6546	1.3944	0.5182	-1.2277	-4.1265	0.1746	0.6085	0.2302	0.0003	1.0000	1.0000	1.0000	0.4968	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	GCA-900066575	NA
ASV_160	-0.6298	0.3912	0.5017	1.2240	0.2202	0.3272	0.3555	0.2982	-2.8594	1.1956	1.4110	4.1041	0.0075	0.2409	0.1682	0.0003	1.0000	1.0000	1.0000	0.4299	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_162	-0.7963	-0.5622	1.8113	2.0082	0.4224	0.5896	0.5728	0.4889	-1.8852	-0.9536	3.1621	4.1076	0.0688	0.3477	0.0035	0.0003	1.0000	1.0000	1.0000	0.4263	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_196	-1.5192	0.2826	2.4622	2.9465	0.2963	0.5138	0.3940	0.3919	-5.1278	0.5500	6.2489	7.5186	1.49E-05	0.5863	6.06E-07	1.79E-08	0.0238	1.0000	0.0010	2.86E-05	VRAI	FAUX	VRAI	VRAI	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA	
ASV_201	-0.6466	0.4695	-0.1298	1.5107	0.2212	0.3430	0.5295	0.3484	-2.9239	1.3686	-0.2452	4.3356	0.0064	0.1810	0.8079	0.0001	1.0000	1.0000	1.0000	0.2253	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_225	-0.3971	-0.5036	0.5277	1.4272	0.2159	0.3647	0.3443	0.3415	-1.8396	-1.3807	1.5326	4.1796	0.0754	0.1773	0.1355	0.0002	1.0000	1.0000	1.0000	0.3490	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	GCA-900066575	NA	
ASV_231	-1.3057	1.4407	1.2972	1.7748	0.3045	0.4170	0.4287	0.3842	-4.2878	3.4554	3.0260	4.6198	0.0002	0.0017	0.0050	6.80E-05	0.2738	1.0000	1.0000	0.1079	FAUX	FAUX	FAUX	FAUX	FAUX	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA	
ASV_234	0.6997	-0.7551	-2.2722	-0.3842	0.3990	0.5024	0.5030	0.7003	1.7533	-1.5030	-4.5176	-0.5486	0.0901	0.1437	9.67E-05	0.5875	1.0000	1.0000	0.1539	1.0000	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	ClostridiavadinB860group	NA	NA	NA	
ASV_246	1.7269	-0.9346	-2.3201	-3.3209	0.6914	0.8536	0.7834	0.7608	2.4977	-1.0949	-2.9615	-4.3651	0.0192	0.2836	0.0065	0.0002	1.0000	1.0000	1.0000	0.2835	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA	
ASV_253	-1.8433	1.0332	2.9032	2.8532	0.4534	0.5643	0.6509	0.6059	-4.0657	1.8309	4.4602	4.7088	0.0003	0.0771	0.0001	5.30E-05	0.5060	1.0000	0.1692	0.0841	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Bacilli	Lactobacillales	Lactobacillaceae	Ligilactobacillus	NA	
ASV_258	-0.5146	-0.1060	0.4890	1.3917	0.1866	0.2853	0.5461	0.2660	-2.7576	-0.3715	0.8955	5.2319	0.0097	0.7128	0.3774	1.10E-05	1.0000	1.0000	1.0000	0.0176	FAUX	FAUX	FAUX	VRAI	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	Harryflintia	NA	
ASV_261	0.8677	-1.0748	-0.5205	-1.1667	0.2046	0.3605	0.3447	0.3117	4.2410	-2.9811	-1.5098	-3.7434	0.0002	0.0055	0.1412	0.0007	0.2959	1.0000	1.0000	1.0000	FAUX	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	NA	NA
ASV_289	-0.7687	0.1279	1.2513	1.5177	0.2062	0.3311	0.3443	0.2947	-3.7277	0.3864	3.6347	5.1501	0.0008	0.7018	0.0010	1.40E-05	1.0000	1.0000	1.0000	0.0222	FAUX	FAUX	FAUX	VRAI	FAUX	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA	
ASV_317	-1.3140	0.6633	1.8439	2.1720	0.4029	0.5479	0.6694	0.5332	-3.2614	1.2107	2.7548	4.0739	0.0028	0.2355	0.0099	0.0003	1.0000	1.0000	1.0000	0.4894	FAUX	FAUX	FAUX	FAUX	FAUX	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	IncertaeSedis	NA	
ASV_324	1.6147	-1.1727	-2.2931	-2.4044	0.3150	0.4429	0.4578	0.4976	5.1266	-2.6477	-5.0088	-4.8319	1.63E-05	0.0128	2.27E-05	3.74E-05	0.0260	1.0000	0.0362	0.0595	VRAI	FAUX	VRAI	FAUX	VRAI	FAUX	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	IncertaeSedis	NA
ASV_330	0.9735	-0.5283	-1.3711	-1.5964	0.2527	0.3754	0.4756	0.3852	3.8526	-1.4071	-2.8831	-4.1438	0.0005	0.1694	0.0071	0.0002	0.8706	1.0000	1.0000	0.3857	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	Lachnospiraceae	NA	
ASV_342	-0.7218	-0.3777	0.8646	2.0799	0.3939	0.4940	0.5308	0.4654	-1.8322	-0.7647	1.6288	4.4686	0.0765	0.4502	0.1135	9.79E-05	1.0000	1.0000	1.0000	0.1551	FAUX	FAUX	FAUX	FAUX	VRAI	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	IncertaeSedis	NA	
ASV_366	-1.5993	0.5047	2.4218	2.7646	0.5259	0.6608	0.6551	0.6741	-3.0409	0.7638	3.6967	4.1009	0.0050	0.4511	0.0009	0.0003	1.0000	1.0000	1.0000	0.4778	FAUX	FAUX	FAUX	FAUX	VRAI	FAUX	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA	
ASV_497	-1.4601	0.5113	2.6888	2.1645	0.3618	0.4703	0.5154	0.4860	-4.0356	1.0873	5.1785	4.4534	0.0004	0.2862	1.70E-05	0.0001	0.6060	1.0000	0.0271	0.1951	FAUX	FAUX	VRAI	FAUX	VRAI	VRAI	VRAI	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	Negativibacillus	NA	
ASV_519	-1.4393	0.4735	1.9133	2.6260	0.2916	0.4251	0.5578	0.4494	-4.9352	1.1139	3.4301	5.8430	3.31E-05	0.2748	0.0019	2.79E-06	0.0528	1.0000	1.0000	0.0045	FAUX	FAUX	FAUX	VRAI	FAUX	VRAI	FAUX	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeUCG-006	NA	
ASV_762	-1.1662	0.8979	1.1054	1.9761	0.3746	0.4757	0.5210																												

Supplementary Table 5. ALDEx2 differential abundance testing of experiment one between HFD- and CTD- fed mice before and after behavioural testing (week six and eight post dietary intervention respectively).

Time point	ASV	we.ep	we.eBH	wi.ep	wi.eBH	rab.all	rab.win.Control_control	rab.win.HFD_control	diff.btw	diff.win	effect	effect.low	effect.high	overlap	Domain	Phylum	Class	Order	Family	Genus	Species
Pre-behaviour	ASV_18	0,0002	0,3721	0,0000	0,0085	10,3601	6,8716	11,4608	4,7031	3,0720	1,1881	-0,2156	14,7013	0,0746	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Pre-behaviour	ASV_42	0,0009	0,5061	0,0005	0,2534	9,0381	5,4204	10,0389	4,8478	4,1916	1,0724	-0,2109	15,1820	0,0762	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Pre-behaviour	ASV_327	0,0050	0,6851	0,0024	0,2710	5,0597	-0,1738	6,1768	5,8315	5,3878	0,9203	-1,5899	12,7762	0,1250	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA
Pre-behaviour	ASV_496	0,0032	0,6470	0,0017	0,2912	2,2625	-0,4287	3,6249	3,7973	3,4984	1,0145	-0,7777	9,8958	0,1008	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA
Pre-behaviour	ASV_167	0,0217	0,9804	0,0017	0,3497	6,5541	5,4293	7,3069	1,7699	1,7638	0,8798	-0,5807	11,8197	0,1048	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Pre-behaviour	ASV_92	0,0018	0,6021	0,0015	0,3796	3,3936	0,8064	4,7903	4,0712	3,8085	0,9753	-0,5793	9,4797	0,1234	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Pre-behaviour	ASV_552	0,0074	0,6891	0,0051	0,4107	2,8293	-0,3375	4,5447	4,5219	4,2555	0,9753	-1,4248	11,2363	0,1018	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA
Pre-behaviour	ASV_277	0,0101	0,9290	0,0022	0,4210	4,6791	3,2656	5,1652	2,2123	2,7593	0,7457	-0,4945	12,9009	0,1336	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Pre-behaviour	ASV_982	0,0121	0,7457	0,0082	0,4698	0,3253	-1,6086	2,1388	3,8031	3,4677	1,0053	-1,0548	9,0155	0,1142	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Pre-behaviour	ASV_707	0,0049	0,8169	0,0032	0,5010	3,5195	0,0993	4,4367	4,0508	3,6016	0,9673	-0,5743	11,3808	0,1118	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA
Pre-behaviour	ASV_182	0,0052	0,8542	0,0033	0,5041	5,5559	3,2545	6,5135	3,2692	2,9576	0,9889	-0,4755	10,2773	0,1032	Bacteria	Proteobacteria	Gammaproteobacteria	Burkholderiales	Sutterellaceae	Parasutterella	NA
Post-behaviour	ASV_103	0,0001	0,0284	0,0000	0,0000	5,0811	1,5023	8,5172	7,4374	5,0852	1,4802	-0,1327	12,3527	0,0358	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	Dorea	NA
Post-behaviour	ASV_106	0,0000	0,0188	0,0000	0,0000	8,2559	6,6226	9,3065	2,7718	1,2433	2,1624	0,3665	13,7790	0,0020	Bacteria	Firmicutes	Clostridia	Peptococcales	Peptococcaceae	Peptococcus	NA
Post-behaviour	ASV_113	0,0000	0,0005	0,0000	0,0000	7,6312	4,1452	10,0026	5,7685	1,4436	3,9602	1,2350	27,1341	0,0000	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Muribaculaceae	NA	NA
Post-behaviour	ASV_258	0,0000	0,0026	0,0000	0,0000	5,2543	3,7162	6,0015	2,3378	0,9446	2,4343	0,5343	16,3548	0,0002	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	Harryflintia	NA
Post-behaviour	ASV_253	0,0009	0,0656	0,0000	0,0007	4,9473	4,0265	6,8866	3,0284	2,7777	1,0285	-0,6972	10,0903	0,1000	Bacteria	Firmicutes	Bacilli	Lactobacillales	Lactobacillaceae	Ligilactobacillus	NA
Post-behaviour	ASV_444	0,0005	0,0478	0,0000	0,0023	4,0698	0,6967	5,4891	4,7280	3,0849	1,5217	0,0581	16,2762	0,0180	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA
Post-behaviour	ASV_519	0,0012	0,0667	0,0001	0,0037	3,7851	2,1187	5,4737	3,4568	2,0821	1,5729	-0,3282	12,8581	0,0440	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeUCG-006	NA
Post-behaviour	ASV_15	0,0006	0,0634	0,0001	0,0049	9,3602	8,9629	10,3281	1,2732	1,2626	1,0178	-0,9784	10,4547	0,1334	Bacteria	Bacteroidota	Bacteroidia	Bacteroidales	Bacteroidaceae	Bacteroides	acidifaciens
Post-behaviour	ASV_225	0,0006	0,0672	0,0001	0,0050	6,4179	4,9766	7,6350	2,8600	1,7912	1,5849	0,0186	10,9530	0,0228	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	GCA-900066575	NA
Post-behaviour	ASV_502	0,0007	0,0583	0,0001	0,0072	3,7051	0,8222	5,3800	4,4095	2,7130	1,5674	-0,0522	15,2368	0,0312	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_289	0,0001	0,0237	0,0001	0,0084	4,9462	3,7683	5,7942	2,1032	1,3007	1,5909	0,0448	10,7147	0,0198	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA
Post-behaviour	ASV_196	0,0002	0,0343	0,0001	0,0102	6,5528	3,6441	7,8291	4,1331	2,1381	1,8023	-0,3527	12,2237	0,0512	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeNK4A136group	NA
Post-behaviour	ASV_342	0,0000	0,0148	0,0001	0,0103	4,1263	2,9399	6,3949	3,4899	1,5809	2,2483	0,3067	18,9424	0,0082	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	IncertaeSedis	NA
Post-behaviour	ASV_83	0,0001	0,0296	0,0002	0,0167	7,9725	6,8995	9,7515	2,8378	1,3459	2,0917	0,1772	14,7402	0,0118	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	Colidextribacter	NA
Post-behaviour	ASV_939	0,0014	0,0779	0,0004	0,0168	2,2557	0,2752	4,3703	3,9244	2,9229	1,2584	-0,5005	10,8194	0,0708	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	LachnospiraceaeUCG-006	NA
Post-behaviour	ASV_262	0,0014	0,0883	0,0003	0,0182	5,6776	4,1009	7,6983	3,8275	4,1244	1,1128	-0,9900	16,8989	0,0562	Bacteria	Firmicutes	Clostridia	Peptostreptococcales-Tissierellales	Peptostreptococcaceae	Romboutsia	ilealis
Post-behaviour	ASV_457	0,0007	0,0548	0,0004	0,0187	1,1209	-1,3908	3,7383	5,1577	3,4756	1,4284	-0,1030	11,3438	0,0376	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_497	0,0025	0,1115	0,0004	0,0203	2,9539	1,5417	4,3682	2,9279	2,1737	1,2778	-0,3331	11,8123	0,0588	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	Negativibacillus	NA
Post-behaviour	ASV_366	0,0020	0,1001	0,0003	0,0205	4,5371	2,4857	6,3742	3,7663	3,1327	1,1522	-0,6030	8,8013	0,0986	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_109	0,0008	0,0764	0,0003	0,0212	7,1563	6,4852	9,0965	2,5472	2,5945	0,9801	-1,0245	10,2673	0,1588	Bacteria	Firmicutes	Bacilli	Lactobacillales	Lactobacillaceae	Ligilactobacillus	NA
Post-behaviour	ASV_162	0,0002	0,0412	0,0003	0,0214	6,9615	5,1418	8,3393	3,6271	2,2273	1,6356	0,1011	15,0058	0,0176	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA
Post-behaviour	ASV_179	0,0003	0,0462	0,0004	0,0308	6,7958	5,9107	8,4846	2,5940	1,6556	1,4287	-0,5130	11,3899	0,0760	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA
Post-behaviour	ASV_326	0,0035	0,1300	0,0006	0,0337	4,5356	3,3082	5,9216	2,4562	1,7299	1,3734	-0,2271	11,7941	0,0494	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	Lachnoclostridium	NA
Post-behaviour	ASV_218	0,0026	0,1359	0,0004	0,0338	6,5356	5,2689	8,3749	2,6233	2,3809	1,1598	-0,6599	13,1741	0,0916	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_208	0,0000	0,0172	0,0004	0,0339	6,9190	6,2705	8,0210	1,6555	0,9577	1,6236	-1,2802	14,6097	0,0758	Bacteria	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Lactococcus	lactis
Post-behaviour	ASV_120	0,0001	0,0297	0,0004	0,0341	7,6950	6,3909	9,2875	3,0675	1,7203	1,6530	-0,0641	15,1404	0,0300	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	NA	NA
Post-behaviour	ASV_174	0,0038	0,1573	0,0006	0,0360	6,7471	5,0235	8,7283	3,3229	2,8834	1,0505	-1,0053	11,5811	0,1064	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	NA	NA
Post-behaviour	ASV_168	0,0002	0,0383	0,0006	0,0381	6,5399	5,0532	8,2809	3,0508	1,9805	1,5449	-0,1028	14,6550	0,0348	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	NA	NA
Post-behaviour	ASV_132	0,0008	0,0722	0,0005	0,0408	9,8594	0,6937	10,5735	10,0217	6,0541	1,2783	-0,0138	29,2103	0,0310	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_9	0,0004	0,0511	0,0005	0,0408	11,8381	10,8983	12,2636	1,3476	0,8563	1,4848	-0,2951	10,3000	0,0510	Bacteria	Firmicutes	Clostridia	Oscillospirales	Oscillospiraceae	Colidextribacter	NA
Post-behaviour	ASV_904	0,0014	0,0808	0,0010	0,0414	1,1751	-1,1688	3,6872	4,6959	3,2569	1,4005	-0,3547	11,7346	0,0514	Bacteria	Firmicutes	Clostridia	Oscillospirales	Ruminococcaceae	Anaerotruncus	colihominis
Post-behaviour	ASV_211	0,0034	0,1548	0,0006	0,0419	6,8413	5,6502	8,4049	2,3550	2,3445	1,0569	-0,6153	10,7927	0,1266	Bacteria	Firmicutes	Clostridia	Lachnospirales	Lachnospiraceae	NA	NA
Post-behaviour	ASV_176	0,0007	0,0672	0,0008	0,0474	6,8677	6,4674	7,2418	0,9798	0,9285	1,1609	-0,1100	11,9901	0,0420	Bacteria	Firmicutes	Clostridia	Oscillospirales	Lachnospiraceae	Oscillibacter	NA