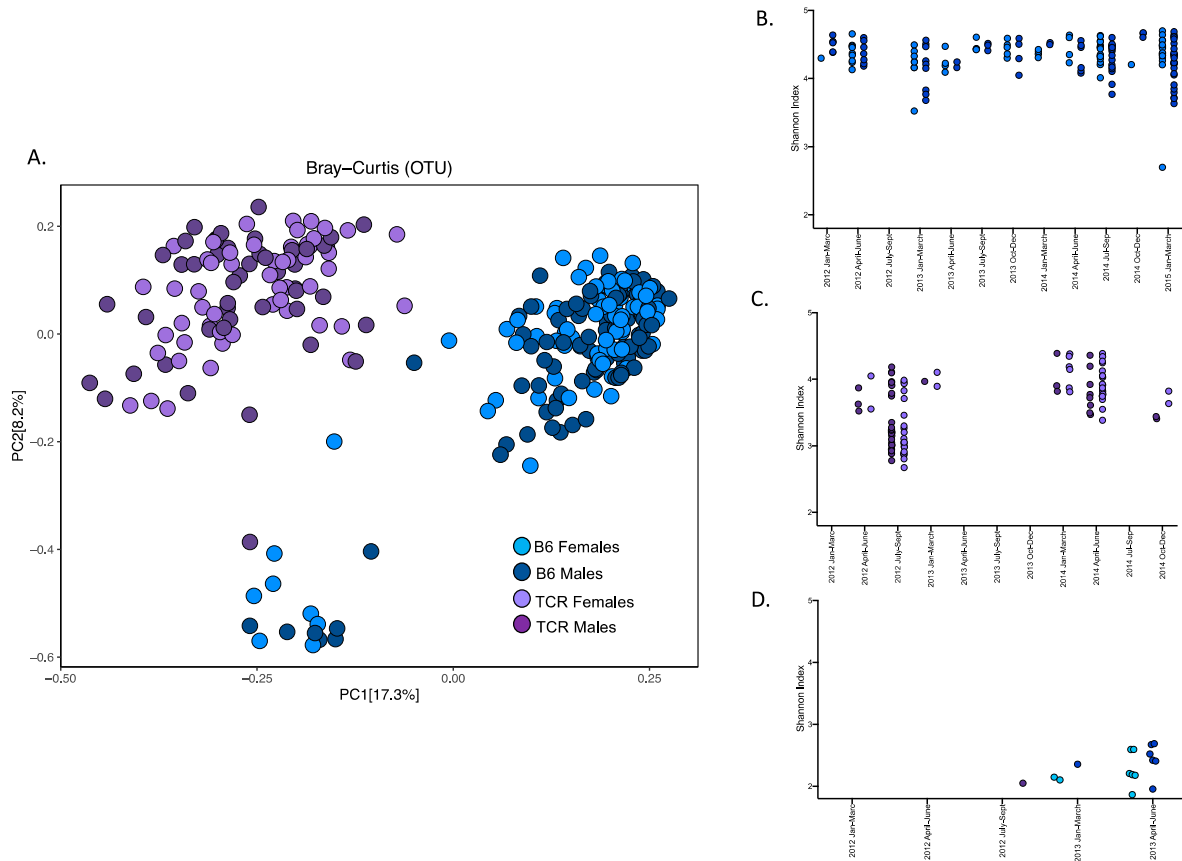


Supplementary Material

Microbe-immune-stress interactions impact behaviour during postnatal development

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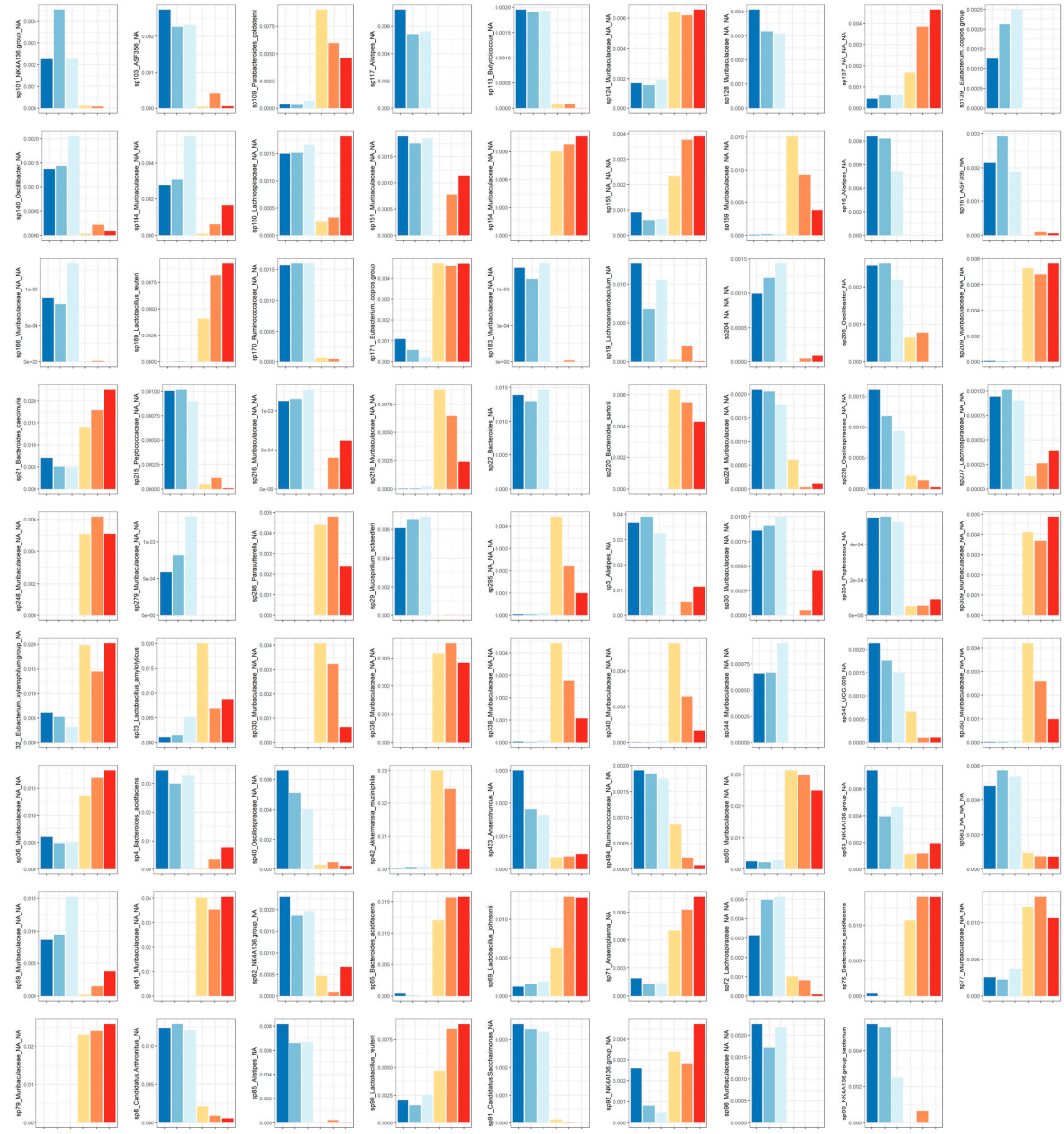


Supplemental Figure S1. Principle Component Analysis (PCoA) for Beta-diversity using raw ASV data revealed three individual clusters (A) including two B6 clusters (B, D) and one *TCRβ*^{-/-δ}^{-/-} cluster (C). Analysis of alpha diversity of individual samples showed that samples in the smaller B6 cluster (D) had lower alpha diversity compared to the larger B6 (B) and *TCRβ*^{-/-δ}^{-/-} cluster (C). The demographics of these samples revealed samples from the same litter as well as having similar postnatal days (Supplementary Table S1). Therefore, due to the nature of these samples, they were removed from subsequent analyses.

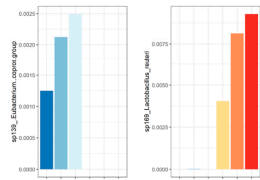
Supplemental Table S1 – Demographics for samples excluded from analyses

Sample ID	Counts	Animal ID	LITTER	PO	GENOTYPE	SEX	Shannon Index
JF1419	2591	D76-1	D76	21-Feb-13	B6	F	2.10
JF1420	24724	D76-2	D76	21-Feb-13	B6	M	2.36
JF1470	59863	D83-3	D83	19-Apr-13	B6	M	2.52
JF1475	64361	D84-1	D84	01-May-13	B6	F	1.87
JF1486	64641	D85-2	D85	10-May-13	B6	M	2.42
JF1485	66697	D85-1	D85	10-May-13	B6	F	2.60
JF1303	66845	D53-1	D53	29-Aug-12	TCR	M	2.05
JF1469	71810	D83-2	D83	19-Apr-13	B6	M	2.67
JF1478	74397	D84-4	D84	01-May-13	B6	M	1.96
JF1487	75488	D85-3	D85	10-May-13	B6	M	2.41
JF1482	76491	D84-8	D84	01-May-13	B6	F	2.19
JF1472	77097	D83-5	D83	19-Apr-13	B6	M	2.69
JF1483	80036	D84-9	D84	01-May-13	B6	F	2.18
JF1476	80101	D84-2	D84	01-May-13	B6	F	2.21
JF1473	80138	D83-6	D83	19-Apr-13	B6	F	2.60
JF1414	100261	D75-5	D75	21-Feb-13	B6	F	2.15

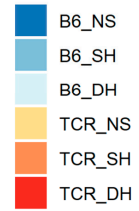
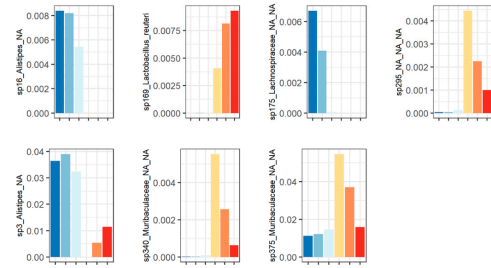
A



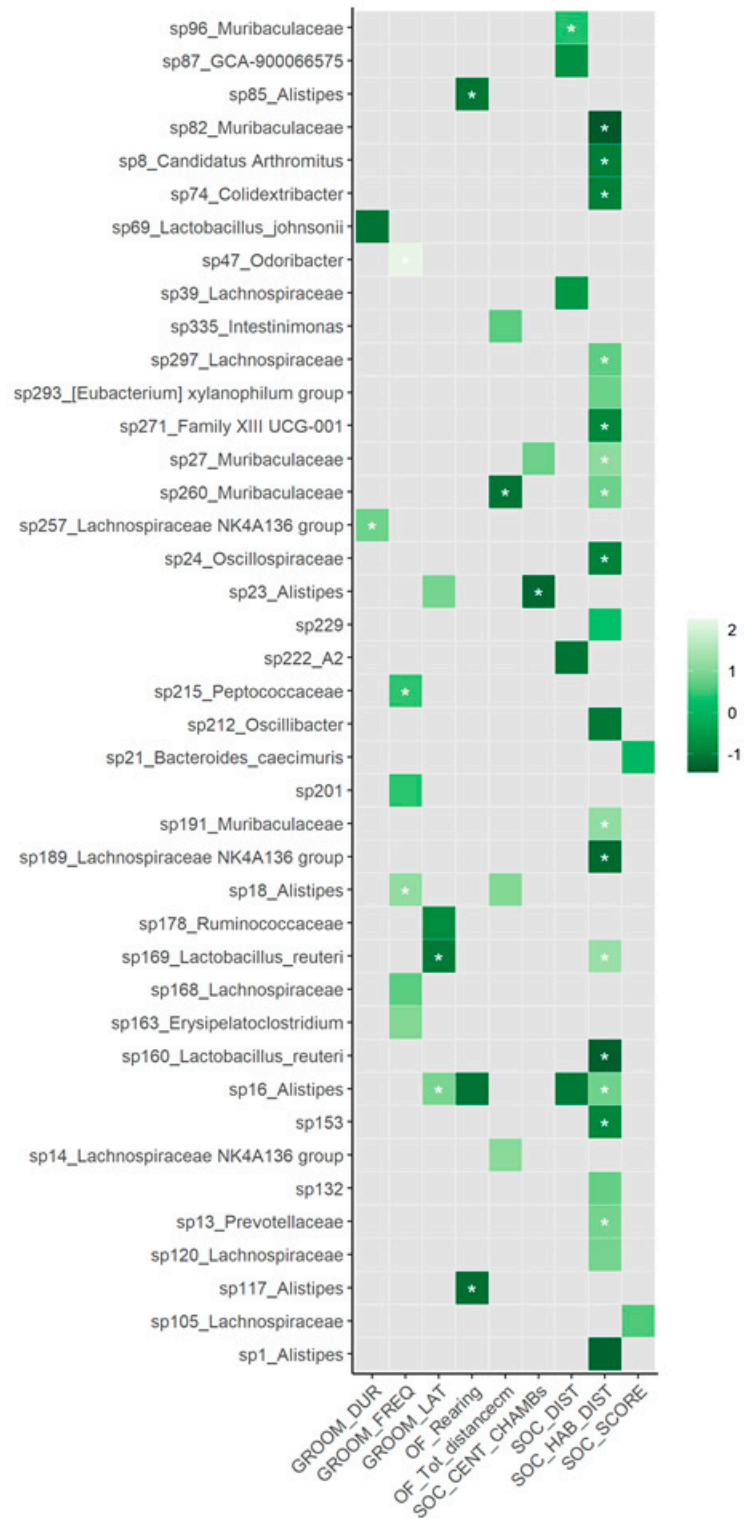
B



C



Supplemental Figure S2. Relative abundance of significant consensus taxa from differential abundance analysis using ALDex2 and DESeq2 for (A) Genotype, (B) Stress and (C) Genotype-Stress interaction



Supplemental Figure S3. MaAsLin2 omnibus associations between behavioural measures (open field, social behaviour and self grooming) and gut microbiota composition at the ASV level in postnatal day 24 (P24) mice. Color scale-bar show scaled correlations between taxa and factors, ranging from the highest (white) to lowest (dark green). Stars indicate significance at $FDR < 0.05$.