

Supporting Information for

Original article

Understanding the physiological functions of the host xenobiotic-sensing nuclear receptors PXR and CAR on the gut microbiome using genetically modified mice

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Section 3. Statistical analysis of both male and female microbiome data in receptor null mice (two-way ANOVA).

I. Day 30 adolescent age: 315 bacteria that were detected in both sexes, below are the statistical analyses using two-way ANOVA in R)

"k__Bacteria.p__Acidobacteria.c__Chloracidobacteria..o__RB41.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.451e-09	8.171e-10	3.091	0.0408 *
Sex	1	8.800e-11	8.800e-11	0.333	0.5681
Genotype:Sex	3	5.190e-10	1.729e-10	0.654	0.5863
Residuals	32	8.460e-09	2.644e-10		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Chloracidobacteria..o__RB41.f__Ellin6075.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.240e-11	7.464e-12	0.300	0.825
Sex	1	1.380e-11	1.375e-11	0.552	0.463
Genotype:Sex	3	9.000e-11	2.999e-11	1.203	0.324
Residuals	32	7.973e-10	2.491e-11		

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__CCU21.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.258e-10	7.526e-11	1.523	0.227
Sex	1	7.250e-11	7.254e-11	1.468	0.235
Genotype:Sex	3	1.601e-10	5.337e-11	1.080	0.371
Residuals	32	1.581e-09	4.942e-11		

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.336e-09	1.779e-09	1.871	0.154
Sex	1	2.100e-11	2.060e-11	0.022	0.884
Genotype:Sex	3	3.437e-09	1.146e-09	1.205	0.324
Residuals	32	3.042e-08	9.506e-10		

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__mb2424.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.986e-10	1.662e-10	1.844	0.1591
Sex	1	1.236e-10	1.237e-10	1.372	0.2502
Genotype:Sex	3	7.872e-10	2.624e-10	2.911	0.0495 *
Residuals	32	2.885e-09	9.014e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__RB40.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.267e-11	4.224e-12	0.559	0.646
Sex	1	5.400e-13	5.360e-13	0.071	0.792
Genotype:Sex	3	2.969e-11	9.898e-12	1.310	0.288
Residuals	32	2.418e-10	7.558e-12		

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Acidobacteriaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	7.030e-11	2.344e-11	1.314	0.287
Sex	1	1.440e-11	1.445e-11	0.810	0.375
Genotype:Sex	3	6.250e-11	2.085e-11	1.169	0.337
Residuals	32	5.708e-10	1.784e-11		

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Koribacteraceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	6.550e-11	2.183e-11	0.869	0.467
Sex	1	7.700e-12	7.719e-12	0.307	0.583
Genotype:Sex	3	9.150e-11	3.049e-11	1.214	0.321
Residuals	32	8.038e-10	2.512e-11		

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Koribacteraceae.g__Candidatus.Koribacter.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.739e-11	5.795e-12	1.682	0.1904
Sex	1	0.000e+00	0.000e+00	0.000	0.9906
Genotype:Sex	3	3.477e-11	1.159e-11	3.365	0.0306 *
Residuals	32	1.102e-10	3.445e-12		

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__iii1.8.o__32.20.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.880e-11	1.293e-11	0.425	0.736
Sex	1	1.800e-12	1.782e-12	0.059	0.810
Genotype:Sex	3	3.710e-11	1.237e-11	0.407	0.749
Residuals	32	9.727e-10	3.040e-11		

"k__Bacteria.p__Acidobacteria.c__iii1.8.o__DS.18.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	6.940e-10	2.312e-10	0.527	0.667
Sex	1	3.200e-11	3.190e-11	0.073	0.789
Genotype:Sex	3	4.400e-10	1.468e-10	0.334	0.800
Residuals	32	1.405e-08	4.390e-10		

"k__Bacteria.p__Acidobacteria.c__Solibacteres.o__Solibacterales.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.910e-11	1.638e-11	0.898	0.4528
Sex	1	5.310e-11	5.312e-11	2.913	0.0976 .
Genotype:Sex	3	3.110e-11	1.038e-11	0.569	0.6394
Residuals	32	5.836e-10	1.824e-11		

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Solibacteres.o__Solibacterales.f__Solibacteraceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
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Genotype	3	3.660e-11	1.221e-11	1.221	0.318
Sex	1	0.000e+00	1.400e-14	0.001	0.970
Genotype:Sex	3	3.900e-11	1.299e-11	1.298	0.292
Residuals	32	3.201e-10	1.000e-11		

"k__Bacteria.p__Acidobacteria.c__Sva0725.o__Sva0725.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.935e-10	1.978e-10	3.735	0.0208 *
Sex	1	6.250e-11	6.246e-11	1.179	0.2856
Genotype:Sex	3	3.291e-10	1.097e-10	2.071	0.1236
Residuals	32	1.695e-09	5.296e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobia.o__Acidimicrobiales.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.002e-09	3.340e-10	3.342	0.0313 *
Sex	1	1.830e-10	1.833e-10	1.834	0.1852
Genotype:Sex	3	1.820e-10	6.070e-11	0.607	0.6151
Residuals	32	3.198e-09	9.990e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobia.o__Acidimicrobiales.f__AKIW874.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.828e-11	6.093e-12	2.291	0.0971 .
Sex	1	0.000e+00	3.000e-15	0.001	0.9715
Genotype:Sex	3	6.550e-12	2.184e-12	0.821	0.4918
Residuals	32	8.512e-11	2.660e-12		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobia.o__Acidimicrobiales.f__C111.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.584e-11	5.280e-12	1.568	0.2162
Sex	1	3.520e-12	3.521e-12	1.046	0.3141
Genotype:Sex	3	2.700e-11	9.001e-12	2.673	0.0639 .
Residuals	32	1.077e-10	3.367e-12		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobia.o__Acidimicrobiales.f__EB1017.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.034e-10	1.011e-10	3.936	0.0169 *
Sex	1	1.450e-11	1.454e-11	0.566	0.4574
Genotype:Sex	3	4.730e-11	1.576e-11	0.614	0.6112
Residuals	32	8.221e-10	2.569e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.806e-09	6.020e-10	1.340	0.279
Sex	1	3.250e-10	3.254e-10	0.724	0.401
Genotype:Sex	3	2.037e-09	6.791e-10	1.511	0.230
Residuals	32	1.438e-08	4.493e-10		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Actinosynnemataceae.g__Le
ntzea.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.417e-11	4.723e-12	0.997	0.407
Sex	1	1.000e-14	1.200e-14	0.003	0.960
Genotype:Sex	3	2.830e-11	9.433e-12	1.991	0.135
Residuals	32	1.516e-10	4.737e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Corynebacteriaceae.g__Cory
nebacterium.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.490e-10	8.300e-11	0.906	0.4492
Sex	1	3.202e-10	3.202e-10	3.493	0.0708 .
Genotype:Sex	3	7.216e-10	2.405e-10	2.624	0.0674 .
Residuals	32	2.933e-09	9.170e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Geodermatophilaceae.g__s
__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	9.100e-12	3.040e-12	0.069	0.9760
Sex	1	8.200e-12	8.210e-12	0.186	0.6688
Genotype:Sex	3	3.823e-10	1.274e-10	2.893	0.0504 .
Residuals	32	1.409e-09	4.405e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Intrasporangiaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.820e-11	9.404e-12	0.507	0.680
Sex	1	3.100e-12	3.058e-12	0.165	0.687
Genotype:Sex	3	6.810e-11	2.271e-11	1.226	0.316
Residuals	32	5.931e-10	1.853e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Intrasporangiaceae.g__Phyci
coccus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.270e-11	1.090e-11	1.126	0.353
Sex	1	2.720e-12	2.722e-12	0.281	0.599
Genotype:Sex	3	5.722e-11	1.907e-11	1.971	0.138
Residuals	32	3.097e-10	9.677e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Intrasporangiaceae.Other.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	9.490e-12	3.163e-12	0.597	0.622
Sex	1	2.540e-12	2.540e-12	0.479	0.494
Genotype:Sex	3	3.442e-11	1.147e-11	2.165	0.111
Residuals	32	1.696e-10	5.300e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Microbacteriaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.690e-12	1.896e-12	0.453	0.717
Sex	1	0.000e+00	2.000e-15	0.000	0.984
Genotype:Sex	3	1.675e-11	5.584e-12	1.333	0.281
Residuals	32	1.340e-10	4.188e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Microbacteriaceae.g__Agromyces.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.640e-11	1.547e-11	0.887	0.458
Sex	1	3.500e-12	3.522e-12	0.202	0.656
Genotype:Sex	3	5.850e-11	1.949e-11	1.117	0.357
Residuals	32	5.583e-10	1.745e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Microbacteriaceae.g__Salinibacterium.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.056e-11	6.853e-12	0.977	0.416
Sex	1	7.900e-13	7.940e-13	0.113	0.739
Genotype:Sex	3	1.545e-11	5.151e-12	0.734	0.539
Residuals	32	2.244e-10	7.013e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micrococcaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.940e-10	1.312e-10	0.624	0.605
Sex	1	7.800e-11	7.770e-11	0.369	0.548
Genotype:Sex	3	1.188e-09	3.962e-10	1.884	0.152
Residuals	32	6.727e-09	2.102e-10		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micrococcaceae.g__Arthroacter.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.001e-10	6.672e-11	1.561	0.218
Sex	1	2.124e-10	2.124e-10	4.968	0.033 *
Genotype:Sex	3	9.180e-11	3.061e-11	0.716	0.550
Residuals	32	1.368e-09	4.275e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micrococcaceae.g__Micrococcus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.850e-11	1.618e-11	0.587	0.628
Sex	1	8.600e-12	8.630e-12	0.313	0.580
Genotype:Sex	3	1.017e-10	3.390e-11	1.229	0.315
Residuals	32	8.826e-10	2.758e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micrococcaceae.Other.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.601e-11	1.200e-11	1.253	0.307
Sex	1	0.000e+00	0.000e+00	0.000	0.996
Genotype:Sex	3	2.833e-11	9.444e-12	0.986	0.412
Residuals	32	3.066e-10	9.582e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micromonosporaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.207e-11	4.025e-12	0.971	0.418
Sex	1	0.000e+00	0.000e+00	0.000	0.996
Genotype:Sex	3	2.415e-11	8.050e-12	1.943	0.143
Residuals	32	1.326e-10	4.144e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Micromonosporaceae.Other.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.940e-11	6.460e-12	0.596	0.622
Sex	1	1.220e-11	1.221e-11	1.127	0.296
Genotype:Sex	3	5.500e-12	1.845e-12	0.170	0.916
Residuals	32	3.467e-10	1.084e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Nocardiaceae.g__Rhodococcus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.523e-09	5.077e-10	2.928	0.0486 *

Sex	1	5.320e-10	5.320e-10	3.068	0.0894	.
Genotype:Sex	3	1.871e-09	6.236e-10	3.597	0.0240	*
Residuals	32	5.548e-09	1.734e-10			

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Nocardioideaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	8.160e-10	2.720e-10	2.211	0.106
Sex	1	1.720e-10	1.722e-10	1.400	0.245
Genotype:Sex	3	5.010e-10	1.671e-10	1.358	0.273
Residuals	32	3.937e-09	1.230e-10		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Nocardioideaceae.g__Kribbell
a.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.202e-11	4.007e-12	0.96	0.424
Sex	1	0.000e+00	1.000e-15	0.00	0.986
Genotype:Sex	3	2.404e-11	8.013e-12	1.92	0.146
Residuals	32	1.336e-10	4.174e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Nocardioideaceae.g__Nocardii
oides.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.850e-11	1.284e-11	0.872	0.4660
Sex	1	0.000e+00	2.000e-14	0.001	0.9698
Genotype:Sex	3	1.121e-10	3.736e-11	2.535	0.0742
Residuals	32	4.715e-10	1.474e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

II. Day 60 adult age: 315 bacteria that were detected in both sexes, below are the statistical analyses using two-way ANOVA in R)

"k__Bacteria.p__Acidobacteria.c__Chloracidobacteria.o__RB41.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.427e-09	8.089e-10	4.518	0.00944 **
Sex	1	7.500e-11	7.510e-11	0.420	0.52177
Genotype:Sex	3	6.470e-10	2.157e-10	1.205	0.32378
Residuals	32	5.730e-09	1.791e-10		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Chloracidobacteria.o__RB41.f__Ellin6075.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.452e-10	8.174e-11	3.941	0.0168 *
Sex	1	1.200e-12	1.250e-12	0.060	0.8077
Genotype:Sex	3	9.640e-11	3.213e-11	1.549	0.2208

Residuals 32 6.637e-10 2.074e-11

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__CCU21.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.695e-10	5.651e-11	0.858	0.473
Sex	1	1.190e-11	1.190e-11	0.181	0.674
Genotype:Sex	3	3.034e-10	1.011e-10	1.536	0.224

Residuals 32 2.107e-09 6.585e-11

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.184e-08	3.948e-09	5.596	0.00335 **
Sex	1	3.300e-11	3.300e-11	0.047	0.82929
Genotype:Sex	3	7.806e-09	2.602e-09	3.688	0.02182 *

Residuals 32 2.257e-08 7.050e-10

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__mb2424.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.994e-10	6.646e-11	0.926	0.440
Sex	1	6.330e-11	6.327e-11	0.881	0.355
Genotype:Sex	3	1.510e-10	5.032e-11	0.701	0.559

Residuals 32 2.298e-09 7.180e-11

"k__Bacteria.p__Acidobacteria.c__Acidobacteria.6.o__iii1.15.f__RB40.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.176e-11	3.920e-12	0.963	0.422
Sex	1	0.000e+00	0.000e+00	0.000	0.992
Genotype:Sex	3	2.352e-11	7.840e-12	1.926	0.145

Residuals 32 1.303e-10 4.071e-12

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Acidobacteriaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	7.050e-11	2.350e-11	1.126	0.3530
Sex	1	6.500e-11	6.501e-11	3.116	0.0871 .
Genotype:Sex	3	1.250e-10	4.166e-11	1.997	0.1342

Residuals 32 6.675e-10 2.086e-11

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Koribacteraceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.944e-10	6.481e-11	2.979	0.04601 *
Sex	1	3.800e-12	3.790e-12	0.174	0.67917
Genotype:Sex	3	3.434e-10	1.145e-10	5.262	0.00459 **

Residuals 32 6.962e-10 2.176e-11

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Acidobacteriia.o__Acidobacteriales.f__Koribacteraceae.g__Candidatus.Koribacter.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	6.458e-11	2.153e-11	2.550	0.0731 .
Sex	1	9.660e-12	9.660e-12	1.144	0.2928
Genotype:Sex	3	1.002e-10	3.340e-11	3.956	0.0166 *
Residuals	32	2.701e-10	8.440e-12		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__iii1.8.o__DS.18.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.535e-09	1.178e-09	3.216	0.0358 *
Sex	1	1.190e-10	1.190e-10	0.325	0.5727
Genotype:Sex	3	1.194e-09	3.980e-10	1.086	0.3690
Residuals	32	1.173e-08	3.664e-10		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Solibacteres.o__Solibacterales.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.628e-10	1.543e-10	5.031	0.00572 **
Sex	1	2.890e-11	2.887e-11	0.941	0.33922
Genotype:Sex	3	1.780e-10	5.932e-11	1.934	0.14389
Residuals	32	9.814e-10	3.067e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Acidobacteria.c__Sva0725.o__Sva0725.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.078e-10	3.592e-11	0.713	0.551
Sex	1	7.000e-12	6.990e-12	0.139	0.712
Genotype:Sex	3	3.058e-10	1.019e-10	2.024	0.130
Residuals	32	1.611e-09	5.035e-11		

"k__Bacteria.p__Actinobacteria.c__Acidimicrobiia.o__Acidimicrobiales.f__g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.358e-10	1.786e-10	5.232	0.004721 **
Sex	1	1.938e-10	1.939e-10	5.679	0.023280 *
Genotype:Sex	3	9.257e-10	3.086e-10	9.039	0.000176 ***
Residuals	32	1.092e-09	3.414e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobiia.o__Acidimicrobiales.f__EB1017.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.570e-11	1.858e-11	1.382	0.2660

Sex	1	1.000e-13	1.200e-13	0.009	0.9269
Genotype:Sex	3	1.528e-10	5.094e-11	3.788	0.0197 *
Residuals	32	4.303e-10	1.345e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Acidimicrobiia.o__Acidimicrobiales.f__lamiaceae.g__lamia.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.147e-11	3.824e-12	0.667	0.579
Sex	1	0.000e+00	4.000e-15	0.001	0.979
Genotype:Sex	3	2.293e-11	7.644e-12	1.333	0.281
Residuals	32	1.835e-10	5.734e-12		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__g__.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.873e-10	6.244e-11	4.984	0.00598 **
Sex	1	3.700e-12	3.690e-12	0.295	0.59103
Genotype:Sex	3	3.900e-12	1.290e-12	0.103	0.95779
Residuals	32	4.008e-10	1.253e-11		

Signif. codes: 0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Actinomycetaceae.g__Actinomyces.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.580e-11	5.258e-12	0.506	0.681
Sex	1	1.070e-11	1.075e-11	1.034	0.317
Genotype:Sex	3	5.110e-11	1.704e-11	1.639	0.200
Residuals	32	3.326e-10	1.039e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Corynebacteriaceae.g__Corynebacterium.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	6.92e-09	2.308e-09	0.854	0.475
Sex	1	1.83e-09	1.825e-09	0.675	0.417
Genotype:Sex	3	6.41e-09	2.137e-09	0.790	0.508
Residuals	32	8.65e-08	2.703e-09		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Geodermatophilaceae.g__.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.885e-10	9.616e-11	1.563	0.217
Sex	1	8.340e-11	8.341e-11	1.356	0.253
Genotype:Sex	3	1.995e-10	6.650e-11	1.081	0.371
Residuals	32	1.968e-09	6.151e-11		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Geodermatophilaceae.g_M
odestobacter.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.43e-12	1.810e-12	0.664	0.580
Sex	1	0.00e+00	8.000e-16	0.000	0.986
Genotype:Sex	3	5.47e-12	1.824e-12	0.669	0.577
Residuals	32	8.72e-11	2.725e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Intrasporangiaceae.g_s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.297e-11	4.323e-12	0.648	0.590
Sex	1	5.870e-12	5.873e-12	0.881	0.355
Genotype:Sex	3	4.140e-11	1.380e-11	2.069	0.124
Residuals	32	2.134e-10	6.669e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Intrasporangiaceae.g_Terra
coccus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.326e-10	7.753e-11	0.860	0.472
Sex	1	0.000e+00	1.000e-14	0.000	0.992
Genotype:Sex	3	2.363e-10	7.875e-11	0.874	0.465
Residuals	32	2.883e-09	9.011e-11		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Intrasporangiaceae.Other.Ot
her"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.508e-11	8.361e-12	3.208	0.03605 *
Sex	1	1.570e-12	1.566e-12	0.601	0.44394
Genotype:Sex	3	4.547e-11	1.516e-11	5.816	0.00273 **
Residuals	32	8.339e-11	2.606e-12		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Microbacteriaceae.g_Agrom
yces.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.624e-11	1.874e-11	2.754	0.0586 .
Sex	1	5.160e-12	5.165e-12	0.759	0.3902
Genotype:Sex	3	1.493e-11	4.975e-12	0.731	0.5411
Residuals	32	2.178e-10	6.806e-12		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Microbacteriaceae.g_Cryoc
ola.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.083e-10	3.610e-11	3.264	0.034 *
Sex	1	7.000e-13	7.300e-13	0.066	0.799
Genotype:Sex	3	2.200e-12	7.300e-13	0.066	0.978
Residuals	32	3.539e-10	1.106e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococcaceae.g_.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.454e-09	1.151e-09	1.568	0.216
Sex	1	6.170e-10	6.173e-10	0.841	0.366
Genotype:Sex	3	2.486e-09	8.287e-10	1.129	0.352
Residuals	32	2.349e-08	7.341e-10		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococcaceae.g_Microco
ccus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.262e-11	4.208e-12	0.427	0.735
Sex	1	2.600e-13	2.630e-13	0.027	0.871
Genotype:Sex	3	6.056e-11	2.019e-11	2.049	0.127
Residuals	32	3.153e-10	9.854e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococcaceae.g_Rothia.s
__aeria"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.920e-12	1.973e-12	0.398	0.755
Sex	1	1.600e-13	1.600e-13	0.032	0.859
Genotype:Sex	3	1.966e-11	6.552e-12	1.323	0.284
Residuals	32	1.585e-10	4.954e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococcaceae.g_Rothia.s
__dentocariosa"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	2.730e-11	9.102e-12	1.201	0.325
Sex	1	4.000e-14	4.100e-14	0.005	0.942
Genotype:Sex	3	5.990e-12	1.998e-12	0.264	0.851
Residuals	32	2.425e-10	7.578e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Micrococcaceae.Other.Other
"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
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Genotype	3	1.075e-09	3.584e-10	6.356	0.00167	**
Sex	1	1.000e-13	1.000e-13	0.001	0.97571	
Genotype:Sex	3	1.196e-10	3.990e-11	0.707	0.55510	
Residuals	32	1.805e-09	5.640e-11			

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1 ' ' 1

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Mycobacteriaceae.g_Mycobacterium.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.997e-11	6.656e-12	0.694	0.563
Sex	1	7.800e-13	7.810e-13	0.081	0.777
Genotype:Sex	3	3.759e-11	1.253e-11	1.306	0.289
Residuals	32	3.070e-10	9.593e-12		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Nocardiaceae.g_Rhodococcus.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.548e-09	1.516e-09	2.180	0.110
Sex	1	9.500e-11	9.490e-11	0.136	0.714
Genotype:Sex	3	9.460e-10	3.153e-10	0.453	0.717
Residuals	32	2.226e-08	6.955e-10		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Nocardioidaceae.g__s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	5.710e-10	1.903e-10	3.090	0.0409 *
Sex	1	4.500e-11	4.504e-11	0.731	0.3988
Genotype:Sex	3	1.434e-10	4.780e-11	0.776	0.5160
Residuals	32	1.971e-09	6.159e-11		

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1 ' ' 1

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Nocardioidaceae.g_Nocardioides.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.253e-10	4.177e-11	1.006	0.403
Sex	1	4.550e-11	4.547e-11	1.095	0.303
Genotype:Sex	3	1.201e-10	4.005e-11	0.964	0.421
Residuals	32	1.329e-09	4.153e-11		

"k_Bacteria.p_Actinobacteria.c_Actinobacteria.o_Actinomycetales.f_Propionibacteriaceae.g_Pro-pionibacterium.s__acnes"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	4.270e-11	1.423e-11	1.838	0.160
Sex	1	2.122e-11	2.122e-11	2.741	0.108

Genotype:Sex 3 2.730e-11 9.101e-12 1.176 0.334
 Residuals 32 2.477e-10 7.742e-12

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Pseudonocardiaceae.g__Am
 ycolatopsis.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	1.405e-10	4.682e-11	1.803	0.1664
Sex	1	2.160e-11	2.159e-11	0.831	0.3687
Genotype:Sex	3	2.161e-10	7.205e-11	2.775	0.0573
Residuals	32	8.308e-10	2.596e-11		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Actinomycetales.f__Streptomycetaceae.g__Strep
 tomyces.s__"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.000e-13	1.070e-13	0.010	0.999
Sex	1	9.200e-12	9.220e-12	0.867	0.359
Genotype:Sex	3	4.070e-11	1.356e-11	1.275	0.299
Residuals	32	3.403e-10	1.063e-11		

"k__Bacteria.p__Actinobacteria.c__Actinobacteria.o__Bifidobacteriales.f__Bifidobacteriaceae.g__Bifido
 bacterium.Other"

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Genotype	3	3.799e-05	1.266e-05	3.205	0.0362 *
Sex	1	2.562e-05	2.562e-05	6.483	0.0159 *
Genotype:Sex	3	3.534e-05	1.178e-05	2.981	0.0459 *
Residuals	32	1.265e-04	3.952e-06		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1