SUPPLEMENTAL FIGURES

Figure S1.

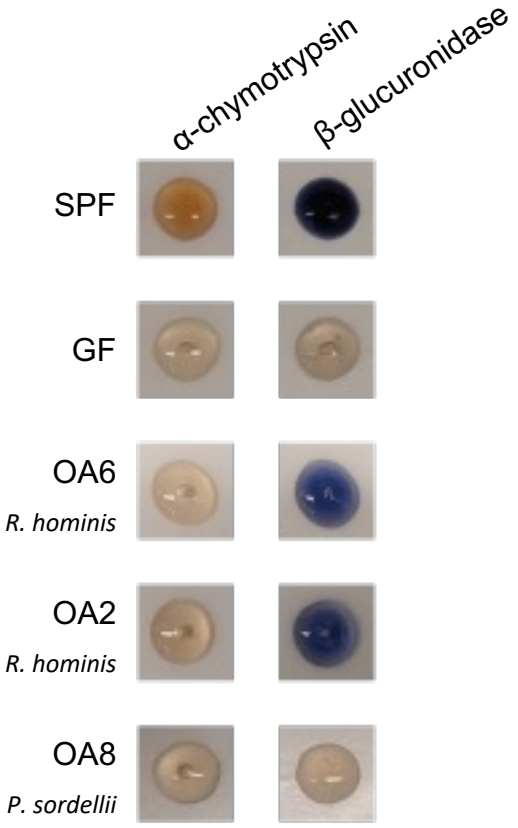


Figure S2.

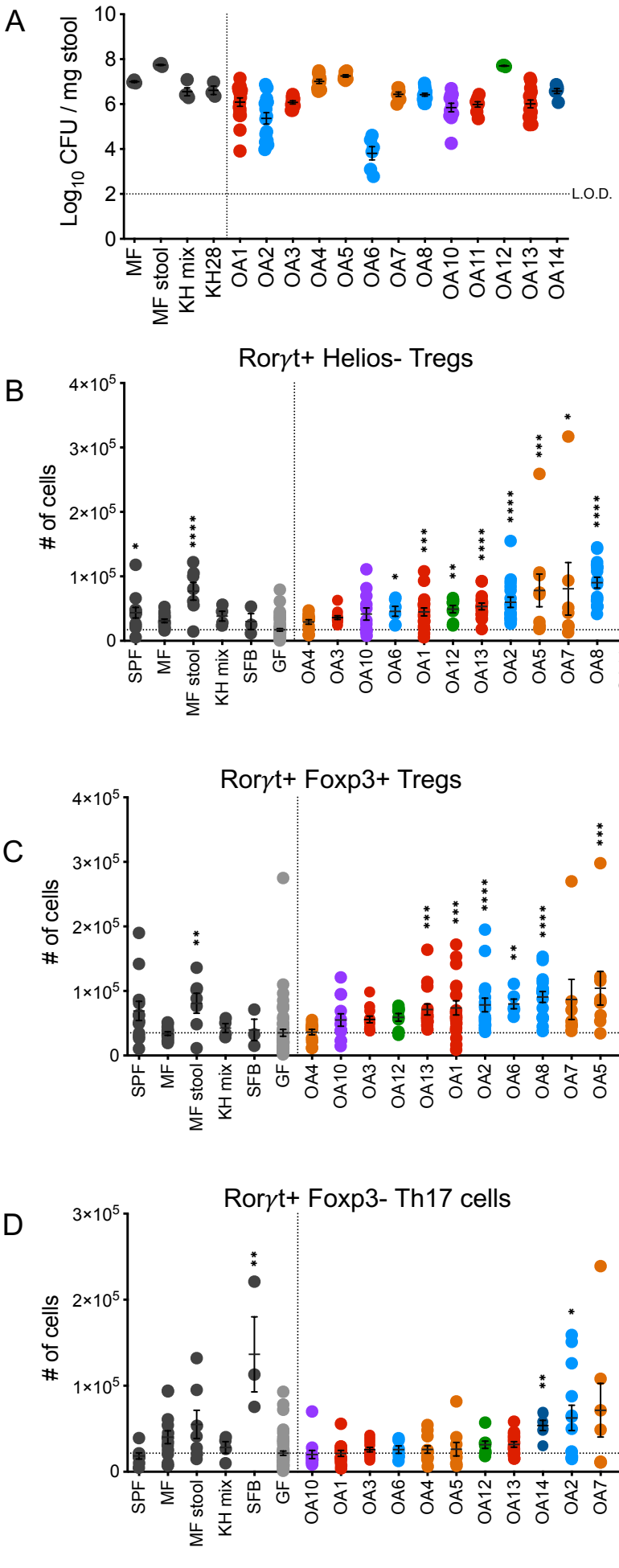

A
Log10 CFU / mg stool
L.O.D.
MF
MF stool
KH mix
KH28
OA1
OA2
OA3
OA4
OA5
OA6
OA7
OA8
OA10
OA11
OA12
OA13
OA14
B
Rorγt+ Helios- Tregs
# of cells
SPF
MF
MF stool
KH mix
SFB
GF
C
Rorγt+ Foxp3+ Tregs
D
Rorγt+ Foxp3- Th17 cells

Figure S3.

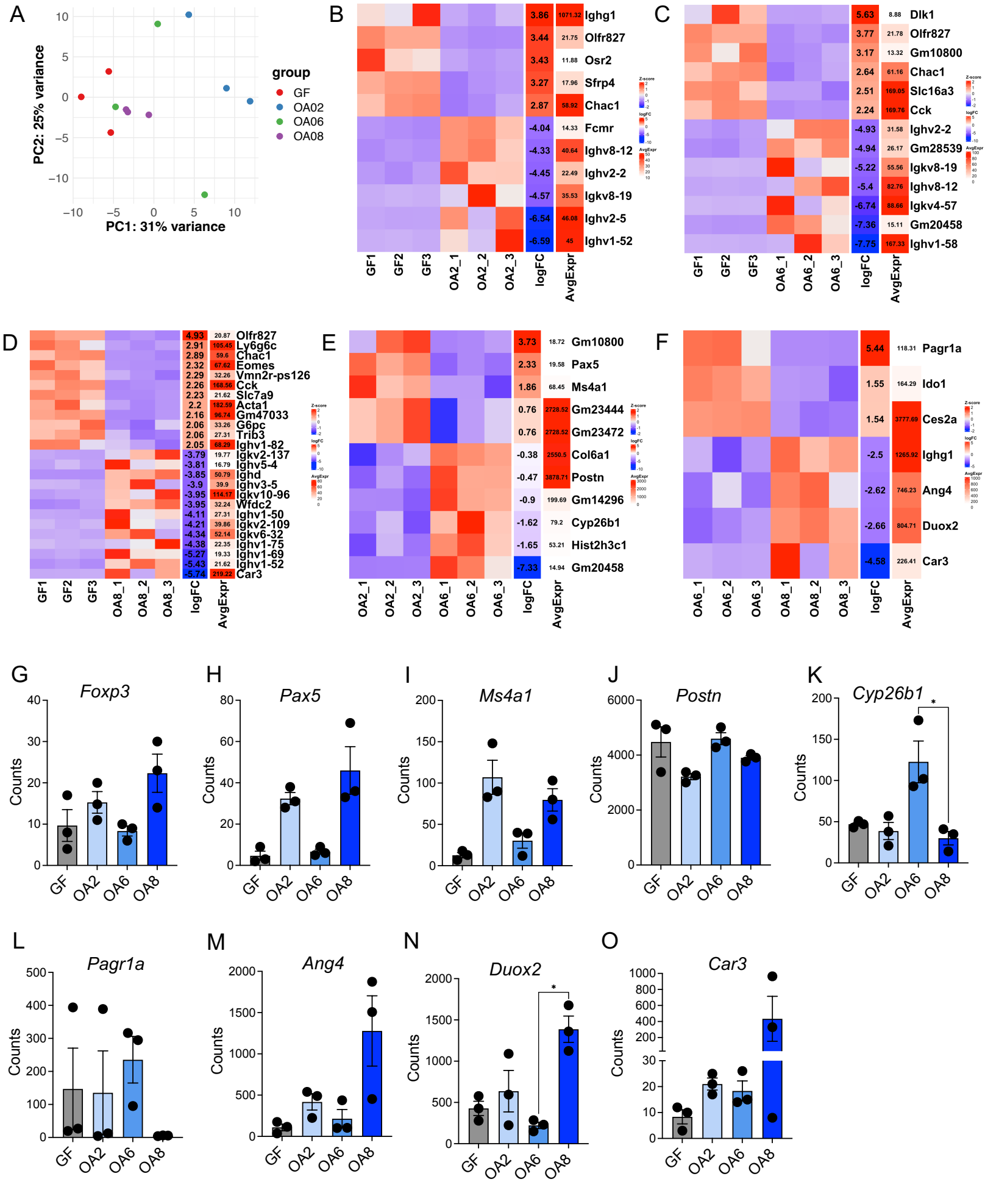

A
PC2: 25% variance
PC1: 31% variance
group
GF
OA02
OA06
OA08
B
Ighg1
Olfr827
Osr2
Sfrp4
Chac1
Fcmr
Ighv8-12
Ighv2-2
Igkv8-19
Ighv2-5
Ighv1-52
C
Dlk1
Olfr827
Gm10800
Chac1
Slc16a3
Cck
Ighv2-2
Gm28539
Igkv8-19
Ighv8-12
Igkv4-57
Gm20458
Ighv1-58
D
Olfr827
Ly6g6c
Chac1
Eomes
Vmn2r-ps126
Cck
Slc7a9
Acta1
Gm47033
G6pc
Trib3
Ighv1-82
Igkv2-137
Ighv5-4
Ighd
Ighv3-5
Igkv10-96
Wfdc2
Ighv1-50
Igkv2-109
Igkv6-32
Ighv1-75
Ighv1-69
Ighv1-52
Car3
E
Gm10800
Pax5
Ms4a1
Gm23444
Gm23472
Col6a1
Postn
Gm14296
Cyp26b1
Hist2h3c1
Gm20458
F
Pagr1a
Ido1
Ces2a
Ighg1
Ang4
Duox2
Car3
G
Foxp3
H
Pax5
I
Ms4a1
J
Postn
K
Cyp26b1
L
Pagr1a
M
Ang4
N
Duox2
O
Car3
Counts
GF
OA2
OA6
OA8

Figure S4.

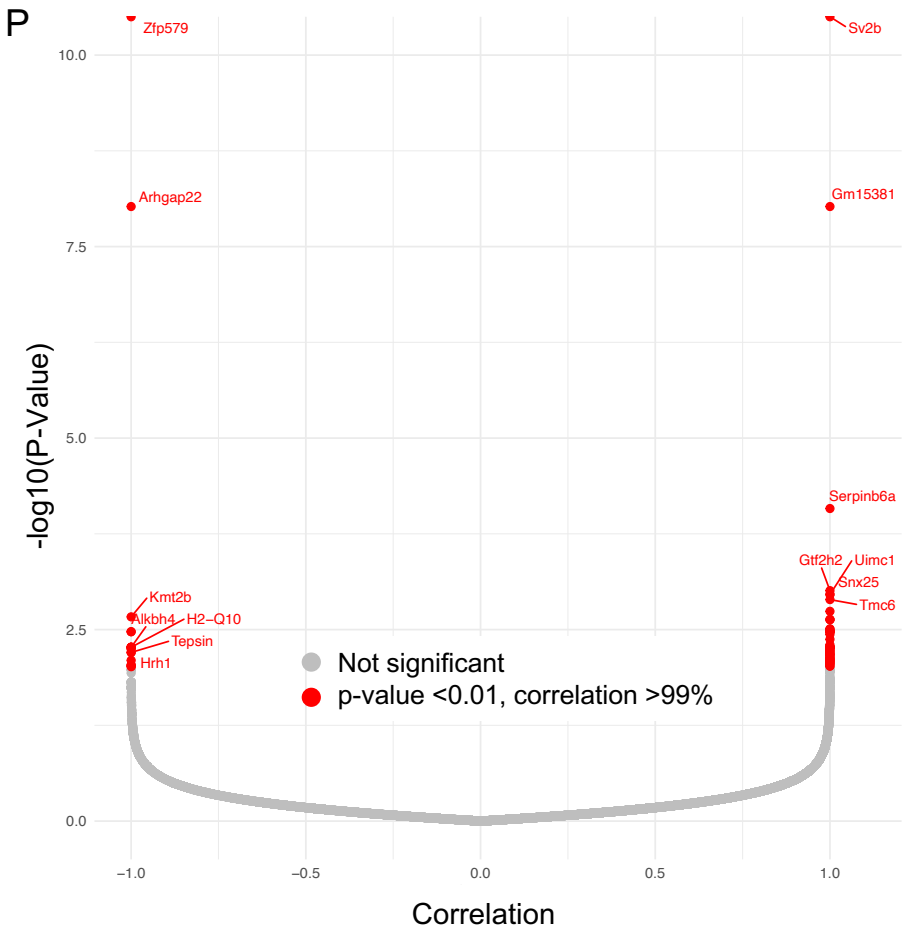

P
Zfp579
Sv2b
Arhgap22
Gm15381
Serpinb6a
Gtf2h2
Uimc1
Snx25
Tmc6
Kmt2b
Alkbh4
H2−Q10
Tepsin
Hrh1
Not significant
p-value <0.01, correlation >99%
-log10(P-Value)
Correlation
10.0
7.5
5.0
2.5
0.0
−1.0
−0.5
0.0
0.5
1.0

Figure S5.

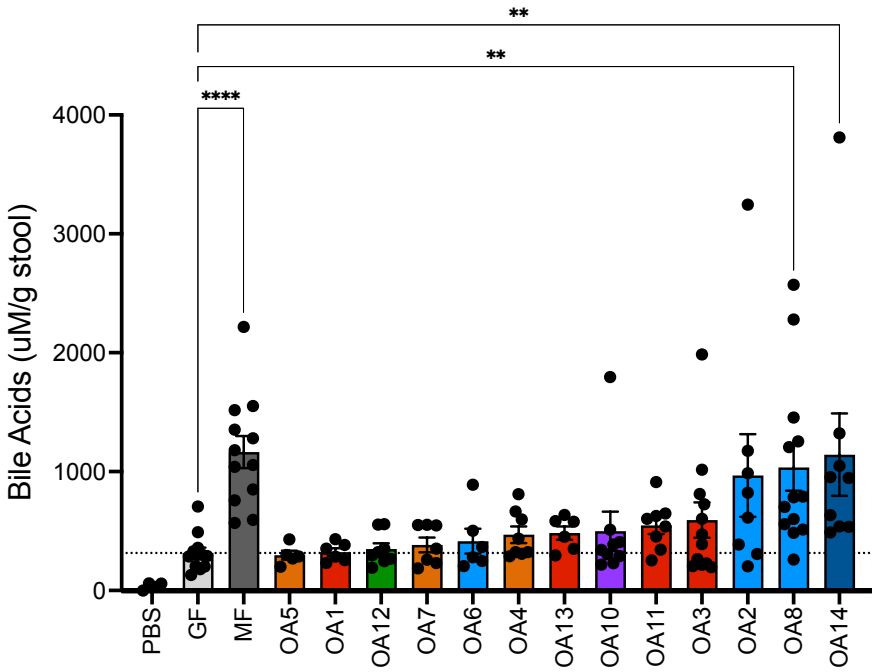

**
**
****
Bile Acids (uM/g stool)
4000
3000
2000
1000
0
PBS
GF
MF
OA5
OA1
OA12
OA7
OA6
OA4
OA13
OA10
OA11
OA3
OA2
OA8
OA14

Figure S6.

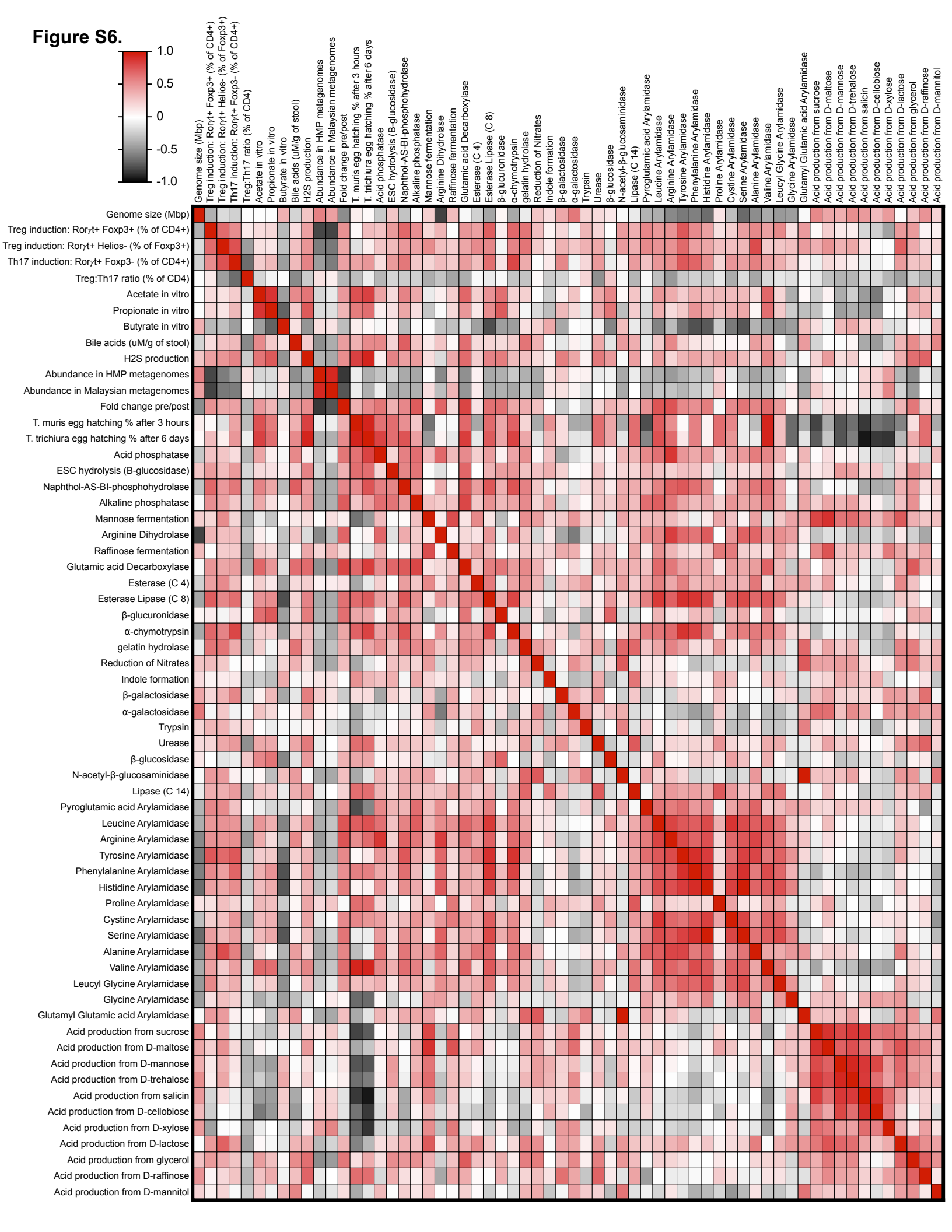
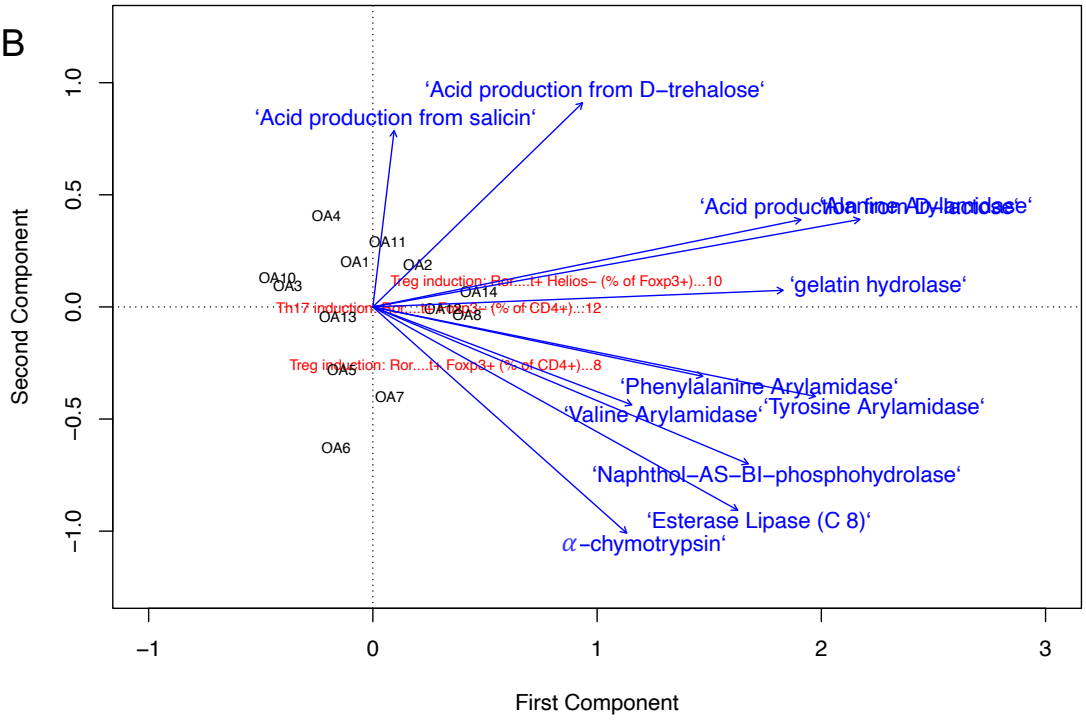

1.0
0.5
0
-0.5
-1.0
Genome size (Mbp)
Treg induction: Rorγt+ Foxp3+ (% of CD4+)
Treg induction: Rorγt+ Helios- (% of Foxp3+)
Th17 induction: Rorγt+ Foxp3- (% of CD4+)
Treg:Th17 ratio (% of CD4)
Acetate in vitro
Propionate in vitro
Butyrate in vitro
Bile acids (uM/g of stool)
H2S production
Abundance in HMP metagenomes
Abundance in Malaysian metagenomes
Fold change pre/post
T. muris egg hatching % after 3 hours
T. trichiura egg hatching % after 6 days
Acid phosphatase
ESC hydrolysis (B-glucosidase)
Naphthol-AS-BI-phosphohydrolase
Alkaline phosphatase
Mannose fermentation
Arginine Dihydrolase
Raffinose fermentation
Glutamic acid Decarboxylase
Esterase (C 4)
Esterase Lipase (C 8)
β-glucuronidase
α-chymotrypsin
gelatin hydrolase
Reduction of Nitrates
Indole formation
β-galactosidase
α-galactosidase
Trypsin
Urease
β-glucosidase
N-acetyl-β-glucosaminidase
Lipase (C 14)
Pyroglutamic acid Arylamidase
Leucine Arylamidase
Arginine Arylamidase
Tyrosine Arylamidase
Phenylalanine Arylamidase
Histidine Arylamidase
Proline Arylamidase
Cystine Arylamidase
Serine Arylamidase
Alanine Arylamidase
Valine Arylamidase
Leucyl Glycine Arylamidase
Glycine Arylamidase
Glutamyl Glutamic acid Arylamidase
Acid production from sucrose
Acid production from D-maltose
Acid production from D-mannose
Acid production from D-trehalose
Acid production from salicin
Acid production from D-cellobiose
Acid production from D-xylose
Acid production from D-lactose
Acid production from glycerol
Acid production from D-raffinose
Acid production from D-mannitol

Figure S7.

A

Explanatory variables used for dbRDA	ANOVA for each explanatory variable
Valine arylamidase	Pr(>F) = 0.003
α-chymotrypsin	Pr(>F) = 0.004
Alanine Arylamidase	Pr(>F) = 0.001
Tyrosine Arylamidase	Not significant
Esterase Lipase (C 8)	Pr(>F) = 0.028
Acid production from D-lactose	Pr(>F) = 0.002
Phenylalanine Arylamidase	Pr(>F) = 0.029
Naphthol-AS-BI-phosphohydrolase	Pr(>F) = 0.007
Gelatin hydrolase	Not significant
Acid production from salicin	Pr(>F) = 0.049
Acid production from D-trehalose	Pr(>F) = 0.045

B



- **ANOVA for dbRDA model:** Pr(>F) = 0.009
- **ANOVA for dbRDA component 1:** Pr(>F) = 0.013 Explains 85% of the variance. Component 2 is not significant.
- **Proportion of constrained variance** > 0.99

C

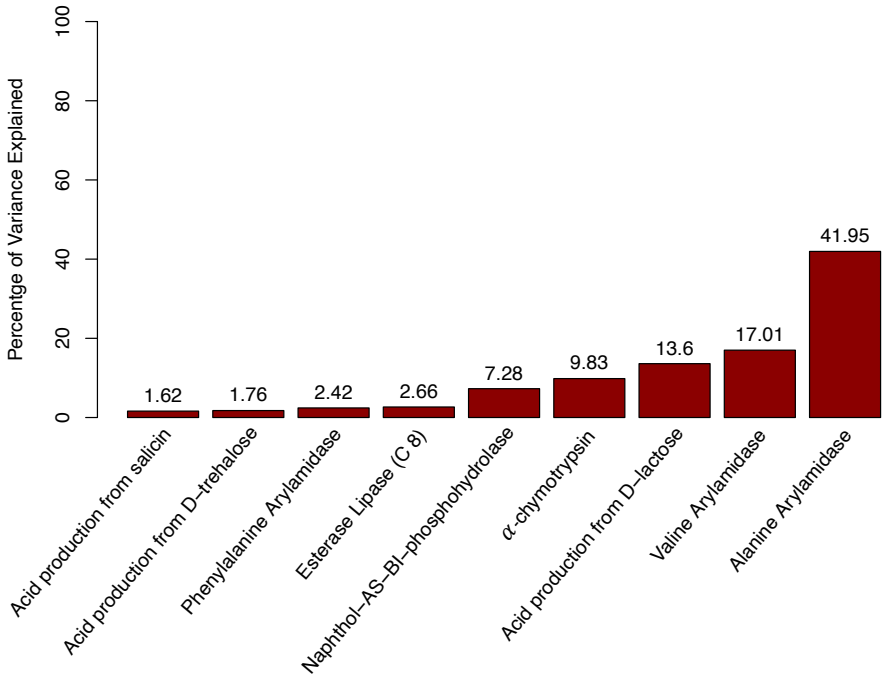
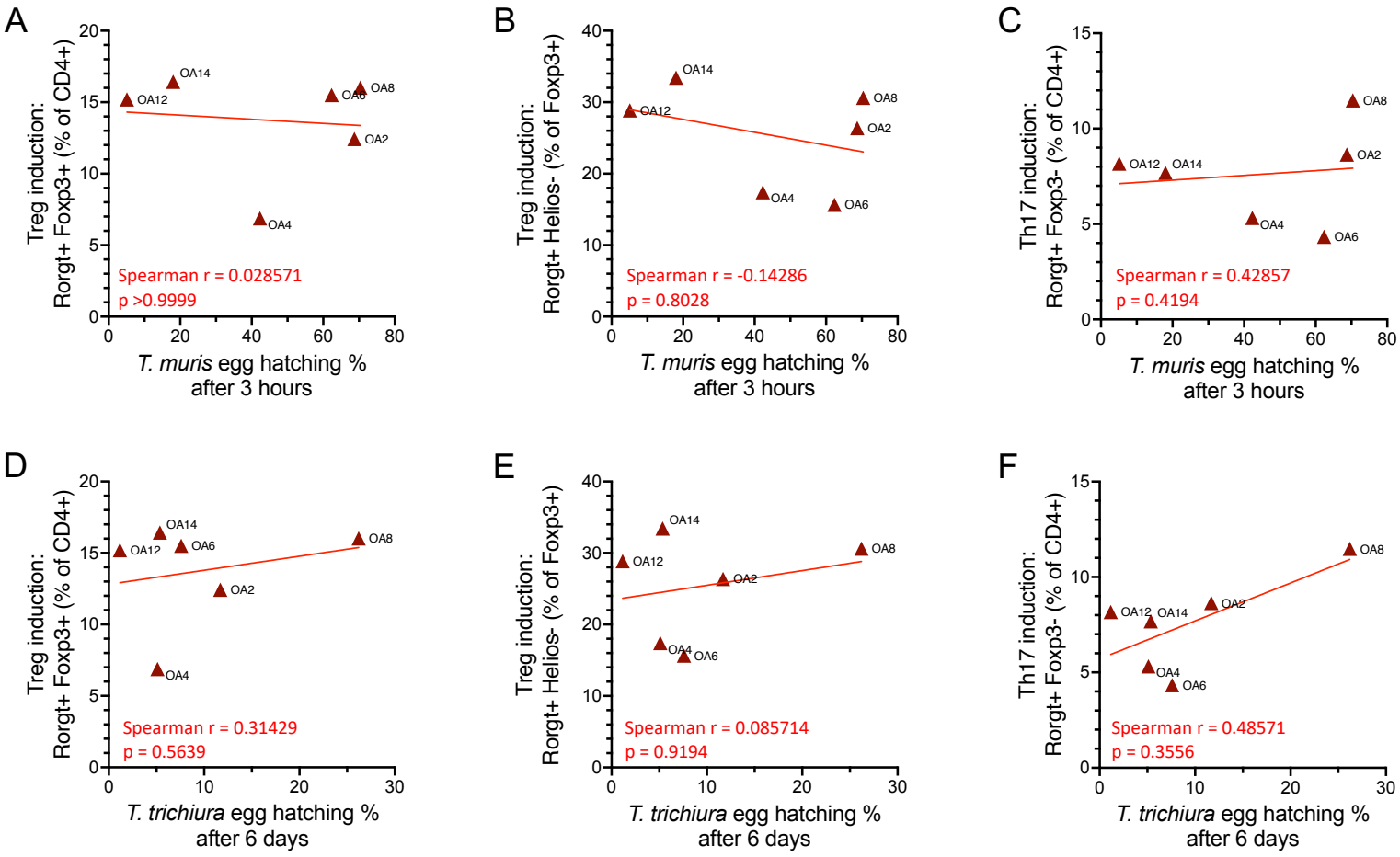


Figure S8.


A
Treg induction:
Rorgt+ Foxp3+ (% of CD4+)
OA14
OA12
OA8
OA6
OA2
OA4
Spearman r = 0.028571
p >0.9999
T. muris egg hatching %
after 3 hours
B
Treg induction:
Rorgt+ Helios- (% of Foxp3+)
OA14
OA12
OA8
OA2
OA4
OA6
Spearman r = -0.14286
p = 0.8028
T. muris egg hatching %
after 3 hours
C
Th17 induction:
Rorgt+ Foxp3- (% of CD4+)
OA8
OA12
OA14
OA2
OA4
OA6
Spearman r = 0.42857
p = 0.4194
T. muris egg hatching %
after 3 hours
D
Treg induction:
Rorgt+ Foxp3+ (% of CD4+)
OA14
OA12
OA6
OA8
OA2
OA4
Spearman r = 0.31429
p = 0.5639
T. trichiura egg hatching %
after 6 days
E
Treg induction:
Rorgt+ Helios- (% of Foxp3+)
OA14
OA12
OA8
OA2
OA4
OA6
Spearman r = 0.085714
p = 0.9194
T. trichiura egg hatching %
after 6 days
F
Th17 induction:
Rorgt+ Foxp3- (% of CD4+)
OA8
OA12
OA14
OA2
OA4
OA6
Spearman r = 0.48571
p = 0.3556
T. trichiura egg hatching %
after 6 days