H.pylori Rhesus Microbiome Analysis

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Data used in analysis

Library

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  library(sjPlot)
  library(readxl)
  library(phyloseq)
  library(microbiome)
  library(DESeq2)
  library(qiime2R)
  library(tidyverse)
  library(tidyMicro)
  library(kableExtra)
  library(magrittr)
  library(ggpubr)
  library(microeco)
  library(tidytree)
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  library(questionr)
  library(rmarkdown)
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ASV counts the taxa table are linked below:

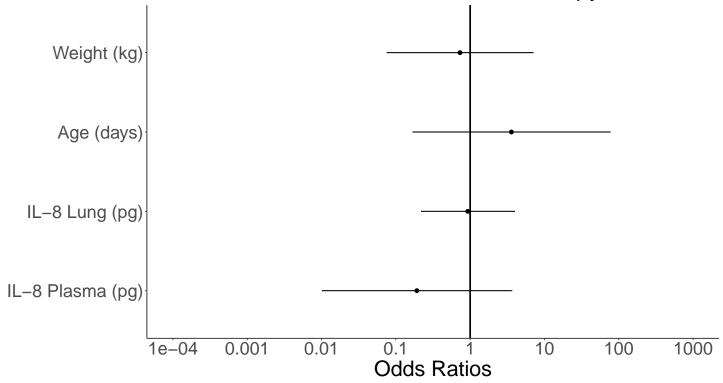
ASV counts

Taxa table

Table 1: H.pylori Metadata

SampleID	Treatment	site	Site_status	sex	log10_cfu.gm	IL8_Lavage	IL8_Plasma
LMiller_00458.BAL LMiller_00458.Swab LMiller_00459.BAL LMiller_00459.Swab LMiller_00461.BAL	H.pylori_(-) H.pylori_(-) H.pylori_(-) H.pylori_(-) H.pylori_(-) H.pylori_(+)	Lung Oral Lung Oral Lung	H.pylori_(-)_Lung H.pylori_(-)_Oral H.pylori_(-)_Lung H.pylori_(-)_Oral H.pylori_(+)_Lung	Female Female Female Female	0.00 0.00 0.00 0.00 0.00 7.66	NA NA NA NA NA	463.376 463.376 258.416 258.416 704.550
LMiller_00461.Swab LMiller_00462.BAL LMiller_00462.Swab LMiller_00463.BAL LMiller_00466.BAL	H.pylori_(+) H.pylori_(-) H.pylori_(-) H.pylori_(-) H.pylori_(+)	Oral Lung Oral Lung Lung	H.pylori_(+)_Oral H.pylori_(-)_Lung H.pylori_(-)_Oral H.pylori_(-)_Lung H.pylori_(+)_Lung	Female Female Female Female	7.66 0.00 0.00 0.00 3.81	NA 19.104 19.104 11.590 11.201	704.550 1075.626 1075.626 423.590 642.148
LMiller_00466.Swab LMiller_00467.BAL LMiller_00467.Swab LMiller_00468.BAL LMiller_00468.Swab	H.pylori_(+) H.pylori_(+) H.pylori_(+) H.pylori_(-) H.pylori_(-)	Oral Lung Oral Lung Oral	H.pylori_(+)_Oral H.pylori_(+)_Lung H.pylori_(+)_Oral H.pylori_(-)_Lung H.pylori_(-)_Oral	Female Female Female Female	3.81 6.09 6.09 0.00 0.00	11.201 15.511 15.511 15.511 15.511	642.148 425.782 425.782 660.911 660.911
LMiller_00469.BAL LMiller_00469.Swab LMiller_00473.BAL LMiller_00473.Swab LMiller_00474.BAL	H.pylori_(+) H.pylori_(-) H.pylori_(-) H.pylori_(-) H.pylori_(-)	Lung Oral Lung Oral Lung	H.pylori_(+)_Lung H.pylori_(+)_Oral H.pylori_(-)_Lung H.pylori_(-)_Oral H.pylori_(-)_Lung	Female Female Female Female	6.38 6.38 0.00 0.00 0.00	NA NA 20.100 20.100 44.699	1279.789 1279.789 608.508 608.508 443.989
LMiller_00476.BAL LMiller_00476.Swab LMiller_00477.BAL LMiller_00477.Swab LMiller_00481.BAL	H.pylori_(+) H.pylori_(+) H.pylori_(+) H.pylori_(+) H.pylori_(-)	Lung Oral Lung Oral Lung	H.pylori_(+)_Lung H.pylori_(+)_Oral H.pylori_(+)_Lung H.pylori_(+)_Oral H.pylori_(-)_Lung	Female Female Female Female	5.48 5.48 5.81 5.81 0.00	NA NA NA NA 17.622	476.431 476.431 715.056 715.056 NA
LMiller_00481.Swab	$\mathrm{H.pylori}_(\text{-})$	Oral	${\rm H.pylori}_{\rm (-)}_{\rm Oral}$	Female	0.00	17.622	NA

Odds ratios of variables based on H. pylori status



	OR	2.5~%	97.5~%	p
(Intercept)	0.018	0.000	110.146	0.410
'Weight (kg)'	0.243	0.000	7254.525	0.786
'Age (days)'	1.042	0.955	1.177	0.413
'IL-8 Lung (pg)'	0.993	0.852	1.158	0.921
'IL-8 Plasma (pg)'	0.996	0.985	1.001	0.271

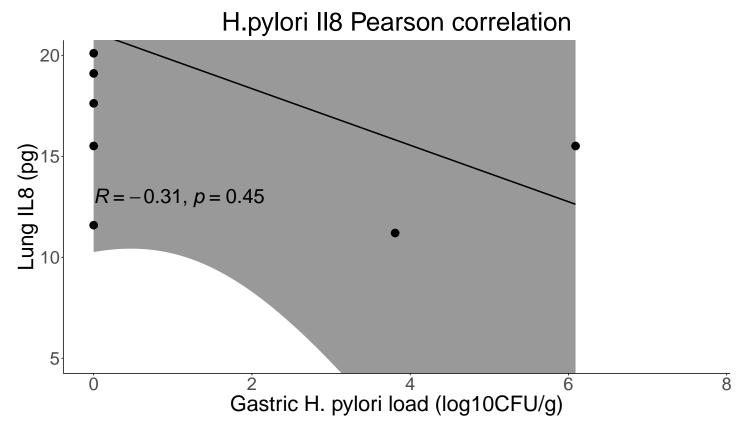


Figure 1: This plot only includes animals that had material sequenced and not all 25 animals from the study

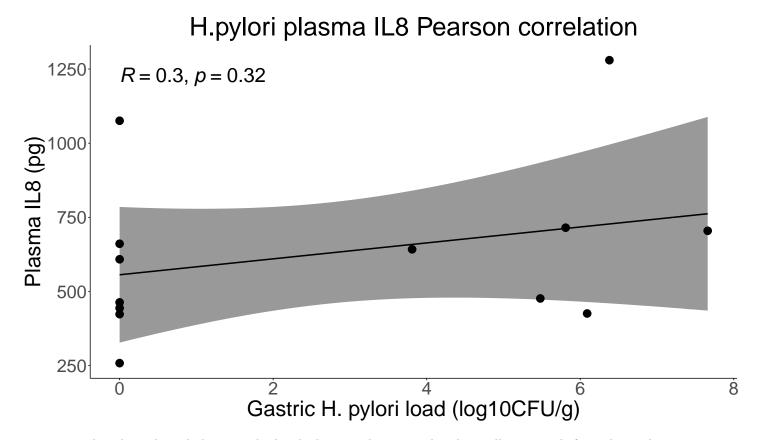
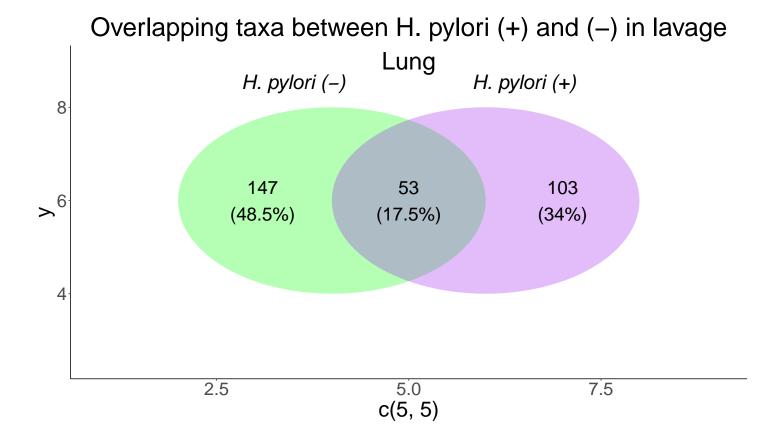
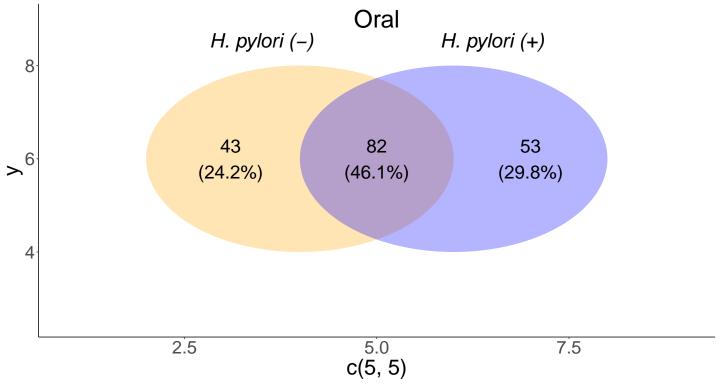


Figure 2: This plot only includes animals that had material sequenced and not all 25 animals from the study

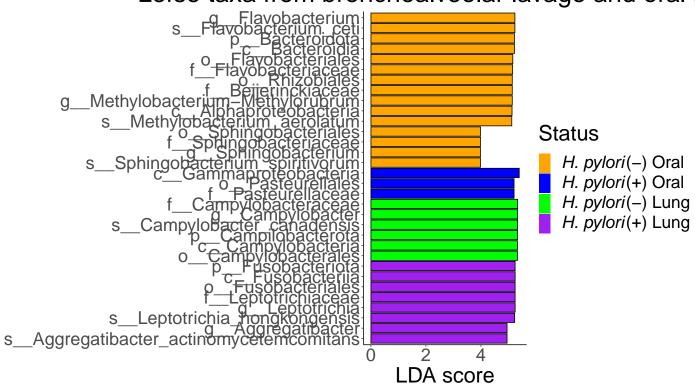


Overlapping taxa between H. pylori (+) and (-) in buccal cavit

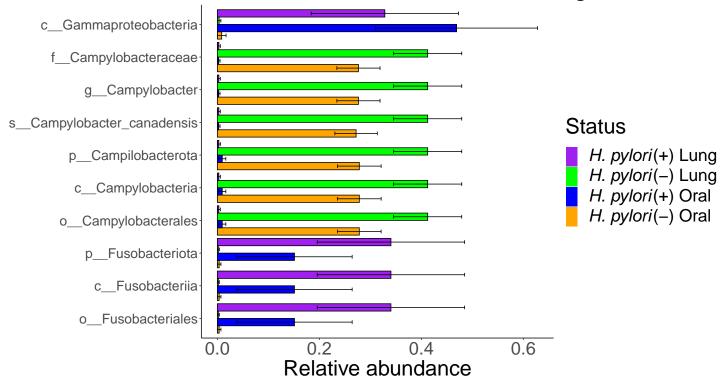


Lefse analysis and differential abundance for both sites

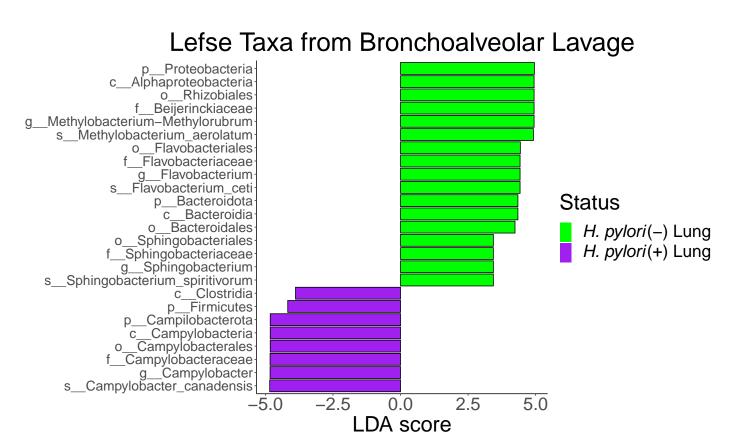
Lefse taxa from bronchoalveolar lavage and oral s



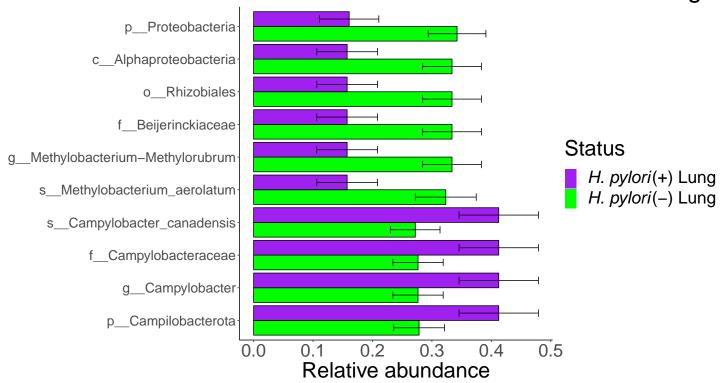
efse relative abundance from bronchoalveolar lavage and oral sv



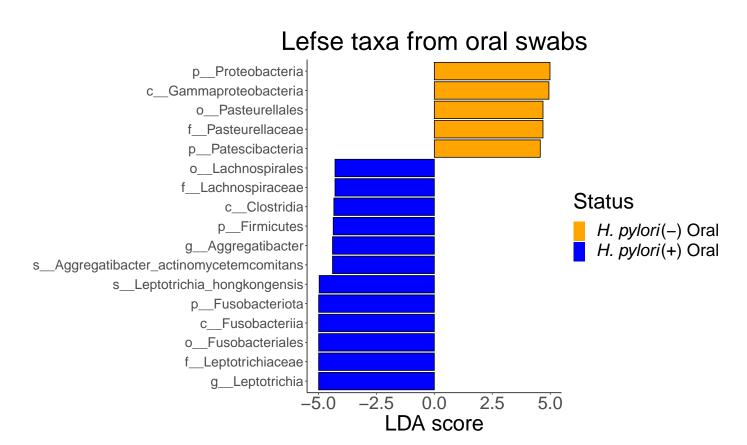
Lefse and differential abundance for bronchoalveolar lavage



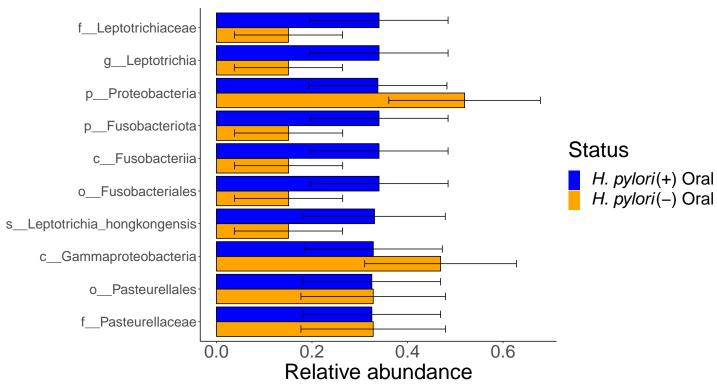
Lefse Relative Abundance from Bronchoalveolar Lavage



Lefse and differential abundance for oral swabs



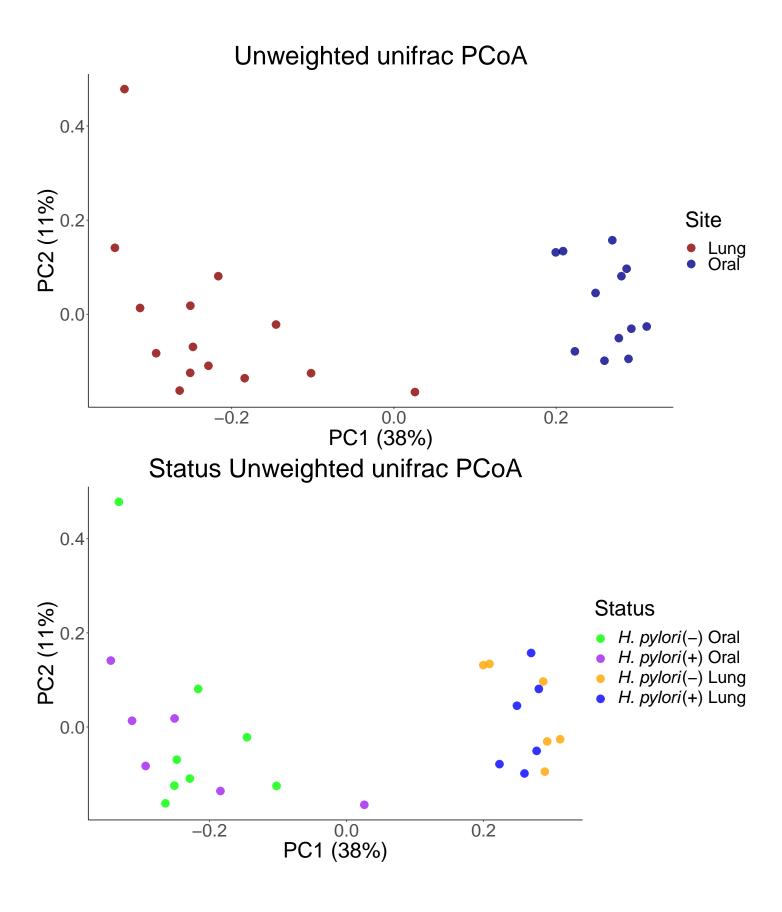
Lefse relative abundance from oral swabs

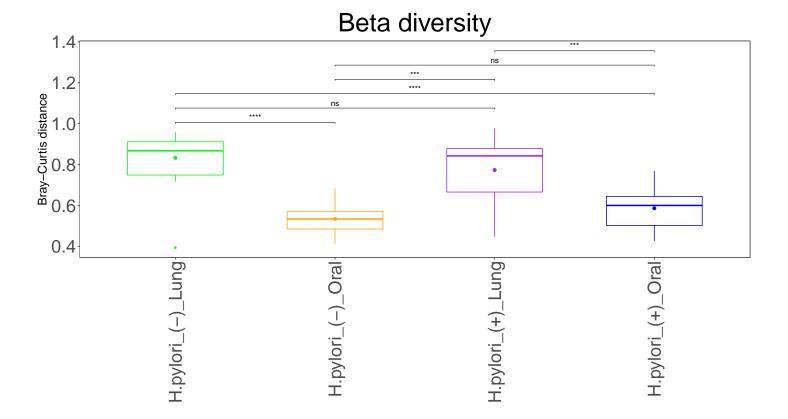


Beta diversity

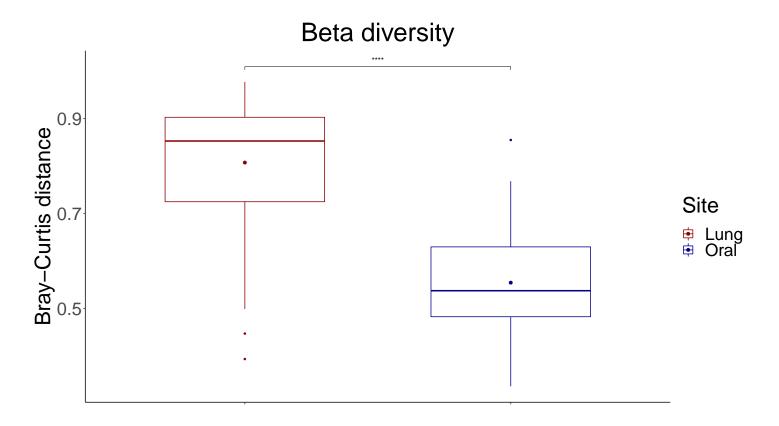
Unweighted unifrac PCoA plots

```
PC1
                   PC2
                              PC3
                                          PC4
                                                     PC5
                                                                PC6
                                                                            PC7
## 1 0.38311 0.1122317 0.08255574 0.05624649 0.04518453 0.04178459 0.03697168
            PC8
                      PC9
                               PC10
                                           PC11
                                                     PC12
                                                                PC13
  1 0.03441675 0.0305229 0.0292508 0.02395872 0.0227312 0.01881898 0.01538496
          PC15
                     PC16
                                PC17
                                             PC18
                                                         PC19
                                                                     PC20
## 1 0.0140825 0.01226748 0.01155323 0.008776171 0.007488221 0.004824027
                        PC22
                                     PC23 PC24 PC25 PC26
##
            PC21
## 1 0.003528799 0.002630896 0.001679594
                                             0
```



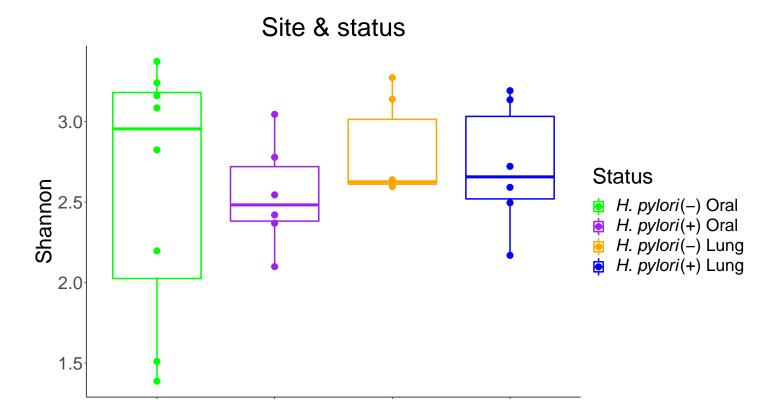


Bray-Curtis



Alpha Diversity

Shannon index by site and H. pylori status



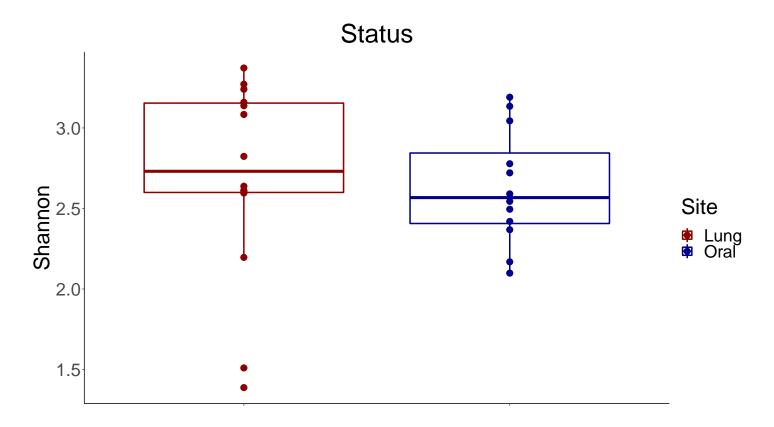
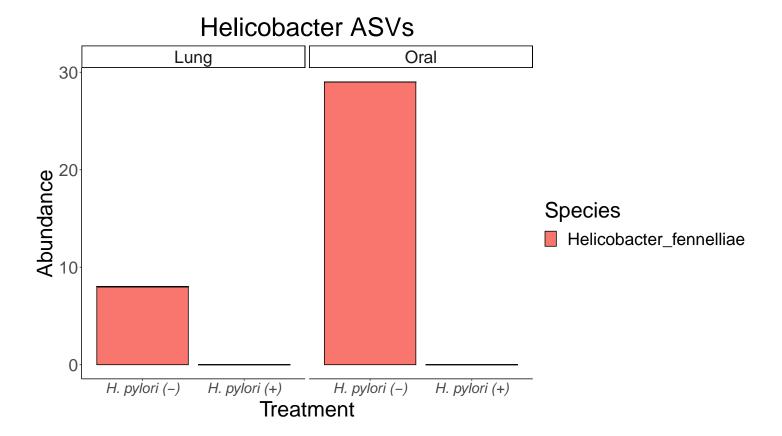


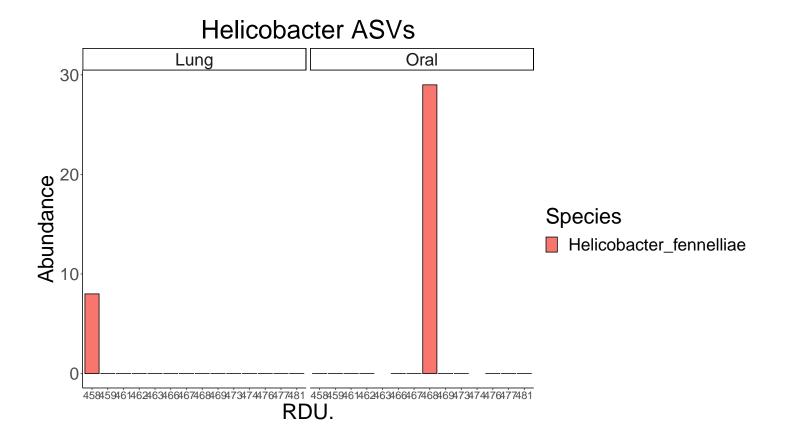
Table 2: All alpha diversity measurees

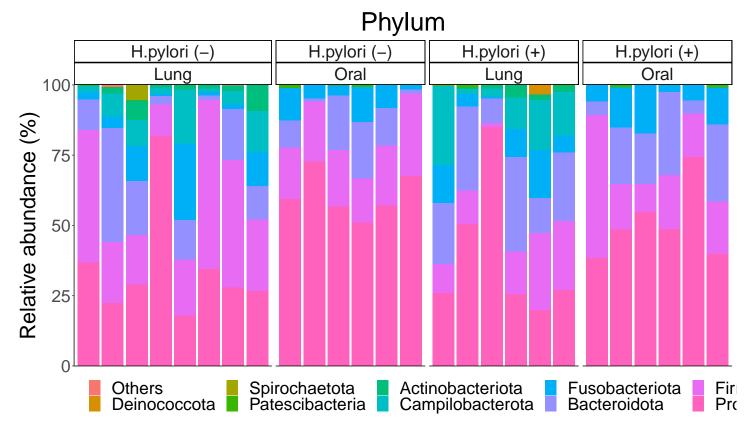
Groups	Measure	Test method	p.value	Significance
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Observed	KW	0.220	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Observed	KW	0.651	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Observed	KW	0.081	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Observed	KW	0.262	
· · · · · · · · · · · · · · · · · · ·				
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Observed	KW	0.520	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Observed	KW	0.109	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Observed	KW	0.202	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Chao1	KW	0.220	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Chao1	KW	0.651	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Chao1	KW	0.081	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Chao1	KW	0.262	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Chao1	KW	0.520	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Chao1	KW	0.109	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Chao1	KW	0.202	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	ACE	KW	0.220	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	ACE	KW	0.651	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	ACE	KW	0.081	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	ACE	KW	0.262	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	ACE	KW	0.520	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	ACE	KW	0.109	
$\label{eq:hpylori} \mbox{H.pylori_(-)_Lung vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral} \mbox{ H.pylori_(+)_Lung vs H.pylori_(+)_Oral} \mbox{ Applori} $	ACE	KW	0.202	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Shannon	KW	0.439	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Shannon	KW	1.000	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Shannon	KW	0.796	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Shannon	KW	0.109	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Shannon	KW	0.337	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Shannon	KW	0.423	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Shannon	KW	0.425 0.540	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Simpson	KW	0.540 0.519	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Simpson	KW	0.699	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Simpson	KW	0.699	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Simpson	KW	0.109	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Simpson	KW	0.423	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Simpson	KW	0.262	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Simpson	KW	0.493	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	InvSimpson	KW	0.519	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	InvSimpson	KW	0.699	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	InvSimpson	KW	0.699	
		KW	0.099 0.109	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	InvSimpson			
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	InvSimpson	KW	0.423	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	InvSimpson	KW	0.262	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	InvSimpson	KW	0.493	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Fisher	KW	0.606	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Fisher	KW	0.699	
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Fisher	KW	0.796	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Fisher	KW	0.631	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Fisher	KW	0.631	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Fisher	KW	1.000	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Fisher	KW	0.927	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	Coverage	KW	NaN	NA
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	Coverage	KW	NaN	NA
H.pylori_(-)_Lung vs H.pylori_(+)_Oral	Coverage	KW	NaN	NA NA
	0			
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	Coverage	KW	NaN	NA NA
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	Coverage	KW	NaN N-N	NA
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Coverage	KW	NaN	NA
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	Coverage	KW	NaN	NA
H.pylori_(-)_Lung vs H.pylori_(-)_Oral	PD	KW	0.366	
H.pylori_(-)_Lung vs H.pylori_(+)_Lung	PD	KW	0.699	
$H.pylori_(-)_Lung \ vs \ H.pylori_(+)_Oral$	PD	KW	0.439	
H.pylori_(-)_Oral vs H.pylori_(+)_Lung	PD	KW	0.631	
H.pylori_(-)_Oral vs H.pylori_(+)_Oral	PD	KW	0.749	
H.pylori_(+)_Lung vs H.pylori_(+)_Oral	PD	KW	0.631	
H.pylori_(-)_Lung vs H.pylori_(-)_Oral vs H.pylori_(+)_Lung vs H.pylori_(+)_Oral	PD	KW	0.777	
p.,		11	0.111	

Helicobacter positive respiratory samples

Helicobacter positive samples separated by site







 ${\bf Figure~3:~Microbiota~Composition~at~Phylum~level}.$

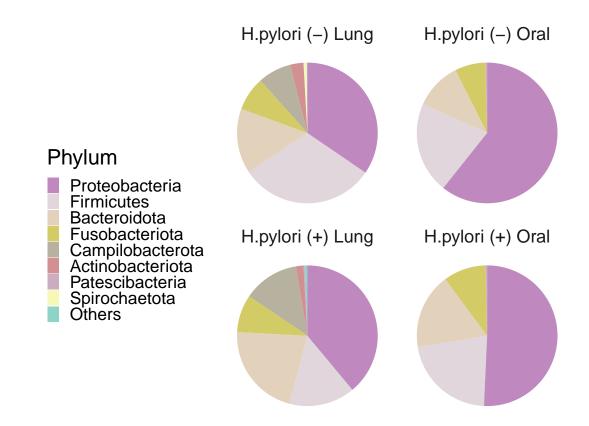


Figure 4: Microbiota Composition at Phylum level.

 Table 3: Phylum Average Relative Abundance

Taxonomy	Sample	Average Percent Abundance
Acidobacteriota Actinobacteriota Actinobacteriota Actinobacteriota Actinobacteriota	H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Oral H.pylori (-) Oral	0.1% 3.1% 1.8% 0.1% 0%
Bacteroidota Bacteroidota Bacteroidota Bacteroidota Campilobacterota	H.pylori (+) Lung H.pylori (+) Oral H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Lung	21.7% $17.4%$ $14.9%$ $10.8%$ $12.9%$
Campilobacterota Campilobacterota Deinococcota Desulfobacterota Firmicutes	H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Lung	7.7% $0%$ $0.6%$ $0.1%$ $31.1%$
Firmicutes Firmicutes Firmicutes Fusobacteriota Fusobacteriota	H.pylori (+) Oral H.pylori (-) Oral H.pylori (+) Lung H.pylori (+) Oral H.pylori (+) Lung	21.7% $21%$ $15.2%$ $9.8%$ $8.6%$
Fusobacteriota Fusobacteriota Latescibacterota Patescibacteria Patescibacteria	H.pylori (-) Lung H.pylori (-) Oral H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Oral	7.8% $7%$ $0%$ $0.4%$ $0.3%$
Patescibacteria Patescibacteria Proteobacteria Proteobacteria Proteobacteria	H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Lung	0.3% $0%$ $60.7%$ $50.7%$ $38.9%$
Proteobacteria Spirochaetota	H.pylori (-) Lung H.pylori (-) Lung	$34.5\% \ 0.7\%$

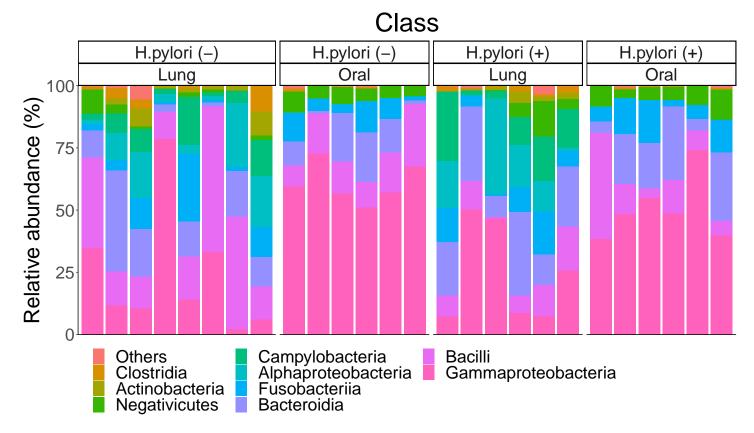


Figure 5: Microbiota Composition at Class level.

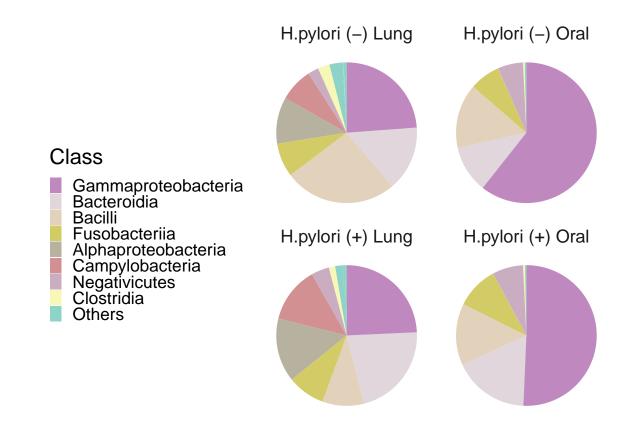


Figure 6: Microbiota Composition at Class level.

 Table 4: Class Average Relative Abundance

Taxonomy	Sample	Average Percent Abundance
Actinobacteria Actinobacteria Alphaproteobacteria Alphaproteobacteria Bacilli	H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Lung	3.1% 1.7% 14.7% 10.7% 26%
Bacilli Bacilli Bacilli Bacteroidia Bacteroidia	H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Lung H.pylori (+) Lung H.pylori (+) Oral	14.9% $14.2%$ $9.6%$ $21.7%$ $17.4%$
Bacteroidia Bacteroidia Campylobacteria Campylobacteria Clostridia	H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Lung	14.9% 10.8% 12.9% 7.7% 2.7%
Clostridia Clostridia Clostridia Deinococci Fusobacteriia	H.pylori (+) Lung H.pylori (+) Oral H.pylori (-) Oral H.pylori (+) Lung H.pylori (+) Oral	1.5% 0.4% 0.4% 0.6% 9.8%
Fusobacteriia Fusobacteriia Fusobacteriia Gammaproteobacteria Gammaproteobacteria	H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Oral H.pylori (-) Oral H.pylori (+) Oral	8.6% 7.8% 7% 60.7% 50.7%
Gammaproteobacteria Gammaproteobacteria Negativicutes Negativicutes Negativicutes	H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Oral H.pylori (-) Oral H.pylori (+) Lung	24.3% $23.8%$ $7.1%$ $5.8%$ $4.1%$
Negativicutes Spirochaetia	H.pylori (-) Lung H.pylori (-) Lung	$2.4\% \\ 0.7\%$

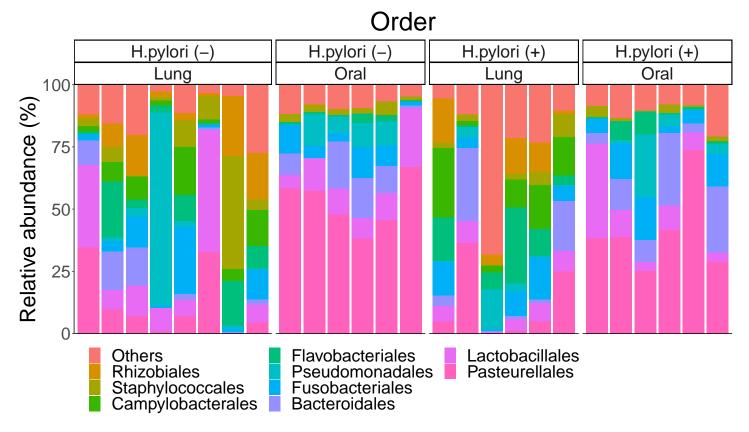


Figure 7: Microbiota Composition at Order level.

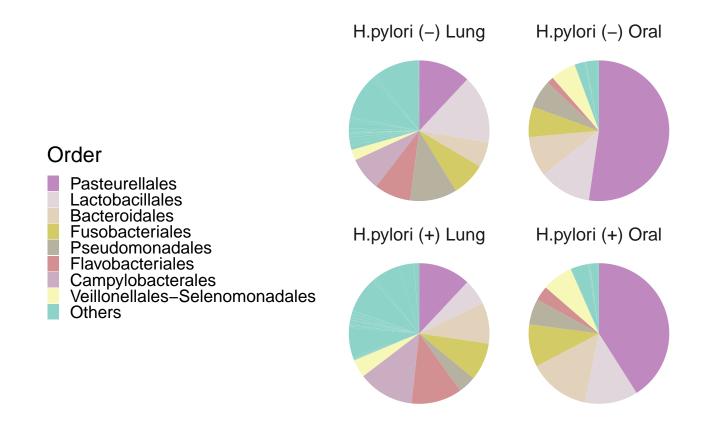


Figure 8: Microbiota Composition at Order level.

 Table 5: Order Average Relative Abundance

Taxonomy	Sample	Average Percent Abundance
Bacteroidales Bacteroidales Bacteroidales Bacteroidales Burkholderiales	H.pylori (+) Oral H.pylori (+) Lung H.pylori (-) Oral H.pylori (-) Lung H.pylori (+) Lung	14.1% 9.4% 9.3% 5.8% 6.8%
Campylobacterales Campylobacterales Flavobacteriales Flavobacteriales Fusobacteriales	H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Oral	12.9% 7.7% 11.7% 8.4% 9.8%
Fusobacteriales Fusobacteriales Fusobacteriales Lactobacillales Lactobacillales	H.pylori (+) Lung H.pylori (-) Lung H.pylori (-) Oral H.pylori (-) Lung H.pylori (+) Oral	8.6% $7.8%$ $15.7%$ $12.2%$
Lactobacillales Lactobacillales Pasteurellales Pasteurellales Pasteurellales	H.pylori (-) Oral H.pylori (+) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Lung	12% $6%$ $52.3%$ $41%$ $12%$
Pasteurellales Pseudomonadales Pseudomonadales Pseudomonadales Pseudomonadales	H.pylori (-) Lung H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Lung	12% 10.8% 6.4% 5.9% 4.1%
Rhizobiales Rhizobiales Sphingomonadales Staphylococcales Veillonellales-Selenomonadales	H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Oral	9.6% 8.3% 5.8% 10.1% 7.1%
Veillonellales-Selenomonadales Veillonellales-Selenomonadales	H.pylori (-) Oral H.pylori (+) Lung	5.8% 4.1%

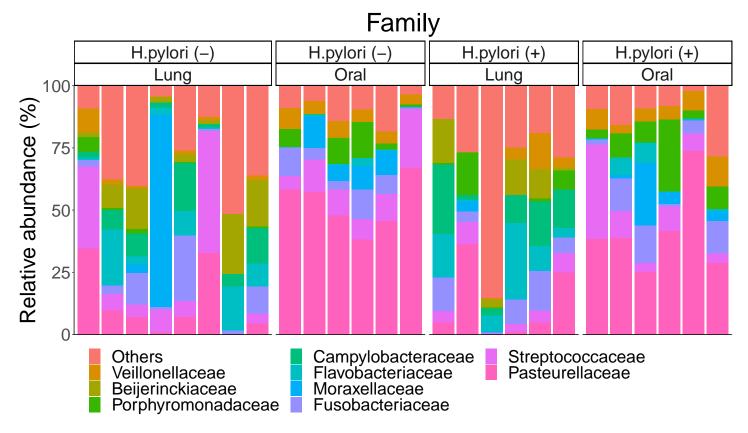


Figure 9: Microbiota Composition at Family level.

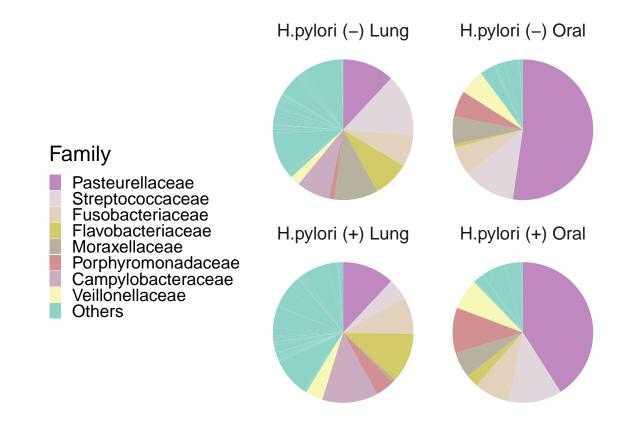


Figure 10: Microbiota Composition at Family level.

Table 6: Family Average Relative Abundance

Taxonomy	Sample	Average Percent Abundance
Beijerinckiaceae Beijerinckiaceae Campylobacteraceae Campylobacteraceae Flavobacteriaceae	H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung	9.5% 8.1% 12.9% 7.7% 11.5%
Flavobacteriaceae Fusobacteriaceae Fusobacteriaceae Fusobacteriaceae Fusobacteriaceae	H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Oral H.pylori (-) Lung H.pylori (-) Oral	8.3% $8.5%$ $8.2%$ $7.4%$ $6.6%$
Moraxellaceae Moraxellaceae Moraxellaceae Oxalobacteraceae Pasteurellaceae	H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Lung H.pylori (-) Oral	10.1% $6.4%$ $5.9%$ $5%$ $52.3%$
Pasteurellaceae Pasteurellaceae Pasteurellaceae Porphyromonadaceae Porphyromonadaceae	H.pylori (+) Oral H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Oral H.pylori (-) Oral	41% $12%$ $12%$ $10.5%$ $5.9%$
Porphyromonadaceae Prevotellaceae Prevotellaceae Sphingomonadaceae Staphylococcaceae	H.pylori (+) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung H.pylori (-) Lung	4.4% $4.3%$ $4.1%$ $5.8%$ $8.4%$
Streptococcaceae Streptococcaceae Streptococcaceae Streptococcaceae Veillonellaceae	H.pylori (-) Lung H.pylori (+) Oral H.pylori (-) Oral H.pylori (+) Lung H.pylori (+) Oral	14.2% $12.2%$ $12%$ $4.9%$ $7%$
Veillonellaceae Veillonellaceae	H.pylori (-) Oral H.pylori (+) Lung	5.8% $4%$

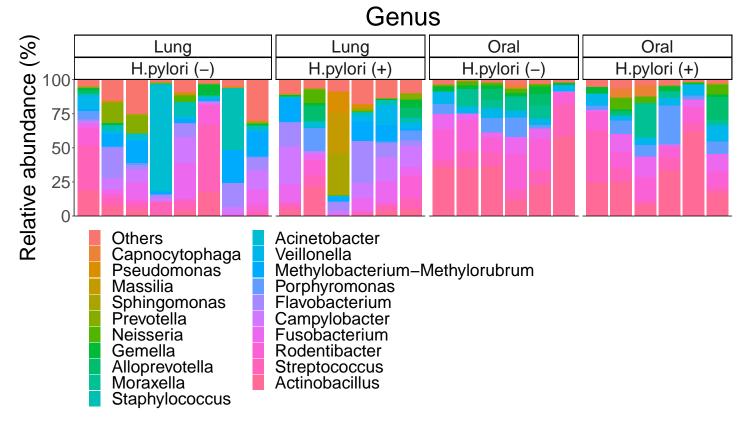


Figure 11: Microbiota Composition at Genus level.

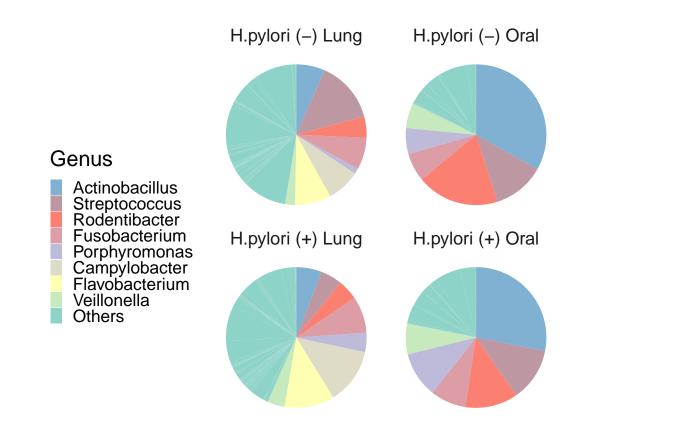


Figure 12: Microbiota Composition at Genus level.

 Table 7: Genus Average Relative Abundance

Taxonomy	Sample	Average Percent Abundance
Acinetobacter Actinobacillus Actinobacillus Actinobacillus Actinobacillus	H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (-) Lung H.pylori (+) Lung	10.1% 33.1% 28.1% 6.6% 5.9%
Campylobacter Campylobacter Flavobacterium Flavobacterium Fusobacterium	H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung H.pylori (-) Lung H.pylori (+) Lung	12.9% 7.7% 11.5% 8.3% 8.5%
Fusobacterium Fusobacterium Fusobacterium Massilia Methylobacterium-Methylorubrum	H.pylori (+) Oral H.pylori (-) Lung H.pylori (-) Oral H.pylori (+) Lung H.pylori (-) Lung	8.2% 7.4% 6.6% 4.9% 9.5%
Methylobacterium-Methylorubrum Moraxella Moraxella Porphyromonas Porphyromonas	H.pylori (+) Lung H.pylori (-) Oral H.pylori (+) Oral H.pylori (+) Oral H.pylori (-) Oral	8.1% $6.4%$ $5.9%$ $10.5%$ $5.9%$
Rodentibacter Rodentibacter Rodentibacter Rodentibacter Sphingomonas	H.pylori (-) Oral H.pylori (+) Oral H.pylori (-) Lung H.pylori (+) Lung H.pylori (+) Lung	18.9% 12.1% 4.9% 4.7% 5.4%
Staphylococcus Streptococcus Streptococcus Streptococcus Streptococcus	H.pylori (-) Lung H.pylori (-) Lung H.pylori (+) Oral H.pylori (-) Oral H.pylori (+) Lung	8.4% $14.2%$ $12.2%$ $12%$ $4.9%$
Veillonella Veillonella	H.pylori (+) Oral H.pylori (-) Oral	7% 5.8%

Lavage Genus Abundance

Grouped by H. pylori status

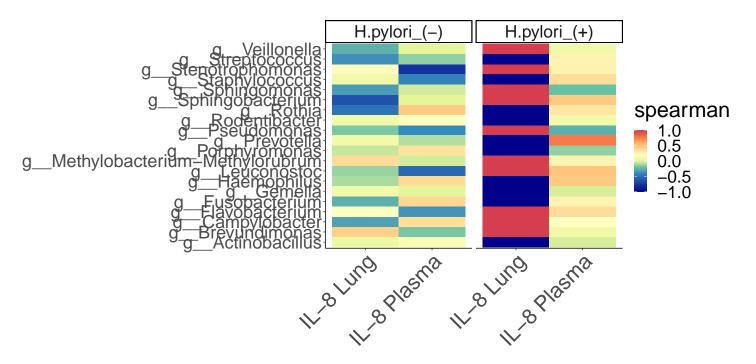


Figure 13: IL8 and lavage genus abundance Spearman correlations separated by H. pylori status

Lavage Genus Abundance

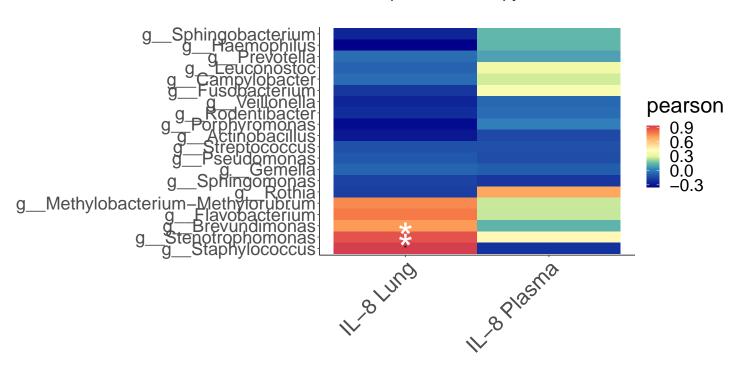


Figure 14: IL8 and lavage genus abundance Spearman correlations independent of H. pylori status

Lavage Alpha Diversity

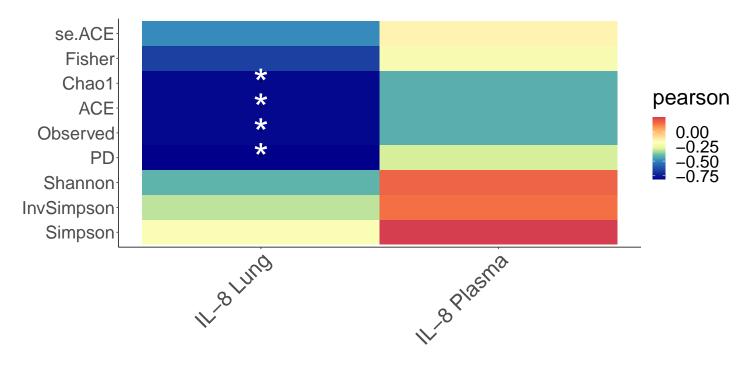


Figure 15: IL8 and lavage alpha diversity Spearman correlations inpendent of H. pylori status.

Buccal Cavity Genus Abundance

Grouped by H. pylori status

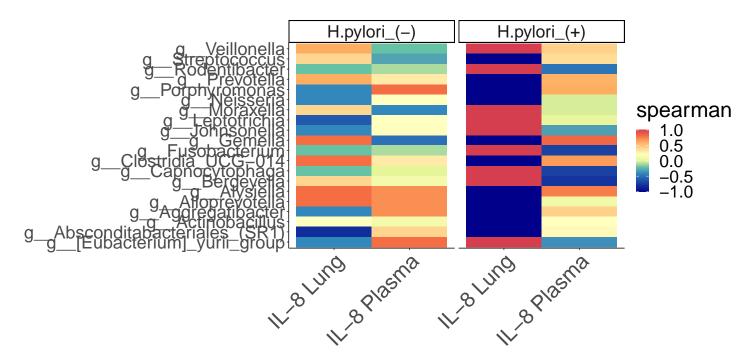


Figure 16: IL8 and Buccal genus abundance Spearman correlations separated by H. pylori status

Buccal Cavity Genus Abundance

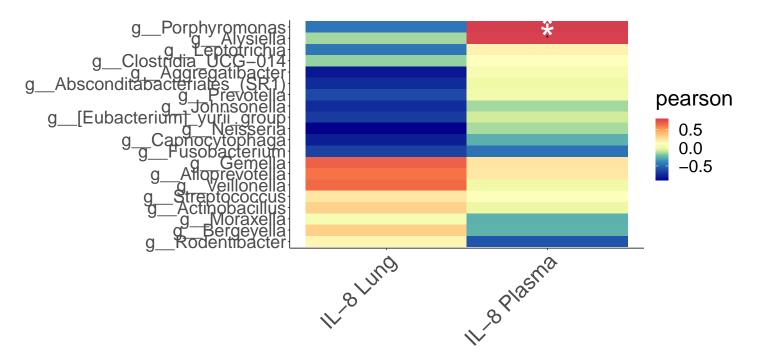


Figure 17: IL8 and Buccal genus abundance Spearman correlations independent of H. pylori status

Buccal Cavity Alpha Diversity

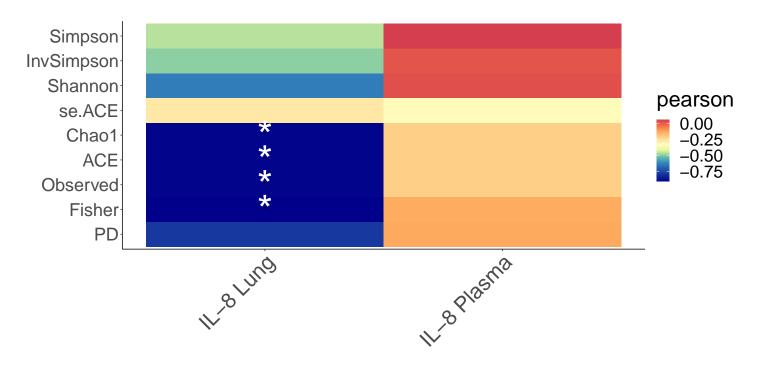


Figure 18: IL8 and Buccal alpha diversity Spearman correlations independent of H. pylori status

Record session information

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## Running under: Ubuntu 18.04.6 LTS
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## other attached packages:
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