

Supplementary Table 2. Median relative abundance of core species in healthy and CF children across different age groups. The Mann-Whitney U test was approached for statistical comparison with the corresponding effect size (r) and the confidence intervals of the effect size (CI).

| Age group | 0 years | 0 years | 0 years | 0 years | 0 years | 1-3 years | 1-3 years | 1-3 years | 1-3 years | 1-3 years | 4-6 years | 4-6 years | 4-6 years | 4-6 years | 4-6 years |
|---------------------------------------|-------------|-------------|---------------------|---------------|--------------------|-------------|-----------|---------------------|---------------|--------------------|--------------|-------------|---------------------|---------------|--------------------|
| State | Healthy | CF | Mann-Whitney U test | | | Healthy | CF | Mann-Whitney U test | | | Healthy | CF | Mann-Whitney U test | | |
| Statistics | median | median | p-value | effect size r | CI (r) | median | median | p-value | effect size r | CI (r) | median | median | p-value | effect size r | CI (r) |
| Sample size | n = 28 | n = 6 | | | | n = 9 | n=20 | | | | n = 15 | n = 16 | | | |
| Genera and core species thereof | | | | | | | | | | | | | | | |
| <i>Actinomyces meyeri</i> | 0.24 | 0 | 0.07 | 0.32 | -0.18 - 0.64 | 1.44 | 0.34 | 0.03 | 0.41 | 0.07 - 0.68 | 1.71 | 0.17 | 0.0004 | 0.64 | 0.35 - 0.83 |
| <i>Atopobium parvulum</i> | 0.13 | 0.02 | 0.09 | 0.3 | -0.01 - 0.56 | 0.12 | 0.05 | 0.12 | 0.3 | -0.05 - 0.63 | 0.54 | 0.27 | 0.007 | 0.49 | 0.16 - 0.73 |
| <i>Campylobacter concisus</i> | 0.2 | 0 | 0.02 | 0.43 | 0.21 - 0.61 | 1.21 | 0.83 | 0.49 | 0.13 | -0.22 - 0.47 | 7.47 | 3.45 | 0.004 | 0.5 | 0.18 - 0.75 |
| <i>Capnocytophaga</i> | 0.02 | 0 | | | | 0.31 | 0.79 | | | | 1.98 | 0.89 | | | |
| <i>Capnocytophaga gingivalis</i> | 0 | 0 | 0.24 | 0.21 | -0.05 - 0.42 | 0.13 | 0.33 | 0.04 | 0.4 | -0.66 - 0.06 | 1.21 | 0.54 | 0.10 | 0.3 | -0.04 - 0.61 |
| <i>Capnocytophaga leadbetteri</i> | 0.02 | 0 | 0.19 | 0.24 | -0.16 - 0.5 | 0.18 | 0.46 | 0.41 | 0.16 | -0.53 - 0.24 | 0.77 | 0.35 | 0.03 | 0.38 | 0.04 - 0.65 |
| <i>Corynebacterium argentoratense</i> | 0 | 0 | 1 | 0 | -0.39 - 0.28 | 0.02 | 0 | 0.0006 | 0.64 | 0.31 - 0.89 | 0.01 | 0 | 0.14 | 0.27 | -0.05 - 0.59 |
| <i>Eubacterium sulci</i> | 0.02 | 0 | 0.04 | 0.37 | 0.13 - 0.58 | 0.13 | 0.23 | 0.34 | 0.18 | -0.21 - 0.54 | 2.84 | 0.43 | 0.001 | 0.6 | 0.32 - 0.8 |
| <i>Fusobacterium periodonticum</i> | 0.02 | 0 | 0.16 | 0.25 | -0.04 - 0.5 | 0.48 | 1.83 | 0.65 | 0.09 | -0.27 - 0.46 | 14.22 | 2.45 | 0.002 | 0.56 | 0.28 - 0.76 |
| <i>Haemophilus</i> | 1.26 | 0.02 | | | | 4.63 | 16.08 | | | | 7.03 | 13.15 | | | |
| <i>Haemophilus influenzae</i> | 0.72 | 0.02 | 0.82 | 0.04 | -0.4 - 0.43 | 2.08 | 6.62 | 0.98 | 0.01 | -0.43 - 0.38 | 3.07 | 3.21 | 0.86 | 0.04 | -0.33 - 0.4 |
| <i>Haemophilus parainfluenzae</i> | 0.54 | 0 | 0.04 | 0.36 | -0.02 - 0.63 | 2.55 | 9.46 | 0.69 | 0.08 | -0.49 - 0.34 | 3.96 | 9.94 | 0.80 | 0.05 | -0.42 - 0.32 |
| <i>Neisseria</i> | 0.3 | 0 | | | | 4.4 | 3.58 | | | | 1.55 | 3.54 | | | |
| <i>Neisseria gonorrhoeae</i> | 0.04 | 0 | 0.15 | 0.25 | -0.17 - 0.53 | 0.68 | 0.45 | 0.91 | 0.03 | -0.32 - 0.37 | 0.15 | 0.45 | 0.92 | 0.02 | -0.34 - 0.37 |
| <i>Neisseria lactamica</i> | 0.13 | 0 | 0.17 | 0.24 | -0.24 - 0.55 | 0.86 | 0.79 | 0.76 | 0.06 | -0.29 - 0.4 | 0.3 | 0.33 | 0.31 | 0.18 | -0.16 - 0.52 |
| <i>Neisseria meningitidis</i> | 0.08 | 0 | 0.22 | 0.22 | -0.19 - 0.51 | 1.28 | 0.64 | 0.62 | 0.1 | -0.27 - 0.42 | 0.25 | 0.44 | 0.81 | 0.05 | -0.35 - 0.4 |
| <i>Neisseria mucosa</i> | 0.05 | 0 | 0.08 | 0.31 | -0.03 - 0.59 | 1.58 | 1.7 | 0.45 | 0.14 | -0.48 - 0.16 | 0.85 | 2.32 | 0.32 | 0.18 | -0.53 - 0.18 |
| <i>Prevotella</i> | 1.32 | 0 | | | | 8.63 | 4.64 | | | | 14.87 | 18.01 | | | |
| <i>Prevotella jejuni</i> | 0.16 | 0 | 0.04 | 0.37 | 0.12 - 0.56 | 0.71 | 0.5 | 0.17 | 0.26 | -0.09 - 0.57 | 3.89 | 1.87 | 0.16 | 0.26 | -0.08 - 0.57 |
| <i>Prevotella melaninogenica</i> | 1.16 | 0 | 0.02 | 0.43 | 0.18 - 0.63 | 7.92 | 4.14 | 0.94 | 0.02 | -0.32 - 0.33 | 10.98 | 16.14 | 0.86 | 0.04 | -0.32 - 0.38 |
| <i>Rothia</i> | 15.98 | 9.58 | | | | 35.3 | 40.7 | | | | 15.53 | 18.48 | | | |
| <i>Rothia aeria</i> | 0.07 | 0.02 | 0.004 | 0.51 | 0.28 - 0.69 | 0.28 | 0.48 | 0.89 | 0.03 | -0.38 - 0.32 | 0.31 | 0.27 | 0.59 | 0.1 | -0.45 - 0.27 |

| | | | | | | | | | | | | | | | |
|---------------------------------------|------------|------------|--------------|-------------|--------------------|-------|-------|------|------|--------------|-------|-------|------|------|--------------|
| <i>Rothia mucilaginosa</i> | 15.91 | 9.56 | 0.14 | 0.26 | -0.16 - 0.56 | 35.06 | 40.18 | 0.80 | 0.05 | -0.4 - 0.31 | 15.22 | 18.21 | 0.52 | 0.12 | -0.44 - 0.28 |
| <i>Streptococcus</i> | 76.61 | 88.64 | | | | 39.41 | 28.12 | | | | 18.96 | 28.12 | | | |
| <i>Streptococcus equinus</i> | 2.39 | 6.86 | 0.21 | 0.23 | -0.56 - 0.25 | 6.43 | 2.5 | 0.22 | 0.24 | -0.13 - 0.55 | 2.01 | 1.16 | 0.61 | 0.1 | -0.46 - 0.29 |
| <i>Streptococcus mitis</i> | 41.97 | 36.18 | 0.94 | 0.02 | -0.32 - 0.29 | 4.96 | 8.55 | 0.41 | 0.16 | -0.21 - 0.5 | 3.35 | 2.93 | 0.37 | 0.16 | -0.18 - 0.5 |
| <i>Streptococcus oralis</i> | 3.12 | 3.11 | 0.71 | 0.07 | -0.3 - 0.49 | 2.05 | 1.91 | 0.94 | 0.02 | -0.33 - 0.37 | 1.29 | 1.13 | 0.98 | 0.01 | -0.36 - 0.36 |
| <i>Streptococcus parasanguinis</i> | 7.09 | 13.25 | 0.19 | 0.23 | -0.11 - 0.49 | 14.67 | 3.27 | 0.05 | 0.37 | 0.03 - 0.66 | 5.97 | 17.23 | 0.03 | 0.38 | -0.66 - 0.05 |
| <i>Streptococcus pneumoniae</i> | 7.75 | 4.31 | 0.74 | 0.06 | -0.34 - 0.44 | 2.83 | 3.36 | 0.25 | 0.22 | -0.16 - 0.54 | 1.49 | 1.28 | 0.53 | 0.12 | -0.26 - 0.46 |
| <i>Streptococcus pseudopneumoniae</i> | 12.58 | 16.76 | 0.75 | 0.06 | -0.37 - 0.28 | 5.57 | 5.92 | 0.53 | 0.12 | -0.25 - 0.47 | 2.4 | 1.41 | 0.20 | 0.23 | -0.14 - 0.56 |
| <i>Streptococcus salivarius</i> | 1.28 | 7.93 | 0.63 | 0.09 | -0.56 - 0.41 | 2.7 | 2.04 | 0.20 | 0.24 | -0.1 - 0.54 | 1.9 | 2.35 | 0.89 | 0.03 | -0.33 - 0.36 |
| <i>Streptococcus sanguinis</i> | 0.43 | 0.24 | 0.86 | 0.04 | -0.37 - 0.46 | 0.2 | 0.57 | 0.25 | 0.22 | -0.56 - 0.14 | 0.37 | 0.48 | 0.37 | 0.16 | -0.49 - 0.2 |
| <i>Streptococcus thermophilus</i> | 0.6 | 0.81 | 0.80 | 0.05 | -0.55 - 0.44 | 0.27 | 0.15 | 0.21 | 0.24 | -0.12 - 0.54 | 0.18 | 0.15 | 0.98 | 0.01 | -0.38 - 0.34 |
| <i>Veillonella</i> | 3.3 | 0.92 | | | | 3.59 | 2.7 | | | | 13.29 | 11.05 | | | |
| <i>Veillonella atypica</i> | 2.6 | 0.8 | 0.009 | 0.44 | 0.14 - 0.66 | 1.78 | 1.31 | 0.25 | 0.22 | -0.14 - 0.53 | 11.48 | 9.23 | 0.89 | 0.03 | -0.39 - 0.33 |
| <i>Veillonella parvula</i> | 0.7 | 0.12 | 0.02 | 0.42 | 0.09 - 0.67 | 1.81 | 1.39 | 0.35 | 0.18 | -0.17 - 0.49 | 1.81 | 1.82 | 0.25 | 0.21 | -0.54 - 0.16 |

Significant differences in relative abundance between samples from healthy and CF children are highlighted in bold font. The significance level for statistical testing was 0.01.