SUPPLEMENTARY MATERIAL
Supplementary Figure 1. Secreted cytokine concentrations (pg/mL) after overnight incubation of PBMCs with different LPS concentrations (6 ng/mL, 60 ng/mL, 600 ng/mL) from different strains of a. B. fragilis b. F. periodonticum, and c. P. asaccharolytica compared to PBMC baseline (no treatment). Dashed lines connect data points from the same strains. Colors differentiate species (B. fragilis: blue; P. asaccharolytica: yellow; F. periodonticum: red) and different shades of a color differentiate the strains of each species. Where values are outside of assay limits, we show the assay limit, and denote the point with ‘◆’. For F. periodonticum plots, IL-1β, IL-6, and IL-10 y-axes are at scale log₁₀.
Supplementary Figure 2. Changes in cytokine expression in peripheral blood mononuclear cells (PBMCs) following treatment with *F. periodonticum* alone (red) or in combination with *B. fragilis* (blue) or *P. asaccharolytica* (yellow). We show results for cytokines of interest IL-1β, IFN-γ, IL-6, IL-10, IL-12p70, and IL-18. *F. periodonticum* 2/1/31 LPS used was at a concentration of 6 ng/mL. *B. fragilis* 2/1/16 LPS and *P. asaccharolytica* CC1/6 F2 LPS used were at a concentration of 600 ng/mL. Values are shown as percentages of PBMC baseline secretion, which is set at 100%. Dashed lines indicate a single experimental run. Colored, solid horizontal lines represent the means of repeat experiments. Y-axes of IL-1β, IFN-γ, IL-6, and IL-10 are in log10 scale, while Y-axes of IL-12p70 and IL-18 are in linear scale.

*Fpe = F. periodonticum (6ng/mL), Fpe + Bfr = F. periodonticum (6ng/mL) + B. fragilis (600ng/mL), Fpe + Pas = F. periodonticum (6 ng/mL) + P. asaccharolytica (600 ng/mL); (*) = Paired student’s t-tests p-value < 0.05 (F. periodonticum vs PBMC, F. periodonticum + B. fragilis vs F. periodonticum alone, or F. periodonticum + P. asaccharolytica vs F. periodonticum alone).*
### Supplementary Table 1. Read count information for each step of the analysis (N=260)

|                      | Minimum   | Maximum     | Median      |
|----------------------|-----------|-------------|-------------|
| Raw Reads            | 3518434   | 18689703    | 12231622.5  |
| Human Analysis (STAR alignment)\(^1\) - Paired End |
| Input                | 3479791   | 18670112    | 12152988    |
| Aligned Uniquely (%) | 17.04     | 93.82       | 85.84       |
| Human Analysis (STAR alignment)\(^1\) - Single End |
| Input                | 35        | 5402        | 2875        |
| Aligned Uniquely (%) | 3.7       | 92.49       | 84.15       |
| Microbial Analysis\(^1\) |
| Input (to Kaiju)     | 53909     | 4711734     | 641559      |
| Identified Species\(^2\) (%) | 12.2    | 65.97       | 19.02       |

\(^1\) The trimming and quality control steps provide paired and single end reads which were used to align to the human genome using STAR, separately. It is only after featureCounts that their respective gene counts were combined for subsequent analysis. For microbial analysis, the same was carried out, however Kaiju recommends combining results of paired-end (PE) and single-end (SE) reads immediately, allowing for combined read count information of the PE and SE reads.

\(^2\) Identified species that passed the relative abundance (in percent) cutoff of 0.01\%.
## Supplementary Table 2. Test of Differences between Cytokine Concentrations Released after PBMC Treatment using *F. periodonticum* and *B. fragilis* LPS

| Cytokine | Reference Group | Group 2 | N1 | N2 | p     | Cohen’s d | Magnitude |
|----------|-----------------|---------|----|----|-------|-----------|-----------|
| IL-12p70|                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 3  | 3  | 0.16  | -0.72     | moderate  |
|          | Fp6             | Fp6 + Bf600 | 3  | 3  | 0.20  | 0.62      | moderate  |
| IL-10    |                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 4  | 4  | 0.057 | -1.10     | large     |
|          | Fp6             | Fp6 + Bf600 | 4  | 4  | 0.055 | 1.11      | large     |
| IFN-γ    |                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 4  | 4  | 0.09  | -0.90     | large     |
|          | Fp6             | Fp6 + Bf600 | 4  | 4  | 0.09  | 0.90      | large     |
| IL-1β    |                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 4  | 4  | 0.041 | -1.26     | large     |
|          | Fp6             | Fp6 + Bf600 | 4  | 4  | 0.041 | 1.26      | large     |
| IL-18    |                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 4  | 4  | 0.017 | -1.77     | large     |
|          | Fp6             | Fp6 + Bf600 | 4  | 4  | 0.05  | 1.163     | large     |
| IL-6     |                 |         |    |    |       |           |           |
|          | PBMC            | Fp6     | 4  | 4  | 0.025 | -1.52     | large     |
|          | Fp6             | Fp6 + Bf600 | 4  | 4  | 0.023 | 1.57      | large     |

Legend: Fp6=*F. periodonticum* 2/1/31 (6 ng/mL) alone; Fp6+Bf600 =*F. periodonticum* 2/1/31 (6 ng/mL) + *B. fragilis* 2/1/16 (600 ng/mL) co-incubation; N=number of repeats used in statistical calculations; p=paired t-test p-value; d=cohen’s d; Magnitude = interpretation of cohen’s d
## Supplementary Table 3. Test of Differences between Cytokine Concentrations Released after PBMC Treatment using *F. periodonticum* and *P. asaccharolytica* LPS

| Cytokine | Reference Group | Group 2 | N1 | N2 | p     | Cohen's d | Magnitude |
|----------|-----------------|---------|----|----|-------|-----------|-----------|
| IL-12p70 | PBMC            | Fp6     | 4  | 4  | 0.06  | -1.07     | large     |
|          | Fp6             | Fp6+Pa600 | 4  | 4  | 0.08  | 0.95      | large     |
| IL-10    | PBMC            | Fp6     | 5  | 5  | 0.017 | -1.41     | large     |
|          | Fp6             | Fp6+Pa600 | 5  | 5  | 0.016 | 1.45      | large     |
| IFN-γ    | PBMC            | Fp6     | 4  | 4  | 0.035 | -1.34     | large     |
|          | Fp6             | Fp6+Pa600 | 4  | 4  | 0.06  | 1.07      | large     |
| IL-1β    | PBMC            | Fp6     | 5  | 5  | 0.010 | -1.63     | large     |
|          | Fp6             | Fp6+Pa600 | 5  | 5  | 0.011 | 1.61      | large     |
| IL-18    | PBMC            | Fp6     | 5  | 5  | 0.02  | -1.35     | large     |
|          | Fp6             | Fp6+Pa600 | 5  | 5  | 0.021 | 1.33      | large     |
| IL-6     | PBMC            | Fp6     | 3  | 3  | 0.017 | -2.52     | large     |
|          | Fp6             | Fp6+Pa600 | 3  | 3  | 0.015 | 2.69      | large     |

**Legend:** Fp6=*F. periodonticum* 2/1/31 (6 ng/mL) alone; Fp6+Pa600=*F. periodonticum* 2/1/31 (6 ng/mL) + *P. asaccharolytica* CC1/6 F2 (600 ng/mL) co-incubation; N=number of repeats used in statistical calculations; p=paired t-test p-value; d=cohen’s d; Magnitude = interpretation of cohen’s d