

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Metadata for each sample in the study.

File Name: Supplementary Data 2

Description: Pearson correlation coefficients of LIPA coefficients and 16S rRNA tree branch lengths between OTUs with a significant LIPA coefficient value for at least one host species. Only OTU comparisons with a normalized branch length of < 0.1 and a Pearson coefficient of < 0 are shown. Only OTUs found to have significant LIPA coefficient values in ≥ 1 host species were included in the analysis.

File Name: Supplementary Data 3

Description: Samples from the Earth Microbiome Project that were used to infer biome specificity of taxa (Supplementary Fig. 20).