

## Association between the relative abundance of bacterial genus and diversity indexes with cytokine and signal proteins

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This is Supplemental material S5 for the article: **A 7-week summer camp in Antarctica induces fluctuations on human oral microbiome, pro-inflammatory markers and metabolic hormones profile**

**Table S5.** Results of Spearman's correlations between the relative abundance of bacterial genus and diversity indexes with cytokine and signal proteins.

Genus	Leptin	IL-8	IL1- $\beta$	IL-6	VEGF	hs-CRP	TNF- $\alpha$
1 Clostridiales_unclassified	r = 0.332 p = 0.149	r = -0.013 p = 0.952	r = -0.313 p = 0.176	r = 0.029 p = 0.901	r = -0.44 p = 0.058	r = -0.225 p = 0.333	r = -0.107 p = 0.657
2 Granulicatella	r = 0.402 p = 0.078	r = -0.383 p = 0.093	r = <b>-0.704 *</b> p = 0.001	r = 0.146 p = 0.534	r = <b>-0.593 *</b> p = 0.007	r = -0.341 p = 0.138	r = <b>-0.482 *</b> p = 0.036
3 Mogibacterium	r = -0.105 p = 0.662	r = <b>-0.452 *</b> p = 0.050	r = -0.415 p = 0.075	r = -0.186 p = 0.439	r = -0.198 p = 0.421	r = -0.334 p = 0.157	r = <b>-0.533 *</b> p = 0.022
4 Firmicutes_unclassified	r = 0.318 p = 0.169	r = -0.013 p = 0.952	r = -0.263 p = 0.257	r = 0.079 p = 0.733	r = -0.265 p = 0.268	r = -0.147 p = 0.529	r = -0.147 p = 0.541
5 Ruminococcaceae_[G-1]	r = -0.037 p = 0.871	r = -0.156 p = 0.504	r = 0.044 p = 0.846	r = 0.212 p = 0.364	r = 0.055 p = 0.815	r = 0.070 p = 0.762	r = -0.149 p = 0.536
6 Veillonellaceae_[G-1]	r = -0.258 p = 0.293	r = -0.116 p = 0.638	r = 0.103 p = 0.674	r = -0.093 p = 0.705	r = 0.063 p = 0.802	r = -0.131 p = 0.597	r = -0.308 p = 0.222
7 Abiotrophia	r = <b>0.489 *</b> p = 0.029	r = -0.317 p = 0.169	r = -0.278 p = 0.230	r = <b>0.423 *</b> p = 0.062	r = -0.181 p = 0.453	r = 0.015 p = 0.947	r = -0.046 p = 0.848
8 Lachnoanaerobaculum	r = 0.212 p = 0.377	r = 0.028 p = 0.905	r = -0.040 p = 0.865	r = 0.107 p = 0.657	r = 0.059 p = 0.811	r = -0.226 p = 0.345	r = 0.020 p = 0.934
9 Solobacterium	r = 0.181 p = 0.453	r = 0.103 p = 0.667	r = -0.015 p = 0.945	r = 0.214 p = 0.373	r = 0.038 p = 0.876	r = -0.129 p = 0.590	r = 0.041 p = 0.863
10 Gemella	r = <b>0.486 *</b> p = 0.030	r = -0.039 p = 0.866	r = -0.278 p = 0.230	r = 0.514 p = 0.02	r = -0.219 p = 0.361	r = <b>-0.442 *</b> p = 0.050	r = -0.126 p = 0.600
11 Filifactor	r = <b>-0.488 *</b> p = 0.039	r = 0.031 p = 0.895	r = 0.238 p = 0.334	r = -0.34 p = 0.164	r = 0.402 p = 0.107	r = 0.066 p = 0.792	r = -0.206 p = 0.420
12 Oribacterium	r = 0.020 p = 0.932	r = 0.093 p = 0.691	r = 0.080 p = 0.733	r = 0.078 p = 0.738	r = -0.116 p = 0.631	r = -0.143 p = 0.542	r = -0.319 p = 0.179
13 Streptococcus	r = <b>0.412 *</b> p = 0.070	r = -0.098 p = 0.676	r = <b>-0.475 *</b> p = 0.034	r = 0.182 p = 0.437	r = <b>-0.467 *</b> p = 0.043	r = <b>-0.568 *</b> p = 0.009	r = -0.205 p = 0.393
14 Ruminococcaceae_[G-2]	r = 0.025 p = 0.911	r = <b>0.449 *</b> p = 0.046	r = <b>0.454 *</b> p = 0.044	r = 0.226 p = 0.330	r = 0.374 p = 0.112	r = 0.323 p = 0.161	r = 0.207 p = 0.389
15 Lachnospiraceae_[XIV]_unclassified	r = -0.005 p = 0.982	r = 0.023 p = 0.921	r = -0.036 p = 0.876	r = 0.048 p = 0.836	r = 0.002 p = 0.991	r = 0.084 p = 0.719	r = -0.332 p = 0.162
16 Peptostreptococcaceae_[XI][G-5]	r = -0.164 p = 0.498	r = -0.049 p = 0.837	r = 0.135 p = 0.575	r = 0.040 p = 0.865	r = 0.107 p = 0.668	r = -0.077 p = 0.748	r = -0.189 p = 0.446
17 Lactobacillus	r = 0.381 p = 0.095	r = 0.092 p = 0.695	r = -0.305 p = 0.187	r = 0.143 p = 0.542	r = -0.317 p = 0.184	r = -0.344 p = 0.134	r = -0.246 p = 0.305
18 Veillonella	r = 0.302 p = 0.191	r = 0.277 p = 0.233	r = 0.129 p = 0.581	r = 0.286 p = 0.218	r = 0.279 p = 0.242	r = -0.075 p = 0.748	r = 0.333 p = 0.159
19 Dialister	r = -0.095 p = 0.686	r = 0.382 p = 0.095	r = 0.355 p = 0.122	r = 0.144 p = 0.538	r = 0.405 p = 0.0833	r = -0.102 p = 0.663	r = 0.211 p = 0.381
20 Catonella	r = 0.302 p = 0.191	r = -0.143 p = 0.542	r = 0.015 p = 0.947	r = 0.438 p = 0.053	r = -0.009 p = 0.968	r = 0.102 p = 0.663	r = -0.021 p = 0.928
21 SR1_[G-1]	r = -0.080 p = 0.733	r = 0.048 p = 0.836	r = 0.195 p = 0.403	r = 0.121 p = 0.603	r = 0.273 p = 0.252	r = 0.177 p = 0.448	r = 0.060 p = 0.798
22 Sneathia	r = -0.054 p = 0.820	r = <b>-0.603 *</b> p = 0.006	r = <b>-0.549 *</b> p = 0.015	r = -0.30 p = 0.207	r = -0.178 p = 0.471	r = -0.057 p = 0.809	r = -0.275 p = 0.263
23 Leptotrichia	r = 0.253 p = 0.277	r = 0.161 p = 0.492	r = 0.155 p = 0.508	r = 0.317 p = 0.170	r = 0.039 p = 0.871	r = 0.293 p = 0.205	r = -0.188 p = 0.435
24 Fusobacterium	r = -0.020 p = 0.927	r = -0.014 p = 0.947	r = 0.105 p = 0.653	r = 0.171 p = 0.464	r = 0.019 p = 0.934	r = 0.352 p = 0.125	r = -0.168 p = 0.484
25 Bergeyella	r = 0.007 p = 0.972	r = <b>-0.589 *</b> p = 0.006	r = -0.412 p = 0.070	r = 0.120 p = 0.608	r = -0.254 p = 0.288	r = -0.138 p = 0.555	r = -0.372 p = 0.114
26 Alloprevotella	r = -0.016 p = 0.942	r = 0.086 p = 0.714	r = 0.239 p = 0.305	r = 0.179 p = 0.444	r = 0.270 p = 0.258	r = 0.131 p = 0.577	r = 0.068 p = 0.776

27	<b>Bacteroidetes_unclassified</b>	r = 0.192 p = 0.410	r = -0.055 p = 0.811	r = <b>-0.451 *</b> p = 0.045	r = -0.158 p = 0.500	r = -0.368 p = 0.118	r = -0.125 p = 0.594	r = <b>-0.456 *</b> p = 0.049
28	<b>Capnocytophaga</b>	r = 0.126 p = 0.590	r = -0.11 p = 0.639	r = -0.174 p = 0.456	r = 0.087 p = 0.710	r = 0.068 p = 0.776	r = 0.247 p = 0.289	r = 0.023 p = 0.922
29	<b>Prevotella</b>	r = 0.078 p = 0.738	r = 0.298 p = 0.198	r = 0.352 p = 0.125	r = 0.298 p = 0.198	r = 0.242 p = 0.312	r = 0.092 p = 0.695	r = 0.046 p = 0.848
30	<b>Bacteroides</b>	r = 0.168 p = 0.472	r = 0.087 p = 0.710	r = -0.088 p = 0.705	r = -0.035 p = 0.881	r = -0.246 p = 0.305	r = 0.286 p = 0.218	r = -0.136 p = 0.570
31	<b>Bacteroidales_unclassified</b>	r = 0.024 p = 0.916	r = -0.360 p = 0.116	r = <b>-0.599 *</b> p = 0.005	r = -0.289 p = 0.213	r = -0.562 p = 0.012	r = -0.097 p = 0.676	r = <b>-0.658 *</b> p = 0.002
32	<b>Actinomyces</b>	r = 0.122 p = 0.603	r = -0.159 p = 0.496	r = -0.305 p = 0.187	r = 0.134 p = 0.568	r = -0.375 p = 0.111	r = -0.066 p = 0.777	r = -0.404 p = 0.085
33	<b>Corynebacterium</b>	r = -0.095 p = 0.686	r = -0.037 p = 0.871	r = -0.15 p = 0.521	r = -0.205 p = 0.378	r = -0.125 p = 0.600	r = -0.396 p = 0.081	r = -0.248 p = 0.298
34	<b>Actinobacteria_unclassified</b>	r = -0.093 p = 0.691	r = -0.008 p = 0.967	r = 0.127 p = 0.585	r = 0.173 p = 0.460	r = 0.037 p = 0.877	r = 0.166 p = 0.480	r = -0.091 p = 0.705
35	<b>Rothia</b>	r = 0.047 p = 0.841	r = 0.044 p = 0.846	r = -0.252 p = 0.277	r = -0.090 p = 0.700	r = <b>-0.477 *</b> p = 0.038	r = <b>-0.505 *</b> p = 0.023	r = <b>-0.628 *</b> p = 0.004
36	<b>Kingella</b>	r = 0.244 p = 0.295	r = -0.227 p = 0.330	r = -0.235 p = 0.314	r = 0.089 p = 0.700	r = -0.161 p = 0.503	r = 0.39 p = 0.088	r = -0.042 p = 0.860
37	<b>Eikenella</b>	r = 0.290 p = 0.224	r = 0.106 p = 0.657	r = -0.122 p = 0.610	r = 0.184 p = 0.444	r = 0.002 p = 0.987	r = 0.161 p = 0.503	r = -0.156 p = 0.530
38	<b>Neisseriaceae_unclassified</b>	r = 0.149 p = 0.525	r = 0.178 p = 0.444	r = 0.265 p = 0.255	r = 0.387 p = 0.090	r = 0.379 p = 0.107	r = 0.371 p = 0.105	r = 0.267 p = 0.264
39	<b>Neisseria</b>	r = -0.026 p = 0.911	r = 0.105 p = 0.653	r = 0.310 p = 0.180	r = 0.274 p = 0.238	r = 0.377 p = 0.109	r = 0.280 p = 0.228	r = 0.356 p = 0.131
40	<b>Escherichia</b>	r = -0.084 p = 0.736	r = 0.360 p = 0.138	r = 0.184 p = 0.456	r = -0.206 p = 0.407	r = -0.117 p = 0.646	r = <b>0.474 *</b> p = 0.046	r = -0.262 p = 0.302
41	<b>Stenotrophomonas</b>	r = 0.372 p = 0.137	r = -0.369 p = 0.142	r = <b>-0.629 *</b> p = 0.007	r = 0.135 p = 0.598	r = <b>-0.659 *</b> p = 0.005	r = <b>-0.527 *</b> p = 0.029	r = <b>-0.556 *</b> p = 0.0247
42	<b>Treponema</b>	r = 0.019 p = 0.932	r = -0.197 p = 0.399	r = -0.070 p = 0.762	r = 0.173 p = 0.460	r = -0.025 p = 0.917	r = 0.044 p = 0.851	r = -0.311 p = 0.191
43	<b>Fretibacterium</b>	r = 0.0321 p = 0.894	r = -0.110 p = 0.646	r = 0.062 p = 0.798	r = 0.267 p = 0.264	r = -0.039 p = 0.876	r = -0.205 p = 0.393	r = -0.248 p = 0.313
44	<b>Porphyromonas</b>	r = 0.137 p = 0.559	r = 0.102 p = 0.663	r = 0.180 p = 0.440	r = 0.284 p = 0.220	r = 0.272 p = 0.255	r = 0.367 p = 0.109	r = -0.026 p = 0.911
45	<b>Bacteroidales_[G-2]</b>	r = -0.040 p = 0.865	r = 0.040 p = 0.865	r = 0.214 p = 0.373	r = 0.107 p = 0.657	r = 0.267 p = 0.278	r = 0.168 p = 0.484	r = 0.044 p = 0.856
46	<b>Bacteroidetes_[G-5]</b>	r = 0.110 p = 0.646	r = -0.102 p = 0.673	r = -0.026 p = 0.911	r = 0.309 p = 0.194	r = 0.103 p = 0.674	r = -0.067 p = 0.781	r = -0.170 p = 0.492
47	<b>Tannerella</b>	r = 0.149 p = 0.525	r = 0.259 p = 0.266	r = 0.294 p = 0.203	r = 0.296 p = 0.201	r = 0.333 p = 0.159	r = 0.143 p = 0.542	r = 0.061 p = 0.790
48	<b>Megasphaera</b>	r = 0.033 p = 0.886	r = 0.344 p = 0.134	r = 0.256 p = 0.269	r = 0.325 p = 0.159	r = 0.143 p = 0.550	r = -0.141 p = 0.546	r = 0.128 p = 0.595
49	<b>Peptostreptococcaceae_[XI] [G-7]</b>	r = 0.055 p = 0.811	r = <b>-0.451 *</b> p = 0.045	r = -0.303 p = 0.191	r = 0.190 p = 0.414	r = -0.076 p = 0.748	r = -0.211 p = 0.364	r = -0.372 p = 0.114
50	<b>Stomatobaculum</b>	r = -0.003 p = 0.986	r = 0.032 p = 0.894	r = 0.226 p = 0.345	r = 0.165 p = 0.493	r = 0.441 p = 0.066	r = -0.074 p = 0.759	r = 0.271 p = 0.270
51	<b>Selenomonas</b>	r = 0.203 p = 0.385	r = 0.197 p = 0.399	r = 0.0391 p = 0.866	r = 0.298 p = 0.198	r = 0.023 p = 0.922	r = -0.17 p = 0.468	r = -0.270 p = 0.258
52	<b>Peptostreptococcus</b>	r = -0.295 p = 0.203	r = -0.168 p = 0.472	r = -0.075 p = 0.748	r = -0.317 p = 0.169	r = 0.275 p = 0.249	r = -0.054 p = 0.816	r = 0.170 p = 0.480
53	<b>Lachnospiraceae_[G-3]</b>	r = 0.211 p = 0.367	r = -0.403 p = 0.077	r = -0.397 p = 0.081	r = 0.145 p = 0.534	r = -0.071 p = 0.770	r = -0.085 p = 0.719	r = -0.264 p = 0.268
54	<b>Peptostreptococcaceae_[XI] [G-1]</b>	r = -0.234 p = 0.327	r = 0.046 p = 0.848	r = 0.339 p = 0.153	r = -0.005 p = 0.980	r = 0.393 p = 0.104	r = 0.102 p = 0.673	r = -0.018 p = 0.941
55	<b>Parvimonas</b>	r = 0.009 p = 0.967	r = -0.335 p = 0.145	r = -0.305 p = 0.187	r = 0.020 p = 0.932	r = -0.146 p = 0.546	r = -0.295 p = 0.203	r = <b>-0.474 *</b> p = 0.040
56	<b>Staphylococcus</b>	r = -0.078 p = 0.738	r = 0.385 p = 0.092	r = <b>0.474 *</b> p = 0.035	r = 0.262 p = 0.260	r = 0.439 p = 0.059	r = 0.069 p = 0.767	r = 0.429 p = 0.065
57	<b>Atopobium</b>	r = 0.109 p = 0.652	r = -0.054 p = 0.820	r = -0.135 p = 0.575	r = 0.118 p = 0.626	r = 0.013 p = 0.954	r = -0.085 p = 0.721	r = 0.205 p = 0.407
58	<b>Actinobaculum</b>	r = 0.397 p = 0.091	r = -0.037 p = 0.877	r = -0.224 p = 0.349	r = 0.193 p = 0.422	r = 0.066 p = 0.786	r = -0.187 p = 0.435	r = -0.213 p = 0.388
59	<b>Campylobacter</b>	r = -0.015 p = 0.947	r = -0.147 p = 0.529	r = 0.110 p = 0.639	r = 0.236 p = 0.311	r = 0.165 p = 0.493	r = 0.177 p = 0.448	r = 0.218 p = 0.365
60	<b>Cardiobacterium</b>	r = 0.409 p = 0.072	r = -0.129 p = 0.581	r = -0.107 p = 0.649	r = <b>0.481 *</b> p = 0.031	r = 0.007 p = 0.974	r = 0.045 p = 0.846	r = 0.005 p = 0.980

<b>61</b>	<b>Haemophilus</b>	r = -0.044 p = 0.851	r = 0.107 p = 0.649	r = 0.138 p = 0.555	r = -0.14 p = 0.551	r = 0.168 p = 0.484	r = 0.426 p = 0.0603	r = 0.249 p = 0.298
<b>62</b>	<b>Aggregatibacter</b>	r = 0.108 p = 0.644	r = 0.188 p = 0.421	r = 0.245 p = 0.292	r = 0.174 p = 0.456	r = 0.311 p = 0.191	r = 0.459 p = 0.0414	r = 0.121 p = 0.615
<b>63</b>	<b>Pasteurellaceae_unclassified</b>	r = -0.197 p = 0.399	r = 0.263 p = 0.257	r = 0.289 p = 0.213	r = 0.138 p = 0.555	r = 0.398 p = 0.089	r = 0.274 p = 0.238	r = 0.153 p = 0.526
<b>64</b>	<b>Lautropia</b>	r = -0.412 p = 0.070	r = 0.138 p = 0.555	r = 0.305 p = 0.187	r = -0.180 p = 0.440	r = 0.295 p = 0.216	r = 0.264 p = 0.255	r = 0.146 p = 0.546

*Footnote:* Association between the relative abundance of bacterial genus and diversity indexes with cytokine and signal proteins. IL-8: *Interleukin 8*. IL1- $\beta$ : *Interleukin 1-Beta*. IL-6: *Interleukin 6*. VEGF: *Vascular endothelial growth factor*. hs-CRP: *high-sensitivity C-reactive protein*. TNF- $\alpha$ : *Tumor necrosis factor-alpha*. *Pseudomonadota*, former *Proteobacteria*. *Bacillota*, former *Firmicutes*. *Bacteroidota*, former *Bacteroidetes*. *Actinomycetota*, former *Actinobacteria*. Number of samples = 20 for all correlations, except for correlations with TNF- $\alpha$  and VEGF with a number of samples = 19, due to the limited volume of samples for one volunteer at the Final moment. Statistical analysis: Spearman Rank Order Correlation. \*Significant association ( $P < 0.05$ ) between the data.