

Supplementary File 1.**Associations between all BGA gene SNPs and pathogen richness**

SNP	τ	P value	Rank (all)	Rank (matched)
rs12065700	0.155	0.124	0.378	0.370
rs6658001	0.162	0.107	0.395	0.387
rs17386017	-0.203	0.045	0.492	0.469
rs11210726	-0.049	0.625	0.119	0.118
rs7540604	0.140	0.163	0.343	0.335
rs4660672	-0.048	0.630	0.117	0.115
rs12075938	0.003	0.977	0.009	0.031
rs11210729	0.446	0.000	0.945	0.937
rs11806407	-0.011	0.924	0.027	0.057
rs12406279	0.258	0.013	0.610	0.569
rs6700168	0.427	0.000	0.923	0.927
rs7544288	-0.283	0.005	0.664	0.671
rs2135923	0.374	0.000	0.842	0.846
rs1571344	-0.362	0.001	0.820	0.804
rs4274065	-0.261	0.010	0.617	0.567
rs2025935	0.346	0.001	0.789	0.778
rs4310446	-0.235	0.021	0.562	0.512
rs11117956	0.109	0.275	0.268	0.264
rs10127904	-0.354	0.001	0.805	0.788
rs650877	-0.012	0.904	0.030	0.029
rs3737002	-0.228	0.023	0.548	0.538
rs11118131	-0.057	0.569	0.138	0.132
rs17047502	-0.180	0.117	0.439	0.405
rs677066	-0.048	0.630	0.117	0.119
rs17047631	-0.119	0.304	0.292	0.197
rs6691117	-0.047	0.642	0.113	0.115
rs3818361	-0.023	0.822	0.056	0.054
rs6701713	0.023	0.822	0.056	0.054
rs7517706	-0.111	0.333	0.273	0.181
rs12034383	-0.122	0.223	0.300	0.300
rs1408077	-0.076	0.450	0.187	0.178
rs17048122	0.003	0.981	0.007	0.024
rs3811541	-0.317	0.002	0.733	0.739
rs4143022	-0.440	0.000	0.938	0.930

rs4662685	0.271	0.007	0.637	0.651
rs7589096	0.548	0.000	0.997	0.997
rs4663038	-0.460	0.000	0.958	0.961
rs12692115	0.423	0.000	0.918	0.899
rs11694376	0.176	0.079	0.430	0.424
rs6761722	-0.012	0.904	0.030	0.032
rs17741574	0.459	0.000	0.957	0.953
rs6736203	0.341	0.001	0.781	0.777
rs17014125	-0.402	0.000	0.887	0.876
rs17741655	-0.363	0.000	0.822	0.800
rs908641	0.364	0.000	0.824	0.810
rs6711745	-0.027	0.791	0.066	0.066
rs13034269	0.493	0.000	0.981	0.978
rs12990441	-0.417	0.000	0.909	0.895
rs1866657	-0.045	0.653	0.110	0.106
rs13425954	-0.130	0.197	0.319	0.315
rs12053420	-0.239	0.019	0.571	0.521
rs1866658	0.258	0.010	0.610	0.623
rs7599354	0.135	0.178	0.333	0.322
rs17741936	-0.325	0.001	0.749	0.755
rs755515	0.150	0.136	0.367	0.362
rs6568	0.417	0.000	0.910	0.911
rs1008897	0.391	0.000	0.870	0.865
rs1008898	-0.151	0.134	0.369	0.358
rs13226799	-0.238	0.019	0.567	0.500
rs10487590	0.549	0.000	0.997	0.997
rs2190935	-0.076	0.446	0.187	0.188
rs16919255	0.284	0.005	0.665	0.646
rs2228332	-0.459	0.000	0.957	0.957
rs7466519	0.108	0.354	0.264	0.261
rs8176749	0.133	0.188	0.326	0.303
rs8176746	0.127	0.210	0.311	0.289
rs8176732	0.139	0.168	0.340	0.325
rs2073824	-0.506	0.000	0.987	0.988
rs8176720	-0.284	0.005	0.666	0.686
rs512770	0.163	0.105	0.398	0.383
rs8176704	0.369	0.001	0.832	0.887

rs574347	0.130	0.197	0.319	0.318
rs2073828	-0.343	0.001	0.785	0.791
rs8176694	0.404	0.000	0.890	0.870
rs657152	-0.007	0.942	0.019	0.017
rs500498	-0.196	0.051	0.475	0.483
rs505922	0.002	0.981	0.006	0.006
rs630014	0.093	0.352	0.229	0.224
rs3751031	0.129	0.212	0.317	0.274
rs11033008	-0.400	0.000	0.884	0.864
rs2785172	0.140	0.165	0.342	0.338
rs2553808	0.133	0.188	0.325	0.316
rs187116	0.261	0.009	0.617	0.631
rs11033010	-0.364	0.000	0.824	0.822
rs353625	0.039	0.700	0.095	0.091
rs7126359	0.167	0.097	0.408	0.387
rs3794125	0.136	0.181	0.334	0.288
rs353619	0.315	0.002	0.729	0.717
rs187115	0.234	0.020	0.560	0.559
rs353615	-0.189	0.059	0.461	0.450
rs16926995	0.000	1.000	0.002	0.002
rs12283855	0.263	0.017	0.622	0.623
rs353644	0.124	0.217	0.304	0.304
rs193276	0.115	0.254	0.281	0.269
rs353639	0.135	0.180	0.331	0.322
rs353638	-0.106	0.293	0.259	0.248
rs16927009	0.348	0.002	0.794	0.739
rs353630	0.173	0.087	0.424	0.411
rs353626	0.107	0.286	0.263	0.253
rs353646	0.099	0.330	0.243	0.223
rs3794109	-0.188	0.062	0.458	0.427
rs353645	0.172	0.088	0.420	0.420
rs1570483	0.006	0.955	0.015	0.014
rs4756195	-0.042	0.682	0.101	0.098
rs4756196	0.181	0.071	0.442	0.443
rs11033019	-0.334	0.002	0.766	0.760
rs3736812	0.023	0.822	0.057	0.061
rs996076	-0.116	0.248	0.284	0.281

rs7934770	-0.101	0.316	0.246	0.236
rs10488810	-0.148	0.148	0.361	0.309
rs10128562	0.140	0.163	0.343	0.344
rs16927061	-0.013	0.902	0.032	0.021
rs17375044	-0.202	0.056	0.491	0.397
rs11033021	-0.136	0.175	0.334	0.338
rs7115768	-0.272	0.011	0.641	0.572
rs10836340	0.175	0.084	0.426	0.408
rs9666607	-0.166	0.101	0.405	0.388
rs1467558	-0.409	0.000	0.898	0.865
rs2421826	-0.436	0.000	0.933	0.929
rs10488811	-0.078	0.503	0.192	0.373
rs7105890	-0.302	0.003	0.703	0.686
rs1547059	0.439	0.000	0.937	0.933
rs2295756	-0.166	0.099	0.405	0.399
rs7945310	-0.042	0.677	0.102	0.105
rs2065006	0.427	0.000	0.922	0.899
rs11607862	-0.154	0.127	0.375	0.367
rs12419062	-0.044	0.665	0.106	0.109
rs8193	-0.184	0.067	0.448	0.440
rs13347	-0.091	0.365	0.224	0.214
rs2072081	0.487	0.000	0.978	0.979
rs2074108	0.473	0.000	0.968	0.970
rs2074107	0.302	0.003	0.703	0.686
rs9916116	-0.168	0.095	0.410	0.405
rs1484878	-0.393	0.000	0.873	0.873
rs16978469	0.035	0.730	0.085	0.085
rs7233769	-0.044	0.665	0.107	0.107
rs537380	0.427	0.000	0.922	0.899
rs3819177	-0.071	0.480	0.173	0.167
rs692899	0.425	0.000	0.920	0.916
rs12607548	0.407	0.000	0.895	0.896
rs10853535	-0.509	0.000	0.988	0.985
rs11877720	0.051	0.613	0.124	0.130
rs1058396	0.050	0.619	0.122	0.121
rs566309	0.461	0.000	0.958	0.951
rs900971	-0.611	0.000	1.000	1.000

rs6507641	-0.466	0.000	0.962	0.963
rs16982241	0.097	0.336	0.238	0.228
rs281377	-0.391	0.000	0.871	0.887
rs602662	-0.499	0.000	0.984	0.980
rs485186	-0.513	0.000	0.989	0.987
rs504963	0.472	0.000	0.967	0.965
rs838143	-0.137	0.173	0.336	0.323
rs4021	0.258	0.010	0.611	0.614
rs4015	0.104	0.304	0.254	0.249
rs874232	-0.353	0.000	0.804	0.823
rs11673407	0.179	0.077	0.436	0.418
rs2306969	-0.420	0.000	0.914	0.903
rs10772807	0.335	0.001	0.768	0.765
rs12314703	0.376	0.000	0.845	0.798
rs2430723	-0.314	0.002	0.727	0.737
rs11276	-0.329	0.001	0.758	0.756
rs1861698	0.279	0.006	0.654	0.653
rs1132787	-0.281	0.008	0.658	0.638
rs13125760	-0.225	0.025	0.540	0.546
rs4425323	-0.228	0.024	0.546	0.552
rs4374581	-0.034	0.745	0.082	0.070
rs6857303	-0.203	0.043	0.492	0.486
rs13103731	0.258	0.010	0.610	0.612
rs2075594	-0.173	0.087	0.422	0.351
rs5015024	0.240	0.017	0.572	0.563
rs885740	-0.142	0.158	0.349	0.351
rs1046146	0.150	0.138	0.366	0.334
rs2075589	-0.031	0.760	0.075	0.075
rs11857558	0.367	0.000	0.829	0.845
rs11852686	-0.420	0.000	0.914	0.902
rs8036030	-0.050	0.619	0.122	0.126
rs8031284	0.076	0.455	0.185	0.170
rs1053026	-0.215	0.032	0.519	0.508
rs135106	0.412	0.000	0.902	0.861
rs11541159	0.212	0.035	0.512	0.507
rs3788594	-0.265	0.009	0.624	0.630
rs130397	-0.270	0.009	0.637	0.610

rs4822185	-0.301	0.003	0.700	0.707
rs5758871	0.285	0.004	0.668	0.679
rs910303	0.043	0.670	0.105	0.104
rs5758873	-0.106	0.293	0.258	0.261
rs5751341	-0.136	0.175	0.335	0.325
rs5758894	0.205	0.042	0.495	0.501
rs8136914	0.186	0.066	0.452	0.440
rs5758898	0.268	0.008	0.633	0.622
rs6949788	-0.301	0.007	0.700	0.796
rs7797908	-0.185	0.080	0.451	0.331
rs8176063	-0.328	0.003	0.755	0.832
rs7806742	-0.226	0.030	0.542	0.474
rs6974425	-0.245	0.027	0.583	0.474
rs863002	0.285	0.005	0.668	0.656
rs12075	-0.324	0.001	0.747	0.770
rs5939319	-0.361	0.001	0.819	0.768
rs5982868	0.025	0.815	0.063	0.036
rs5963994	0.132	0.257	0.324	0.630
rs2281541	0.089	0.377	0.219	0.207
rs12841651	-0.408	0.000	0.896	0.889
rs5963262	-0.075	0.460	0.182	0.168
rs1293259	0.353	0.000	0.804	0.792
rs9463517	-0.183	0.079	0.446	0.355
rs1480618	-0.361	0.000	0.819	0.835
rs1480617	0.333	0.001	0.765	0.778
rs2023198	0.348	0.001	0.794	0.807
rs16879521	0.045	0.663	0.109	0.081
rs718233	-0.037	0.712	0.090	0.089
rs1268282	-0.392	0.000	0.871	0.830
rs1471540	-0.081	0.422	0.199	0.182
rs12524967	0.193	0.054	0.470	0.470
rs7760223	0.087	0.390	0.213	0.208
rs6934867	-0.087	0.386	0.215	0.205
rs13198157	0.292	0.004	0.681	0.692
rs3799678	0.343	0.001	0.785	0.808
rs2231256	0.040	0.735	0.097	0.172
rs2231252	-0.282	0.005	0.662	0.654

rs11713192	-0.222	0.038	0.533	0.449
rs4521287	-0.391	0.000	0.871	0.875
rs6795977	-0.264	0.009	0.622	0.612
rs8101274	0.151	0.147	0.370	0.274
rs2968180	-0.018	0.860	0.044	0.040
rs7026	-0.225	0.026	0.540	0.551
rs692986	-0.370	0.000	0.834	0.774
rs631299	-0.030	0.767	0.074	0.075
rs560194	-0.021	0.835	0.052	0.051
rs681282	-0.270	0.011	0.636	0.535
rs597697	-0.039	0.700	0.094	0.097
rs646723	0.404	0.000	0.890	0.874
rs16870458	-0.032	0.748	0.079	0.078
rs1226003	-0.298	0.003	0.695	0.700
rs527168	-0.269	0.008	0.634	0.637
rs16870475	0.056	0.635	0.135	0.224
rs3756948	0.160	0.112	0.390	0.372
rs2230906	0.410	0.000	0.899	0.866
rs9295586	-0.247	0.014	0.587	0.587
rs566298	-0.073	0.470	0.178	0.172
rs1225999	0.073	0.470	0.178	0.172
rs624678	-0.303	0.003	0.704	0.719
rs1318748	-0.160	0.112	0.391	0.383
rs559892	-0.070	0.547	0.172	0.545
rs594495	0.070	0.550	0.170	0.311
rs3798703	-0.237	0.019	0.566	0.562
rs9466910	-0.491	0.000	0.979	0.975
rs9466912	-0.491	0.000	0.979	0.975
rs17576994	0.476	0.000	0.970	0.972
rs7755748	0.171	0.089	0.417	0.418
rs9393456	0.319	0.002	0.737	0.746
rs9466918	-0.103	0.305	0.252	0.250
rs6913109	-0.083	0.427	0.204	0.191
rs9356906	0.109	0.275	0.268	0.271
rs7764197	-0.021	0.835	0.052	0.051
rs942631	0.210	0.037	0.507	0.493
rs9466993	0.019	0.856	0.047	0.041

rs6933854	-0.096	0.356	0.236	0.226
rs4449626	0.010	0.921	0.025	0.021
rs2267719	-0.268	0.008	0.632	0.615
rs1004317	0.290	0.004	0.677	0.704
rs17159702	0.109	0.279	0.266	0.261
rs11537661	0.229	0.024	0.550	0.524