

Supplementary Table 4 - Cross-panel performance of HLA tags

This table lists how well the tags picked to capture a given HLA allele in each of the 4 panels capture the same HLA allele in the YRI panel (etc.). It is possible that an equivalent tag/test for any given HLA allele performs better in a given panel (e.g. YRI) simply due to LD differences.

YRI

HLA allele	frequency	tags from CEU	allele	frequency	rsquared	dprime
HLA-A*0201	0.042	rs2844821,rs762324	3,2	0.050	0.826	1.000
HLA-A*2601	0.025	rs2301751,rs4678	4,2	0.025	0.433	0.658
HLA-A*3201	0.008	rs1611578,rs3130244	3,2	0.017	0.496	1.000
HLA-A*6801	0.017	rs1610714,rs2571375	3,3	0.017	1.000	1.000
HLA-B*0801	0.008	rs6457374,rs2844535	3,2	0.008	1.000	1.000
HLA-B*4901	0.050	rs2394985	3	0.042	0.826	0.991
HLA-B*5601	0.008	rs4122190	1	0.008	1.000	1.000
HLA-C*0102	0.008	rs9380234	2	0.008	1.000	1.000
HLA-C*0602	0.008	rs887466,rs4379333	3,2	0.017	0.496	1.000
HLA-C*0701	0.133	rs2524074,rs7382297	2,2	0.125	0.929	1.000
HLA-C*0802	0.050	rs2524048,rs2442719	3,3	0.083	0.234	0.636
HLA-C*1203	0.008	rs3130457,rs2248902	1,4	0.008	1.000	1.000
HLA-C*1601	0.167	rs7747738	3	0.175	0.832	0.930
HLA-DQA*0101	0.100	rs6457614,rs1794265	1,3	0.133	0.471	0.778
HLA-DQA*0102	0.242	rs14004,rs6457594	3,1	0.250	0.279	0.540
HLA-DQA*0103	0.083	rs2273017,rs2157051	1,3	0.058	0.323	0.688
HLA-DQA*0301	0.058	rs3129883,rs7745002,rs3844313	2,2,3	0.142	0.375	1.000
HLA-DQB*0201	0.275	rs4988889	3	0.275	1.000	1.000
HLA-DQB*0301	0.175	rs7744001,rs2856691	1,2	0.217	0.767	1.000
HLA-DQB*0501	0.125	rs6457614	1	0.125	1.000	1.000
HLA-DQB*0503	0.025	rs1794265	3	0.008	0.328	0.983
HLA-DQB*0603	0.058	rs2395150,rs3135461	4,3	0.058	0.485	0.697
HLA-DRB*0301	0.092	rs2040410	3	0.083	0.548	0.773
HLA-DRB*0701	0.125	rs7745002,rs2647087,rs241398	2,3,2	0.125	0.295	0.543
HLA-DRB*1301	0.083	rs2395173,rs2157051	3,3	0.075	0.361	0.636
HLA-DRB*1302	0.058	rs4434496,rs6901541	4,4	0.092	0.614	1.000
tags from CHB						
HLA-A*2601	0.025	rs3823339	3	0.025	1.000	1.000
HLA-A*3303	0.108	rs2524005,rs2855591	1,1	0.133	0.656	0.911
HLA-A*6801	0.017	rs2844800	4	0.025	0.661	0.992
HLA-C*0302	0.042	rs1265155,rs4713438	3,4	0.150	0.246	1.000
HLA-C*0702	0.058	rs2001181	1	0.058	1.000	1.000
HLA-C*1203	0.008	rs6929434	4	0.008	1.000	1.000
HLA-DQA*0102	0.242	rs5875382,rs1063355	3,1	0.175	0.509	0.874
HLA-DQA*0201	0.150	rs7763805,rs3844313	2,1	0.075	0.459	1.000
HLA-DQA*0301	0.058	rs2395533,rs6903433	4,3	0.017	0.274	1.000
HLA-DQA*0501	0.233	rs4639334,rs6908943	2,3	0.417	0.328	0.668
HLA-DQB*0201	0.275	rs4988889	3	0.275	1.000	1.000
HLA-DQB*0301	0.175	rs6928482,rs1056315	3,1	0.175	1.000	1.000
HLA-DQB*0302	0.017	rs6906021,rs9275184	4,3	0.017	1.000	1.000
HLA-DQB*0502	0.058	rs7744001,rs6906021,rs2300825	3,2,3	0.017	0.274	1.000
HLA-DQB*0503	0.025	rs1794265,rs241446	2,2	0.008	0.328	1.000
HLA-DQB*0602	0.100	rs3134975,rs2621426	4,2	0.183	0.399	0.898
HLA-DRB*0701	0.125	rs3129859,rs2395177	3,2	0.075	0.433	0.873
HLA-DRB*1302	0.058	rs11758998	2	0.058	0.720	0.848
tags from JPT						
HLA-A*2601	0.025	rs3823339,rs1045251,rs3132571	2,4,1	0.008	0.328	1.000
HLA-B*0702	0.075	rs2523480	2	0.058	0.764	0.982
HLA-B*5201	0.083	rs2523608,rs2596560	4,2	0.275	0.240	1.000
HLA-C*0702	0.058	rs2001181	1	0.058	1.000	1.000
HLA-DQA*0101	0.100	rs6927022,rs2647050,rs6932517	4,1,2	0.183	0.238	0.694

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HLA-DQA*0102	0.242	rs8180664,rs3134975	2,4	0.217	0.306	0.594
HLA-DQA*0401	0.133	rs1061172,rs1056315	3,2	0.108	0.790	1.000
HLA-DQB*0301	0.175	rs1056315	2	0.267	0.583	0.889
HLA-DQB*0501	0.125	rs6457614	1	0.125	1.000	1.000
HLA-DQB*0602	0.100	rs5875382,rs2647012	3,4	0.200	0.444	1.000
HLA-DRB*1302	0.058	rs6936204,rs2157339	3,1	0.058	0.720	0.848

CEU

HLA allele	frequency	tags from YRI	allele	frequency	rsquared	dprime
HLA-A*0201	0.328	rs4713240,rs3132682	3,2	0.272	0.592	0.879
HLA-A*0301	0.094	rs2524024	1	0.106	0.884	0.988
HLA-A*2601	0.022	rs3823339	3	0.061	0.349	0.960
HLA-A*2902	0.017	rs7741100,rs2523807	3,2	0.022	0.746	1.000
HLA-A*6801	0.033	rs2735068,rs2524198	2,2	0.028	0.521	0.793
HLA-B*0702	0.183	rs2523618	4	0.222	0.786	0.952
HLA-B*0801	0.139	rs1059612	2	0.144	0.561	0.761
HLA-B*3501	0.050	rs2249876,rs1058026,rs2844498	4,2,2	0.067	0.428	0.762
HLA-B*5601	0.011	rs4122190	1	0.011	1.000	1.000
HLA-C*0102	0.017	rs4122190	1	0.011	0.663	0.994
HLA-C*0202	0.022	rs6923313,rs2243868	3,3	0.067	0.318	1.000
HLA-C*0401	0.083	rs4386816	4	0.122	0.653	0.958
HLA-C*0701	0.178	rs3132499,rs2524074	1,2	0.178	0.925	0.962
HLA-C*1203	0.017	rs6929434	4	0.022	0.746	0.994
HLA-C*1601	0.033	rs2844603,rs2844586	3,1	0.039	0.582	0.827
HLA-C*1701	0.006	rs2524069,rs5875311,rs3096702	1,3,2	0.006	1.000	1.000
HLA-DQA*0101	0.133	rs3134605,rs2858330,rs1612904	1,1,1	0.128	0.952	1.000
HLA-DQA*0102	0.239	rs204996,rs6457594,rs1063355	3,1,1	0.261	0.497	0.748
HLA-DQA*0103	0.056	rs3135338,rs2858867,rs5875382	1,4,1	0.156	0.248	0.882
HLA-DQA*0201	0.133	rs3844313,rs2647012	1,2	0.067	0.464	1.000
HLA-DQA*0301	0.228	rs5875382,rs6457617	3,1	0.311	0.653	1.000
HLA-DQA*0401	0.033	rs4639334,rs1061172	2,3	0.033	1.000	1.000
HLA-DQB*0201	0.156	rs4988889	3	0.150	0.958	0.993
HLA-DQB*0301	0.167	rs6928482,rs1056315	3,1	0.161	0.808	0.917
HLA-DQB*0302	0.144	rs7454108	4	0.150	0.957	0.994
HLA-DQB*0402	0.033	rs2213586,rs4947342	4,4	0.039	0.852	1.000
HLA-DQB*0501	0.094	rs6457614	1	0.094	1.000	1.000
HLA-DQB*0503	0.039	rs1612904,rs2856717	1,4	0.039	1.000	1.000
HLA-DQB*0602	0.200	rs5875382,rs3134975	3,4	0.206	0.966	1.000
HLA-DQB*0604	0.017	rs3129848,rs2858867,rs1978029	4,2,4	0.078	0.201	1.000
HLA-DRB*1301	0.044	rs3134942,rs3763308,rs7451962	3,4,2	0.022	0.266	0.738
HLA-DRB*1401	0.033	rs1612904,rs2856717	1,4	0.039	0.852	1.000

tags from CHB

HLA-A*0101	0.189	rs1264709	4	0.200	0.737	0.878
HLA-A*0201	0.328	rs892666,rs4959037,rs4678	2,1,2	0.306	0.633	0.838
HLA-A*1101	0.039	rs2517754,rs7745235	2,1	0.039	1.000	1.000
HLA-A*2402	0.089	rs2734984,rs1611589	1,1	0.111	0.780	1.000
HLA-A*2601	0.022	rs3823339	3	0.061	0.349	0.960
HLA-A*3101	0.033	rs3823318,rs1061235	2,1	0.033	1.000	1.000
HLA-A*6801	0.033	rs2844800	4	0.061	0.530	0.971
HLA-B*1501	0.072	rs2524178,rs3819294	3,1	0.061	0.541	0.804
HLA-B*4001	0.039	rs2844580,rs2523694	3,2	0.067	0.566	1.000
HLA-B*5101	0.028	rs3905495,rs7450800,rs2471980	1,2,3	0.061	0.272	0.787
HLA-B*5201	0.017	rs1062470,rs2844586	3,1	0.011	0.663	1.000
HLA-B*5701	0.061	rs3093726	4	0.056	0.904	0.994
HLA-C*0303	0.061	rs6457350,rs2156875	2,4	0.100	0.473	0.899
HLA-C*0401	0.083	rs7451258,rs12662501	2,1	0.078	0.928	1.000
HLA-C*0602	0.117	rs3130457	1	0.261	0.327	0.783

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HLA-C*0702	0.206	rs2001181	1	0.206	0.933	0.966
HLA-C*1202	0.011	rs3094663,rs2073723	2,4	0.011	1.000	1.000
HLA-C*1203	0.017	rs6929434	4	0.022	0.746	0.994
HLA-C*1402	0.017	rs3095301,rs2073716	4,2	0.022	0.746	1.000
HLA-DQA*0102	0.239	rs5875382,rs1063355	3,1	0.200	0.581	0.854
HLA-DQA*0301	0.228	rs2395533,rs6903433	4,3	0.117	0.214	0.692
HLA-DQA*0501	0.178	rs4639334,rs6908943	2,3	0.228	0.675	0.901
HLA-DQB*0201	0.156	rs4988889	3	0.150	0.958	0.993
HLA-DQB*0301	0.167	rs6928482,rs1056315	3,1	0.161	0.808	0.917
HLA-DQB*0302	0.144	rs6906021,rs9275184	4,3	0.150	0.957	1.000
HLA-DQB*0303	0.061	rs2395533,rs2856683	4,4	0.061	1.000	1.000
HLA-DQB*0503	0.039	rs1794265,rs241446	2,2	0.022	0.562	1.000
HLA-DQB*0601	0.006	rs7744001,rs6928482	1,1	0.006	1.000	1.000
HLA-DRB*0701	0.100	rs3129859,rs2395177	3,2	0.022	0.205	1.000
HLA-DRB*1301	0.044	rs3873444	2	0.106	0.292	0.805
HLA-DRB*1502	0.006	rs2858880	1	0.006	1.000	1.000

tags from JPT

HLA-A*0206	0.006	rs892666,rs2517699	4,2	0.022	0.246	1.000
HLA-A*0301	0.094	rs2524172	3	0.117	0.351	0.651
HLA-A*1101	0.039	rs2893998	2	0.133	0.263	0.902
HLA-A*2402	0.089	rs1611589,rs2275854	1,2	0.289	0.240	1.000
HLA-A*2601	0.022	rs3823339,rs1045251,rs3132571	2,4,1	0.006	0.246	1.000
HLA-A*3101	0.033	rs1061235,rs1150739	1,1	0.033	1.000	1.000
HLA-B*0702	0.183	rs2523480	2	0.178	0.891	0.955
HLA-B*1302	0.017	rs12191164	3	0.017	1.000	1.000
HLA-B*4403	0.022	rs2844523	2	0.061	0.349	0.960
HLA-C*0303	0.061	rs4084093,rs2853950,rs6457388	4,3,4	0.111	0.329	0.795
HLA-C*0304	0.039	rs2853950,rs3873386	1,2	0.100	0.364	1.000
HLA-C*0702	0.206	rs2001181	1	0.206	0.933	0.966
HLA-C*1202	0.011	rs6923313,rs3873386	3,2	0.039	0.278	1.000
HLA-C*1502	0.028	rs2240066	1	0.033	0.829	0.994
HLA-DQA*0101	0.133	rs6927022,rs2647050,rs6932517	4,1,2	0.094	0.678	1.000
HLA-DQA*0102	0.239	rs8180664,rs3134975	2,4	0.267	0.707	0.905
HLA-DQA*0401	0.033	rs1061172,rs1056315	3,2	0.033	1.000	1.000
HLA-DQA*0501	0.178	rs7769073,rs2097432	1,4	0.183	0.630	0.803
HLA-DQB*0301	0.167	rs1056315	2	0.233	0.497	0.800
HLA-DQB*0302	0.144	rs9275184,rs393906	3,1	0.144	0.828	0.910
HLA-DQB*0501	0.094	rs6457614	1	0.094	1.000	1.000
HLA-DQB*0601	0.006	rs7744001,rs1063355	1,1	0.011	0.497	1.000
HLA-DQB*0602	0.200	rs5875382,rs2647012	3,4	0.289	0.615	1.000

CHB

HLA allele	frequency	tags from YRI	allele	frequency	rsquared	dprime
HLA-A*0201	0.233	rs4713240,rs3132682	3,2	0.356	0.334	0.778
HLA-A*0301	0.022	rs2524024	1	0.067	0.318	0.955
HLA-A*2601	0.011	rs3823339	3	0.011	1.000	1.000
HLA-A*3001	0.056	rs1633005,rs2057727	4,4	0.089	0.367	0.780
HLA-A*3303	0.078	rs6921921,rs2523945	1,3	0.111	0.475	0.839
HLA-A*6801	0.022	rs2735068,rs2524198	2,2	0.022	1.000	1.000
HLA-C*0102	0.178	rs4122190	1	0.133	0.712	0.949
HLA-C*0302	0.044	rs2074488	3	0.167	0.233	0.872
HLA-C*0401	0.044	rs4386816	4	0.167	0.233	0.872
HLA-C*1203	0.033	rs6929434	4	0.033	1.000	1.000
HLA-DQA*0101	0.100	rs3134605,rs2858330,rs1612904	1,1,1	0.056	0.529	1.000
HLA-DQA*0201	0.067	rs3844313,rs2647012	1,2	0.056	0.824	1.000
HLA-DQA*0301	0.322	rs5875382,rs6457617	3,1	0.400	0.634	0.943
HLA-DQA*0401	0.022	rs4639334,rs1061172	2,3	0.100	0.205	1.000

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HLA-DQA*0501	0.122	rs4424079,rs2284189	3,1	0.233	0.458	0.873
HLA-DQB*0201	0.111	rs4988889	3	0.111	1.000	1.000
HLA-DQB*0301	0.167	rs6928482,rs1056315	3,1	0.167	1.000	1.000
HLA-DQB*0302	0.067	rs7454108	4	0.067	0.413	0.643
HLA-DQB*0503	0.044	rs1612904,rs2856717	1,4	0.056	0.791	1.000
HLA-DQB*0602	0.044	rs5875382,rs3134975	3,4	0.044	1.000	1.000
HLA-DRB*1201	0.056	rs4248166,rs6918223	2,2	0.211	0.220	1.000
HLA-DRB*1302	0.033	rs2157339,rs7756467	1,4	0.011	0.326	1.000
tags from CEU						
HLA-A*0101	0.022	rs1611635,rs10947088	4,4	0.033	0.659	1.000
HLA-A*0201	0.233	rs2844821,rs762324	3,2	0.322	0.473	0.859
HLA-A*0206	0.056	rs3116820,rs6457109	3,3	0.022	0.386	1.000
HLA-A*0301	0.022	rs9380122,rs9259817	4,2	0.067	0.318	1.000
HLA-A*1101	0.233	rs29233	2	0.144	0.271	0.626
HLA-A*2402	0.156	rs3893538,rs2523933	2,1	0.089	0.530	1.000
HLA-A*2601	0.011	rs2301751,rs4678	4,2	0.022	0.494	1.000
HLA-A*3001	0.056	rs11961013	3	0.044	0.427	0.727
HLA-A*3101	0.033	rs1061235	4	0.111	0.276	0.920
HLA-A*3201	0.022	rs1611578,rs3130244	3,2	0.022	1.000	1.000
HLA-A*6801	0.022	rs1610714,rs2571375	3,3	0.022	0.239	0.489
HLA-B*0801	0.022	rs6457374,rs2844535	3,2	0.056	0.386	1.000
HLA-B*1302	0.056	rs12191164	3	0.056	0.332	0.576
HLA-C*0102	0.178	rs9380234	2	0.178	0.596	0.772
HLA-C*0303	0.078	rs1265100,rs7745906	1,1	0.089	0.864	1.000
HLA-C*0602	0.078	rs887466,rs4379333	3,2	0.122	0.606	1.000
HLA-C*0702	0.200	rs3132572,rs2001181	1,1	0.200	1.000	1.000
HLA-C*1203	0.033	rs3130457,rs2248902	1,4	0.033	1.000	1.000
HLA-DQA*0101	0.100	rs6457614,rs1794265	1,3	0.078	0.208	0.511
HLA-DQA*0301	0.322	rs3129883,rs7745002,rs3844313	2,2,3	0.378	0.699	0.945
HLA-DQA*0501	0.122	rs10485326,rs2040406	4,1	0.211	0.520	0.899
HLA-DQB*0201	0.111	rs4988889	3	0.111	1.000	1.000
HLA-DQB*0301	0.167	rs7744001,rs2856691	1,2	0.156	0.921	1.000
HLA-DQB*0302	0.067	rs7454108,rs2071876	2,2	0.067	0.413	0.643
HLA-DQB*0503	0.044	rs1794265	3	0.067	0.651	0.977
HLA-DRB*0301	0.067	rs2040410	3	0.067	0.216	0.464
HLA-DRB*1302	0.033	rs4434496,rs6901541	4,4	0.111	0.276	1.000
HLA-DRB*1502	0.022	rs2858880	1	0.022	1.000	1.000
tags from JPT						
HLA-A*0201	0.233	rs9348834,rs6457110	4,1	0.256	0.777	0.936
HLA-A*0206	0.056	rs892666,rs2517699	4,2	0.089	0.603	1.000
HLA-A*0301	0.022	rs2524172	3	0.033	0.659	0.989
HLA-A*1101	0.233	rs2893998	2	0.267	0.732	0.894
HLA-A*2402	0.156	rs1611589,rs2275854	1,2	0.167	0.770	0.914
HLA-A*2601	0.011	rs3823339,rs1045251,rs3132571	2,4,1	0.011	1.000	1.000
HLA-A*3001	0.056	rs3218822	1	0.056	1.000	1.000
HLA-A*3303	0.078	rs2524005,rs1150739	1,3	0.122	0.425	0.837
HLA-B*1302	0.056	rs12191164	3	0.056	0.332	0.576
HLA-B*4001	0.122	rs7381331	3	0.144	0.659	0.871
HLA-B*4002	0.011	rs3130573,rs3819299	4,2	0.011	1.000	1.000
HLA-B*4801	0.044	rs4959069	2	0.044	1.000	1.000
HLA-B*5101	0.078	rs6933050,rs2596560	3,4	0.089	0.407	0.686
HLA-B*5201	0.044	rs2523608,rs2596560	4,2	0.078	0.293	0.729
HLA-C*0102	0.178	rs1264459,rs2535294,rs2524227	1,4,1	0.122	0.391	0.779
HLA-C*0303	0.078	rs4084093,rs2853950,rs6457388	4,3,4	0.156	0.200	0.662
HLA-C*0602	0.078	rs3134942	3	0.056	0.224	0.553
HLA-C*0702	0.200	rs2001181	1	0.200	1.000	1.000
HLA-C*0704	0.011	rs3093542	2	0.011	1.000	1.000

Supplementary Table 4 - Cross-panel performance of HLA tags

HLA-C*0801	0.144	rs2524160,rs2524227	4,3	0.133	0.340	0.610
HLA-C*1202	0.044	rs6923313,rs3873386	3,2	0.044	0.545	0.738
HLA-C*1402	0.044	rs6457300,rs130074	4,1	0.078	0.293	0.729
HLA-C*1502	0.056	rs2240066	1	0.044	0.427	0.727
HLA-DQA*0102	0.122	rs8180664,rs3134975	2,4	0.078	0.425	0.837
HLA-DQA*0103	0.144	rs7744001,rs1063355	1,1	0.144	0.828	0.910
HLA-DQA*0201	0.067	rs12191164	3	0.056	0.269	0.565
HLA-DQA*0301	0.322	rs5875382,rs2856716,rs6457617	3,1,1	0.367	0.734	0.946
HLA-DQA*0401	0.022	rs1061172,rs1056315	3,2	0.022	1.000	1.000
HLA-DQB*0301	0.167	rs1056315	2	0.233	0.657	0.920
HLA-DQB*0302	0.067	rs9275184,rs393906	3,1	0.056	0.269	0.571
HLA-DQB*0303	0.189	rs2395533,rs2300825,rs3998159	4,3,4	0.222	0.815	1.000
HLA-DQB*0401	0.067	rs2395533,rs2300825	4,1	0.078	0.847	1.000
HLA-DQB*0601	0.144	rs7744001,rs1063355	1,1	0.144	1.000	1.000
HLA-DQB*0602	0.044	rs5875382,rs2647012	3,4	0.100	0.419	1.000
HLA-DRB*0401	0.022	rs1150758	2	0.022	0.239	0.489
HLA-DRB*0701	0.067	rs3134942	3	0.056	0.269	0.565
HLA-DRB*0802	0.022	rs3129888,rs2239800	3,1	0.011	0.494	1.000
HLA-DRB*0901	0.178	rs2187818,rs5000803,rs7756741	1,2,1	0.167	0.530	0.757
HLA-DRB*1302	0.033	rs6936204,rs2157339	3,1	0.022	0.659	1.000
HLA-DRB*1502	0.022	rs3135365,rs7382794	3,1	0.022	0.239	0.489

JPT

HLA allele	frequency	tags from YRI	allele	frequency	rsquared	dprime
HLA-A*0201	0.125	rs4713240,rs3132682	3,2	0.171	0.424	0.781
HLA-A*2601	0.068	rs3823339	3	0.114	0.571	0.951
HLA-A*3303	0.114	rs6921921,rs2523945	1,3	0.091	0.576	0.859
HLA-B*0702	0.057	rs2523618	4	0.171	0.293	0.880
HLA-B*4403	0.080	rs2769	2	0.091	0.864	0.988
HLA-C*0702	0.182	rs9264731	1	0.171	0.925	0.986
HLA-DQA*0101	0.114	rs3134605,rs2858330,rs1612904	1,1,1	0.091	0.402	0.718
HLA-DQA*0201	0.011	rs3844313,rs2647012	1,2	0.011	1.000	1.000
HLA-DQA*0301	0.352	rs5875382,rs6457617	3,1	0.386	0.864	1.000
HLA-DQA*0401	0.057	rs4639334,rs1061172	2,3	0.068	0.823	1.000
HLA-DQA*0501	0.080	rs4424079,rs2284189	3,1	0.171	0.421	0.901
HLA-DQB*0201	0.011	rs4988889	3	0.011	1.000	1.000
HLA-DQB*0301	0.102	rs6928482,rs1056315	3,1	0.091	0.878	1.000
HLA-DQB*0302	0.091	rs7454108	4	0.091	0.744	0.862
HLA-DQB*0501	0.057	rs6457614	1	0.057	1.000	1.000
HLA-DQB*0503	0.046	rs1612904,rs2856717	1,4	0.046	1.000	1.000
HLA-DQB*0602	0.102	rs5875382,rs3134975	3,4	0.102	1.000	1.000
HLA-DQB*0604	0.080	rs3129848,rs2858867,rs1978029	4,2,4	0.057	0.427	0.783
HLA-DRB*1301	0.011	rs3134942,rs3763308,rs7451962	3,4,2	0.046	0.241	1.000
HLA-DRB*1302	0.091	rs2157339,rs7756467	1,4	0.046	0.476	1.000
HLA-DRB*1401	0.034	rs1612904,rs2856717	1,4	0.046	0.314	0.651

tags from CEU

HLA-A*0201	0.125	rs2844821,rs762324	3,2	0.182	0.286	0.667
HLA-A*0206	0.091	rs3116820,rs6457109	3,3	0.057	0.367	0.780
HLA-A*0301	0.011	rs9380122,rs9259817	4,2	0.023	0.494	1.000
HLA-A*1101	0.068	rs29233	2	0.023	0.318	0.953
HLA-A*2402	0.341	rs3893538,rs2523933	2,1	0.159	0.291	0.892
HLA-A*3001	0.011	rs11961013	3	0.011	1.000	1.000
HLA-A*3101	0.114	rs1061235	4	0.227	0.436	0.872
HLA-B*0702	0.057	rs2596438,rs805288	3,2	0.080	0.697	1.000
HLA-B*1302	0.011	rs12191164	3	0.011	1.000	1.000
HLA-B*4002	0.148	rs3819285	2	0.193	0.724	0.947
HLA-B*4402	0.011	rs3130501,rs2769,rs2844533	2,4,4	0.011	1.000	1.000

Supplementary Table 4 - Cross-panel performance of HLA tags

HLA-C*0102	0.148	rs9380234	2	0.171	0.844	0.973
HLA-C*0303	0.148	rs1265100,rs7745906	1,1	0.148	0.301	0.549
HLA-C*0401	0.023	rs9461684	3	0.023	0.239	0.488
HLA-C*0602	0.011	rs887466,rs4379333	3,2	0.023	0.494	1.000
HLA-C*0702	0.182	rs3132572,rs2001181	1,1	0.193	0.928	0.986
HLA-C*0704	0.011	rs2524050,rs2256583	4,3	0.011	1.000	1.000
HLA-C*1402	0.080	rs2517439,rs2240061	1,2	0.046	0.292	0.728
HLA-DQA*0102	0.193	rs14004,rs6457594	3,1	0.284	0.343	0.754
HLA-DQA*0301	0.352	rs3129883,rs7745002,rs3844313	2,2,3	0.375	0.729	0.897
HLA-DQA*0501	0.080	rs10485326,rs2040406	4,1	0.114	0.674	0.963
HLA-DQB*0201	0.011	rs4988889	3	0.011	1.000	1.000
HLA-DQB*0301	0.102	rs7744001,rs2856691	1,2	0.068	0.426	0.814
HLA-DQB*0302	0.091	rs7454108,rs2071876	2,2	0.091	0.744	0.862
HLA-DQB*0501	0.057	rs6457614	1	0.057	1.000	1.000
HLA-DQB*0601	0.171	rs2858880	1	0.102	0.297	0.677
HLA-DRB*1302	0.091	rs4434496,rs6901541	4,4	0.102	0.878	1.000
HLA-DRB*1502	0.102	rs2858880	1	0.102	0.566	0.752
tags from CHB						
HLA-A*0201	0.125	rs892666,rs4959037,rs4678	2,1,2	0.114	0.897	1.000
HLA-A*0206	0.091	rs6457109,rs9260988	3,1	0.080	0.864	1.000
HLA-A*1101	0.068	rs2517754,rs7745235	2,1	0.068	1.000	1.000
HLA-A*2402	0.341	rs2734984,rs1611589	1,1	0.352	0.951	1.000
HLA-A*2601	0.068	rs3823339	3	0.114	0.571	0.951
HLA-A*3001	0.011	rs3218822	1	0.011	1.000	1.000
HLA-A*3101	0.114	rs3823318,rs1061235	2,1	0.125	0.704	0.886
HLA-A*3303	0.114	rs2524005,rs2855591	1,1	0.216	0.354	0.872
HLA-B*1501	0.057	rs2524178,rs3819294	3,1	0.080	0.223	0.565
HLA-B*3901	0.046	rs1811197,rs2844575	4,2	0.023	0.488	1.000
HLA-B*4001	0.057	rs2844580,rs2523694	3,2	0.148	0.348	1.000
HLA-B*4801	0.011	rs4959069	2	0.011	1.000	1.000
HLA-B*5201	0.091	rs1062470,rs2844586	3,1	0.080	0.406	0.686
HLA-B*5401	0.057	rs3130786,rs3819284	1,1	0.080	0.427	0.783
HLA-B*5601	0.011	rs3130977,rs1063632	3,4	0.023	0.494	1.000
HLA-B*5801	0.011	rs3134792,rs4713518	3,1	0.011	1.000	1.000
HLA-C*0303	0.148	rs6457350,rs2156875	2,4	0.125	0.381	0.680
HLA-C*0401	0.023	rs7451258,rs12662501	2,1	0.023	1.000	1.000
HLA-C*0702	0.182	rs2001181	1	0.182	1.000	1.000
HLA-C*0704	0.011	rs2395031	3	0.023	0.494	0.989
HLA-C*0801	0.057	rs2524100	1	0.068	0.823	0.988
HLA-C*1202	0.091	rs3094663,rs2073723	2,4	0.091	0.744	0.862
HLA-C*1402	0.080	rs3095301,rs2073716	4,2	0.068	0.847	1.000
HLA-DQA*0101	0.114	rs8365,rs482044,rs532098	2,2,2	0.080	0.310	0.678
HLA-DQA*0103	0.182	rs7744001,rs1063355,rs2187686	1,1,2	0.148	0.780	1.000
HLA-DQA*0201	0.011	rs7763805,rs3844313	2,1	0.011	1.000	1.000
HLA-DQA*0301	0.352	rs2395533,rs6903433	4,3	0.330	0.722	0.894
HLA-DQA*0601	0.011	rs1061172,rs3129718	3,1	0.011	1.000	1.000
HLA-DQB*0201	0.011	rs4988889	3	0.011	1.000	1.000
HLA-DQB*0301	0.102	rs6928482,rs1056315	3,1	0.091	0.878	1.000
HLA-DQB*0302	0.091	rs6906021,rs9275184	4,3	0.102	0.878	1.000
HLA-DQB*0303	0.182	rs2395533,rs2856683	4,4	0.227	0.756	1.000
HLA-DQB*0401	0.091	rs2077580,rs2395533,rs2300825	2,4,1	0.091	1.000	1.000
HLA-DQB*0502	0.011	rs7744001,rs6906021,rs2300825	3,2,3	0.011	1.000	1.000
HLA-DQB*0601	0.171	rs7744001,rs6928482	1,1	0.171	0.576	0.759
HLA-DQB*0604	0.080	rs11758998	2	0.080	0.286	0.534
HLA-DRB*0701	0.011	rs3129859,rs2395177	3,2	0.011	1.000	1.000
HLA-DRB*0803	0.034	rs3129859,rs1041885,rs154984	2,4,2	0.068	0.482	1.000
HLA-DRB*0901	0.171	rs2395185,rs2516049	1,4	0.273	0.452	0.908
HLA-DRB*1302	0.091	rs11758998	2	0.080	0.864	0.988
HLA-DRB*1501	0.102	rs7773756,rs6903608,rs620202	4,3,2	0.114	0.499	0.749

Supplementary Table 4 - Cross-panel performance of HLA tags

HLA-DRB*1502	0.102	rs2858880	1	0.102	0.566	0.752
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