

Electronic Supplement Tables

Table S1. SNP Details and Performance in the 96-Plex Phenotype Assay

SNP	Chr	Coordinate	NCBI_Gene_Id	Gene	Location	Final_Score	Amplicon length (bp)	Minor Allele Frequency	
								Caucasian	African
rs13289	5	34022165	23600	AMACR	flanking_3UTR	0.984	121	0.317	0.267
rs2238600	19	2091033	8943	AP3D1	intron	0.973	121	0.009	0
rs6152	X	32314035	367	AR	coding	1.1	121	0.184	0.278
rs6625163	X	66427708	367	AR	flanking_5UTR	0.994	121	0.202	0
rs6058017	20	32320658	434	ASIP	3UTR	0.267	121	0.208	0.478
rs2296151	20	32311878	434	ASIP	coding	1.1	121	0	0
rs2424984	20	66002680	434	ASIP	intron	1.1	121	-	-
rs1015362	20	32202272	729547	ASIP	flanking_3UTR	0.983	121	0.233	0.167
rs4911414	20	32193104	729547	ASIP	flanking_3UTR	1.1	121	0.275	0.133
rs1325611	13	93892385	1638	DCT	intron	1.1	121	0.142	0.192
rs1407995	13	93894013	1638	DCT	intron	1.1	121	0.142	0.192
rs12855916	X	65734246	60401	EDA2R	3UTR	0.1	121	0.191	0.377
rs1041668	X	66682351	60401	EDA2R	flanking_5UTR	1.1	121	0.117	0
rs1385699	X	65741710	60401	EDA2R	coding	1.1	121	0.211	0
rs1485682	X	65732315	60401	EDA2R	3UTR	1.1	121	0.183	0.35
rs4827380	X	65734464	60401	EDA2R	3UTR	1.1	121	0.211	0.356
rs6918152	6	487158	642335	EXOC2	flanking_5UTR	1.1	121	0.405	0.112
rs1268789	4	79499716	80144	FRAS1	intron	0.982	103	0.309	0.296

rs3810741	X	9693948	4935	GPR143	flanking_5UTR	0.334	121	-	-
rs3044	X	9653651	4935	GPR143	3UTR	0.849	121	0.233	0.195
rs2521667	X	9690837	4935	GPR143	intron	1.1	121	0.222	0.044
rs1667394	15	26203776	8924	HERC2	intron	0.65	121	0.133	0.05
rs916977	15	26186958	8924	HERC2	intron	0.818	121	0.125	0.217
rs1129038	15	26030453	8924	HERC2	3UTR	0.819	121	0.24	-
rs12913832	15	26039212	8924	HERC2	intron	0.901	121	0.208	0
rs2296430	10	1.00E+08	3257	HPS1	intron	1.1	121	0.293	0.433
rs1894704	22	25183904	89781	HPS4	coding	1.1	121	0.05	0.275
rs3752589	22	25177585	89781	HPS4	3UTR	1.1	121	0.042	0.267
rs3752590	22	25177811	89781	HPS4	3UTR	1.1	121	0	0
rs739289	22	25192152	89781	HPS4	intron	1.1	121	0.083	0.342
rs2305564	11	18274033	11234	HPS5	intron	0.91	121	0.367	0.3
rs12203592	6	341320	3662	IRF4	intron	0.927	121	0.167	0
rs12211228	6	353832	3662	IRF4	3UTR	0.966	121	-	-
rs1540771	6	411032	730077	IRF4	flanking_3UTR	0.957	121	0.425	0.05
rs4959270	6	402747	730077	IRF4	flanking_5UTR	1.1	121	0.455	0.217
rs642742	12	87823876	728084	KITLG	flanking_3UTR	0.794	121	0.136	0.078
rs3768051	1	2.34E+08	1130	LYST	intron	0.912	121	0.117	0.058
rs979605	X	43486306	4128	MAOA	intron	1.1	121	0.233	0.35
rs1805008	16	88513644	4157	MC1R	coding	0.332	121	0.065	0.042
rs3212359	16	88512677	4157	MC1R	5UTR	0.344	121	0.348	0.457
rs3212355	16	88511878	4157	MC1R	flanking_5UTR	0.362	121	0	0.143
rs1110400	16	88513630	4157	MC1R	coding	0.412	121	0	0
rs2228479	16	88513440	4157	MC1R	coding	0.489	121	0.081	0
rs3212361	16	88512722	4157	MC1R	5UTR	0.622	121	0.239	0.37

rs33932559	16	88513525	4157	MC1R	coding	0.762	93	0	0
rs885479	16	88513654	4157	MC1R	coding	0.486	121	0.08	0.042
rs3212360	16	88512717	4157	MC1R	5UTR	0.421	121	0	0.022
rs1805005	16	88513344	4157	MC1R	coding	0.531	121	0.1	0
rs3212357	16	88512104	4157	MC1R	flanking_5UTR	0.554	121	0.452	0.009
rs3212346	16	88509858	4157	MC1R	flanking_5UTR	0.703	121	0.075	0.425
rs11547464	16	88513591	4157	MC1R	coding	0.778	121	0	0
rs11080078	17	24480380	399687	MYO18A	intron	0.81	121	-	-
rs1724630	15	50495291	4644	MYO5A	intron	0.937	121	0.273	0.378
rs4911442	20	32818706	23054	NCOA6	intron	0.763	121	0.07	0
rs10988904	9	1.02E+08	8013	NR4A3	coding	0.94	121	-	-
rs4778138	15	26009414	4948	OCA2	intron	0.344	121	0.092	0.267
rs1800410	15	25903778	4948	OCA2	intron	0.491	121	0.095	0.322
rs1800401	15	25933647	4948	OCA2	coding	0.698	121	0.04	0.021
rs7495174	15	26017832	4948	OCA2	intron	0.769	121	0.05	0.15
rs4778241	15	26012307	4948	OCA2	intron	0.778	121	0.125	0.383
rs749846	15	25942584	4948	OCA2	intron	0.824	121	0.125	0.217
rs10852218	15	25905387	4948	OCA2	intron	0.887	121	0.142	0.433
rs1800411	15	25885515	4948	OCA2	coding	0.904	121	0.375	0.227
rs11638265	15	25876167	4948	OCA2	intron	0.925	121	-	-
rs737051	15	25599430	4948	OCA2	flanking_3UTR	0.958	121	0.208	0.039
rs1800404	15	25909367	4948	OCA2	coding	1.1	121	0.136	0.092
rs1800407	15	25903912	4948	OCA2	coding	1.1	121	0.097	0
rs1900758	15	25903691	4948	OCA2	intron	1.1	121	0.233	0.11
rs2180439	20	21801099	5075	PAX1	flanking_3UTR	0.58	121	0.408	0.442
rs1160312	20	21998502	5075	PAX1	flanking_3UTR	0.9	121	0.458	0.208

rs913063	20	21990417	5075	PAX1	flanking_3UTR	0.938	121	0.458	0.331
rs1998076	20	21828044	5075	PAX1	flanking_3UTR	1.1	121	0.408	0.2
rs6137444	20	21733638	5075	PAX1	flanking_3UTR	1.1	121	0.342	0.242
rs611349	6	1.17E+08	222546	RFXDC1	coding	0.879	121	0.2	0.283
rs1052206	12	54634294	6490	SILV	coding	0.787	121	0.192	0.492
rs2402130	14	91870955	123041	SLC24A4	intron	0.352	121	0.167	0.333
rs12896399	14	91843415	123041	SLC24A4	flanking_5UTR	0.873	121	0.4	0.008
rs4904868	14	91850753	123041	SLC24A4	flanking_5UTR	0.894	121	0.308	0.2
rs4904864	14	91834271	123041	SLC24A4	flanking_5UTR	0.972	121	0.225	0.4
rs1426654	15	46213775	283652	SLC24A5	coding	0.628	121	0	0.025
rs6867641	5	34021613	51151	SLC45A2	flanking_5UTR	0.837	121	-	-
rs26722	5	33999626	51151	SLC45A2	coding	0.791	121	0	0.05
rs40132	5	33986459	51151	SLC45A2	intron	0.812	121	0	0.079
rs16891982	5	33987449	51151	SLC45A2	coding	0.818	121	0.017	0
rs35388	5	34019126	51151	SLC45A2	intron	0.855	121	0.35	0.275
rs35414	5	34005384	51151	SLC45A2	intron	0.905	121	0.308	0
rs41273937	9	1.02E+08	55014	STX17		0.798	121	-	-
rs10760706	9	1.02E+08	55014	STX17	intron	1.1	121	0.325	0.267
rs11803731	1	1.50E+08	126637	TCHHL1	flanking_5UTR	0.322	121	0.263	0
rs12821256	12	87852465	728084	TPCN2	flanking_3UTR	0.994	121	0.142	0
rs35264875	11	68602974	219931	TPCN2	coding	0.966	121	-	-
rs1126809	11	88657608	7299	TYR	coding	0.859	121	0.396	0.065
rs1042602	11	88551343	7299	TYR	coding	0.959	121	0.417	0
rs1408799	9	12662096	7306	TYRP1	flanking_5UTR	0.949	121	0.3	0.225
rs2733832	9	12694724	7306	TYRP1	intron	1.1	121	0.438	0.196
rs683	9	12699304	7306	TYRP1	3UTR	1.1	121	0.396	0.217

Table S2. Occurrence of poorly performing and excluded SNPs

Chrm	Gene	Illumina Final_Score	SNP	Rate Observed (%)					
				Both gDNA& WGA		gDNA Plates (n = 4)		WGA Plates (n = 4)	
				Excluded	Poor	Excluded	Poor	Excluded	Poor
16	MC1R	0.36	rs3212355	100		100		100	
16	MC1R	0.34	rs3212359	87.5		100		75	
16	MC1R	0.41	rs1110400	75		75		75	25
16	MC1R	0.49	rs2228479	75		75		75	25
16	MC1R	0.62	rs3212361	62.5		50		75	25
16	MC1R	0.33	rs1805008	50		25		75	
16	MC1R	0.76	rs33932559						75
16	MC1R	0.49	rs885479						25
16	MC1R	0.42	rs3212360					25	
X	EDA2R	0.1	rs12855916					25	
X	AR	0.99	rs6625163			25			
X	AR	1.1	rs6152						100
5	SLC45A2	0.84	rs6867641		100		100		100
11	TPCN2	0.97	rs35264875						50
9	TYRP1	0.95	rs1408799					25	

