

Table S1. SNPs performed using TaqMan assays on OpenArray platform (Applied Biosystems). SNP positions are indicated according to Genome Build 37.1

Gene	TaqMan assay name	Number dbSNP	Nucleotides	Position	Gene Location
TYR-1	C__8362862_10	rs1042602	C / A	88,911,696	Ser192Tyr
TYRP1-1	C__1911864_20	rs1408799	T / C	12,672,097	5'UTR
TYRP1-2	C__3119210_10	rs2733832	C / T	12,704,725	Intron 5
OCA2-1	C__8866200_10	rs1800407	G / A	28,230,318	Arg419Gln
OCA2-2	C__8866240_10	rs1800414	A / G	28,197,037	His615Arg
SLC45A2-1	C__2390575_1_	rs26722	G / A	33,963,870	Glu272Lys
SLC45A2-2	C__2842665_10	rs16891982	C / G	33,951,693	Phe374Leu
SLC24A5	C__2908190_10	rs1426654	A / G	48,426,484	Thr111Ala
KITLG	C__26988870_10	rs12821256	T / C	89,328,335	5'UTR
MC1R-1	C__27982534_20	rs3212357	T / C	89,984,604	5'UTR
MC1R-2	C__60403717_10	rs34057592	C / T	89,985,051	5'UTR
MC1R-3	C__32390814_10	rs3212379	C / T	89,985,131	5'UTR
MC1R-4	C__2033408_20	rs3212359	C / T	89,985,177	5'UTR
MC1R-5	C__27841133_10	rs76337330	A / G	89,985,311	5'UTR
MC1R-6	C__2033406_1_	rs3212363	A / T	89,985,441	5'UTR

MC1R-7	C__7519054_10	rs1805005	G / T	89,985,844	Val60Leu
MC1R-8	C_60403720_10	rs34090186	G / A	89,985,866	Arg67Gln
MC1R-9	C__7519055_20	rs1805006	C / A	89,985,918	Asp84Glu
MC1R-10	C_60403722_10	rs34540312	G / A	89,985,931	Gly89Arg
MC1R-11	C__2033405_20	rs2228479	G / A	89,985,940	Val92Met
MC1R-12	C_60403725_10	rs33932559	T / C	89,986,025	Ile120Thr
MC1R-13	C_27541634_10	rs11547464	G / A	89,986,09	Arg142His
MC1R-14	C__2033404_30	rs1805007	C / T	89,986,117	Arg151Cys
MC1R-16	C__7519060_20	rs885479	G / A	89,986,154	Arg163Glu
MC1R-17	C_25647438_10	rs34612847	C / T	89,986,170	Ile168Ile
MC1R-18	C_60403730_10	rs34209185	C / T	89,986,215	Tyr183Tyr
MC1R-19	C_32390806_20	rs3212366	T / C	89,986,252	Phe196Leu
MC1R-20	C_60403731_20	rs34564466	G / A	89,986,299	Leu211Leu
MC1R-21	C_25647439_10	rs34490506	C / T	89,986,383	Gly239Gly
MC1R-22	C_27860175_10		A / C	89,986,445	His260Pro
MC1R-23	C_25647446_10	rs3212367	C / T	89,986,566	Phe300Phe
MC1R-24	C__2033403_10	rs2228478	A / G	89,986,608	Thr314Thr
MC1R-25	C__2033402_10	rs3212369	A / G	89,986,760	3'UTR
MC1R-26	C_25958294_10	Rs 143513600	A / G	89,986,957	3'UTR
MC1R-27	C_25960110_10	rs3212371	A / G	89,987,201	3'UTR
VDR-1	C_27909097_10	rs4237856	G / T	48,338,050	Promoter
VDR-2	C_27909106_10	rs4073729	C / T	48,337,069	Promoter
VDR-3	C__2880808_10	rs11568820	G / A	48,302,545	Promoter (Cdx2)

VDR-4	C__27904554_10	rs4760658	T / C	48,296,486	Promoter (Intron 1a)
VDR-5	C__2880803_10	rs10783219	T / A	48,295,488	Promoter (Intron 1a)
VDR-6	C__44841112_10	rs11168293	C / A	48,293,716	Promoter (Intron 1a)
VDR-7	C__12060037_10	rs10875695	G / T	48,293,037	Promoter (Intron 1a)
VDR-8	C__12060038_10	rs7302235	A / G	48,292,838	Promoter (Intron 1a)
VDR-9	C__15823889_10	rs2853564	C / T	48,278,487	Promoter (Intron 1a)
VDR-10	C__12060044_1_	rs1989969	T / C	48,278,010	Promoter (Intron 1a)
VDR-11	C__3290655_1_	rs2238136	G / A	48,277,713	Promoter (Intron 1a)
VDR-12	C__12060045_20	rs2228570	T / C	48,272,895	Exon2 (Met1Thr) [FokI]
VDR-13	C__3290647_10	rs3782905	C / G	48,266,167	Intron 2
VDR-14	C__3290638_1_	rs2238138	C / T	48,264,493	Intron 2
VDR-15	C__30742507_10	rs11574070	C / T	48,257,895	Intron 3
VDR-16	C__3290631_1_	rs2239180	G / C	48,256,046	Intron 3
VDR-17	C__3290630_1_	rs2248098	T / C	48,253,356	Intron 3
VDR-18	C__30742483_10	rs7305032	C / T	48,249,860	Intron 5
VDR-19	C__16174104_10	rs2239183	G / T	48,244,660	Intron 6
VDR-20	C__30742462_10	rs12314197	T / C	48,242,722	Intron 6
VDR-21	C__16031766_10	rs2525044	T / C	48,242,256	Intron 6
VDR-22	C__8716062_10	rs1544410	G / A	48,239,835	Intron 8 [BsmI]
VDR-23	C__30742443_10	rs11574114	G / A	48,238,883	Intron 8
VDR-24	C__28977635_10	rs7975232	G / T	48,238,837	Intron 8 [ApaI]
VDR-25	C__2404008_10	rs731236	T / C	48,238,757	Exon 9 (Ile352Ile) [TaqI]
VDR-26	C__2404007_10	rs739837	C / A	48,238,221	3'UTR

VDR-27	C__2404006_10	rs3847987	G / T	48,238,068	3'UTR
VDR-28	C__15823846_10	rs2853563	G / A	48,235,738	3'UTR